

# The Politics of Fossil Fuel Subsidies and Their Reform

Edited by Jakob Skovgaard  
and Harro van Asselt





## THE POLITICS OF FOSSIL FUEL SUBSIDIES AND THEIR REFORM

Fossil fuel subsidies strain public budgets and contribute to climate change and local air pollution. Despite widespread agreement among experts about the benefits of reforming fossil fuel subsidies, repeated international commitments to eliminate them, and valiant efforts by some countries to reform them, they continue to persist. This book helps explain this conundrum by exploring the politics of fossil fuel subsidies and their reform. Bringing together scholars and practitioners, the book offers new case studies both from countries that have undertaken subsidy reform and from those which have yet to do so. It explores the roles of various inter-governmental and non-governmental institutions in promoting fossil fuel subsidy reform at the international level, as well as conceptual aspects of fossil fuel subsidies. This is essential reading for researchers and practitioners and students of political science, international relations, law, public policy and environmental studies. This title is also available as Open Access.

JAKOB SKOVGAARD is Associate Professor in the Department of Political Science at Lund University (Sweden), undertaking research on EU and international climate change policy. From 2007 to 2010 he worked on the international climate change team of the Danish Finance Ministry, his responsibilities covering, inter alia, international fossil fuel subsidy reform. His recent publications include articles in *Global Environmental Politics*, *Journal of Common Market Studies*, *World Development and Environmental Politics* and a special issue of *International Environmental Agreements: Politics, Law and Economics*.

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“Fossil fuel subsidies are enormous, damaging, and fiendishly hard to reform. This is an essential, comprehensive guide to understanding the issue – and identifying the narrow pathways that may lead to reform. Anyone concerned with the political economy of climate change will benefit from Skovgaard and van Asselt’s important book.”

– *Michael L. Ross, University of California, Los Angeles*

“Fossil fuel subsidies are expensive and harmful to the environment, yet governments around the world continue to dole them out. This volume offers a comprehensive review of the problem, the politics surrounding it, and experiences with reform efforts in different countries. Skovgaard and van Asselt have compiled an excellent collection on one of the great public policy problems of our time.”

– *Johannes Urpelainen, Johns Hopkins University*

“Over the past century, the politics, institutions and infrastructure of industrial economies have co-evolved with fossil fuels. Yet, addressing climate change is impossible if countries do not wean themselves off fossil fuels, and fast. In this comprehensive new book, Skovgaard and van Asselt, along with a diverse set of contributors, unpack the entrenched politics of fossil fuel subsidies that lie at the heart of this dilemma. Built both around detailed country cases and the dynamics of international institutional politics, they develop a framework to understand the emergence of fossil fuel subsidies as a key agenda in global and national climate politics, but also for its uncertain progress. In both its wide scope, as well as its incisive treatment, this is a field-defining volume of a critical topic.”

– *Navroz K. Dubash, Centre for Policy Research, New Delhi*

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To two special people, Franka and Aeryn. May they live  
to see a fossil-free future.





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# Foreword

At the risk of stating the obvious, it is clear that the world has not become a simpler place since Francis Fukuyama declared the end of history in 1989 (Fukuyama 1989). We are now in an era of increasing complexity, characterised by a potential unravelling of existing certainties. These certainties appeared for a time at least to include continued public support for globalisation in general and multilateralism in particular.

In terms of the specific subject of this book, the past decade has seen growing international interest in the reform of fossil fuel subsidies. This has manifested in high-flown rhetoric from G20 and Asia-Pacific Economic Cooperation (APEC) leaders, in groundbreaking work by the Organisation for Economic Co-operation and Development (OECD) and the International Energy Agency (IEA) and in the tentative steps taken by some particularly committed countries to advance the issue at the World Trade Organization (WTO). Underpinning all of this has been the far-sighted engagement on this issue by non-governmental organisations. First among equals in this space has been the Global Subsidies Initiative of the International Institute for Sustainable Development. Their work and their reputation for rigour and quality have made serious inroads into the political resistance to reform. Additional and valued support has come from the World Economic Forum's partnership with the International Centre for Trade and Sustainable Development, which, together with the Global Subsidies Initiative, has sought to explore the options for domestic and international reform in this space.

It is not difficult to understand the urgency of the challenge. In terms of the economics, the sheer scale of taxpayer support for fossil fuels is eye-popping. The IEA, for instance, has estimated that consumer subsidies alone are worth nearly half a trillion dollars per annum. Put differently, this is the equivalent of four times the level of OECD members' official development assistance. Subsidies to the fossil fuel industry are also distorting domestic policymaking. Some countries, for instance, are spending more per annum on such subsidies than on

healthcare or education. This is a situation that is clearly unsustainable in fiscal terms, let alone on the grounds of equity and human development.

The environmental benefit from reform is similarly clear. Global warming is widely understood to present an existential challenge. By some estimates, eliminating fossil fuel subsidies would decrease greenhouse gas emissions by up to 13 per cent by 2050 (Merrill et al. 2014). This is rather more than a clutch of countries can contribute, even if they stopped all emissions overnight. More particularly, ensuring that the externalities of fossil fuels (i.e. costs to society from air pollution and so on) are priced through the tax system could reduce carbon emissions by nearly 25 per cent (Parry et al. 2014). And thanks to the work of the OECD and the IEA, we know a great deal more about where and how subsidies are spent, including by whom. This groundbreaking work in the form of a time-series data set is proving invaluable for reformers.

The emergence of this kind of striking data has been complemented by rhetorical commitments to reform by G20 and APEC leaders. These statements suggest that there is a collective will to reform, at least over the medium term. At the same time, initiatives by non-G20 members, such as the Friends of Fossil Fuel Subsidy Reform – including Costa Rica, Denmark, Ethiopia, Finland, Sweden, Switzerland, New Zealand, Norway and Uruguay – were established to encourage the G20 and others to advance reform ambitiously and transparently. In 2015, further momentum was generated through another set of leader-level commitments enshrined in the United Nations' Sustainable Development Goals (SDGs). There was a growing assumption therefore in many countries that reform – meaningful reform – may be just around the corner.

Unfortunately, it appears that those easy – and perhaps in hindsight complacent – assumptions are misplaced. The politics of reform has simply proved too hard, at least at the international level, and the way ahead is unclear at best.

In fact, the challenge has sharpened. Oil prices continue to fluctuate, and there appears to be a growing expectation that globally there will be a realignment of thinking about fossil fuels and the impact they have on climate change. On the one hand, this may create the conditions for real reform. On the other hand, we need to be alert to what German economist Hans-Werner Sinn (2012) famously called the 'green paradox': the policy signal that fossil fuel use might be constrained in the future, including through the reform and elimination of subsidies, may provide a perverse incentive to fossil fuel producers to produce as much as they can while the going is good. There are certainly indications that this is precisely what has driven some of the recent expansion of oil production over the past three years.

But all is not lost. As this important book reveals, reform is not only desirable but also achievable. It can be secured through deft engagement and focus at the

regional and domestic levels. There is scope, too, for work multilaterally at various levels of ambition, as this book underscores.

In this regard, it is a truism that a robust and fair multilateral trading system hinges on coherence between domestic and international economic policy. The SDGs in this context need to be understood for what they are: not an irritating distraction from the so-called real work of trade negotiations, but an expression of public concern about global issues and challenges. They represent an opportunity to demonstrate to an increasingly sceptical international and domestic polity that the trade policy community can contribute to solutions. In other words, trade really does matter. International economic policy coherence remains a key value proposition and an enduring theme for this book. Set in the context of an emerging set of global and transboundary environmental challenges that pose profound economic and human development risks, policy coherence brings together the elements that will drive effective change policies.

Of particular interest to me as a trade negotiator has been how one might deploy trade disciplines to drive reform. After all, the WTO is the only international institution that has a dispute settlement mechanism with real teeth. Importantly, too, in these uncertain times, it is the only place where all the major economies are legally bound to certain commitments and disciplines. Expanding such disciplines to include fossil fuel subsidy reform seems like a no-brainer.

This book shows that we can and should do more to reinforce coherence and sustain public confidence in the benefits of trade disciplines. In this regard, the possible relationship between trade disciplines and fossil fuel subsidies is an area for active consideration and future negotiation. After all, as this book demonstrates, trade disciplines can correct distortions in global trade, help mitigate climate change, deliver development benefits and simultaneously assist countries in achieving SDG12 (ensuring sustainable consumption and production patterns). What's not to like about this kind of win-win-win-win solution? In any case, there is no escaping a sharp-edged question to policymakers: if trade is not part of the solution, how precisely will countries deliver on their leaders' commitments enunciated in the SDGs?

What is clear is that there is an urgent challenge confronting us. If we can 'crack the code' of the political economy of fossil fuel subsidy reform, the benefits – economic and environmental, not to mention for trade and public confidence – will be significant. In the meantime, reform must proceed on multiple fronts through public pressure, intergovernmental negotiation and, complementing this, a push for new, effective and enforceable trade disciplines.

This book therefore is a measurable contribution to enhancing our understanding of the key political obstacles countries face in reform at the domestic, regional and international levels. It also suggests ways in which we can proceed to meaningful

reform. That this will be politically difficult and technically a challenge is evident, but as the book makes clear, it is one we must tackle – and urgently. To adapt and paraphrase Schumpeter’s description of the role of entrepreneurs and apply it in this context: it really is time for us to act ‘with confidence beyond the range of familiar beacons and overcome resistance which requires aptitudes and persistence’ (Schumpeter 1942: 132). In short, the message at the heart of this important contribution to our understanding of the politics of fossil fuel subsidy reform is one of determination and hope, but certainly not of complacent expectation.

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### **Disclaimer**

This contribution is provided in a personal capacity and does not necessarily represent the views of the New Zealand Ministry of Foreign Affairs and Trade.

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# Preface

Fossil fuel subsidies, as well as efforts to reform them, have entered the mainstream political and societal debate following the G20 commitment to rationalise and phase out fossil fuel subsidies in 2009. Owing to the efforts of a range of inter-governmental and non-governmental organisations, including the Organisation for Economic Co-operation and Development, the International Energy Agency, the International Monetary Fund, the World Bank, the Global Subsidies Initiative, Oil Change International and the Overseas Development Institute, to name but a few, we now know much more about their size (which is by any measure very substantial), their use in practice in both developed and developing countries and their socio-economic and environmental effects. Likewise, our understanding of efforts to reform fossil fuel subsidies has increased significantly, with practical experiences pointing to lessons to emulate – or avoid.

Yet, while interest in the subject from policymakers and practitioners is clearly increasing, academic engagement is still in its infancy. For instance, as a crude indication, a search at the time of writing (September 2017) for ‘energy subsidies’, ‘energy subsidy’, ‘fossil fuel subsidies’ or ‘fossil fuel subsidy’ (and excluding ‘renewable’ energy subsidies) in the Web of Science yields only 55 academic articles, 43 of which were published after the G20 announcement. Moreover, many such studies to date are carried out by economists, with a view to modelling the economic and environmental impacts of fossil fuel subsidies (or of their reform). While we believe that such research remains crucial for furthering our understanding of the scope of the problem and the need for reform, we also believe that the *political* dimensions of fossil fuel subsidies and their reform have received insufficient scrutiny in the academic literature. Studying the political causes, consequences and normative implications of fossil fuel subsidies and their reform is indispensable for understanding why subsidies were created in the first place, why they persist and why it can be so difficult to reform them. Such analyses, in our view, can draw on decades of theoretical and empirical work in political science

and related social sciences that sheds light on international institutions and their influence on the domestic level, as well as political economy and policy change, output and processes. Through this book, we therefore hope not only to strengthen the body of knowledge on fossil fuel subsidies and their reform but also to bring together the empirical knowledge accumulated in the past years and longer-standing theoretical debates in political science and other social sciences.

Bridging the policy-oriented and academic communities was also a goal of the workshop that laid the foundation for this book. The workshop, held in Stockholm in June 2016, brought together seasoned experts on fossil fuel subsidies, representatives from non-governmental organisations, doctoral students and established scholars. The exchange of views, findings and experiences was extremely stimulating and showed that there is still much to learn from each other. We are thankful to all participants at the workshop for an inspiring discussion. To us, this book is the logical next step, and we hope that it offers a solid foundation for future exchanges and collaborations among scholars, students and practitioners as well as for future research.

The sum of an edited volume is only as good as its constituent parts, and we have been privileged to work with an excellent group of authors representing the various above-mentioned communities. We thank the authors for their patience, for their prompt responses to our seemingly never-ending queries and comments and, of course, for their valuable contributions.

This book would not have been possible without the helpful input from a wide range of reviewers. We want to express our thanks to the reviewers at Cambridge University Press, as well as the following people, who have dedicated their time to provide valuable feedback on the individual chapters of this book: Stefan Andreasson, Lucy Baker, Hernan Carlino, Sergio Chaparro, David Coady, Peter Erickson, Robert Falkner, Ivetta Gerasimchuk, Fergus Green, Thomas Hale, Florian Kitt, Caroline Kuzemko, Michael Lazarus, Paasha Mahdavi, Steffen Hertog, Kati Kulovesi, Indra Øverland, Guillermo Perry, Jun Rentschler, Michael Ross, Hannes Stephan, Lasse Toft Christensen, Thijs Van de Graaf, Vangelis Vitalis, Oscar Widerberg, Peter Wooders, Margaret Young and Fariborz Zelli.

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Leaving Fossil Fuels in the Ground'. The former project also funded the workshop in Stockholm, and both projects have enabled us to publish this book on an Open Access basis. Harro van Asselt has further been supported through the Stockholm Environment Institute's Initiative on Fossil Fuels and Climate Change (funded by the Swedish International Development Agency) as well as through the University of Eastern Finland.

Last but not least, we are grateful to our loving and supportive families for their patience and encouragement throughout the process of writing and editing this book.

# Abbreviations

ANC	African National Congress
APEC	Asia-Pacific Economic Cooperation
ASCM	Agreement on Subsidies and Countervailing Measures
CO <sub>2</sub>	carbon dioxide
COP	Colombian peso
CSE	consumer subsidy equivalent
DBTL	Direct Benefit Transfer scheme for LPG
DSM	dispute settlement mechanism (of the WTO)
EITI	Extractive Industries Transparency Initiative
EU	European Union
FARC	Revolutionary Armed Forces of Colombia
FFFSR	Friends of Fossil Fuel Subsidy Reform
FY	fiscal year
G7	Group of 7
G8	Group of 8
G20	Group of 20
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GSII	Global Subsidies Initiative
IDR	Indonesian rupiah
IEA	International Energy Agency
IGO	intergovernmental organisation
IMF	International Monetary Fund
INDC	intended nationally determined contribution
kWh	kilowatt hour
LCR	local content requirement
LDM	lead district manager



LPG	liquefied petroleum gas
MoPNG	Ministry of Petroleum and Natural Gas (India)
NDC	nationally determined contribution
NGO	non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
OMC	oil marketing company
OOC	other oil company
OPEC	Organization of Petroleum Exporting Countries
PSE	producer subsidy equivalent
RTA	regional trade agreement
SDG	Sustainable Development Goal
SBY	Susilo Bambang Yudhoyono
SOE	state-owned enterprise
TSE	total support estimate
UK	United Kingdom
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
VAT	value-added tax
WTO	World Trade Organization



# Part I

## Introduction



# 1

## The Politics of Fossil Fuel Subsidies and Their Reform *An Introduction*

JAKOB SKOVGAARD AND HARRO VAN ASSELT

### 1.1 Introduction

In September 2009, the leaders of 20 of the world's largest economies gathered at the Group of 20 (G20) summit in Pittsburgh and announced a surprise gift for those demanding more concerted global action to fight environmental problems: a commitment to 'phase out and rationalize over the medium term inefficient fossil fuel subsidies' (G20 2009). At the time, fossil fuel subsidies were still a marginal subject on the international political agenda. Although a small but growing number of experts from governments, international organisations, non-governmental organisations (NGOs) and academia had started to discuss the challenge (e.g. Larsen and Shah 1992; Anderson and McKibben 2000; Koplow and Dernbach 2001), references to the hundreds of billions of dollars channelled to fossil fuels were almost non-existent in the public discourse.

Fast-forward to 2015, and fossil fuel subsidies were making headlines across the world. The International Monetary Fund's (IMF) estimated that global fossil fuel subsidies totalled a staggering USD 5.3 trillion (Coady et al. 2015b), predictably drawing lots of public attention (Carrington 2015). At the national level, too, the actions by governments – or the lack thereof – started to enter the spotlight. For instance, the Indian government set out to reduce all subsidies from 2 to 1 per cent of gross domestic product (GDP) by 2020, starting with fuel subsidies (New Indian Express 2015). Elsewhere in the world, the British government faced widespread criticism for adopting new tax breaks for oil and gas exploration (Jowit 2015). Fossil fuel subsidies became a part of the mainstream political agenda, as was underscored when more than 40 countries – along with a range of international, business and nongovernmental organisations – committed to a communiqué to eliminate fossil fuel subsidies at the margins of the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC).

Notwithstanding the heightened attention, governments in industrialised and developing countries continue to provide budget transfers, tax breaks, economic guarantees and specific goods and services to aid the production and consumption of fossil fuels. By any measure, this support is sizeable. The IMF's estimate stands out because of their inclusion of the non-pricing of environmental and social externalities. But more conservative estimates are also huge. The International Energy Agency (IEA), for instance, estimates that global fossil fuel subsidies amounted to USD 325 billion in 2015 (IEA 2016: 99). Although that was a decline from nearly USD 500 billion in 2014 – mainly due to falling oil prices – it is still significant. To put these figures into perspective, global levels of official development aid in 2016 were USD 142 billion (OECD 2017); industrialised countries have pledged to mobilise USD 100 billion of climate finance per year by 2020 to support developing countries (UNFCCC 2010); and South Africa's GDP in 2016 was USD 295 billion.

Fossil fuel subsidies persist across the world, in spite of efforts to reform them and mounting evidence of the environmental and economic benefits of doing so. Many countries – from Germany to Nigeria, from Canada to Indonesia, from Mexico to the United Arab Emirates – have sought to at least partially remove the subsidies provided to fossil fuels (Whitley and van der Burg 2015; Rentschler and Bazilian 2017a; Sovacool 2017). The benefits of reform are clear: removing fossil fuel subsidies would allow governments to make significant cost savings, and could yield significant environmental benefits. For example, removing fossil fuel subsidies in 37 (mainly developing, major emitting) countries between 2013 and 2020 would reduce global greenhouse gas emissions by 8 per cent by 2050, according to one estimate (Burniaux and Château 2014).

Notwithstanding the broad agreement among expert communities about the benefits of reforming fossil fuel subsidies and the high-level commitments to do so, the level of concerted political action is still low. By 'concerted political action', we refer to action by the most relevant actors to promote fossil fuel subsidy reform on the basis of prior coordination or communication (see also Holzinger and Knill 2005). This observation holds for both the domestic and the international levels. While domestic reform has taken place in some countries, other countries have either not succeeded in their reform attempts or have not even attempted such reform. And while some international institutions have taken up fossil fuel subsidies within their remit, governance activity in other institutions has been conspicuously absent (Van de Graaf and van Asselt 2017). The variation in the degree of effort to reform fossil fuel subsidies between countries and between different international institutions means that the level of concerted political action is low both within and between the two levels.

We argue that this low level of concerted action is puzzling given the expert consensus on the benefits of reform and existing high-level commitments and that this puzzle points to the importance of the *political dimensions* of fossil fuel subsidies. While they undoubtedly matter, economic factors alone (e.g. fluctuating oil prices; see Clements et al. 2013) cannot explain why and how some countries have put in place fossil fuel subsidies, why they are maintained, and why – in some cases – they are successfully reformed.

We further hold that political factors can help explain why some international institutions have taken up the cause of fossil fuel subsidy reform and why others have remained silent; they can also help explain the causal mechanisms through which institutions seek to promote reform at the international and national levels. In this book, in short, we argue that it is useful to study fossil fuel subsidies and their reform as *political phenomena*.

We can provide a better understanding of why and how fossil fuel subsidy reform can succeed by uncovering the interests, strategies and power of various actors and institutions (both in favour of and opposed to subsidy reform), as well as the norms, ideas and belief systems underpinning subsidies or efforts to reform them, and the socio-political characteristics of a particular country. The aim of this book, therefore, is to provide insights – underpinned by theory and based on a variety of case studies – into the domestic and international political factors driving fossil fuel subsidies and their reform. Specifically, this book seeks to uncover (1) why, how and with what effects international institutions and actors address fossil fuel subsidies – and why, in some cases, they do not; and (2) why and how fossil fuel subsidies are maintained or reformed on the domestic level. By answering these two questions, we seek to understand why concerted political action on fossil fuel subsidy reform is limited.

The book accomplishes this by bringing together a collection of chapters that span domestic and international levels. A common analytical framework outlining different factors influencing the politics of fossil fuel subsidy reform (presented in this chapter) guides the authors in their analyses, allowing for a more comprehensive and systematic analysis than provided in previous literature on the politics of fossil fuel subsidies. Among others, the contributions cover definitional and structural challenges, case studies of countries that have and have not undertaken successful reform and analyses of international institutions and actors that have and have not started to address fossil fuel subsidies. Several chapters address the influence of international factors on domestic reform, linking the two levels.

This introductory chapter proceeds with a discussion of the existing literature on the politics of fossil fuel subsidies, which offers a foundation for the work presented in this book. Next, we present the analytical framework guiding the

chapters in this book. The chapter concludes with an overview of the contributions to the book.

## **1.2 The Politics of Fossil Fuel Subsidies and Their Reform: State of the Art**

Despite the significant political contestations surrounding fossil fuel subsidies and their reform, the literature – especially academic works – on the political dimensions of subsidies and their reform is surprisingly sparse. This is not to say that fossil fuel subsidies have evaded the literature altogether. Indeed, analyses abound on the macro-economic effects of fossil fuel subsidies (e.g. Oosterhuis and Umpfenbach 2014; Coady et al. 2015b, 2017), the distributional consequences of subsidies (Arze del Granado and Coady 2012; Coady et al. 2015a) and environmental implications, including subsidies' effects on carbon dioxide emissions (Burniaux and Château 2014; Schwanitz et al. 2014; Mundaca 2017) and the possibilities for redirecting the savings from reform to climate change mitigation (Jakob and Hilaire 2015; Matsuo and Schmidt 2017). Moreover, recent scholarship has started to investigate the political dimensions of fossil fuel subsidies.

Roughly, we can identify three strands of research relating to the politics of fossil fuel subsidies. The first consists of overviews on the issue, mainly on the basis of literature reviews and often focusing on strategies for reform rather than on explanations for the existence of fossil fuel subsidies (Victor 2009; Commander 2012; Strand 2013; van Asselt and Skovgaard 2016; Rentschler and Bazilian 2017a; Rentschler and Bazilian 2017b; Sovacool 2017). Much of this literature consists of policy reports by NGOs aimed at providing advice to stakeholders interested in reform (e.g. Beaton et al. 2013; Merrill et al. 2015; Whitley and van der Burg 2015), including lessons from single-case studies on attempts at reform (Beaton and Lontoh 2010; IISD 2014). Thus, while this strand is characterised by an interest in the politics of fossil fuel subsidy reform, it includes relatively few attempts to develop analytical frameworks that could form the basis of systematic case studies (but see Rentschler and Bazilian 2017a). We argue that such systematic approaches can make it easier to draw lessons from several cases and gauge the respective influence of different factors.

A second strand of research seeks to do just this by explaining the existence and level of fossil fuel subsidies through comparative and quantitative studies (Overland 2010; Cheon et al. 2013, 2015; Benes et al. 2015; Kim and Urpelainen 2015; Inchauste and Victor 2016; Ross et al. 2017). These existing studies tend to focus on consumption subsidies – particularly to petroleum products (e.g. petrol, kerosene) in developing countries – and pay less attention to other kinds of



subsidies. While the quantitative studies have focused on the level of fossil fuel subsidies as the dependent variable (Cheon et al. 2013, 2015; Kim and Urpelainen 2015), the comparative case studies have focused on a limited set of country cases that differ on the dependent variable, namely successful reform (Overland 2010; Inchauste and Victor 2016).

In spite of their differences in approach, the first two strands have identified a largely overlapping set of factors influencing fossil fuel subsidies and the possibilities for reforming them. Several of these factors operate in the intersection between the political and economic spheres (Inchauste and Victor 2016). Furthermore, the focus tends to be on structural factors. Among the analyses more attuned to the role of specific actors, Victor (2009) distinguishes between demand and supply factors influencing fossil fuel subsidies. The former concern the demand for subsidies from special interest groups, including both producers and consumers of fossil fuels. These special interest groups seek rents (in the form of subsidies) at the expense of the general welfare, i.e. the state budget (Victor 2009; Inchauste and Victor 2016). Key to this behaviour is the nature of fossil fuel subsidies as simultaneously a visible and specific benefit to these groups and an invisible and diffuse cost to the general public (Victor 2009; Inchauste and Victor 2016). The supply factors concern why governments choose to supply the subsidy rather than employ other policy instruments, which according to Victor (2009) is due particularly to the nature of fossil fuel subsidies as a visible and – in fossil fuel-exporting countries – easily available instrument. Related to this, Cheon et al. (2015) identify the presence of state-owned national oil companies as a factor influencing the level of fossil fuel subsidies.

When it comes to more structural factors, scholars have focused on the role of fossil fuel reserves and global fossil fuel prices in influencing the level of fossil fuel subsidies and the possibilities for reform (Overland 2010; Benes et al. 2015; Kojima and Koplow 2015; Rentschler and Bazilian 2017b). Other structural factors include institutional or governance capacity (Commander 2012; Cheon et al. 2013), the kind of state providing the subsidies (including how decentralised political power is; see Lockwood 2015), whether the political system is democratic or authoritarian (Overland 2010; Kim and Urpelainen 2015) and path dependency, which can make it difficult to remove fossil fuel subsidies once they are in place (Victor 2009; Lockwood 2015). The findings from this body of literature indicate that countries with weak institutional capacity, authoritarian rule, and significant fossil fuel reserves are more likely to subsidise fossil fuels.

A third strand has examined the politics of fossil fuel subsidies at the international level, including the efforts to promote fossil fuel subsidy reform (Besada and

Olender 2015; Van de Graaf and van Asselt 2017). Some have focused on the question of how international institutions influence reform at the domestic level. Smith and Urpelainen (2017) examine the voluntary commitments adopted under the G20 and Asia-Pacific Economic Cooperation (APEC) and explain how the reputational costs of flouting these commitments may drive countries to stick with planned reforms. Similarly, Aldy (2017) argues that the G20 commitment and review of fossil fuel subsidies can help overcome domestic opposition to fossil fuel subsidy reform by providing legitimacy and facilitating learning between countries. Other studies have focused on the interplay between international institutions addressing fossil fuel subsidies. In this regard, Skovgaard (2017) reveals how competing definitions of fossil fuel subsidies within the IMF and the Organisation for Economic Co-operation and Development (OECD) came about. A further question that has been addressed is why some international institutions have *not* addressed fossil fuel subsidies. Scholars of international relations and international law have been particularly vexed by the fact that fossil fuel subsidies have largely escaped the scrutiny of the World Trade Organization (WTO) – particularly when compared to renewable energy subsidies, several of which have been subject to legal challenges (Asmelash 2015; Wold et al. 2015; De Bièvre et al. 2017; Meyer 2017).

While the existing literature has thus provided valuable insights into the politics of fossil fuel subsidies, we believe that a comprehensive collection of scholarly analyses of the politics of fossil fuel subsidies, bridging the international and domestic levels, is both timely and useful.

### **1.3 An Analytical Framework for Understanding the Politics of Fossil Fuel Subsidies**

As discussed earlier, the academic literature identifies different factors that determine how the politics of fossil fuel subsidies at the international and domestic level influence the eventual outcome of maintaining or reforming subsidies. In the analytical framework presented in this section, we distinguish a set of broad political factors at each level. The factors may influence fossil fuel subsidies and their reform at different stages of the policy cycle, including agenda-setting, policy formulation and, ultimately, (successful) implementation. To identify the various factors, we draw on social science fields and disciplines such as political economy, public policy and international relations.

Although both the domestic and international levels matter for our analysis, the political dynamics at each level are different. A key aspect of this difference is that fossil fuel subsidies are ultimately adopted and discontinued at the domestic level.

The difference in political dynamics is evident: at the international level, there is an emerging consensus that fossil fuel subsidies should be reformed, whereas the domestic level is characterised by varying degrees of obstacles to, and support for, such reform. Consequently, at the domestic level we will focus on political factors that either hinder or promote fossil fuel subsidy reform. At the international level we will focus on the ways in which international institutions and actors address fossil fuel subsidies and how they influence the domestic level, including cases in which international institutions and actors give diverging signals and the absence of a signal from some institutions. We employ the distinction between the international and domestic levels in the analytical framework outlined below, as well as in the organisation of this book.

### ***1.3.1 The International Level***

Two sets of political dynamics can be distinguished with regard to fossil fuel subsidies and their reform at the international level. A first set of dynamics concerns the ways in which – and reasons why – different kinds of international institutions and actors have started to address fossil fuel subsidy reform or, in some cases, why they failed to do so. International efforts to tackle fossil fuel subsidy reform can be traced back to a (growing) number of international organisations (e.g. the IEA, IMF and OECD) and countries (mostly acting through forums such as the G20, APEC and the Friends of Fossil Fuel Subsidy Reform). We are interested in how and why these organisations and country groupings have begun to address fossil fuel subsidies. Similarly, we are interested in why other institutions, particularly the WTO and the UNFCCC, have largely refrained from addressing them. The absence of any effort from an international institution can in itself form an obstacle to promoting fossil fuel subsidy reform, since domestic actors opposed to reform can point to the inactivity of these institutions. The relevant institutions range from international organisations addressing economic, development and environmental issues to clubs of powerful – and less powerful – countries to NGOs.

We identify four broad and interdependent political factors that help explain whether and how international institutions address fossil fuel subsidies. The first factor concerns the role of *individual actors* within the institutions, be they individual employees or member states seeking to influence the institution's stance on fossil fuel subsidies (see also Skovgaard 2017). Such actors include – but are not limited to – policy entrepreneurs that invest financial, material and reputational resources to bring about policy change (Kingdon 2003: 122–24), as well as norm entrepreneurs articulating and promoting new norms (Finnemore and Sikkink 1998: 896–99), including the norm of fossil fuel subsidy reform.

The second factor is the *constellation of member state interests* (Sprinz and Vaahtoranta 1994). Which states participate in an institution matters a lot in this respect, especially in institutions that allow a single member state to block decisions (since the inclusion of one state opposed to fossil fuel subsidy reform could veto a decision). According to this perspective, fossil fuel exporters are generally expected to oppose promoting fossil fuel subsidy reform at the international level (since it would lower global demand for their fuel exports). Third, *ideational* factors include how fossil fuel subsidies and the norm of fossil fuel subsidy reform are framed and whether these framings ‘fit’ with the prevalent ideational structures and objectives of particular institutions (Johnstone 2001). Fossil fuel subsidies can be framed in terms of their environmental or economic consequences, among others, and one would expect economic framings to resonate better with economic institutions and environmental framings to resonate better with environmental institutions. Finally, *interaction with other institutions* (Oberthür and Stokke 2011) may influence whether and how an institution addresses fossil fuel subsidies. A concrete example would be the G20 tasking the IEA, the OECD, the Organization of the Petroleum Exporting Countries (OPEC) and the World Bank with analysing the magnitude and consequences of fossil fuel subsidies.

A separate set of dynamics concerns the degree to which – and the pathways through which – international actors and institutions exert influence on fossil fuel subsidy reform at the domestic level. We identify three causal pathways that may be relevant to fossil fuel subsidies, drawing from the literature on the influence of the international level on domestic politics (Dobbin et al. 2007; Bernstein and Cashore 2012). First, there is the functional-rationalist pathway of international actors and institutions affecting domestic politics by *increasing the incentives* for complying with the institution (Keohane 1984). For example, actors and institutions may provide resources for compensating those affected negatively by fossil fuel subsidy reform or increase the reputational costs of non-compliance with international commitments. A second pathway is *coercion*, through which external restraints are placed on domestic actors (Hurd 1999), for example, through the threat of sanctions (e.g. potentially the WTO) or conditionalities (e.g. the IMF or World Bank). Third, through an *ideational* pathway, international actors and institutions can affect the norms and ideas that shape how domestic actors perceive an issue (Finnemore and Sikkink 1998), for instance, by promoting the norm that fossil fuel subsidies should be reformed. Besides the dissemination of norms, this pathway also covers learning – or the dissemination of knowledge on the ‘best’ way to achieve an objective based on the experiences of other actors (Dobbin et al. 2007: 460) – such as reforming fossil fuel subsidies in a way that avoids public protests.

### **1.3.2 The Domestic Level**

We distinguish three broad and interdependent political factors that influence fossil fuel subsidies and their reform at the domestic level. The first factor focuses on the *interests, strategies and organisation of actors* – including both individuals and organisations – that have sought to promote reform of fossil fuel subsidies or to keep them in place (cf. Sabatier and Weible 2014). As was the case at the international level, these actors include – but are not limited to – policy and norm entrepreneurs. Regarding strategies, such actors may have actively sought to put fossil fuel subsidies on the national political agenda or instead thwarted such agenda-setting efforts, framed particular measures as fossil fuel subsidies with economic or environmental costs or as poverty-reduction or competition policies with economic benefits, built alliances and coalitions to promote or counter reform and communicated the benefits of fossil fuel subsidies or their reform to policymakers and the public. Rapid changes to other factors, such as oil prices, may offer windows of opportunity for these actors, since the timing of any significant policy change may be crucial to its chances of reform (Kingdon 2003). Regarding organisation, as Victor (2009) underscores, the level of subsidies in a country (especially for fossil fuel production) is influenced by how well-organised the interest groups benefiting from these subsidies are. These interest groups may coalesce around the subsidies, making it difficult to get rid of those subsidies. The organisation of actors opposed to fossil fuel subsidies is also important; although they tend to be less organised into institutionalised interest groups than the actors supporting subsidies, alliances cutting across different political parties, ministries and NGOs may have an important influence on fossil fuel subsidy reform. A key aspect of this factor is that the benefits of maintaining fossil fuel subsidies tend to be visible and concentrated on specific groups (e.g. fossil fuel producers and recipients of consumer subsidies, such as car owners), whereas the benefits of fossil fuel subsidy reform are often less tangible and more diffuse across time and space (e.g. improved fiscal balances and environmental improvements benefiting the population as a whole, including future generations).

Third, ideational factors, such as the knowledge, ideas, norms and beliefs guiding different actors (Jenkins-Smith et al. 2014), can have an influence on subsidy reform. At the domestic level, a recurring issue has been the question of whether a given policy or measure is defined as a fossil fuel subsidy, with opponents claiming that the support constitutes a subsidy and proponents arguing that it does not. New knowledge about fossil fuel subsidies, particularly about their environmental and socio-economic effects, can also be an important factor in the discussions concerning fossil fuel subsidies. Likewise, discourses linking fossil

fuel subsidies to growth, development and competitiveness may be influential. Ideational factors may closely interact with political dynamics at the international level; for instance, the norm of fossil fuel subsidy reform promulgated at the international level could be taken up and promoted by domestic norm entrepreneurs (see above).

Lastly, structural factors, particularly the broader socio-political characteristics of a country, may influence fossil fuel subsidies and their reform. These factors are all unlikely to change in the short to medium term and are more difficult to change. They include a state's governance capacity, structural power relations, and macro-economic factors – characteristics that (often in combination) may lead to the lock-in of fossil fuel subsidies. Governments with a low governance capacity tend to subsidise fossil fuels because they lack the capacity to implement other, more complex welfare policy instruments such as cash transfers (Victor 2009; Commander 2012; Cheon et al. 2013; Lockwood 2015). In such situations, fossil fuel subsidies can become an important part of the social contract between the government and the population. Fossil fuel subsidies can also be embedded in structural power relations that support certain kinds of activities (fossil fuel production and consumption) that are defined as integral to the economy. Doing so can reinforce and further entrench such power relations by empowering particular actors (private companies) or favouring activities (fossil fuel extraction) over others. These socio-political characteristics are often intertwined with macro-economic factors such as the level of income or growth, income inequalities and the composition of the national economy, especially the economy's degree of dependence on fossil fuels (i.e. the extent to which a country's economy is diversified). While this book does not focus on macro-economic factors alone, we believe that including macro-economic factors among the other political factors outlined in this framework can provide a useful contribution. Several of these characteristics may contribute to locking in fossil fuel subsidies in countries, for instance, by creating constituencies that seek to maintain subsidies and keep the country on a fossil fuel-intensive pathway (Victor 2009). Such possible feedback loops – in which fossil fuel subsidies strengthen the factors that keep them in place – are important factors worth exploring further.

#### **1.4 Plan of This Book**

The main body of this book comprises three parts, in addition to this introductory chapter and our conclusions. **Part II** outlines the scope of the problem of fossil fuel subsidies and the challenge of reforming them. The chapters in this part set the stage for the rest of the book by discussing key issues that are important to fossil



fuel subsidies as a phenomenon and hence relevant to the politics of fossil fuel subsidies both at the international and domestic levels. A key aspect of this challenge is the absence of agreement on a definition of fossil fuel subsidies and the ensuing debates on whether and to what degree a given country subsidises fossil fuels. Different definitions – and, related to this, ways of measuring – are the principal reasons why global fossil fuel subsidy estimates vary, with the IMF’s estimate totalling ten times higher than that of the IEA. In [Chapter 2](#), Doug Koplow explains the most common approaches to defining and measuring subsidies to fossil fuels that underpin current global estimates and discusses the key causes of estimate variance and measurement gaps. He further illustrates the importance of the choice of definition by discussing the variation in estimates of fossil fuel subsidies in the United States. Koplow argues that the areas of agreement among approaches to measure subsidies often are broader than the variance in estimates suggests. In [Chapter 3](#), Shelagh Whitley and Laurie van der Burg focus on another aspect of fossil fuel subsidies, namely the rationale for subsidy reform. The authors draw attention to the various economic, social and environmental consequences of subsidies and highlight the benefits of, as well as opportunities for, their reform. Synthesising the findings from existing case studies of reform, Whitley and van der Burg suggest a set of key principles that can help make fossil fuel subsidy reform a success. In [Chapter 4](#), Peter Newell and Phil Johnstone place fossil fuel subsidies and the struggle to reform them within the wider context of the politics of energy transitions and decarbonisation. Drawing on political economy literature, they focus on the structural factor of power relations that sustain what they term ‘fossil fuel incumbency’. Furthermore, they suggest that at the international level fossil fuels are characterised by ‘ungovernance’ – i.e. the absence of governance. Newell and Johnstone thus present the challenge to reform fossil fuel subsidies as a key site in the broader struggle to decarbonise the global economy.

[Part III](#) focuses on international political dynamics. The chapters in this part focus on governance efforts by international actors and institutions to promote fossil fuel subsidy reform – or the absence thereof – rather than efforts to maintain these subsidies. This is because the international level – as evidenced by G20 statements and the inclusion of fossil fuel subsidy reform in the United Nations Sustainable Development Goals – has been characterised by a broad consensus that fossil fuel subsidies *should* be reformed. [Chapter 5](#), by Thijs Van de Graaf and Mathieu Blondeel, sets the stage by examining fossil fuel subsidy reform as a nascent international norm, thus focusing on ideational dynamics at the international level. Drawing on the constructivist literature on international norms, they explain the top-down emergence and incomplete diffusion of this norm. The chapter outlines how the norm was institutionalised in international

forums following the G20 commitment and diffused among countries to varying degrees. Van de Graaf and Blondeel find that this development is due to the active role of norm entrepreneurs (e.g. NGOs such as the Global Subsidies Initiative and the Obama administration in the United States), political opportunity structures (especially the financial crisis) and the contested nature of the norm, which makes it easy to commit to the norm but also difficult to detect norm violation.

Whereas Van de Graaf and Blondeel focus on norm dynamics across and between different international institutions, the subsequent chapters study cases of specific international (intergovernmental as well as non-governmental) institutions which play or could play crucial roles in influencing the politics of fossil fuel subsidy and their reform at the domestic level. [Chapter 6](#), by Jakob Skovgaard, addresses the role of international economic institutions (the G20, IMF, OECD and World Bank) in promoting fossil fuel subsidy reform in the United States, the United Kingdom, India, Indonesia and Denmark. Skovgaard analyses the ideational, learning and power-based pathways through which international economic institutions influenced the domestic politics of fossil fuel subsidies, examining to what degree the institutions caused or helped shape fossil fuel subsidy reform. He finds that while fossil fuel subsidy reform (or the absence thereof) in all countries was mainly driven by domestic factors, international institutions also exerted influence on the domestic politics of fossil fuel subsidies by promoting the norm of fossil fuel subsidy reform, encouraging learning (in the cases of India and Indonesia) and through power-based influences (in the case of Indonesia).

Turning to a set of key international institutions that are most conspicuous for *not* addressing fossil fuel subsidies, in [Chapter 7](#), Ron Steenblik, Jehan Sauvage and Christina Timiliotis first analyse how the global trade regime has dealt with fossil fuel subsidies. They explain how international ideational dynamics have meant that existing rules and norms on subsidies have largely not been used to deal with fossil fuel subsidies. As a result, not a single challenge of fossil fuel subsidies has taken place in the WTO context. The authors discuss several ways in which the world trading system could help address fossil fuel subsidies, noting in particular the potential of regional and plurilateral trade agreements as well as soft-law approaches. Like the WTO, fossil fuel subsidies have also by and large flown under the radar of the international climate regime. In [Chapter 8](#), Harro van Asselt, Laura Merrill and Kati Kulovesi show that notwithstanding mounting evidence of the climate impacts of fossil fuel subsidies – and, conversely, the climate benefits of their possible reform – consideration of policies to address fossil fuel production or consumption has been mostly absent in the rule development under the UNFCCC. However, they suggest that this situation is slowly



changing and that the global climate regime can play a role in promoting subsidy reform through different pathways, i.e. by imposing reputational costs if voluntary commitments are reneged upon, improving transparency, offering incentives to steer financial flows away from fossil fuels, amplifying the emerging norm of fossil fuel subsidy reform and presenting a framework for learning and building institutional capacity.

**Chapter 9**, by Vernon Rive, addresses another key institution in the international politics of fossil fuel subsidies, namely the informal Friends of Fossil Fuel Subsidy Reform, which is the only intergovernmental initiative dedicated to the reform of fossil fuel subsidies. Adopting a constructivist norm perspective – and focusing on international ideational dynamics related to those described by Van de Graaf and Blondeel – Rive explores the origins of the initiative, its activities as a norm entrepreneur to promote subsidy reform and its interactions with other international institutions. He concludes that the Friends initiative has been hindered by its lack of an unequivocal definition of fossil fuel subsidies, although it has succeeded in promoting the norm of fossil fuel subsidy reform – especially through the endorsement of its 2015 Fossil Fuel Subsidy Reform Communiqué by a range of countries and non-state actors – and in framing fossil fuel subsidies in terms of negative fiscal and climate consequences.

In **Chapter 10**, Nathan Lemphers, Steven Bernstein and Matthew Hoffmann analyse the role of the Global Subsidies Initiative, one of the most important and influential international NGOs working in the area of fossil fuel subsidy reform. Employing a framework that focuses on the mechanisms through which the status quo of carbon lock-in can be challenged, Lemphers and colleagues explain how the Global Subsidies Initiative has acted as a norm entrepreneur by building coalitions and capacity for fossil fuel subsidy reform and by helping normalise fossil fuel subsidy reform. As a result, the Initiative has been influential in scaling up and entrenching the commitment to reform fossil fuel subsidies through its interaction with international institutions and countries pursuing or seeking to further subsidy reform.

**Part IV** of the book focuses on the domestic politics of fossil subsidies in six selected countries. Some chapters focus on cases of (partial) successful reform (Egypt, India and Indonesia). Other chapters focus on countries that have undertaken fossil fuel subsidy reform only to a limited extent (Trinidad and Tobago) or not at all (Colombia and South Africa).

**Chapter 11**, by Kathryn Chelminski, begins this part by examining fossil fuel consumption subsidies in Indonesia. Looking at three different periods of reform in the past two decades, Chelminski assesses whether Indonesia can indeed be seen as a successful case of reform. Specifically, she looks at whether the reforms are

lasting, whether they reduce government expenditure and whether they lead to increased government revenue and a better distribution of overall benefits. By doing so, she sheds light on the role of different factors in bringing about successful reform, including actor strategies such as political leadership communication campaigns and reallocating funds for social assistance. She also looks at the organisation of actors – particularly extractive industries, trade associations and national oil companies opposed to reform – as well as structural factors such as the financial crisis and fuel price fluctuations. The strategy of reallocating funds saved through fossil fuel subsidy reform is also the main focus of [Chapter 12](#), by Abhishek Jain, Shalu Agrawal and Karthik Ganesan, who study the Direct Benefit Transfer Scheme for Liquefied Petroleum Gas in India. The programme is a large-scale conditional cash-transfer scheme implemented to reform cooking fuel subsidies. Drawing on extensive stakeholder consultations, Jain and colleagues discuss and explain the performance of the programme. They find that it was largely successful in its implementation and in meeting its objectives, thanks to political leadership at the national level, coordination between governmental departments, learning from past experience and raising awareness among the target audience.

The next two chapters both focus on producer subsidies. In [Chapter 13](#), Jesse Burton, Tawney Lott and Britta Rennkamp contextualise their political economy analysis of fossil fuel subsidies in South Africa by presenting new estimates of subsidies to the coal and liquid fuels sectors of the country. Doing so allows the authors not only to better understand the economic and distributional impacts of the subsidies but also to investigate the motivations behind the support to those sectors. Focusing on the strategies and organisation of actors supporting the subsidy as well as structural factors, Burton and colleagues explain that the support to fossil fuel producers is not framed as a ‘subsidy’ by the government but rather as an investment necessary for economic development; such support has become locked in because of the benefits to elite actors within government and industry. In [Chapter 14](#), Claudia Strambo, Ana Carolina González Espinosa, Angélica Puertas Velasco and Aaron Atteridge likewise precede their analysis with an overview of fossil fuel producer subsidies in the country. The authors examine why and how producer subsidies were put (and kept) in place in Colombia. They point to framing strategies employed by the coal sector and the national government – through which coal mining was treated alongside other extractive industries, notwithstanding important differences – as well as the structural factors of the legacy of decades-long internal conflicts and the resulting low governance capacity of the state.

[Chapter 15](#), by Tom Moerenhout, discusses the case of Egypt, a country where subsidy reforms were implemented in a turbulent context, namely following the

Arab Spring. Moerenhout explains why the aftermath of the Egyptian revolution was an opportune moment for subsidy reform. Drawing on behavioural realism, Moerenhout introduces the key political actors – including notably the military – and examines how actor constellations have changed since the reform began in 2014. He finds that the reason reform was possible in 2014 – the Egyptian people buying into a changing social contract – became undermined when the structural factor of economic hardship was not relieved and the government reverted to authoritarian rule.

In [Chapter 16](#), Michelle Scobie looks at the situation of a small island state that is also an oil and gas producer, Trinidad and Tobago. Scobie examines the key actors in favour of, and opposed to, subsidy reform (including domestic actors as well as international actors such as the IMF). She considers the strategies or frames that those actors employ – focusing on arguments related to economic prudence, climate and energy justice and environmental stewardship – and the key structural factors determining the outcome of reform. She finds that while the constellation of actors and framings has hardly changed, policy change is possible. She thus suggests that contextual factors, such as the economic crisis and fluctuating oil prices, played a key role.

Finally, in [Chapter 17](#), we synthesise the main findings from the various chapters with respect to our analytical framework and return to the overall puzzle that inspired this book: the disconnect between high-level political commitment to and emerging consensus on the benefits of reform and the low level of concerted action on reforming fossil fuel subsidies. The chapter concludes by identifying fruitful areas for further research on the politics of fossil fuel subsidies and their reform.

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# **Part II**

## The Scope of the Challenge





## 2

# Defining and Measuring Fossil Fuel Subsidies

DOUG KOPLOW

### 2.1 Introduction

For many years, policy discussions have focused on strategies to bring down greenhouse gas emissions using taxes, permits and other regulatory or statutory limits. Yet fossil fuel markets across the world remain littered with government programmes subsidising these emissions. The subsidies are large and act as a negative tax on carbon, slowing the transition to cleaner fuels, weakening the impact of carbon constraints and absorbing a significant portion of government revenues in many countries.

These factors have increasingly led governments and international organisations to view fossil fuel subsidy reform as an important carbon mitigation strategy and fiscal lever. The G20 reached an initial agreement in 2009 to ‘phase out and rationalise over the medium term inefficient fossil fuel subsidies’ (G20 2009), with members of the Asia-Pacific Economic Cooperation (APEC) group following suit (APEC 2009). In September 2016, China and the United States – the two largest greenhouse gas emitters – took that process another step forward by publicly releasing a voluntary peer-reviewed version of their fossil fuel subsidy reports (China 2015; G20 Peer Review Team 2016a, 2016b; United States 2015).

While the importance of subsidy reform is clear, widely varying estimates of subsidy magnitude and continuing battles over subsidy definitions slow reform efforts and complicate political consensus building. Differing coverage also affects reported figures: some assessments focus on subsidies to the consumption side of the market, others on producer subsidies and some on both. Global estimates vary by at least an order of magnitude, with a similar dispersion of country-specific estimates.

Beginning with a brief overview of the most common approaches to measure global subsidies to fossil fuels, this chapter discusses subsidy definitions, current global estimates, key causes of estimate variance and measurement gaps. Areas of common agreement are also presented; these are frequently broader than the

numerical variance alone would suggest and are critical for successful reforms. The chapter concludes with several high-leverage opportunities for improving subsidy transparency going forward.

## 2.2 Measuring Global Subsidies to Fossil Fuels

Global subsidy estimates have relied on two main strategies: quantifying the value transferred to market participants from particular government activities (programme-specific or inventory approach)<sup>1</sup> and assessing the variance between the observed and the ‘free market’ price for an energy commodity (price-gap approach). Each strategy has strengths and limitations (Table 2.1). To evaluate the impact of fossil fuel subsidies, data are generally aggregated into metrics of combined support that encompass many programme types, government institutions, levels of government and countries.

Inventories track individual subsidies, which helps to identify key political and economic leverage points for reform. However, the inventory approach does not delineate energy price impacts without significant additional analysis. Policy coverage across inventories may also differ due to definitional disagreements or data access problems.

Price-gap estimates do capture price effects. This approach has been used most prominently in recent years by the International Energy Agency (IEA). Because the approach requires less data than the inventories, it is useful for evaluating many countries at the same time, particularly when governments lack the capability or will to provide data on their market interventions. Price-gap results highlight countries with large pricing distortions; to develop a subsidy reform strategy, however, policy-specific information would be needed (Koplow 2015). Further, price-gap results provide only a partial picture. The many subsidies that boost industry profitability or allow marginal competitors to stay afloat – but do not affect equilibrium prices – are not captured. In addition, where energy resources are thinly traded, assessing an appropriate market reference price can be difficult. This is a particular challenge for network energy such as electric power, as well as fossil fuel-fired steam heat or natural gas delivery systems. Price-gap estimates should therefore be viewed as a lower bound of subsidy estimates (Koplow 2009).

Subsidy inventories compile programme-specific data on individual government supports to fossil fuels. The programme-level data can then be tallied to enhance transparency. The Organisation for Economic Co-operation and Development’s (OECD) total support estimate (TSE), for example, captures both pricing

<sup>1</sup> This is also known as a ‘conferred-benefits’ or ‘bottom-up’ approach.

Table 2.1 *Overview of subsidy measurement approaches*

Approach	Strengths	Limitations
<p><b>Inventory</b>  <i>Quantifies value of specific government programmes to particular industries and then aggregates programmes into overall level of support.</i>  <i>Transfers include reductions in mandatory payments (e.g. tax breaks) and shifting of operating risks to the public sector, not just cash. Mandated purchase requirements are often captured, at least qualitatively.</i></p>	<ul style="list-style-type: none"> <li>• Captures transfers whether or not they affect end market prices.</li> <li>• Can incorporate the value of risk transfers (e.g. via lending or insurance subsidies) rather than just the direct government costs.</li> <li>• Can feed into a variety of evaluative frameworks and support detailed policy reviews needed for reform efforts.</li> </ul>	<ul style="list-style-type: none"> <li>• Does not address questions of ultimate incidence or pricing distortions.</li> <li>• Sensitive to decisions on what programmes to include.</li> <li>• Requires programme-level data.</li> <li>• Differential baselines across political jurisdictions (particularly regarding taxes) can complicate aggregation and cross-country comparisons.</li> </ul>
<p><b>Price gap</b>  <i>Evaluates positive or negative ‘gaps’ between the domestic price of energy and the delivered price of comparable products from abroad.</i></p>	<ul style="list-style-type: none"> <li>• Can be estimated with relatively little data; very useful for multi-country studies even if there is limited access to government documents.</li> <li>• Good indicator of pricing and trade distortions.</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitive to assumptions regarding ‘free market’ reference prices and transport prices and to frequency and geographical dispersion of key data inputs.</li> <li>• Understates full value of support as it ignores transfers that do not affect end-market prices and may miss important supports such as purchase vouchers or cross-subsidies.</li> <li>• Estimates for non-traded goods (e.g. electricity) require much more detailed analysis to generate reference prices.</li> </ul>
<p><b>Total support estimate</b>  <i>Systematic method to aggregate transfers plus market support to particular industries.</i></p>	<ul style="list-style-type: none"> <li>• Integrates transfers with market supports into holistic measurement of support.</li> <li>• Separates effects on producer and consumer markets.</li> </ul>	<ul style="list-style-type: none"> <li>• Limited empirical PSE/CSE data for fossil fuel markets, although this is improving for OECD countries and a handful of others.</li> <li>• Data intensive.</li> </ul>

Sources: Koplow and Dernbach 2001; Kojima and Koplow 2015.

distortions (net market transfers) and transfers that do not affect end-market prices (net budgetary transfers) – effectively combining price-gap and inventory estimates. The TSE tracks individual policies on producer (via the producer subsidy equivalent (PSE)) and consumer (via the consumer subsidy equivalent (CSE)) sides of the market, allowing interactions to be evaluated. Government programmes that support the general structure of a particular fuel market – but not a specific producer or consumer – are tracked separately. The OECD’s approach is data intensive: their 2015 review of government support to fossil fuels included more than 800 subsidies provided by a diverse array of government agencies in OECD countries as well as in Brazil, Russia, Indonesia, India, China and South Africa (OECD 2015a).

Another approach to translate a subsidy inventory into a picture of market impacts is to simulate investment returns at the energy-asset level with and without individual subsidies. This technique highlights the degree to which the subsidies shift unprofitable projects into investable ones (Lunden and Fjærtøft 2014; Erickson et al. 2017). Given the long capital life of most energy investments and the ability to continue production at lower prices once project capital has been ‘sunk’, this dynamic can lock society into multi-year carbon emissions. This approach can also quantify the level of subsidy ‘leakage’, where taxpayer money simply boosts the profits of projects that would have been profitable even without government support. These assessments provide highly granular information on subsidy transfer efficiency and environmental impacts, although they require detailed data on production sites and production economics that are not available for all fuels or all parts of the fuel cycle.

### 2.3 Defining and Identifying Energy Subsidies

As a starting point, most international organisations have adopted a subsidy definition developed by the World Trade Organization (WTO) under the Agreement on Subsidies and Countervailing Measures (see [Chapter 7](#)). The WTO definition captures much of the needed complexity in the range of policies to be tracked, including credit support, tax breaks and equity infusions (see also Steenblik 2007; Jones and Steenblik 2010).

In practice, however, there are important differences in coverage across institutions, and the exclusion of particular types of policies from quantitative estimates is fairly common. Sometimes (as with externalities; see Section 2.4.2), this is due to methodological disagreements or differing objectives of the analysis. Often, however, resource or data limitations preclude systematic evaluation of more complex types of interventions.

Exclusion of entire groups of policies from inventories (credit and insurance support are frequently left out) reduces the reported national and global subsidy estimates. Even price-gap estimates are likely affected, despite relying on price differentials rather than policy details. For thinly traded commodities, price-gap reference prices rely on estimates of the domestic cost structure, and missing information on subsidies can generate an artificially low reference price.

While definitional disagreements cannot be resolved in this chapter, understanding key mechanisms of support is useful. A common view of subsidies prevalent in the general press focuses on cash payments from the government to an individual or corporation. In reality, a wide array of mechanisms is deployed to transfer value to, and risks from, particular forms of energy, many of which do not involve cash. While some subsidies increase the return to a specific party directly, many work indirectly by changing the risk and reward profile of a particular activity or investment. The WTO definition distinguishes these by referring to the latter set as ‘support’ rather than ‘subsidies’. However, either approach boosts expected returns for some individuals, companies or products while worsening the market position of competitors.

Indeed, a core function of markets is to allocate risks and rewards among investors, producers and consumers. Many fossil fuel subsidies function by shifting risks away from energy producers or consumers. Common mechanisms include tax breaks, subsidised credit or insurance, trade restrictions, price controls and purchase mandates. Although investment, safety, price, geological and regulatory risks are not consistent across fuels, they are significant factors in energy markets overall. Thus, the same type of subsidy may affect particular fuel cycles in quite different ways. For example, remote oil fields or nuclear reactors are extremely expensive with long and uncertain build times. They are highly sensitive to the cost of capital as a result. Nuclear firms thus benefit greatly from subsidies in the form of loan guarantees and caps on accident risks; liquefied natural gas facilities would have a similar profile. Fuel costs will be more significant for coal-fired plants than for reactors or for renewable resources such as wind or solar that have no fuel costs.

While not all subsidy types are relevant to every situation, focusing only on cash grants greatly understates the complexity and magnitude of subsidy-related market distortions. [Table 2.2](#) provides a comprehensive overview of the main types of transfer mechanisms and how well they are captured within current price-gap and inventory estimates of fossil fuel subsidies. The many categories underscore both the complexity of markets and the importance of tracking all transfer mechanisms to ensure an accurate picture of subsidy-related market distortions for each fuel cycle.

Table 2.2 *Mechanisms of value transfer to the energy sector*

Intervention category	Description	Captured in current global estimates?	
		Inventory	Price gap
<i>Direct transfer of funds</i>			
Direct spending	Direct budgetary outlays for an energy-related purpose	Yes	Possibly <sup>b</sup>
Research and development	Partial or full government funding for energy-related research and development	Yes	Possibly <sup>b</sup>
Tax revenue forgone <sup>a</sup>	Special tax levies or exemptions for energy-related activities, including production or consumption; includes acceleration of tax deductions relative to standard treatment	As reported	Possibly <sup>b</sup>
<i>Other government revenue forgone</i>			
Access <sup>a</sup>	Policies governing the terms of access to domestic onshore and offshore resources (e.g. leasing auctions, royalties, production-sharing agreements)	No	Possibly <sup>b</sup>
Information	Provision of market-related information that would otherwise have to be purchased by private market participants	Yes	No
<i>Transfer of risk to government</i>			
Lending and credit	Below-market provision of loans or loan guarantees for energy-related activities	No	No
Government ownership <sup>a</sup>	Government ownership of all or a significant part of an energy enterprise or a supporting service organisation; often includes high-risk or expensive portions of fuel cycle (oil security or stockpiling, ice breakers for Arctic fields)	No	Possibly <sup>b</sup>
Risk	Government-provided insurance or indemnification at below-market prices	No	No
<i>Induced transfers</i>			
Cross-subsidy <sup>a</sup>	Policies that reduce costs to particular types of customers or regions by increasing charges to other customers or regions	Partial	Possibly <sup>b</sup>

Table 2.2 (cont.)

Intervention category	Description	Captured in current global estimates?	
		Inventory	Price gap
Import or export restrictions <sup>a</sup>	Restrictions on the free-market flow of energy products and services between countries	Partial	Yes
Price controls <sup>a</sup>	Direct regulation of wholesale or retail energy prices	Some	Yes
Purchase requirements <sup>a</sup>	Required purchase of particular energy commodities, such as domestic coal, regardless of whether other choices are more economically attractive	No	Yes
Regulation <sup>a</sup>	Government regulatory efforts that substantially alter the rights and responsibilities of various parties in energy markets or that exempt certain parties from those changes; distortions can arise from weak regulations, weak enforcement of strong regulations or over-regulation (i.e. the costs of compliance greatly exceed the social benefits)	No	No
Costs of externalities	Costs of negative externalities associated with energy production or consumption that are not accounted for in prices; examples include greenhouse gas emissions and pollutant and heat discharges to water systems	No	Generally not

<sup>a</sup> Can act either as a subsidy or as a tax depending on programme specifics and one's position in the marketplace.

<sup>b</sup> Intervention may be partially captured in price-gap calculations if it affects domestic prices to end users or if (as with cross-subsidies) the transfers move across fuel types that are measured independently in the price-gap analysis.

Sources: Koplou 1998; OECD 2011; Kojima and Koplou 2015.

Many policies can act either as a tax or as a subsidy depending on the programme details and the associated market environment. If programme rules or disbursements change over time, the direction of impact can shift as well. Fees levied on oil and gas, for example, are often earmarked to support industry-related site inspections and cleanup or to fund infrastructure construction and maintenance. If the fees exceed these costs, they may partially act as a tax; if they cover only part of the cost, a residual subsidy will remain. Subsidies to energy consumers can sometimes act as



a tax on producers, and vice versa. Teasing out these interactions is a significant challenge of subsidy measurement, although the OECD's TSE approach has been effective in doing so.

For any specific company or energy asset, multiple subsidies are often at play, as beneficiaries try to maximise their subsidy flows across programme types and levels of government. This 'subsidy stacking' is sometimes limited by programme or tax rules but often is not. Subsidy stacking is common in both the private sector and with state-owned enterprises (SOEs), although in somewhat different forms. Private firms actively identify ways to tap into multiple lines of support. For SOEs, multiple levels of subsidies are often a side effect of their tax-exempt, taxpayer-supported operating environment.

Because SOEs are common in the energy sector (many countries even have a single, state-owned national champion dominating their oil and gas sector), including them in any subsidy review is critical. Indeed, SOEs play a larger role in the energy sector than in other parts of the economy. Of industrial sectors with the largest state-owned share worldwide, five of the six relate to fossil fuels: electricity, gas and steam for heat (27 per cent); oil and gas extraction (34 per cent); coal and lignite extraction (35 per cent); land transport and pipelines (40 per cent) and mining support activities (43 per cent) (Kowalski et al. 2013).

Annual budget allocations or bailouts to state firms are easy to spot. More complicated are subsidies to SOEs that become evident only when compared with a free-market baseline. SOEs may borrow money and pay interest, for example, but not at a market rate. They break even on operations, but this is far less than needed to generate a reasonable rate of return on billions in invested taxpayer capital. This lack of a required rate of return on public energy infrastructure can pose a large competitive impediment to innovative private energy providers who may be able to provide similar energy services in a cleaner or less-capital-intensive way (OECD 2016). SOEs sometimes pay no taxes, have inadequate insurance coverage or receive below-market access to publicly owned minerals. But these same institutions may also be mandated to provide low-cost energy to selected consumers or even housing for workers. Estimating the net effects of the subsidies against the cost-increasing social mandates on SOEs can be complex.

## **2.4 Current Estimates of Global Fossil Fuel Subsidies**

This section reviews the current estimates of global subsidies to fossil fuels, the main causes of variance and some of the important data gaps and definitional issues behind these differing results. The most comprehensive estimates for global fossil



fuel subsidies are published by the IEA, the OECD and the International Monetary Fund (IMF). The IEA evaluates government subsidies to fossil fuel consumers on an annual basis using the price-gap approach. The OECD uses its TSE approach to produce a biennial inventory of government support to fossil fuel producers, to consumers and to the general infrastructure that benefits the industry. The IMF approach blends estimates from both the IEA and OECD, supplements them with internal estimates for additional countries and generates a ‘pre-tax’ estimate of subsidy value. The IMF also prepares a ‘post-tax’ estimate, which includes an imputed national sales tax on fossil fuels for countries where the IMF felt that current levels were too low and negative externalities associated with fossil fuels and transport. Some of these adjustments remain controversial with other practitioners (see below).

Other organisations have conducted fossil fuel subsidy assessments over the years, although less systematically. The World Bank prepared global estimates during the early 1990s using an approach similar to that used by the IEA (Larsen and Shah 1992; Larsen 1994), although in recent years the Bank has focused primarily on country-specific assessments of energy market structure and functioning (Kojima 2016). Similarly, country-specific reviews are periodically completed by national governments or non-governmental organisations and often supplement the international assessments.

Table 2.3 compiles the most commonly referenced global energy subsidy estimates. Even the lowest figure amounts to many billions of dollars per year and a material share of global gross domestic product (GDP) – despite significant remaining coverage gaps in terms of countries, subsidy types, and levels of government (see Box 2.1). The upper-bound estimate is equal to more than 6 per cent of global GDP, a remarkable figure given that all global manufacturing comprised only 16 per cent of global GDP in 2012 (McKinsey 2012: 6).

At this scale, the fiscal demands of subsidising fossil fuels can sometimes crowd out other social objectives. Federal revenues provide a useful proxy for a country’s ‘sustainable budget constraint’, or the amount it can spend without taking on debt to support current operations. Twenty-two countries (60 per cent) in the IEA sample spent more than 10 per cent of available revenues on their fuel subsidies. Indeed, nearly half of those countries spent more to subsidise fossil fuel consumption than they did on public health (Koplow 2014). Subsidy flows are disproportionately captured not by the poor but by the middle and upper classes (Arze del Granado et al. 2010; Coady et al. 2010).

Distortions across fuels are also relevant, particularly in light of concerns over climate change. Fossil fuels continue to capture the majority of support. In 2015, IEA data indicated that despite continued growth in government support to renewable energy and declines in oil prices (such drops tend to bring down

Table 2.3 *Global energy subsidy estimates*

	IEA	OECD	IMF (pre-tax)	IMF (post-tax)
Data year	2014 <sup>a</sup>	2014	2009–15 (varies by element)	
Measurement approach	Price gap	TSE	IEA plus OECD less tax breaks	IMF pre-tax plus tax breaks plus externalities
Number of countries covered	40	40	151 <sup>b</sup>	153
Fossil fuels				
Oil	274	138	135	1,497
Natural gas	110	18	93	510
Coal	2	4	5	3,147
<b>Power (fossil)<sup>c</sup></b>	120	NE	99	148
Total fossil	506	170	333	5,302
Power (nuclear)	NE	NE	NE	NE
Power (renewables)	112	NE	NE	NE
Biofuels, transport	23	NE	NE	NE
Total all fuels	641	170	333	5,302
% of world GDP	0.8	0.2	0.4	6.5–6.8 <sup>d</sup>

*Note:* All amounts in 2015 USD; NE = not estimated.

<sup>a</sup> Base year 2014 selected to allow comparison across all sources. IEA (2015) shows lower fossil fuel subsidy estimates due to drops in the global price of energy.

<sup>b</sup> Of these, 123 countries had non-zero values.

<sup>c</sup> IEA data on source fuels indicate about half of the subsidy-weighted power capacity is natural gas fired and one-quarter coal fired. IMF's estimates for fossil-fuelled electricity seem to include some non-fossil generation (Kojima and Koplow 2015).

<sup>d</sup> Low-end estimate using IMF global GDP data; high-end using World Bank GDP data.

*Sources:* Tabulation from IEA 2014, 2015; Coady et al. 2015; OECD 2015a; World Bank 2016

consumer fuel subsidies by default), the fossil-fuel-to-renewable-subsidy ratio was still 2:1. This ratio was nearly 4:1 in 2014 and more than 10:1 as recently as 2008 (IEA 2016: 99).

Immediately evident from Table 2.3 is the extremely wide range of estimates, running from USD 170 billion (OECD) to USD 5.3 trillion per year (IMF). These differences are the result of three key factors: (1) the types of policies captured, (2) the valuation approach and (3) the geographical coverage. For example, while the IEA and OECD both cover roughly 40 countries, the OECD captures primarily advanced economies, while the IEA captures many more developing nations. The IMF, meanwhile, covers more than 150 countries for some fuels. The valuation methods also differ, with high estimates dominated by the

### Box 2.1 Common gaps in energy subsidy estimates

**Geographical.** Subsidies to producers in developing countries are systematically missing, although coverage of consumer subsidies in these regions is improving. The OECD includes some sub-national subsidies; worldwide, however, the overall capture rate of these policies remains low (IEA 2012; Koplw and Lin 2012; OECD 2011, 2015a).

**Policy Type.** There is growing coverage of grants and many types of tax breaks (OECD 2015a). Substantial coverage gaps remain for producer support via subsidised credit or insurance, regulatory oversight and site remediation, energy security (shipping lanes, stockpiling) and bulk transport costs and tax-exempt corporate forms. Capture of subsidies through government-owned energy infrastructure or service organisations also remains low.

**Non-Payment.** Price-gap metrics capture under-pricing but may not capture power theft and non-payment. These ‘hidden’ costs of power were larger than under-pricing in some regions (IEA et al. 2010: 17; Kojima and Koplw 2015).

**User Fees.** Many countries levy a variety of fees or taxes on fuels that are earmarked (hypothecated) for specific uses closely linked to particular fuels – for example, building and maintaining transit infrastructure or cleaning up oil spills or abandoned sites. These fees are sometimes improperly deducted from subsidy estimates, or shortfalls in actuarially based fee collections are not incorporated into subsidy tallies (Koplw 2009, 2010).

inclusion of wide-ranging externalities and imputed taxes. The policies evaluated in both the OECD and the IMF pre-tax estimates also affect the results, and neither captures credit support, insurance subsidies, inadequate user fees, site reclamation or net support to SOEs in a systematic manner.

These factors sometimes work in opposite directions. The OECD captures a wider array of subsidy policies than the IEA, which increases its estimate. But the OECD does not include countries such as Iran, Saudi Arabia and Venezuela, which in 2014 accounted for USD 180 billion of the total USD 493 billion in fossil fuel subsidies measured by the IEA (IEA 2015).

Based on Table 2.3, coal subsidies appear extremely small. The one exception, the IMF’s post-tax value, is driven by large health-related externalities linked to coal (see also Figure 2.2). Low values for coal in the other estimates are more an indication of research gaps than a real absence of public support. Support commonly extended to coal producers includes subsidised transport infrastructure, below-market sales of

coal lease rights, credit support to mines and coal-fired power plants and inadequate funding or insurance for regulatory oversight, pit reclamation and black lung disease among miners. Subsidies throughout Eastern Europe and China to district heating – often fuelled by coal – are also quite high but not well captured in the current data set. This is a useful illustration of why a systematic review of all types of supports is needed to generate accurate data.

### *2.4.1 The Importance of Risk Subsidies in Energy Markets*

Government policies that limit or eliminate key downside risks – such as unpredictable performance or market factors that drive project returns down sharply or even negative – can be extremely valuable in turning unprofitable projects into profitable, investable ones. Because quantification is challenging, this area remains one of the most significant gaps in existing global estimates.

Market participants are particularly concerned about preventing very bad outcomes, and markets often charge a premium for investments with higher downside risks (Ang et al. 2006). The government providing a hedge against high downside risks is especially valuable for energy projects with untested technologies or long and uncertain delivery times. Examples include coal with carbon capture and storage and high-cost remote oil fields (which often have high upfront costs, missing key supporting assets such as ports, and very long breakeven periods). Indeed, large Russian onshore projects in the Arctic region took 30 years to begin production (Morgunova and Westphal 2016: 19).

Losses on securities investments are normally limited to the amount of funds invested. By contrast, many energy-related liabilities can well exceed the investment, such as through accidents or complex site reclamation. Long and uncertain build times for energy assets generate two major investment risks: high finance costs that compound for an extended period of time and increasing obsolescence risk if market conditions shift dramatically during the long gestation from investment to the start of operations. Government subsidies to these high-risk energy projects are common, even though lower-risk options often exist. In addition to credit or insurance programmes, direct state ownership or preferential provision of high-cost ancillary services (such as access roads, waste management or reclamation) are also used.

Government-provided hedges on these types of risks can boost the expected rate of return on the investment enough to clear the investors' minimum rate of return. When this happens, long-lived, fossil fuel-intensive capital is deployed that otherwise would not have been, and emissions impacts may be felt for years or decades (OECD 2015a: 14; Erickson et al. 2017).

Subsidies to operating and accident risks, such as below-market insurance premiums or liability caps, can have similarly perverse impacts. These programmes do not actually *eliminate* risks but simply *transfer* them from the subsidy beneficiary to somebody else – most often taxpayers. Plant neighbours or industries relying on a common resource (such as a waterway that is damaged by a spill) are at risk as well.

Subsidised public insurance programmes commonly socialise private risks. Nuclear accidents, earthquakes, flooding and dam failures are a few examples. In the fossil fuel sector, there are long-standing caps on oil spill liabilities. Subsidised insurance is also provided for land subsidence damages from coal mining and black lung disease among miners. Increasing attempts to transfer liability from leaks at carbon storage sites to the state (Lupion et al. 2015) would benefit coal and oil and be detrimental to low-carbon substitutes.

Risk subsidies are common with SOEs in the fossil fuel sector as well. Visibility is a problem: many SOEs implicitly provide liability coverage for all sorts of operating and accident risks simply by doing nothing in situations where capital providers would have forced private firms to purchase insurance cover. These exposures may not be formally evaluated or priced as they would be if a private firm operated in the same space. As a result, accurate prices on differential risks are missing when investment decisions across projects or economic sectors are made. By masking the economic costs of these higher-risk alternatives, insurance subsidies place energy options with lower economic or operational risks at a competitive disadvantage. Indeed, *aggregate* risks to society may actually rise. Decisions on where to drill for oil, where to locate a power plant or how heavily to fund worker safety training are affected by the observed financial costs of risk in insurance premiums. Many of these decisions relate to the deployment of long-lived capital and are largely irreversible once made.

#### 2.4.2 Subsidy ‘Adders’: Imputed Taxes and Externalities

IMF’s post-tax estimate includes two major additions to the fiscal subsidy estimates: ‘missing’ taxes and several large externalities. These adjustments touch on two significant methodological debates within the subsidy area and dramatically increased the IMF’s estimates.

The concept of ‘missing’ taxes is a logical one: where the general sales tax or value-added tax on fossil fuels is lower than the prevailing rate on other goods and services in that state or country, there is a strong case that this discrepancy constitutes a tax subsidy (and is treated as such in OECD’s inventory). Cross-country adjustments are much more complicated, particularly when baseline tax

systems differ. On these, the OECD defers to the country's baseline system. By contrast, the IMF imputes a consumption tax even in countries that do not have such a tax on anything. The valuation impacts are large: IMF figures (Coady et al. 2015) show USD 45 billion in imputed taxes for the United States, more than three times their estimate for all pre-tax fiscal supports.

Fossil fuel extraction, transport, processing and consumption can be messy, with all sorts of emissions to air, water and land. Many of the environmental and health costs from these emissions are not reflected in the market price of the fuels, dampening the incentive to shift to cleaner alternatives. In an effort to adjust for these factors, the IMF post-tax subsidy value also includes estimates for two main groups of externalities: transport and pollution from fossil fuel consumption. Production impacts – such as spills, flaring of associated gas or ecosystem damage – are not evaluated.

The IMF approach has raised some methodological issues. First, transport-related externalities are attributed to fuels primarily because most of the transport vehicles today burn petroleum. This can be seen in Figures 2.1 and 2.3; although 12 per cent of total estimates for fossil fuel are transport externalities, this jumps to 44 per cent for oil. However, the causal factors of the externalities are not generally fuel specific. Road damage is a function of vehicle trips, vehicle weight and the quality of the roadbed. Congestion and accidents occur regardless of the fuel being used, and at least part of the external cost of congestion is being internalised by drivers through lost time.

The case for linking pollution externalities to fossil fuels is much stronger. The polluter-pays principle and economic efficiency both support the idea that

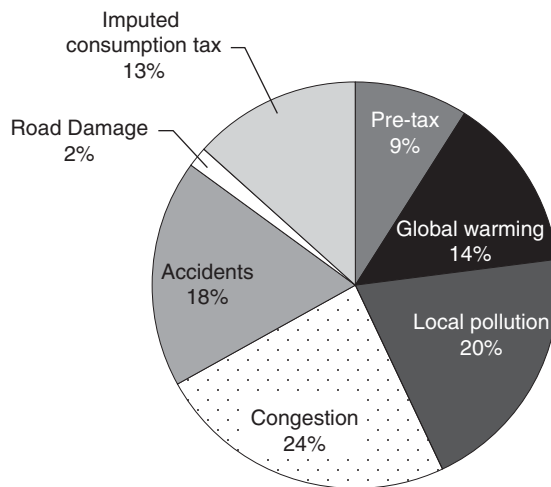


Figure 2.1 Composition of IMF post-tax estimates for oil  
(Source: Coady et al. 2015.)

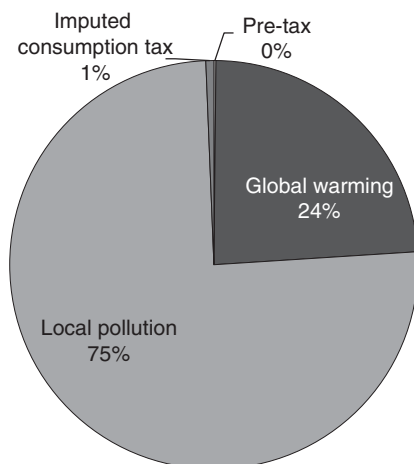


Figure 2.2 Composition of IMF post-tax estimates for coal (Source: Coady et al. 2015.)

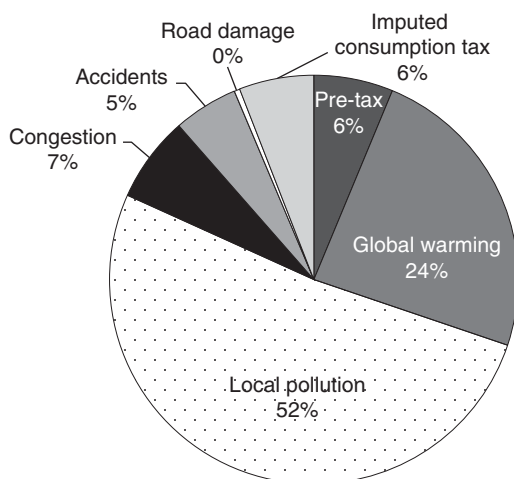


Figure 2.3 Composition of IMF post-tax estimates for all fossil fuels (Source: Coady et al. 2015.)

external costs should be reflected in the prices of the activities that trigger them. This is not always easy to do. Much of the air pollution damage from fossil fuel-related activities is local or national rather than global. Accuracy requires many localised data inputs, something that the IMF (Coady et al. 2015) has worked hard to build into their more recent estimates.

However, disagreement on which externalities to include, their massive scale and the variability across estimates have led some experts (Steenblik 2014) to argue



that externalities should not be lumped in with fiscal subsidies but rather tracked as a separate category. This is a tracking issue, not one of importance: there is near-universal agreement that fossil fuel externalities are real and distorting energy markets. But keeping the values separate from fiscal subsidies has merit: externality figures are much larger than the pre-tax subsidies the IMF tabulated worldwide. Indeed, the IMF's pre-tax subsidy values comprise less than 10 per cent of the total for oil, coal and all fossils and less than 20 per cent for natural gas. Yet, literature reviews of externality magnitudes by fuel cycle indicated large estimate variance (Kitson et al. 2011; Burtraw et al. 2012). Specifically, the high estimate for coal externalities was 155 times higher than the low estimate and for oil more than 400 times higher. Combining the fiscal subsidies and externality estimates risks marginalising the important policy reforms needed on the fiscal side. Further, the uncertainty across research efforts provides a political lever for industry to argue that nothing should be done without 'further study', delaying important structural transformation in the energy sector.

#### *2.4.3 Intra-Country Variance: The Case of the United States*

If subsidy evaluations use different sets of policy interventions in calculating subsidy value, numerical differences are inevitable. Looking at real data for a specific case helps to illustrate this issue more concretely. Figure 2.4 compares data on US fossil fuel subsidies from five different sources (from different parts of the US federal government, non-governmental organisations and industry) that catalogued intervention-level support. Figure 2.5 breaks estimates down by subsidy type.

The dispersion of US-specific estimates mirrors the global pattern in Table 2.3. Oil Change International, a non-governmental organisation, identified far more subsidies than did the other sources (USD 32.6 billion/year compared to USD 14.2 billion/year for the OECD and only USD 8.1 billion/year in the US government's reporting to the G20). Although the US G20 self-review generated a much lower estimate than the OECD, it was still more than double the USD 3.5 billion estimated by the US Energy Information Administration for the fiscal year 2013 (US EIA 2015). This may partly be the result of different base years, although primarily it is a reminder that conflicts remain even within countries on how to identify and value subsidies. In the United States, this plays out in part by how the US Congress defines the allowable research scope the Energy Information Administration can use when it tabulates energy subsidies.

The zero value is put forth by Stephen Comstock, director of tax and accounting at the American Petroleum Institute. The institute is the largest trade



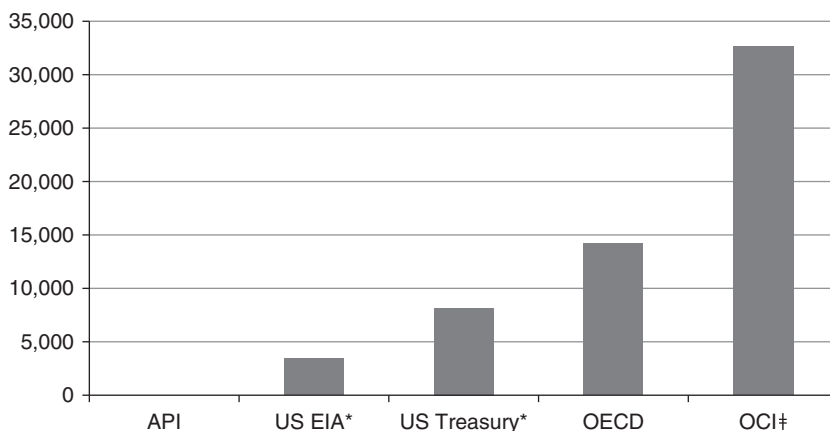


Figure 2.4 Estimated US subsidies to fossil fuels (millions USD/year)

Note: Data years: 2013 (Energy Information Administration, Oil Change International), 2014 (OECD), average projected 2016–25 (US Treasury).

\* Federal subsidy estimates only; no sub-national data in totals.

† Includes data for oil and gas only.

(Sources: Comstock 2014; Oil Change International 2014; US EIA 2015; OECD 2015a; United States 2015.)

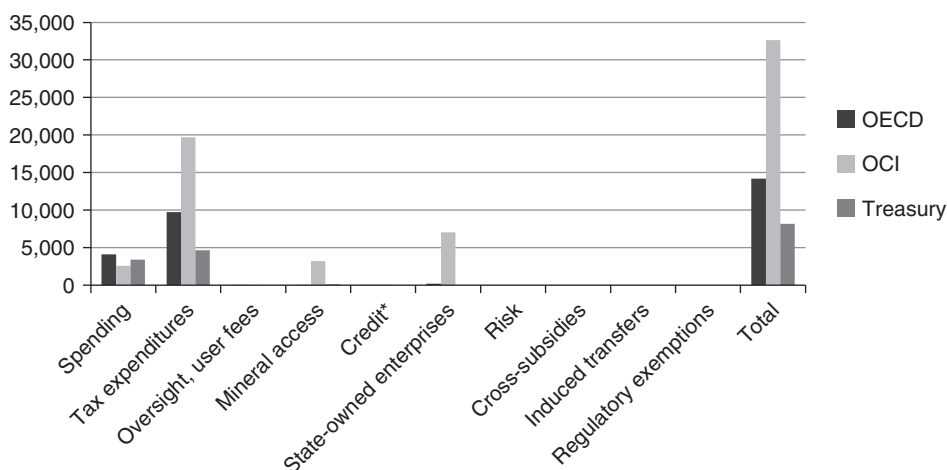


Figure 2.5 Coverage disparity across subsidy types in the United States

\* Insufficient data to calculate credit subsidies. Face value of commitments to fossil fuel projects in 2013 was about USD 4.5 billion/year (Oil Change International 2014).

(Sources: Author’s analysis of Oil Change International 2014; OECD 2015a; United States 2015.)

association representing oil and gas interests in the United States. Comstock (2014) noted that ‘[c]ontrary to what some in politics, the media and most recently, the president during the State of the Union, have said, the oil and natural gas industry currently receives not one taxpayer “subsidy”, “loophole” or “deduction”.’

Although this is a refutable statement and one that runs counter to many US federal agencies that have assessed US subsidies,<sup>2</sup> Comstock is pursuing a classical political strategy to simply deny that key interventions are subsidies at all. Often this involves claims that the subsidised treatment of one’s own industry is part of the baseline tax system rather than a deviation. By introducing doubt, this approach can deflect attention away from subsidy removal, slowing or blocking reform efforts.

Blank categories in Figure 2.5 indicate research or data limitations rather than a real absence of subsidies. This issue is a global one: a review of subsidy data sources in China, Germany, Indonesia and the United States (Koplow et al. 2010) indicated that data gaps for the more complex subsidy mechanisms were common. For example, the OECD’s inventory does not yet track credit or insurance subsidies in its biennial review.

Within the United States, coverage of SOEs was fairly limited, even though many utilities are publicly owned and also reliant on fossil fuels. These utilities benefit from a wide array of government support via tax exemptions and subsidised credit and insurance, though often at the municipal rather than the federal level. Mineral access – which concerns lease competitiveness and reduced royalties – is not captured by the OECD or the US Treasury and is only partly captured by Oil Change International. Energy-related user fees are common at both the state and federal levels in the United States, often funding health and safety oversight of extraction sites and cleanup of improperly closed wells or mines or other similar fuel-specific damages. Credit and risk subsidies arise through insurance caps, transfer of health or reclamation risks to governments and subsidised borrowing for government-owned energy infrastructure. None of these areas are properly captured in the existing data on US fossil fuel subsidies. Industry-specific regulatory exemptions are a final, though challenging data gap. These exemptions are both extremely complicated to quantify and fairly common in the United States for oil and gas (Kosnik 2007). While it may be unrealistic to expect a full subsidy inventory, comparing reporting by category can highlight the most important gaps to fill.

<sup>2</sup> This includes the US Treasury, the Joint Committee on Taxation, the Congressional Budget Office, the Government Accountability Office and the Congressional Research Service.

## **2.5 Subsidy Measurement: Areas of Agreement and the Path Forward**

Despite a wide range of subsidy valuations, there is an emerging global consensus supporting fossil fuel subsidy reform in multiple areas. Many countries see important benefits domestically from unilateral reform. Incremental benefits from multilateral reform require consistent data reporting worldwide; while those benefits may not always outweigh parochial domestic interests, they help to overcome them. Even without full agreement on how every type of subsidy should be measured, there is growing alignment both on the types of policies that give rise to subsidies and on a significant range of valuation issues.

Perfect agreement on subsidy definition and valuation is unlikely a panacea, as political interests can still benefit by generating divergent estimates. Because gains to subsidy recipients tend to be concentrated, while the groups paying for them are diffuse, recipients can more easily mobilise and fund efforts to create and protect subsidy programmes (Victor 2009). Part of that strategy may include slowing or blocking subsidy reporting or frequently challenging the official estimates. The incremental cost and research needed to value complex subsidy mechanisms such as risk transfer can extend the advantage of the incumbents.

As subsidy reporting and reform grow, however, the range of policies widely viewed as subsidies continues to grow with them. Groups harmed by subsidies can better gauge the benefits of removing distortions and often find reform allies in the finance ministries of their governments. The following overview highlights areas of progress and some important residual areas of disagreement.

**Direct Transfers and Price Controls.** There is broad agreement that direct transfers to particular industries, as well as policies that allow domestic fossil fuel purchases to occur below market prices, are important subsidies and fairly easy to measure. Remaining definitional disagreements seem to have a large political component. For example, subsidy supporters have defined some types of support as not being environmentally harmful when gauging compliance with G20 fossil fuel phase-out commitments. Another argument is that selling below world prices is not a subsidy as long as a country markets fuels above its production cost, as some countries of the Organization of Petroleum Exporting Countries have done (Koplow 2012).

**Tax Expenditures.** All international organisations working in this area recognise tax breaks as subsidies. Subsidy inventories have done a good job capturing key tax breaks at the national level, with some sub-national coverage as well. Recent requirements by the Government Accounting Standards Board (GASB 2015) in the United States should make this reporting both more extensive and more

standardised, even at the state and local levels. Similar requirements in other countries are needed, as are methods to integrate tax expenditure data across countries.

**Preferential Credit.** There is a fairly broad consensus that preferential credit, often through subsidised loans or government guarantees, provides significant subsidies to beneficiaries. While patterns in gross loan commitments may indicate a bias in favour of particular fuel cycles and are more easily tracked, subsidy magnitude is driven by the concessional element of finance packages. Data on loan terms and project or borrower risk profiles are systematically lacking and likely a key impediment preventing inclusion of credit subsidies in subsidy inventories, despite a stated intent to do so since at least 2011 (OECD 2011: 25). Although sub-national credit support is common and in principle could follow the same reporting approach as for national supports, consolidation of fragmentary data sources remains difficult. Valuing credit subsidies remains a challenge. Administrative costs are sometimes ignored, and countries often calculate interest-rate subsidies against their treasury's cost of providing the funds rather than adjusting for the much higher risk of the enterprise being supported. The Center for Finance and Policy at the Massachusetts Institute of Technology has been working on more accurate valuation methods for sovereign credit programmes (e.g. Lucas 2013). Even if valuation issues could not all be worked out in the short term, including concessional elements of credit programmes within subsidy inventories would be a big step forward.

**Liability and Operating Risks.** Again, there is broad theoretical consensus that markets should price these types of risks, thereby encouraging selection of lower-risk energy goods and services. Although country studies may include a smattering of insurance programmes subsidising particular aspects of a fuel cycle, these reviews are not systematic and often qualitative rather than quantitative. Coverage is so weak that simply compiling a full list of programmes that subsidise or cap fuel cycle risks would be a step forward. As with concessional credit, the OECD fossil fuel subsidy inventory plans to include risk transfers in future assessments (OECD 2011: 25).

**Externalities.** There is broad agreement that fossil fuel-related externalities are large and should be tracked and that corrective policies (such as Pigouvian taxes) may often be warranted. Areas of disagreement include the boundaries of analysis (such as whether to treat traffic congestion or vehicle accidents as fuel related) and narrowing the range of estimated values to support workable policy solutions.

**State-Owned Enterprises.** Subsidies to SOEs cut across many policy types, but many are missing from the government tracking and reports that capture

supports to private-sector players. OECD (2015b, 2016) has developed useful guidance to benchmark whether SOEs are operating on an equal basis with private competitors (domestic or international) or whether they are benefitting from direct or implicit subsidies from the state. Centralising, standardising and expanding data on fossil fuel subsidies to SOEs is a critical area of needed improvement. A useful starting point is existing data within the IEA, World Bank and IMF on the cost structure of core energy assets, which they have developed in the course of their work for member countries or to support price-gap reference prices for network energy.

## 2.6 Conclusion

Increasing international commitments to disclose and reform fossil fuel subsidies provide a backdrop against which subsidy reporting can continue to grow. International agreements are largely voluntary, but progress is rewarded with fiscal savings, economic efficiency in energy-intensive sectors and the alignment of fiscal policies with environmental goals. Near-term steps to accelerate the change should include mandating energy subsidy reporting to the OECD in the same way it is required for agriculture (Whitley and van der Burg 2015), broadening the peer review process of the G20 and APEC fossil fuel subsidy reports, expanding the OECD's research mandate and funding to include credit subsidies and risk transfers and encouraging the US GASB to extend sub-national tax expenditure reporting into other types of subsidies and to international affiliates.

Increased coordination across international organisations is also needed to help streamline and accelerate subsidy transparency and reform. Despite the inevitable institutional challenges, a standing working group on subsidies including the IMF, World Bank, IEA and OECD should be established with a technical mission to identify and resolve key areas of reporting or measurement divergence. Useful initial areas on which to focus include price-gap calculations for network energy; the treatment of externalities in parallel with fiscal subsidies and ways to narrow the range of uncertainty on externality estimates; and accelerating and standardising the inclusion of credit and liability subsidies in existing inventories.

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# 3

## Reforming Fossil Fuel Subsidies *The Art of the Possible*

SHELAGH WHITLEY AND LAURIE VAN DER BURG

### 3.1 Introduction

Much of the world's private sector receives support, interventions and subsidies from the public sector. In the case of energy subsidies (including those for fossil fuels), their use has been linked to energy security, domestic energy production and access to energy. In recent years, however, the heavy economic, social and environmental costs of subsidies for fossil fuels and the development of other means to achieve the same objectives have led to demands for their removal. High-level commitments to phase out fossil fuel subsidies have been made by the Group of 7 (G7), Group of 20 (G20), Asia-Pacific Economic Cooperation (APEC), North American Leaders' Summit and EU countries, as well as in international agreements such as the United Nations Sustainable Development Goals (APEC 2009; European Commission 2011; United Nations 2015; G20 2016; G7 2017).

To increase understanding of the rationale and potential for phasing out fossil fuel subsidies, this chapter first outlines evidence of their economic, social and environmental costs, as well as the benefits of and opportunities for reform. It then synthesises lessons from the literature and from case studies on several countries that have made progress in phasing out subsidies before setting out the key ingredients for successful reform.

### 3.2 Economic, Social and Environmental Consequences of Fossil Fuel Subsidies

There are often valid public policy objectives for fossil fuel subsidies, including improved energy security, domestic energy services and access to energy. Production subsidies, for example, may temporarily sustain jobs in the oil and gas sectors, and consumption subsidies may help to improve access to (affordable) energy. The short-term benefits of subsidy reform may not be distributed evenly

and depend on the approach and complementary measures adopted (see [Section 3.3](#)).

Nonetheless, evidence demonstrates that the costs of subsidies far outweigh their benefits and that less costly alternatives can achieve the same policy objectives (UNEP 2015). The interconnected economic, social, public health and environmental costs of fossil fuel subsidies are discussed in the following sections.

### ***3.2.1 Macroeconomic and Fiscal Consequences***

Fossil fuel subsidies place a burden on government budgets (and on wider trade flows and exchange rates), a burden that increases when international fuel prices rise and governments must offset a portion of that rise. Consumption subsidies lead directly to greater domestic demand for energy products that must be imported or that could be exported, reducing revenue and worsening the trade balance (IEA et al. 2010).

Governments often use under-pricing of energy inputs to support production across sectors or firms (IEA 2014). The purpose is often to promote economic development by giving domestic energy-intensive industries or energy producers an advantage and to increase the competitiveness of export-oriented firms (IEA 2014). These subsidies may, however, result in inefficient allocation of resources across the economy by undermining efficiency and encouraging over-consumption.

Countries where energy prices are lower than the cost of its production are characterised by very high consumption per capita and low energy efficiency. Venezuela, for example, has some of the world's highest fossil fuel subsidies, and its petrol consumption per capita is 40 per cent higher than in any other Latin American country and more than three times the regional average (UNEP 2015). The impact of such inefficient use of resources by key industries and energy production goes beyond Venezuela, as its highly subsidised oil is distributed internationally via the black market or government deals with selected allies (Hou et al. 2015). Furthermore, every subsidised barrel sold domestically at a subsidised price cannot be exported at the international market price for hard currency.

Similarly, subsidies for fossil fuel production can promote consumption of one type of fuel by reducing input costs for energy service providers (see also [Chapter 2](#)). Such policies were often applied to the coal used to produce electricity in Eastern and Central Europe and still apply in many countries, including China and India (IEA et al. 2010). Subsidies to inputs for electricity production, for example, can create a vicious cycle by artificially lowering costs and discouraging investment in efficiency, maintenance and increased supply (IEA 2014). Such

under-investment reduces the ability of companies to invest in meeting growing demand, especially by potential consumers who lack access to energy.

### 3.2.2 Social Consequences

Consumer subsidies are justified as a way to help poor households obtain access to energy. There is evidence, however, that fossil fuel subsidies are regressive, with their benefits accruing mainly to middle- and higher-income groups, while their costs are borne by the whole population (IEA 1999). A review by the International Monetary Fund (IMF) of subsidies in developing countries found that only 7 per cent of the benefits accruing from fossil fuel subsidies reached the poorest 20 per cent and that subsidies for gasoline (petrol) and liquefied petroleum gas (LPG) are particularly regressive (Figure 3.1).

Fossil fuel subsidies often exacerbate inequalities, particularly in countries where most people lack access to electricity or commercial fuels and rely on biomass collected in rural areas or purchased at an unsubsidised cost in urban areas. These people do not share the benefits of lower prices for commercial energy, as subsidies tend to go to large, capital-intensive projects or to wealthier users, sometimes at the expense of support to smaller-scale biomass-based energy (van der Burg and Whitley 2016).

Subsidies may also prevent the poorest people from accessing energy. Where electricity production is based on fossil fuels, subsidies can create a disincentive to

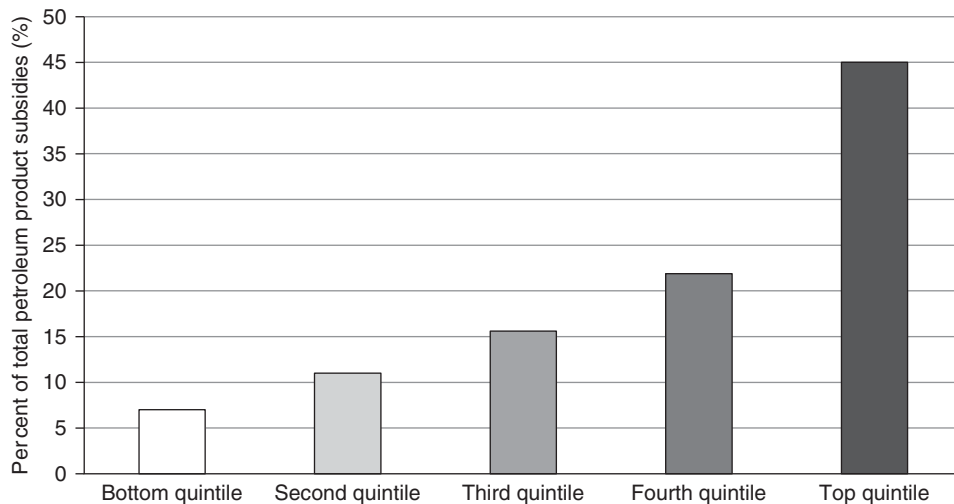


Figure 3.1 The wealthy benefit most from fossil fuel subsidies in developing countries

(Source: Arze del Granado et al. 2010.)

invest in the power sector because without this support the sector is unable to recover the full costs of production. On average, electricity tariffs in sub-Saharan Africa cover only 70 per cent of the cost of power production (Alleyne et al. 2014), and such under-investment in the power sector contributes to poor access, transmission and distribution losses and persistent shortages (Alleyne et al. 2014).

Subsidies also make households less likely to invest in energy-efficient equipment and appliances; when a fuel is subsidised, there is little savings incentive to buying more energy-efficient devices. The higher the rate of fuel or electricity subsidy, the longer the payback period for household investment in energy efficiency and the lower the likelihood of households making such investments (IEA 2014).

Energy subsidies often start as temporary income buffers. According to many governments, they aim to protect populations from international price hikes (Clements et al. 2013). In fact, governments may be less concerned about fluctuating energy prices than about resulting fluctuations in income (potential consumption) and its distribution. Since fossil fuel subsidies can aggravate inequality and undermine the capacity of the poorest to access energy, they may do more harm than good in protecting populations from volatile energy prices.

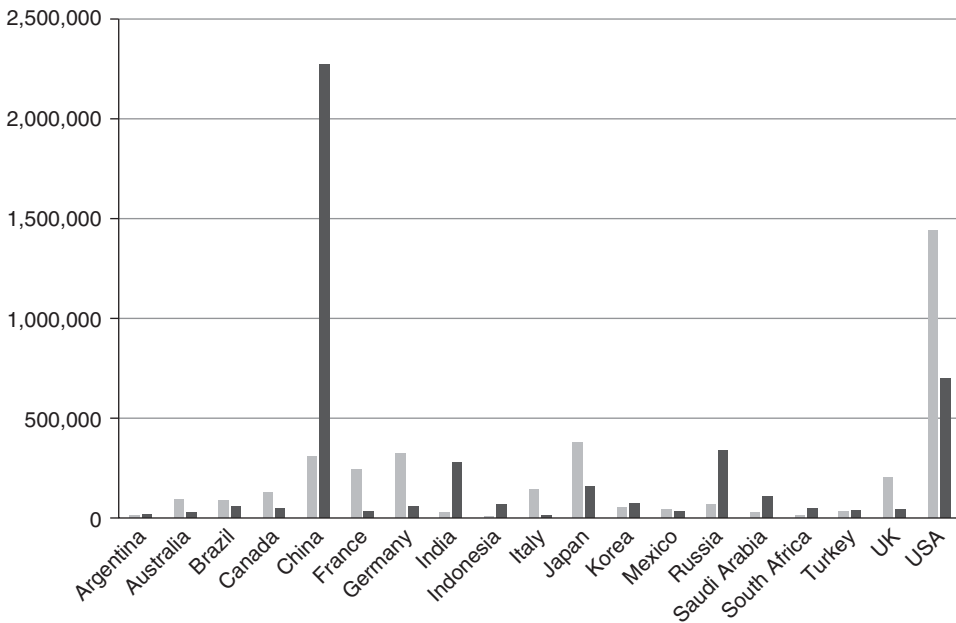


Figure 3.2 G20 fossil fuel subsidies (pre-tax) in 2015 and health expenditures in 2014.

(Sources: Coady et al. (2015); and WHO (2015).)

A significant proportion of spending on fossil fuel subsidies could be redirected to national economic or social development goals, such as improving health services and education, and financing the development of low-carbon infrastructure (Koplow 2014; van der Burg and Whitley 2016). In several countries, the levels of fossil fuel subsidies may be equivalent to, or exceed, expenditure on health (Figure 3.2). Many aid-recipient countries also subsidise fossil fuels at levels that exceed the official development assistance they receive (Whitley and van der Burg 2015).

### 3.2.3 Public Health Consequences

In many countries, the pollution caused by combustion of fossil fuels is a major public health problem (IEA 1999). Estimates suggest that air pollution resulting from the combustion of fossil fuels and biomass caused 3.7 million premature deaths worldwide in 2012 (Parry 2014). The health hazards are borne disproportionately by people who cannot avoid heavily congested and polluted urban areas (IEA 1999).

An analysis of countries of the Organisation for Economic Co-operation and Development (OECD) found that the cost of mortality due to air pollution was USD 1.6 trillion in 2010, with almost USD 1 trillion attributable to road transport (OECD 2014). Most of these costs stem from the combustion of fossil fuels (Gorham 2002), of which a large proportion is subsidised (Ross et al. 2017).

The IMF has found that phasing out fossil fuel subsidies would reduce emissions of sulphur dioxides, nitrogen oxides and particulate matter, which are not only public health hazards but also cause damage to infrastructure and environmental problems such as acid rain. A combination of subsidy reform and corrective taxes on fossil fuels could result in a 23 per cent reduction in these emissions and a 63 per cent decrease in deaths worldwide from outdoor fossil fuel air pollution (Parry et al. 2014).

### 3.2.4 Environmental Consequences

Fossil fuel subsidies have a climate impact. Nonetheless, governments are subsidising the production and consumption of carbon-intensive fossil fuels rather than increasing the cost of fuel and activities that produce greenhouse gas emissions. The International Energy Agency (IEA), based on their estimates of fossil fuel consumption subsidies in 40 countries, found that 13 per cent of global energy-related carbon dioxide emissions receive an incentive of USD 115 per tonne through subsidies and that only 11 per cent of energy-related emissions are

subject to a carbon price (on average USD 7 per tonne) (IEA 2015). These subsidies undermine the Paris Agreement, which aims to limit the global average temperature increase to well below 2°C. Analysis shows that one-third of oil reserves, half of gas reserves and more than 80 per cent of current coal reserves should remain unused from 2010 to 2050 to meet the 2°C goal (McGlade and Ekins 2015).

If governments removed current subsidies for exploration and production, the economics of many fossil fuel exploration and production projects could shift. The Stockholm Environment Institute found that at recent oil prices of USD 50 per barrel, subsidies are needed to make nearly half of yet-to-be-developed oil fields profitable in the United States (Erickson et al. 2017). Existing subsidies for coal and gas production may also lock in high-emission sources of electricity generation by increasing investment in those activities (IEA 2013; Erickson 2015).

Subsidising fossil fuels also has an impact on the global goal of transitioning to more diverse low-carbon energy systems. Subsidies can hinder investment in renewables and energy efficiency, perpetuating dependence on fossil fuels (Bridle and Kitson 2014). Slow adoption of renewables also reduces the pace of their development and of cost reduction as technologies mature. Put simply, the more a government subsidises fossil fuels, the more it should subsidise renewables if it wants to achieve a level playing field.

The impact of fossil fuel subsidies on investment in renewables is striking in the Middle East, where more than 33 per cent of the region's electricity is generated by oil (Bridle et al. 2014). Both oil and natural gas are heavily subsidised, with oil subsidies holding electricity generation costs at around 30 per cent of the level they would be if full reference prices were paid, while gas subsidies reduce costs to around 45 per cent of the unsubsidised level. As a result, low-carbon power technologies struggle to compete against existing or new capacity (IEA 2014). Fossil fuel subsidies for consumers also undermine the development and commercialisation of new technologies that might become more economically (and environmentally) attractive.

### **3.3 The Benefits of, and Potential for, Fossil Fuel Subsidy Reform**

The consequences of fossil fuel subsidies could be reversed by reforming these subsidies. A review of studies on the economic impact of reforming subsidies for the consumption of fossil fuels suggests that phasing them out would increase global real income or gross domestic product (GDP) by up to 0.7 per cent per year to 2050 (Ellis 2010). This benefit would not be spread equally, however, as fossil fuel importers would see rising GDP while producers would lose income. Given

uncertainties about the exact impact of subsidy removal, these are only rough estimates, but they illustrate what is at stake.

The reform of fossil fuel subsidies could also generate health and environmental benefits. Several international organisations analysed data on fossil fuel consumption subsidies in developing countries and estimated that phasing out the subsidies between 2011 and 2020 would lower emissions of air pollutants that are harmful to public health and the environment (IEA et al. 2010). Limited evidence also suggests that the economic, social and environmental benefits of fossil fuel subsidy reform would exceed the transitional costs of such reform (Burniaux et al. 2011).

The Global Subsidies Initiative has found that removing fossil fuel consumption subsidies in 20 countries between 2017 and 2020 could reduce average national emissions by approximately 11 per cent (Merrill et al. 2015; see Chapter 8). Data for the G20 countries suggest that parallel emissions savings from the removal of subsidies for fossil fuel production could be roughly equivalent to eliminating all emissions from the aviation sector (Gerasimchuk et al. 2017).

Despite clear evidence of the costs of fossil fuel subsidies and the potential virtuous cycles that could result from their removal, governments are often reluctant to reform for several reasons (Whitley 2013; see Chapter 1). Some are explicit (or more openly discussed), such as a lack of information, whereas others are implicit and include the influence of special interests. Governments sometimes subsidise fossil fuels because they lack other effective means and institutional capacity to adopt more suitable policies (Victor 2009). Taken together, these barriers to reform create inertia around subsidies, even in the context of new technological, economic and social developments (OECD 2007).

Despite the challenges of reform, several countries have made progress in reforming subsidies for fossil fuels across a number of sectors. Egypt, for example, raised fuel prices by 78 per cent in 2014 and will double electricity prices over the next five years (see Chapter 15); Indonesia raised petrol and diesel prices by an average of 33 per cent in 2013 and by another 34 per cent in 2014 (see Chapter 11) and India eliminated liquefied petroleum gas subsidies in 2014 (see Chapter 12).

Based on the work of the IMF, World Bank and other international organisations, Table 3.1 summarises important fossil fuel subsidy reforms across a range of countries and sectors, highlighting drivers that are relevant to different national contexts.

Table 3.1 *Summary of case studies of fossil fuel subsidy reform*

	RR	Country income grouping <sup>a</sup>	A net importer of ...	A net exporter of ...	Sectors affected by reform	Type of subsidies reformed	Target(s) of complementary measures to support reform
Angola	Sub-Saharan Africa	Upper middle income	–	Oil	Transport, heating and cooking; electricity generation and use	Consumption	Households
Argentina	Latin America	Upper middle income	Coal, oil, gas	–	Transport, heating and cooking; electricity generation and use	Consumption	Households and affected sectors
Canada	North America	High income	Gas	Coal, oil	Extractives	Production	None identified (in literature reviewed)
Germany	Europe	High income	Coal, oil, gas	–	Extractives	Production	Sectors
Egypt	Middle East and North Africa	Lower middle income	Coal, oil	Gas	Transport, heating and cooking; electricity generation and use	Consumption	Households and affected sectors
Ghana	Sub-Saharan Africa	Lower middle income	–	Oil	Transport, heating and cooking	Consumption	Households
India	Asia	Lower middle income	Coal, oil, gas	–	Transport, heating and cooking	Consumption	Households
Indonesia	Asia	Lower middle income	Oil	Coal, gas	Transport, heating and cooking	Consumption	Households
Iran	Middle East and North Africa	Upper middle income	Coal	Oil, gas	Transport, heating and cooking; electricity generation and use	Consumption	Households and affected sectors



Mexico	Latin America	Upper middle income	Coal, gas	Oil	Transport, heating and cooking; electricity generation and use	Consumption	Affected sectors
Nigeria	Sub-Saharan Africa	Lower middle income	–	Oil, gas	Transport, heating and cooking; electricity generation and use	Consumption	Households and affected sectors
Peru	Latin America	Upper middle income	Coal, oil	Gas	Transport, heating and cooking; electricity generation and use	Consumption	None identified
Tunisia	Middle East and North Africa	Upper middle income	Oil, gas	–	Transport, heating and cooking; electricity generation and use	Consumption	Households
Turkey	Europe	Upper middle income	Coal, oil, gas	–	Transport, heating and cooking; electricity generation and use	Consumption	Households and affected sectors
United Arab Emirates	Middle East and North Africa	High income	Coal, gas	Oil	Transport, heating and cooking; electricity generation and use	Consumption	None identified

<sup>a</sup> According to World Bank country and lending groups classification (World Bank 2017).

Source: Whitley and van der Burg 2015.

### **3.4 Key Principles for Fossil Fuel Subsidy Reform**

A growing body of policy recommendations based on past experiences highlights different important factors for robust subsidy reform (across all sectors). While there is no single recipe for success, the prospects for sustained reforms can be enhanced by adherence to basic principles and by recognising national circumstances and changing regional and international market conditions.

Because subsidies are mainly provided at the national and sub-national levels, reform guidance must be country or context specific. Specific elements of a subsidy reform process contribute to its effectiveness and sustainability, as observed during the subsidy reform in some countries and as outlined in policy recommendations from international organisations and non-governmental organisations (NGOs) such as the Global Subsidies Initiative. These elements are a ‘whole-of-government’ approach, research and analysis, consultation and communication, mobilising resources, complementary measures (for sectors and households), phasing in and linking to wider reform processes.

#### ***3.4.1 Whole-of-Government Approach***

Efforts to reform fossil fuel subsidies might, at first glance, seem relevant to only one subsector and one energy department or ministry. However, the importance of energy for the economy and the impact of subsidies on wider economic, environmental and social objectives justify a whole-of-government approach. The OECD has also found that individual government ministries lack access to the tools required to mitigate the impacts of higher energy prices, support economic diversification or convene reform processes (OECD 2007). Thus, coalitions that include key ministries and agencies at the national and sub-national levels are more likely to succeed (see also [Chapter 12](#)).

Such processes are also needed to bring together the many relevant agencies and to avoid sending conflicting signals to the public and businesses (Vis-Dunbar 2014). In the Dominican Republic and Honduras, for example, joint action by public actors across the government, rather than just one or two ministries, was seen as essential for creating broad political ownership of reform (Gamez 2014; Toft 2015).

#### ***3.4.2 Research and Analysis***

Governments and other stakeholders should conduct research and analysis before, during and after subsidy reform. The resulting findings should inform communication and consultation processes and provide evidence to support cross-government collaboration and resource mobilisation. Several contributions

to this book (e.g. [Chapters 2, 11, 13, 15 and 16](#)) point to awareness of fossil fuels being subsidised as a key factor influencing whether fossil fuel subsidies can be successfully reformed. In many cases, the selection of who should complete this research and analysis, and how, may be as important as the resulting analysis. For example, a supportive review of subsidy reform written by a member of the industry benefiting from the subsidy – and in consultation with relevant stakeholders – may be more influential than a report by an academic institution or government body (OECD 2007).

The process of data collection needs to recognise the limits to the scale of analysis that can be undertaken and implemented, that hard evidence alone is not sufficient to enable and sustain reform and that some information collected can also be used to support reforms for carbon pricing (OECD 2007).

### ***3.4.3 Consultation Before, During and After Reform***

Any subsidy reform process must be supported by transparent and extensive communication and consultation with stakeholders, including the general public. There is strong evidence on the need for clear and honest messages on the scale of subsidies, their costs and impacts, the plans for reform and any complementary measures (Clements et al. 2013; IEA 2014). Both consultation and communication are critical to dispel myths about subsidies, correct information asymmetries, build coalitions for reform, improve participation in collective efforts and get the support of those resistant to change (OECD 2007; Aldahdah 2014; see also [Chapter 15](#)).

Broad stakeholder consultation and engagement are important for durable reform and to ensure that reforms are perceived as fair and legitimate reflections of citizens' preferences (IEA 1999; OECD 2006, 2007). Alliance building may mean engaging unlikely allies, such as well-performing segments of sectors or regions, to offset those lobbying against reforms (OECD 2006).

Stakeholder groups are diverse and go beyond government officials to include industry associations, companies, trade unions, consumers, political activists and civil society organisations. All must be involved if subsidies are to be eliminated. Reform efforts may originate from, or can be supported by, international organisations and civil society organisations, which can increase interest and participation in reform processes (OECD 2006; see also [Chapters 6 and 10](#)).

Communication about subsidies and reforms should be tailored to different audiences and use a range of channels, such as television, radio, digital media, direct engagement and print. Malaysia's reform processes, for example, included a public forum on fossil fuel subsidies, a public survey on whether and when subsidies should be reduced, YouTube videos on the country's fuel subsidies,

a Twitter account for announcements and answering questions from the public and the engagement of public figures to write about the issue in the media (Vis-Dunbar 2014; Fay et al. 2015). Reform processes in Indonesia included text messages explaining the new subsidy policy, and in the Philippines reform efforts included a nationwide roadshow.

Civil society organisations can play an important role here. For example, the Global Subsidies Initiative has supported subsidy reform efforts in Bangladesh, India, Indonesia and Nigeria by publishing citizens' guides to fossil fuel subsidies, written in accessible language to increase public understanding (e.g. IISD 2012; see also Chapter 10).

It is also essential to develop metrics to measure the overall impact of media and communications outreach. Surveys and polls provide insights into current habits, and follow-up surveys reveal whether these have changed (Vis-Dunbar 2014). Such surveys can also be paired with wider government efforts to monitor the impacts of subsidy reform, aiming to support sustainability, so that policies are not reversed and subsidies are not re-introduced (Whitley and van der Burg 2015; van der Burg and Whitley 2016). The aim should be to demonstrate the progress made towards the desired goals of subsidy reform and to monitor and disseminate information on the use of the fiscal space created by reforms. Surveys should also offer transparent and up-to-date information on the costs of any remaining subsidies.

### ***3.4.4 Mobilising Resources Before and During Reform***

While subsidy reform can generate fiscal space and additional government revenue that far exceeds upfront costs, these positive impacts on government budgets are felt only after reforms have been implemented (Koplow 2014). As a result, most governments need to mobilise resources – both domestically and internationally – before reform to support the elements necessary for a robust reform process (see Chapters 6 and 12). This is crucial to cover the costs of analysis, communication, consultation, complementary measures and institutional reforms that are needed before wider subsidy reform processes. Recent reforms in Indonesia illustrate the need for upfront finance; it used the 2014 state budget to fund its reform process, reserving the savings from reform for later complementary measures (Lontoh 2015).

### ***3.4.5 Complementary Measures***

Although the benefits of fossil fuel subsidies accrue mostly to the wealthy, the adverse impact of subsidy removal can fall disproportionately on the poor. Income

groups differ greatly in their energy consumption patterns, and the distributional impact of subsidies – or their removal – is not the same for all types of fuel and electricity. On average, poorer households (particularly in urban areas) spend a higher proportion of their energy budget on fuel, particularly for cooking, and less on electricity and private transport (IEA et al. 2010).

As a result, the poor are affected directly by the rising prices that result from subsidy reform and indirectly through the increased cost of transport and food (IEA et al. 2010). The implementation of measures to mitigate these likely negative impacts increases the likelihood of successful fossil fuel subsidy reform. In several countries, poor households may represent a large proportion of the population, and a key element of successful reform is the efficient and visible reallocation of resources to those most affected (Clements et al. 2013).

Complementary measures (including new subsidies) can be developed through resources mobilised before reforms and resources saved or generated by removing fossil fuel subsidies. The efficient use of these resources as part of well-designed and clearly communicated complementary measures increases the likelihood that reform processes will be successful and sustained. However, economies evolve constantly, and it is impossible to safeguard all parts of society from all negative consequences (OECD 2007).

The following sections provide specific guidance for complementary measures directed towards sectors and households affected by fossil fuel subsidy reform. While any given measure may target one affected group, the benefits will spill over to others; for instance, job creation supports sectors as much as households.

#### *3.4.5.1 Sectors, Industries and Firms*

Fossil fuel subsidies often become embedded in the operations of sectors, industries and firms, which may engage in coalitions opposed to, or in favour of, subsidy reform (see [Chapter 1](#)). As a result, any reform process can gain political support only if it is designed to allow these groups to adapt to new economic circumstances. While support is required for the growth of new sectors, the rapid economic transition needed for decarbonisation requires active government policies to smooth the decline of old sectors (Fay et al. 2015).

These measures can include incentives to diversify the regional economic base, infrastructure development, assistance with business restructuring and adoption of alternative technologies, initiatives for retraining and relocation, unemployment insurance and support for early retirement (OECD 2007). If these can be developed through existing social security systems, it can reduce costs and simplify administration. When this is not possible, the development of new institutions and

systems may be required and could be linked to support at the household level (OECD 2007).

Reforms to coal subsidies in several European countries show how governments have provided complementary measures for a specific industry. Reforms of coal subsidies in Germany and Poland were accompanied by support for regional economic development and social assistance related to the closure of mines. Poland also offered generous severance packages for affected workers (IEA et al. 2010). Reforms to the United Kingdom's coal mining industry were initially imposed without such measures, leading to high unemployment and poor health in the affected regions and to significant protests. In 2000, the UK government began to provide financial support to help the coal industry develop viable investment projects, to provide employment opportunities in disadvantaged areas and to enable the development of alternative economic opportunities in (former) coal mining areas (IEA et al. 2010). These programmes create new subsidies for specific sectors, but it is advisable for governments to focus resources on strengthening and enhancing economy-wide social protection measures that support all workers affected by economic transitions.

Where the quality of energy services, infrastructure or public transport is low, engaging in broader reforms to improve services before reforming energy subsidies can make tariff increases more acceptable (Vagliasindi 2014). While Indonesia's fossil fuel subsidy reform programme did not make such improvements in advance, the fiscal space created through reform aims to enable funding for infrastructure improvements, largely by increasing contributions to state-owned enterprises in the construction and transport sectors (Lontoh 2015; see Chapter 11). When complementary measures support emerging industries, firms and infrastructure, they should favour those which contribute to a more energy-efficient, lower-carbon economy (Fay et al. 2015). In implementing its fossil fuel subsidy reform, Iran made funds available to industry for investment in energy efficiency (Guillaume et al. 2011).

#### *3.4.5.2 Households and Individuals*

In addition to support for sectors, industries and firms, subsidy reform should be accompanied by programmes at the household level to improve equity and protect the poorest (OECD 2007). Such programmes are known as 'social safety nets' or 'social-assistance transfers'. They include direct transfers (cash benefits or near-cash transfers) and indirect transfers (fee waivers) to help households maintain access to essential services, including health, education and public transport (IEA et al. 2010).

Some reforms have been used to create entirely new social programmes, serving as an impetus for wider social reforms. Others, as in India, have modernised

existing social programmes to facilitate subsidy reforms (Fay et al. 2015; see Chapter 12). Strong social protection systems can protect households and individuals against economic hardship, regardless of its origin (OECD 2006).

Such social safety nets can be developed before reforms through resources already mobilised (either domestically or internationally) or through revenues and savings from subsidy reform. The fiscal space created by reform can reduce wider costs to individuals by cutting payroll taxes, increasing personal income tax thresholds and providing tax credits for low-paying jobs. Governments can also use revenues saved through subsidy reform to increase spending on other priorities, including health and education (van der Burg and Whitley 2016). Together these are more efficient instruments for achieving distributional objectives than holding energy prices below levels warranted by their market, social and environmental costs (Fay et al. 2015).

Studies show that by alleviating the impact on the poor and middle classes, policymakers make successful subsidy reform more likely. In the Middle East and North Africa, ‘of the cases where cash and in-kind transfers were introduced, 100 percent were associated with a successful outcome, while only 17 percent of the cases where these transfers were not introduced resulted in a successful reform’ (Fay et al. 2015: 142; see also Sdravovich et al. 2014).

Many reform experiences show the importance of direct and indirect support measures for households and individuals. India piloted a cash transfer to replace liquefied petroleum gas subsidies in 2014, linked to biometric identifier cards (see Chapter 12). Indonesia introduced programmes to mitigate the effect of higher energy prices through free healthcare, cash assistance to poor students and a one-year conditional cash-transfer scheme for poor households with pregnant women or school-age children. Iran implemented a quasi-universal cash transfer (approximately USD 45 per month per capita) when it reformed its energy subsidies. Ghana’s reforms included expanded primary healthcare, large-scale distribution of efficient light bulbs, public transport improvements and elimination of fees at state schools (Laan et al. 2010; Clements et al. 2013; Vagliasindi 2013; Perdana 2014; Fay et al. 2015).

### *3.4.6 Careful Timing and Linking to Wider Reform*

The rate at which OECD countries succeeded in phasing out coal subsidies varied considerably. Belgium, the Netherlands and the United Kingdom closed their mines in a short period of time, with social assistance and job training for unemployed coal miners provided in some cases. In Germany and Spain, the process has been slower; Germany phased out subsidies for hard coal production over 11 years



(to 2018). Developing countries also present mixed evidence, with Jordan phasing out its fuel subsidies over a four-year period (IEA et al. 2010).

Sequencing is also important. Taking into account competitiveness, it may be easier to start with performance standards or fiscal incentives for low-carbon investments. These redirect new investments towards more efficient technologies and production capacity, progressively making the economic system more efficient and competitive with less distorted energy prices (Rozenberg et al. 2014; Fay et al. 2015). To mitigate the impact of reform on the poorest, subsidies could first be reduced on goods consumed by wealthier segments of the population (such as petrol), before they are reduced on goods consumed by lower-income groups (such as diesel and kerosene) (Gamez 2014; Fay et al. 2015). Countries that have phased in reforms by fuel type include Angola, India and Peru (Whitley and van der Burg 2015).

Finally, fossil fuel subsidy reforms are more likely to be accepted if they are part of broader sector- or economy-wide reforms (IEA et al. 2010). The reduction of subsidies can be packaged with other policy changes or combined with reforms to the regulatory environment governing an industry to ease the adjustment process (OECD 2007). Case studies show that the larger the reform effort, the easier it is to achieve subsector reform efforts and that subsidy reform is often undertaken alongside wider changes in policies, pricing and programmes (OECD 2006), in this way using windows of opportunity (see Chapter 1). In Germany, for example, the process of reforming the coal subsector has been part of a broader process of energy sector reform (IEA et al. 2010). In addition, it is recommended that fossil fuel subsidy reform be undertaken as the first step in introducing or increasing carbon pricing (Fay et al. 2015).

### 3.5 Conclusion

Fossil fuel subsidies can inhibit sustainable economic development by creating a burden on government budgets, using resources that could be put to more efficient use within the economy, discouraging investment in renewable energy and energy efficiency, increasing the risk of stranded assets (in the event of climate change regulation), damaging public health by increasing air pollution and undermining carbon price signals.

Despite the challenges associated with reform, several countries have recently made significant progress in reforming subsidies for fossil fuels across a wide range of sectors. This chapter discussed several cases which, in conjunction with wider research on the processes of reforming subsidies, can help to identify the key ingredients for successful reform. These steps are very similar to those needed for any effective processes of policy change.



Although this chapter has highlighted the opportunities and processes for reforming fossil fuel subsidies at the national level, international cooperation is supporting national reform efforts in several ways. International efforts have identified and estimated the cost of subsidies, provided country-level support for reform processes and helped with coordination, lessons learned and advocacy.

The high-level commitments to reform made by the G7, G20, APEC and European countries, as well as key international agreements (see [Chapter 5](#)), present an opportunity for existing activities to be scaled up and for new efforts to be developed to (1) improve the availability of comparable information on fossil fuel subsidies, (2) increase technical and financial support for national reform efforts and (3) widen and strengthen countries' commitments to reform.

Agencies such as the World Bank and bilateral donors are already providing resources and finance for complementary measures in developing countries, such as support for health services, education, social protection, energy-sector development and economic diversification. But it is seldom done in a way that links to subsidy reform processes. It is important to increase these resources and to foster linkages between existing support mechanisms and the processes and benefits of fossil fuel subsidy reform.

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## The Political Economy of Incumbency

### *Fossil Fuel Subsidies in Global and Historical Context*

PETER NEWELL AND PHIL JOHNSTONE

#### 4.1 Introduction

This chapter situates the contemporary policy and academic debate about the politics of fossil fuel subsidies and their reform within a wider historical and material context. Fossil fuel subsidy reform represents a prerequisite for any serious attempt to dismantle the fossil fuel economy and accelerate what is being referred to openly as an ‘energy revolution’ (Greenpeace 2015) or more specifically as a ‘clean energy revolution’ (Climate Group 2016). Yet it is ultimately just one of a series of political moves and interventions in a hotly contested political terrain over energy futures, a space dominated by some of the most powerful governments and corporations in the world, but increasingly also occupied by new social movements. Understanding this terrain and locating fossil fuel subsidy reform’s place in the broader politics of decarbonisation help to provide a clearer sense of the challenges that face reform initiatives. They can also highlight where such initiatives might thrive and ride on the back of other waves of reform eroding the bedrock of fossil fuel power that has held such sway over the global economy over the last century (Mitchell 2011; Huber 2013).

This requires an understanding of the politics and political economy of energy transitions because fossil fuel subsidy reform is seen as a key lever to accelerate a transition to a low-carbon economy. But reforms to subsidy regimes also touch upon the deeper politics of transformations to sustainability (Scoones et al. 2015), since energy use is so closely tied to all other aspects of sustainability, such as food, water, housing and transportation. This has been brought to the fore by the 2015 Sustainable Development Goals, which demand simultaneous action on land, food, agriculture, water and energy – domains where questions of access, security and sustainability give rise to political trade-offs among competing demands and pathways. Because of these connections, the decisions on which forms of energy production and consumption are supported and subsidised, or transitioned away from, have wide-reaching and highly uneven implications for the economy and

society as a whole. It is therefore unsurprising that the politics of fossil fuel subsidy reform serve as a lightning rod for the expression of a wide range of social concerns and economic interests.

In this sense we need to think about fossil fuel subsidy reform as part of a wider societal challenge because the forces, actors and institutions who oppose and support it are also powerful actors in broader debates about energy transitions and transformations towards sustainability. To use an analogy, we might prune the branches and dead leaves with fossil fuel subsidy reform, but the trunk of the tree (or the fossil fuel economy) could remain sturdy, with roots that spread and branches that grow back in different directions. Our use of the term ‘regime’ to describe the organisation of fossil fuels in the global economy differs both from the way in which it is used by some scholars to refer to national-level transition processes (Geels and Schot 2007) and by other scholars to refer to norms, rules and decision-making procedures within international institutions (Krasner 1983). We instead refer to the mutually reinforcing assemblage of actors, institutions, infrastructures and webs of finance that work together to enable the global fossil fuel economy to function.

Evidence of the depth and reach of the fossil fuel regime’s power is not hard to find. It manifests itself in the gaping chasm between government policies proposed thus far and the types of action that science suggests is necessary to keep global warming below dangerous levels. In the wake of the adoption of the much-feted 2015 Paris Agreement, it has become clear that the nationally determined contributions that are on the table leave us on course for warming of up to 3.4°C (UNEP 2016). Recognising the extent of the depth and reach of fossil fuel incumbency also helps us understand why, in spite of the evidence of potentially catastrophic climate change, governments and corporations still invest heavily in fossil fuels and support their extraction and use through fossil fuel subsidies. Indeed, the power of the fossil fuel industries to secure benefits for themselves is reflected in the distribution of fossil fuel subsidies. The figures are a constantly moving target depending on the prices of fossil fuels and which policies and measures are defined as subsidies (Sovacool 2017; see Chapter 2). Whichever way you look at it, though, the numbers are huge. The International Monetary Fund (IMF) reported that in 2015 fossil fuel subsidies (including the non-pricing of externalities) amounted to USD 5.3 trillion. This equates to USD 145 billion per day, USD 600 million per hour, USD 10 million per minute and USD 168,000 per second (IMF 2015). Beyond the vast scale of the subsidies, what is notable is the imbalance in favour of fossil fuels compared to other forms of energy production. A 2017 report from several non-governmental organisations (NGOs) suggested that Group of 20 (G20) countries provided four times as much public finance to fossil fuels as they did to clean energy (Oil Change International et al. 2017). With declining costs and an anticipated rise in end-user electricity prices by

the 2030s, they predicted that global subsidies to renewables are on a declining trend.

So how do we account for this level of systemic organised bias in favour of fossil fuel energy sources and pathways?

## 4.2 Thinking about Incumbency

One seemingly obvious place to look for answers to this question is the rich literature on socio-technical transitions, much of which addresses questions regarding the role of innovative niche technologies in driving energy transitions and, more recently and to a lesser degree, questions of the political economy of energy transitions (Baker et al. 2014; Newell and Phillips 2016). A recent key focus in these literatures has been on the ‘destabilisation’ of fossil fuel regimes (Turnheim and Geels 2012, 2013), where the reduction of subsidies to fossil fuels is one policy instrument that is particularly significant in fostering ‘creative destructive’ policy mixes that simultaneously promote renewables and withdraw support from fossil fuel incumbents (Kivimaa and Kern 2016).

In order to promote the ‘undoing’ of fossil fuel regimes, though, it is necessary to have a deeper understanding of the broader relations through which fossil fuels remain ‘locked in’ (Unruh 2000; Erickson et al. 2015). There are two interlinked discussions in this broader literature that are particularly pertinent to understanding issues around fossil fuel subsidies and their reform. First, there is increasing focus on understanding incumbency in socio-technical systems. This has involved looking at the ways in which relations of incumbency slow or constrain transitions to low-carbon futures, including the financial, technological and institutional mechanisms through which fossil fuel industries are maintained and which need to be undone in order to accelerate sustainable transitions. Second, the role of national contextual and institutional factors (Andrews-Speed 2016; Lockwood et al. 2016) and, to a lesser extent, the role of the state (Meadowcroft 2011; Johnstone and Newell 2017) are increasingly acknowledged as enabling and constraining forces within the literature on socio-technical transitions. These two aspects – the politics of incumbency and the role and nature of the state – afford important insights into the dynamics of fossil fuel subsidies and their reform. We briefly outline them below.

Until recently, research on sustainability transitions was focused on how new, low-carbon energy technologies such as wind and solar can be protected, developed and nurtured (Schot and Geels 2008). However, attention has shifted towards the resistance of incumbent fossil fuel-based actors to low-carbon transformations (Geels 2014) given the increasing urgency around the need for climate change mitigation and a recognition that dominant actors in current carbon-intensive energy systems are actively slowing transitions towards low-carbon futures



(Smink 2015). This literature has explored broader understandings of the lock-in of fossil fuel regimes that take into account the political dynamics that work to sustain incumbent energy pathways.

Analysis of the role of incumbent actors therefore has become an important strand of enquiry, as countering their power politically will be an important part of weakening the fossil fuel regime to bring about a sustainable transition. Fossil fuel subsidies help fossil fuels maintain a privileged status in energy systems. Campaigns and actions to end these mechanisms form an important part of the ‘weakening’ or ‘destabilisation’ of the fossil fuel regime (Turnheim and Geels 2012). Recent studies have looked at the lobbying strategies of incumbent actors and how they secure preferential policy treatment by making full use of privileged access to politicians (Smink et al. 2013; Wesseling 2015). It is through such channels of privileged access and institutional work that fossil fuel subsidies are maintained. Researchers have also found that ‘political coalitions’ play a crucial role in fossil fuel incumbency, spanning across political party lines and forming powerful pressure groups that influence national and international policy alike (Newell and Paterson 1998; Hess 2014).

This draws important attention to how political lobbying significantly constrains transformations towards a low-carbon future. The diffusion of sustainable technologies is unlikely to bring about a sustainable transition any time soon without simultaneous removal of the privileged positions of fossil fuel industries. However, such research often focuses solely on the strategies of certain actors within the energy sector when in fact it is through ostensibly ‘non-energy-related’ domains – including state institutions and cross-sectoral and institutional alliances – where some of the most persistent sticking points to a sustainable transition are found. Attention to these ‘non-energy’ areas has been opened up by recent work in sustainability transitions on political-economic and institutional perspectives to understand how broader contextual factors of a given policy setting influence the directionality of transitions (Hansen and Coenen 2015; Andrews-Speed 2016; Kuzemko et al. 2016; Lockwood et al. 2016). Such contextual factors include the nature of electoral systems and coalition politics, degrees of federalism and decentralisation and the distinct form that national-level policy processes take.

Incumbency goes beyond particular lobbying activities undertaken by fossil fuel actors in one sector, and researchers are beginning to identify the different ‘locations’ through which incumbency is maintained, whether it is through state institutions or financial and military-related interests (Johnstone and Newell 2018). For example, Cox et al. (2016) describe the ‘deep incumbency complex’ to understand the United Kingdom’s energy policy in terms of cross-sectoral and distributed relations between a number of often seemingly disparate actors. Likewise, Baker et al. (2014) draw on Fine and Rustomjee’s (1996) work on

the ‘minerals-energy-complex’ to understand how incumbency frustrates transitions to a low-carbon economy in South Africa. They employ this concept to understand power and key networks in South Africa’s political economy. These networks are a product of the historical alignment of social forces, which are organised around the provision of cheap energy to producers of minerals and energy. This creates a deep dependence of the state upon particular modes of accumulation for securing its legitimacy and retaining power (see also [Chapter 13](#)). This research draws attention to the kinds of relations that can get overlooked when focusing on a particular sector (such as energy) as a tightly bound domain.

#### ***4.2.1 The Role and Nature of the State***

The state is crucial here because it is within and through its institutions that incumbency is often solidified and reproduced, including through the provision of fossil fuel subsidies. Particular decision-making cultures of the state are important to understanding channels of access to influence the state. For example, the coordinated and consensual approach of German policymaking tends to involve a greater diversity of actors (including NGOs and trade unions) than the market-based approach of the United Kingdom (Lockwood et al. 2016). Elsewhere, researchers have studied the ways in which control over key fossil fuels sustains the global hegemony of key states, such as the United States, in the international system (Bromley 1991) and the particular model of neoliberalism that it promotes (Huber 2013) or more broadly, how key states in the global economy promote, protect and benefit from ‘petro-market civilisation’ (Di Muzio 2015).

This more global, geopolitical and multidimensional account of incumbency points to the need to pay attention to the role of the military. An extended notion of the state would incorporate what are sometimes referred to as ‘military-industrial (and university) complexes’ (Koistinen 1980). This is important because of the vast amount of fossil fuels militaries consume. They are both primary beneficiaries of fossil fuel subsidies and secondary ones, given that in several countries the military owns companies involved in fossil fuel production and distribution (see [Chapters 11 and 15](#)). The military also frequently secures and maintains access to these resources through the use of force.

Understanding incumbency enacted through the state is a potentially useful way to think about fossil fuel subsidies and energy subsidies more broadly. For example, both kinds of subsidies can be understood as state aid granted to the private sector to help deliver explicit policy goals. This can be done benignly in the creation of safety nets for the poor, in de-risking investments in lower-carbon



forms of energy or through tax breaks for improving access to key technologies that improve the energy security of the poor, in line with the Sustainable Development Goals. But it also serves less explicit state strategies of clientelism – and securing and buying support from key political constituencies – by using subsidies for particular groups of the poor and the rich. Examples from the literature include the provision of kerosene subsidies for farmers in India, where the subsidies create a political constituency dependent on their provision and resistant to their reform (Shenoy 2010), or tax breaks for large investors to induce them to invest in particular regions, sectors or infrastructures (e.g. Chapter 14). Hence, a combination of poor and wealthy political ‘clients’ benefits from fossil fuel subsidies, which makes it harder to bring about their reform in the face of broad-based resistance. The dual use of subsidies both to keep fossil fuel business interests solvent and to keep the wider public tied into fossil fuel systems of production is revealing of the dynamics of incumbency power. Likewise, as Sovacool (2017: 157) notes, ‘subsidies become self-replicating because, once enacted, they continue to shape energy choices through the long-lived infrastructure and capital stock they create. This justifies further expenditures to operate, maintain, and improve existing technologies. Coal and nuclear plants built 40 years ago, for example, still receive subsidies for coal mining and uranium enrichment.’ Koplow (2014) refers to this as the energy subsidy ‘trap’, whereby once a government begins subsidising, such efforts become protected and defended by beneficiaries.

#### ***4.2.2 Rent-Seeking and the Materiality of Fossil Fuels***

The material and political properties of fossil fuels also make them attractive to state elites and entrench reluctance to reduce state subsidies to them. Work on the ‘resource curse’ emphasises the shared interests of (neo-)extractivist elites, such as in Nigeria and Venezuela, in using rents from oil to insulate themselves from popular pressure (Ross 2012). The ‘lootability’ (Bridge and Le Billon 2013) of oil makes it an attractive ‘political resource’ because it provides a steady flow of lucrative revenue for state and corporate actors. It also generates sufficient surplus rent to buy off local opposition or dissipate pressure for reform through populist distributional measures, including subsidies for energy consumption. The ability to extract rents and maintain high degrees of control over the production and consumption of fossil fuels is often preferable to state and corporate elites over pathways organised around off-grid, decentralised and renewable energy systems, where the same degree of rent-seeking might not be possible. In Kenya, for example, Newell and Phillips (2016) show how fossil fuel extraction and geothermal exploration enjoy fuller state support compared

to off-grid renewable energy provision because it enables political control over key resources and the negotiation of contracts remains in the hands of national elites.

Fossil fuel subsidies are not just a subsidy to private actors, however. Given the ongoing dominance of state-owned enterprises, especially in many of the world's 'rising powers', they essentially serve as a subsidy *by* the state *for* the state (Victor et al. 2012). Governments own 50 per cent of the world's production of fossil fuels, and 70 per cent of oil and gas production occurs through companies that are wholly or partly state owned. It is unsurprising, therefore, that there are often high levels of policy support for, and fewer regulatory demands made of, state-owned enterprises, even in the face of citizen protests (Newell 2005). This poses challenges both for subjecting state-owned enterprises to state climate regulation and for discontinuing financial support in the form of subsidies – when there may be few incentives to reduce the activities of enterprises whose revenues flow directly to state coffers.

Whether energy sectors are organised more along state- or market-led lines, it is also worth noting that the intimate relationship between energy and growth means that there is arguably a better 'fit' in terms of the materiality of fossil fuels and contemporary expressions of capitalism (Malm 2015). Their ability to fuel global trade and transportation and enable the interchangeability of power sources was key to the development of the 'growth paradigm' (e.g. Dale 2011). This helps us to understand both the reluctance demonstrated at the highest political levels to moving away from fossil fuels and the political, social, technological and infrastructural barriers that stand in the way of concerted attempts to do so. It also emphasises the challenges that renewable energy providers face in this context. Renewable energy producers are often pressed to show how their preferred pathway is consistent with the way in which energy provision is organised in contemporary capitalism around centralised infrastructures and grids (even if ownership is 'unbundled'). Organising energy systems in this way reinforces the possibilities of control by state elites within nations. It also enables globalised production and transport infrastructures for the movement of commodities around the global economy, which continues to be heavily reliant on the use of fossil fuels, especially oil. Subsidy changes or tax increases to transport fuels can provoke controversy, and blockades and strikes can hold governments ransom because of the potential disruption to these circuits of exchange that they can cause. Lockwood (2015: 475), for example, cites the example of Nigeria's attempt to remove subsidies on petrol and diesel; after little more than two weeks of violent protests, 'the government reduced prices again by 60%, reversing a large part of the reform. Over a year later, subsidies for road transport fuels in Nigeria remain in place.'

### **4.2.3 Political Lock-in**

The fact that the globalised, export-led form of market integration that characterises the contemporary global political economy is heavily dependent on cheap energy for transporting goods (roads, shipping, air), and given the ‘sunk costs’ and ‘increasing returns’ established through the long-term construction of fossil fuel infrastructures (which in itself constitutes a huge subsidy to fossil fuel production) – alongside inadequate pricing of externalities from fossil fuel production – carbon-intensive forms of energy production continue to appear cheaper compared to alternative forms of (cleaner) energy. This relates to infrastructural lock-in, where strong preferences traditionally exist for centralised electricity grids and large projects over decentralised local solutions and ownership structures. It underscores the point about the capacity for elites to extract rents at multiple points along supply chains, centralising power and control in potentially undemocratic ways. This also makes it easier for fossil fuel industries to claim that the expansion of their sectors is compatible with the broader growth imperatives of capitalism. In political economy terms, this is about the ability of fossil fuel interests, as one fraction of capital, to present their interests as representing those of capital in general (Newell and Paterson 1998).

A more nuanced understanding of the state requires, therefore, that we adopt a broader understanding of how incumbency is achieved through different locations and activities across the diverse array of institutions that constitute the state, as well as the state’s role in reproducing the conditions for growth in a capitalist economy. The turn towards focusing on issues of institutions, political economy, power asymmetries and other contextual themes in sustainability transitions is to be welcomed (Kern 2011; Stirling 2014; Andrews-Speed 2016; Kuzemko et al. 2016; Lauber and Jacobsson 2016; Lockwood et al. 2016). However, a focus on broader cultural dynamics and national contextual factors – without discussing the nature of the state and the deeper social relations and economic dependencies upon which its power and legitimacy rest – only takes us so far in understanding incumbency and the special place afforded to fossil fuel industries (Johnstone and Newell 2018).

In short, states are not distant actors overseeing decisions affecting fossil fuel industries. The above-cited examples seek to highlight how states are often fully embedded, integral nodal points within networks of power through which fossil fuel incumbency is constituted. It is not simply that the state is ‘lobbied’ by the fossil fuel industry; rather, the problem is that the demarcations between public representatives and the private interests of large fossil fuel-based corporations are often blurred by the revolving door between the corporate sphere and public office (Wedel 2014). Examples include the appointments of Rex Tillerson, former head of

oil giant ExxonMobil, as US Secretary of State and Scott Pruitt as head of the Environmental Protection Agency (EPA); before his appointment, Pruitt filed multiple lawsuits against the EPA's regulations on behalf of the oil and gas companies that represent some his largest campaign contributors. This is captured graphically in the image of the 'fossil fuel web of power' used by the campaigning group Global Justice Now (GJN 2016). Taking these insights as a point of departure can assist in more detailed empirical assessments of incumbency in different contexts, where the location of incumbency is not assumed as being contained within a particular sector or regime, but rather is identified by looking more closely at how differing forms of the state prohibit or enable proactive action at reforming fossil fuel subsidies. Identifying more clearly the particular connections and relations sustaining fossil fuel incumbency can reveal the kinds of persistent embedded relations that will have to be undone for a transformation away from fossil fuels to take place within the timeframes deemed necessary by the scientific community.

### 4.3 The 'Ungovernance' of Energy Globally

Incumbency is not confined to domestic politics. The power of the fossil fuel regime is also manifest in the global governance and *ungovernance* of fossil fuels. 'Ungovernance' refers to areas of deliberate neglect – where policies and interventions are consciously not considered or pursued through self-censure because of the anticipated reaction of powerful incumbent actors and informed by previous experience. As Phillips and Newell (2013: 654) put it: 'Un-governed areas of energy policy are often as revealing of the exercise of power as areas where there explicit policy is in place.' In the arena of fossil fuel subsidy reform where there have been interventions, much of the momentum for change has come from initiatives such as the Global Subsidies Initiative (Victor 2009; see Chapter 10). The World Bank, IMF, Organisation for Economic Co-operation and Development (OECD) and other global governance actors are also heavily involved, suggesting a potentially important role for global energy governance.

Yet, despite the G20 fossil fuel subsidy reform commitment from 2009 (see Chapter 5), global energy governance remains weak in terms of appropriately regulating fossil fuel industries in line with the scale and urgency of the climate change problem. For example, the World Bank – a key actor promoting fossil fuel subsidy reform and governing climate finance – continues to provide high levels of finance to fossil fuels, indeed doubling its funding for fossil fuels between 2011 and 2015. It has provided USD 1.7 billion in total investments for exploration or projects that included an exploration component during these years (Oil Change International 2016), despite its ambition to lead the world on climate change (Mathiesen 2015). It is clear that the purpose of existing global bodies with

a direct mandate to address energy issues revolves around ‘market-enabling’ rather than ‘market-restricting’ measures. While bodies such as the International Energy Agency (IEA), World Bank and OECD have promoted fossil fuel subsidy reform (albeit in different ways; see Skovgaard 2017), their ideological preferences to achieve decarbonisation through pricing, innovation and technology development and transfer exclude the possibility of interventions aimed at directly regulating access to remaining reserves of fossil fuels. The more proactive governance of energy finance in the form of loans, aid, investment or subsidies across public and private domains has thus far been notable by its absence (Newell 2011).

The observed underdevelopment of global energy governance is unsurprising given the proximity of energy to core state strategy; its centrality to security and growth, as noted earlier, make it a central political priority. This is not to rule out an important future role for institutions of global governance in setting new rules and regulations or coordinating attempts at fossil fuel subsidy reform by international institutions (Van de Graaf and van Asselt 2017). In the meantime, though, given the political sensitivities that surround the issue of stricter regulation of fossil fuel subsidies, there is an unsurprising emphasis on voluntary approaches, such as voluntary peer review of fossil fuel subsidy reform within the G20 (Gerasimchuk 2013). At the same time, key international regimes such as the United Nations Framework Convention on Climate Change and the World Trade Organization have avoided addressing fossil fuel subsidies directly (see Chapters 7 and 8).

#### **4.4 Political Tipping Points?**

Despite the challenges and barriers to sustainability transitions created by the depth and scope of fossil fuel incumbency both at the nation-state level and at the global level, one question that looms large is whether we are now approaching a key juncture in the demise of the global fossil fuel regime (Leggett 2014). Initiatives to reform fossil fuel subsidies are central to this question, as are declining oil prices and (contested but prevalent) claims of peak oil, with even the Organization of the Petroleum Exporting Countries making statements regarding the importance of diversifying their energy mixes. Further indicators of an emerging political tipping point away from fossil fuels might be the growing power of the divestment movement and moves from universities, pension funds and sovereign wealth funds to discontinue investments in these industries. This has been combined with greater pressure on companies to disclose their carbon assets and a wave of shareholder activism (Newell 2008). There are shifting perceptions among some investors about the long-term future of fossil fuels amid concerns over stranded assets, despite the bullish attitude of oil majors such as ExxonMobil

about the security of their investments. Carbon Tracker (2013) suggests that as much as 80 per cent of coal, oil and gas reserves are now unburnable from a climate point of view. The falling costs of solar in particular make renewables cost competitive with fossil fuels. Pressure from the international climate regime in the wake of the Paris Agreement and statements from the Group of 7 that fossil fuel emissions should not be allowed in any sector of the economy by the end of the century send clear signals about the overall direction of change. There are also the increasing successes of climate justice movements to leave fossil fuels in the ground. Pressure to reform fossil fuel subsidies has to be seen against this broader confluence of pressures to transform the fossil fuel economy.

Should they choose to, states can use plenty of levers to accelerate decarbonisation through and beyond fossil fuel subsidy reform. Trade regimes could contain provisions aimed at reducing fossil fuel subsidies (see Chapter 7), and border adjustment measures could reduce the unfair competitive advantage enjoyed by fossil fuel-intensive energy sectors, such as cement and steel, that are not subject to carbon constraints. Other state-led measures that could be used to reorient broader industrial interests around a lower-carbon economy include the more widespread use of local content requirements, infant industry protection, carbon taxes and, where necessary, subsidies that have been so critical to reducing the role of fossil fuels in energy systems in countries such as Germany, Spain and the United Kingdom. There are clearly opportunities to create new sites of accumulation and opportunities for powerful fractions of capital to provide new models of growth along the lines of ‘climate capitalism’ (Newell and Paterson 2010).

The experience of fossil fuel subsidies to date illustrates the need to engage with the social justice dimensions entailed in the decarbonisation of the economy. This means minimising impacts on the poor, who may be disproportionately hit by the removal of fossil fuel subsidies. Dampening the impacts of fossil fuel decline on workers and communities can be enacted by using a mix of safety nets, vouchers and cash transfers (see Chapters 3 and 12). This implies developing and negotiating explicit social contracts for sustainability transitions with losers as well as winners, including compensation and severance packages, as has occurred in Poland, or (re-)training assistance, which is currently a contested terrain in China in the face of closures of coal plants (Whitley and van der Burg 2015; see Chapter 2). Also as a means of enacting a ‘just transition’, some governments have sought to impose social obligations on investors through, for example, Black Economic Empowerment criteria in South Africa’s Renewable Energy Independent Power Producer Procurement Programme (Baker et al. 2014), or by developing regional economic development programmes (as has been done in Germany) to manage transitions away from fossil fuels in more equitable ways (Pegels and Lütkenhorst 2014).



We are seeing these issues play out in struggles over fossil fuel subsidy reform as attempts to dislodge incumbent power proliferate. There is a huge sensitivity to the social base of state power; poorer groups and movements can destabilise regimes over changes to fossil fuel regimes, as we have seen in Bolivia and Nigeria. More successful initiatives appear to be those which work with the grain of differing political economies and go beyond the issue of reducing carbon emissions – and towards recognising broader sustainability issues that must be considered when moving away from fossil fuels, including sustaining the jobs, livelihoods and skills of those dependent on those very industries. In other words, there are limits to one-size-fits-all policy prescriptions to fossil fuel subsidy reforms if they are not seen in this broader, long-term sustainability perspective, in which there is explicit recognition and treatment of the economic, social and environmental dimensions of reform.

#### **4.5 Conclusion**

In conclusion, we have seen how fossil fuel subsidy reform is an important site in the struggle to decarbonise the global economy. But it should be understood as only one tool, albeit an important one, to achieving a broader transformation. We examined the relations of incumbency related to fossil fuel industries to demonstrate how the same state institutions upon which we depend for a range of redistributive purposes are often fully embedded within broader networks of power that sustain fossil fuel economies. Thus, transformative change is unlikely through the sole focus on particular economic instruments that support certain industries but instead relies on reconfiguring the broader networks and uneven power relations upon which these instruments depend.

Experience to date is revealing of the broader political challenges around just transitions and the need to address the social justice dimensions of climate action. Multiple dimensions are entailed in the challenges of dislodging the global fossil fuel regime: political, institutional, material, economic and socio-cultural – and there needs to be active engagement on all fronts. Clearly, there are positive signs of progress, yet many challenges remain. While we see potential tipping points in the rise of social movements and powerful campaigns to eliminate fossil fuel subsidies – as well as the sensitisation of investors to the risks associated with continued investments in fossil fuels – the next crucial step will be when such calls are combined with regulation of access to remaining reserves of fossil fuels. Without this, it may be that the rate of sustainability transitions continues to lag behind the urgency articulated by climate goals. History suggests that such transformations take decades or centuries but that they always seem impossible until they are achieved.

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## **Part III**

# The International Politics of Fossil Fuel Subsidies and Their Reform



# 5

## Fossil Fuel Subsidy Reform *An International Norm Perspective*

THIJS VAN DE GRAAF AND MATHIEU BLONDEEL

### 5.1 Introduction

The idea of fossil fuel subsidy reform can be considered an ‘international norm’, usually defined as a ‘standard of appropriate behaviour’ (Finnemore and Sikkink 1998: 891). Norms define what actors ought and ought not to do – respect human rights, for example, or ban chemical weapons. Contrary to binding laws and rules, norms are obeyed not (necessarily) because they are enforced but because they are seen as legitimate and contain a sense of ‘oughtness’ (Florini 1996). This description captures fossil fuel subsidy reform quite well, as state support for fossil fuels is increasingly portrayed as deviant from ‘proper’ or ‘appropriate’ behaviour. Lord Nicholas Stern (2015), for example, called low taxes on coal consumption ‘unethical’ because they result in large-scale deaths and damage to others. Similarly, Fatih Birol, now the head of the International Energy Agency (IEA), declared that fossil fuel subsidies ‘do not make sense’ and are ‘public enemy number one’ (cited in Casey 2013).

Looking at fossil fuel subsidy reform through the lens of international norms raises two questions. First, international norms are typically the products of advocacy by transnational networks and social movements (Keck and Sikkink 1998). The fossil fuel subsidy reform norm, however, did not follow this traditional pattern. Instead, it more or less trickled down from above in 2009, when the leaders of the Group of 20 (G20) pledged to ‘phase out over the medium term inefficient fossil fuel subsidies’ (G20 2009). The very few non-governmental organisations (NGOs) that had worked on the issue were completely taken by surprise by this G20 commitment. How can we account for the top-down emergence of the fossil fuel subsidy reform norm in the absence of a networked international ‘movement’ led by transnational norm entrepreneurs? And why did the norm emerge in the late 2000s, even though the first calls for reform of fossil fuel subsidies can be traced back to the 1980s?

Second, the weak diffusion of the norm of fossil fuel subsidy reform is also puzzling. In spite of the commitment to phase out fossil fuels at the highest possible

political level (the leaders of the G20), many states inside and outside the G20 continue to provide lavish support to fossil fuel consumers and, to a lesser extent, producers. Moreover, the issue has been generally overlooked in the international climate change regime (van Asselt and Kulovesi 2017; see Chapter 8). The absence of real action within the United Nations Framework Convention on Climate Change (UNFCCC) regime on fossil fuel subsidies is surprising given that fossil fuel subsidies can be regarded as a form of ‘negative climate finance’ (Brende 2015) or even an ‘anti-climate policy’ (Compston and Bailey 2013). An efficient climate policy would first seek to eliminate fossil fuel subsidies and then explore ways to price carbon, yet international efforts have focused primarily on ways to price carbon, arguably putting the cart before the horse.

This chapter seeks to explain the top-down emergence and incomplete diffusion of fossil fuel subsidy reform as an international norm. Our focus lies on the international level. We first trace the long history of multilateral efforts to address fossil fuel subsidies, before interpreting the role of norm entrepreneurs, political opportunity structures and discursive contestation. A key conclusion that emerges from this is that the norm of fossil fuel subsidy reform remains essentially contested. In contrast to the established international consensus over how to define agriculture and fisheries subsidies, no common definition of energy subsidies has emerged, which hinders implementation of the norm. The norm of fossil fuel subsidy reform thus follows a broader pattern, recently identified by constructivist norm scholars, whereby very general norms have weak normative power because they permit a very wide range of interpretations. This often leads to their decay or irrelevance (e.g. Bailey 2008; Hadden and Seybert 2016).

## 5.2 Genesis of the Fossil Fuel Subsidy Reform Norm

How did the norm of fossil fuel subsidy reform emerge? Here we describe the process of how international norms emerge along three stages. In the first stage, a norm is *articulated* by a set of norm entrepreneurs. In this process of norm building, norm entrepreneurs call attention to issues and set new standards of appropriate behaviour. In the second stage, the norm gets *institutionalised* in specific sets of international rules and organisations. This happens when norm entrepreneurs convince a critical mass of states (norm leaders) to embrace the new norm. The third stage involves the *diffusion* of the international norm as the norm leaders attempt to socialise other states to become norm followers.

Our three-staged model is inspired by the seminal work of Finnemore and Sikkink (1998), but it also differs from their model because we do not assume

that these stages unfold in a strictly sequential manner. Some norms may indeed ‘cascade’ through the international system and eventually reach the stage of internalisation. This is the point where the norm gets a taken-for-granted character and is no longer a matter of broad public debate. For example, few people today would dispute the abolishment of slavery or the immunity for medical personnel during war (Finnemore and Sikkink 1998). Other norms fare less well and may be subject to backsliding, reinterpretation, replacement and even complete disappearance.

Therefore, rather than seeing the norm of fossil fuel subsidy reform as a concept with a fixed meaning that evolves linearly, we subscribe to the more constructivist position of norms as ‘processes’ or as works in progress that have contested and shifting meanings. Norms are often agreed to in international treaties and organisations precisely because they mean different things to different actors (Wiener 2008; Krook and True 2010; Bucher 2014). The articulation of the fossil fuel subsidy reform norm (e.g. determining which fossil fuel subsidies are ‘inefficient’) may continue well after the norm has been embraced in an international forum (e.g. the G20). The three stages laid out in the remainder of this section thus should be seen as overlapping and not as strictly separate or sequential.

### *5.2.1 Norm Articulation*

There is a long history of international efforts to reform fossil fuel subsidies, but attention to the issue has waxed and waned over time, and the policy goals and justifications have shifted considerably. The first major multilateral effort to address energy subsidies was the 1951 Treaty Establishing the European Coal and Steel Community, the precursor to the European Union. This treaty expressly abolished and prohibited all ‘subsidies or aids granted by States’ to the coal sector, which were deemed ‘incompatible with the common market for coal’ (ECSC Treaty 1951: Article 4). However, since 1965, given the severe problems in this industry, exemptions from that rule became routine (Steenblik 1999).

The 1980s was the first decade during which energy subsidies began to be scrutinised by NGOs and international organisations (World Bank 1982, 1983; Kosmo 1987; IEA 1988). The global context was characterised by the rise of neoliberal ideology, with its emphasis on liberalisation, fiscal discipline and redirection of public expenditures. Against this backdrop, initial studies on energy subsidies emphasised their macroeconomic, fiscal and public revenue effects, rather than their environmental effects. A 1987 World Resources Institute study only briefly touched on the environmental consequences of energy subsidies while



covering the macroeconomic and microeconomic effects to a much larger extent (Kosmo 1987). The so-called Washington Consensus spread to developing countries through the Structural Adjustment Programmes of the International Monetary Fund (IMF) and the World Bank. As a result, energy consumption subsidies were reduced in most of the newly emerging countries of Central and Eastern Europe, and several African and Asian countries partially or completely deregulated their fuel prices in the 1980s and 1990s (Steenblik 2009: 188).

As environmental issues were increasingly capturing global attention, a World Bank study for the first time calculated the potential carbon dioxide emission reduction gains from subsidy removals (Larsen and Shah 1992). The report caught the attention of the Group of 7 (G7) environment ministers in 1994, who recommended reducing ‘the currently high volume of environmentally damaging subsidies in the industrialised and in the developing countries’ (G7 1994a). This statement was noteworthy because fossil fuel subsidy reform was no longer solely justified on fiscal (economic) grounds but also on climate change (environmental) grounds. More importantly, industrialised states acknowledged that they had environmentally damaging subsidies in place. Yet, at the subsequent G7 leaders’ meeting in Naples, this issue was not raised in the final communiqué (G7 1994b).

Attention to the issue of energy subsidies waned until the IEA decided to make it a key focus of its 1999 World Energy Outlook (IEA 1999). The IEA noted that ‘very few detailed quantitative estimates exist of the true costs of energy subsidies’ and that ‘information is particularly poor for developing countries, which are projected to contribute two-thirds of the world’s incremental energy demand in the next twenty years’ (IEA 1999: 9). In other words, pricing distortions were emerging as a key uncertainty in the outlook for energy demand growth and were hence complicating the IEA’s mission to develop global energy scenarios. The IEA framed the issue of energy subsidies in terms of both public spending and environmental stewardship. The report received a lot of press, and the IEA decided to continue working on this issue.<sup>1</sup>

It is remarkable to see how, from the very beginning, there have been different articulations of the norm. In fact, the norm has never been consistently defined or measured. In its 1988 study of coal subsidies, the IEA applied the Organisation for Economic Co-operation and Development’s (OECD) producer-support estimate approach (IEA 1988). Larsen and Shah (1992) of the World Bank combined the price-gap approach with elasticities to estimate the welfare and environmental costs of energy subsidies. More recent work by the IMF (Coady et al. 2015a) even frames the absence of Pigouvian taxes on negative externalities as

<sup>1</sup> Interview with Ronald Steenblik, OECD Special Counsellor for Fossil-Fuel Subsidy Reform, 22 September 2016.



a subsidy.<sup>2</sup> The lack of a common definition of energy subsidies meant that the ongoing work in the 1980s and 1990s was piecemeal and largely non-cumulative. Most studies were done in the form of case studies, but since each started from a different definition and followed a different format, the findings were not comparable across the cases. The upshot is that, today, ‘nobody refers back to that work’.<sup>3</sup> The lack of consensus over what fossil fuel subsidies are, and how they should be measured, continues to fuel norm contestation to this very day (see [Chapter 2](#)).

### 5.2.2 Norm Institutionalisation

Bernstein (2001: 30) defines ‘norm institutionalisation’ as the ‘perceived legitimacy of the norm as embodied in law, institutions, or public discourse even if all relevant actors do not accept or follow it’. It can be inferred primarily from ‘the norm’s frequency or “density” in social structure, that is, the amount and range of instruments, statements, and so on, that invoke the norm’ (Bernstein 2001: 30).

The institutionalisation of the norm of fossil fuel subsidy reform received a shot in the arm in 2009 when the G20 leaders pledged to rationalise and phase out fossil fuel subsidies at their Pittsburgh summit (G20 2009). A few months later, the Asia-Pacific Economic Cooperation (APEC) countries adopted a similar voluntary commitment (APEC 2009), which added 11 new countries to the group committing to the phase-out. While a number of NGOs and international organisations had raised the issue before, many of them were surprised that the G20 took up the issue. Leadership by the Obama administration and the wider context of the global financial crisis were instrumental in getting the issue onto the G20’s agenda (see [Section 5.3](#)). The G20 and APEC endorsements of fossil fuel subsidy reform arguably represented what Finnemore and Sikkink (1998: 901) call the ‘tipping point’: the moment ‘at which a critical mass of relevant state actors adopt the norm’.

By committing in 2009 to phase out ‘inefficient’ fossil fuel subsidies over ‘the medium term’ and by reiterating the commitment every year until 2016, the G20 set in motion a process whereby the fossil fuel subsidy reform campaigners gained a larger supporting constituency. To implement its strategy, the G20 asked four relevant institutions – the IEA, the Organization of the Petroleum Exporting

<sup>2</sup> A Pigouvian (or ‘corrective’) tax reflects the environmental and social costs (or externalities) associated with energy consumption. Fossil fuels are associated with climate damage, air pollution, and traffic congestion and accidents. The non-inclusion of these external costs in the price of fossil fuels is considered by the IMF to be a subsidy (Coady et al. 2015a).

<sup>3</sup> Interview with Ronald Steenblik, OECD Special Counsellor for Fossil-Fuel Subsidy Reform, 22 September 2016.

Countries, the OECD and the World Bank – to ‘provide an analysis of the scope of energy subsidies and suggestions for the implementation of this initiative’ (G20 2009). Several follow-up reports were commissioned, ensuring that the issue of fossil fuel subsidies gained primary attention in those organisations as well. Not only international organisations but also national finance and energy ministries started addressing the issue of fossil fuel subsidy reform when the G20 countries were asked to prepare national reports on fossil fuel subsidies.

The fossil fuel subsidy reform norm gradually made its way into the United Nations (UN) sphere and was included in the final reports of the Advisory Group on Climate Change Financing (2010), the High-Level Panel on Global Sustainability (2012), and the Third Financing for Development Conference (2015). Prior to the UN Rio+20 Conference (2012), there was a huge push from NGOs to make fossil fuel subsidy reform the lead issue within the energy goal of the new Sustainable Development Goals, but the issue was too contentious. In the end, fossil fuel subsidy reform was moved from Goal 7 (on Secure, Sustainable Energy) to Goal 12 (on Sustainable Production and Consumption), where it was mentioned as a possible means of implementation. For NGOs like the Global Subsidies Initiative, this represented a step backwards, since ‘the wording is no longer a goal, no longer linked to energy, does not include an end date, and is no longer about a phase out’ (Merrill 2014).

Efforts to graft the issue of fossil fuel subsidy reform onto the agenda of global climate negotiations also largely failed. The UNFCCC does not mention fossil fuel subsidies even once, whereas the Kyoto Protocol only includes a vague reference to ‘subsidies in all greenhouse gas emitting sectors’ in an illustrative list of policies and measures, leaving it up to the parties to decide which policies to implement (van Asselt and Skovgaard 2016; see [Chapter 8](#)). During the December 2015 climate negotiations in Paris, a proposal urging countries to ‘reduce international support for high-emission investments’ appeared in the penultimate draft text but was cut from the final version (UNFCCC 2015: 6). Countries could refer to fossil fuel subsidy reform as part of their nationally determined contributions, but only 14 countries did so in the run-up to the climate summit in Paris (Terton et al. 2015).

Despite these setbacks at the United Nations, a few months later the leaders of the G7 pledged to ‘remain committed to the elimination of inefficient fossil fuel subsidies and encourage all countries to do so by 2025’ (G7 2016). This was the first commitment related to fossil fuel subsidy reform that included an implementation date. At the subsequent G20 Hangzhou summit in September 2016, the first voluntary peer reviews were presented of the reform efforts of China and the United States (G20 2016). Two other members, Germany and Mexico, volunteered to be next subjected to peer review. Their reviews were presented in November 2017.

### 5.2.3 Norm Diffusion

Over the past few years, numerous countries have initiated fossil fuel subsidy reform to some degree, as documented in various chapters in this book. In 2014 alone, almost 30 countries implemented fossil fuel subsidy reform (Merrill et al. 2015), including countries such as Ukraine and Saudi Arabia that had no (recent) history of attempted reforms. Whether these reforms will stick if crude oil prices rise again remains to be seen, as there are many historical examples of countries reversing reforms. Yet the impact of the implemented reforms in the wake of the G20 commitment is real and tangible. The IEA has calculated that without the national reforms undertaken since 2009, the value of fossil fuel consumption subsidies would have been 24 per cent higher in 2014, putting the level of these subsidies at USD 610 billion instead of USD 493 billion (IEA 2015: 96–97).

Figure 5.1 shows the cumulative monthly number of initiated reform efforts in the period 2014–15. This figure was compiled using data from the IEA (2015) and the Global Subsidies Initiative. There are four important considerations to keep in mind. First, since the figure counts reform efforts, countries can appear more than

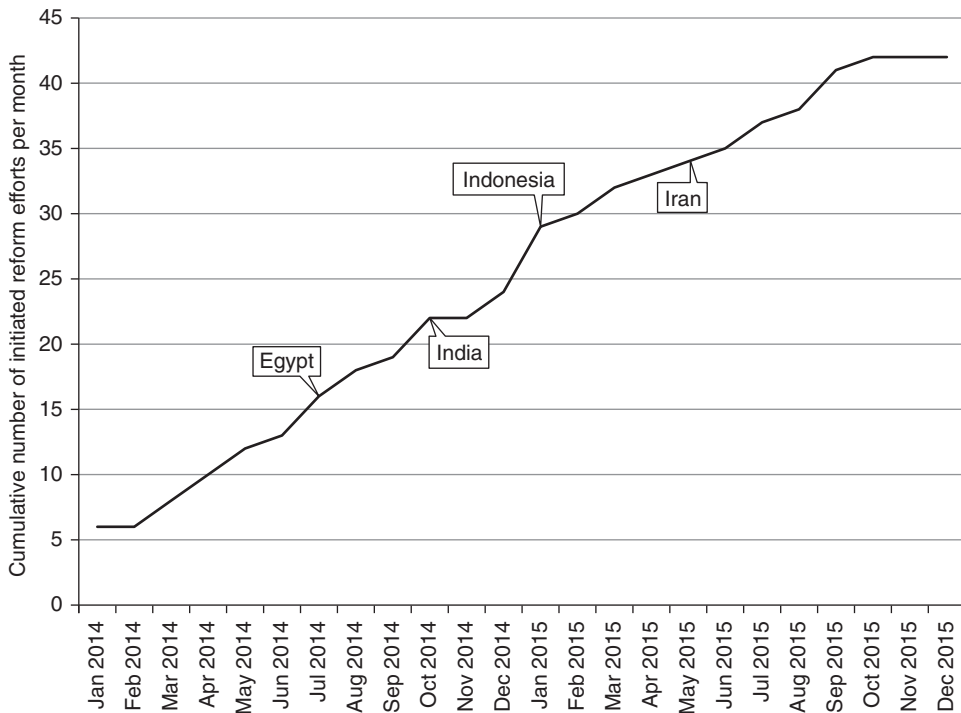


Figure 5.1 A ‘norm cascade’? Initiated fossil fuel subsidy reforms, 2014–15  
(Source: Based on data from the Global Subsidies Initiative and the IEA.)

once. Iran, for example, raised gasoline prices by 75 per cent in April 2014 and then by another 25 per cent in May 2015. These reforms are counted separately. Second, the figure only counts *initiated* reform efforts and does not trace whether or not the reforms have been sustained. Third, the figure shows that there is a wave of countries initiating reforms, including large countries such as India, Indonesia, Nigeria and Egypt, which are highlighted on the chart. However, it is hard to tell whether the global pace of fossil fuel subsidy reform has accelerated after 2009 due to the lack of adequate and comparable historical data. International organisations have only recently started to compile databases of fossil fuel subsidies. The IEA's fossil fuel subsidy database, for example, only goes back to 2012. Fourth, measuring energy subsidies is also hampered by the varying definitions of what constitutes a subsidy and different ways of measuring them. The bulk of subsidy reforms reported here was calculated with the price-gap method (see [Chapter 2](#)).

It is clear that fossil fuel subsidies are still widespread, even in many G20 countries. The institutionalisation of the norm of fossil fuel subsidy reform in global forums thus should not be conflated with genuine norm adoption and internalisation (Finnemore and Sikkink 1998).

### 5.3 Key Drivers Behind the Fossil Fuel Subsidy Reform Norm

The concept of fossil fuel subsidy reform rarely came up until 2005, but in recent years more than 40 efforts to reform fossil fuel subsidies have been initiated. What explains the emergence of fossil fuel subsidy reform as an international norm? Drawing on recent scholarship on international norms (Wunderlich 2013), we highlight the role of norm entrepreneurs, political opportunity structures and discursive contestation in shaping the emergence and uneven diffusion of the fossil fuel subsidy reform norm.

#### 5.3.1 Norm Entrepreneurs

There is a large consensus in the literature that 'norm entrepreneurs' play a key role in both the emergence and further development of norms (Finnemore and Sikkink 1998; Bucher 2014). Norm entrepreneurs may operate from organisational platforms such as NGOs, transnational advocacy networks or standing international organisations that have their own distinct purposes and agendas. Norm entrepreneurs can therefore be non-state as well as state actors (Wunderlich 2013: 33).

The fight against energy subsidies was spearheaded in the 1980s by NGOs (most notably the World Resources Institute) and international organisations

(particularly the IEA and the World Bank). These actors and institutions all contributed to placing fossil fuel subsidy reform on the global agenda. Between 2005 and 2009, the issue had been addressed by several NGOs, including Oil Change International and Earth Track, mostly from a climate change perspective. In 2005, the Global Subsidies Initiative was established within the International Institute for Sustainable Development, the first NGO to focus squarely on the issue of subsidy reform (see [Chapter 10](#)). Fossil fuel subsidy reform was a central part of the Global Subsidies Initiative's long-term strategy, set out at a meeting in the margins of the December 2005 World Trade Organization (WTO) Ministerial Meeting in Hong Kong. Yet, in its early days, the Global Subsidies Initiative focused mostly on biofuel and irrigation subsidies. The newly created NGO wanted to 'cut its teeth first on subsidies that few were addressing before taking on the much larger and challenging subject of fossil fuel subsidies' (Steenblik 2016).

It is hard to overstate the role of the Obama administration in promoting the fossil fuel subsidy reform norm on the international stage. The September 2009 G20 Pittsburgh Summit was the first chance for the newly elected US President Barack Obama to host and chair a summit and thus make history at home on a central world stage. The idea to act on fossil fuel subsidies was pushed by Lawrence Summers, then director of the National Economic Council, who had long opposed such subsidies. It was presented at the Sherpa meeting only two weeks before the actual summit. The idea was to 'creatively link climate change to the financial and fiscal issues at the G20 agenda's core' (Kirton and Kokotsis 2015: 229). When the G20 partners did not oppose to the general idea, 'the Americans seemed pleased and surprised that they had gotten so far with the fossil fuel subsidies initiative' (Kirton 2013: 302).

Many of the above-mentioned NGOs, including the Global Subsidies Initiative, were caught completely off guard when the G20 made the pledge to phase out fossil fuel subsidies at their Pittsburgh Summit ([Chapter 10](#)). Ronald Steenblik, a long-time expert on energy subsidies at the OECD and former research director of the Global Subsidies Initiative, only heard about the G20 pledge one week before the summit.<sup>4</sup> In other words, NGOs and international organisations did not influence the G20 agenda through direct lobby efforts but may have influenced the G20 agenda indirectly by exerting ideational power – that is, by conveying information, providing advice and identifying new policy options.

The Friends of Fossil Fuel Subsidy Reform (FFFSR), an informal coalition of non-G20 countries led by New Zealand, is helping to sustain momentum on

<sup>4</sup> Interview with Ronald Steenblik, OECD Special Counsellor for Fossil-Fuel Subsidy Reform, 22 September 2016.

fossil fuel subsidy reform (see [Chapter 9](#)).<sup>5</sup> Established in June 2010, the group advocates for reform through three interrelated principles: increased transparency around fossil fuel subsidies, greater ambition in the scope of reform and the provision of targeted support for the poorest (FFFSR 2015). The FFFSR has organised meetings and summits, published statements and hosted side events at the annual Conferences of the Parties to the UNFCCC, often in cooperation with the Global Subsidies Initiative. The FFFSR group was created in analogy to existing groups of like-minded WTO members – such as the Friends of Fish, Friends of Special Products and Friends of Anti-Dumping Negotiations – that act as informal negotiation coalitions within the WTO or other international trade, development or environment contexts. The FFFSR group appears to be largely focusing on the reform of consumption subsidies (a problem largely for developing countries) rather than on production subsidies (recurrent in both developing and industrialised countries).

### ***5.3.2 Political Opportunity Structures***

Agents do not exist in a vacuum but instead operate in shifting contexts. The importance of these settings is captured by the term ‘political opportunity structures’, generally referring to the nature of resources and constraints that are external to norm entrepreneurs. Particularly important exogenous factors are crises and so-called focusing events. A crisis situation usually leads policy-makers to question conventional policy wisdom and thus opens a window of opportunity for new policy ideas. Norm entrepreneurs can capitalise on the opportunity by framing the policy issue at hand in a new way (Baumgartner and Jones 1993).

The G20 Pittsburgh Summit, organised in the midst of a global financial and economic meltdown, primarily addressed the critical transition from global crisis to recovery. It focused on turning the page on an era of ‘irresponsibility’ by adopting a set of reforms through the G20 Framework for Strong, Sustainable and Balanced Growth (G20 2009). The financial crisis led global leaders to rethink embedded wisdoms on economic growth, thus creating a political window of opportunity for fossil fuel subsidy reform to be grafted onto the global sustainable-development agenda. The G20, under the auspices of President Obama, pushed for ‘sustained and systematic international cooperation’ and a ‘credible process for withdrawing extraordinary fiscal, monetary and financial sector support’ (G20 2009). The crisis proved to be a useful window of opportunity in political terms to advocate for fossil fuel subsidy reform based

<sup>5</sup> Comprising Costa Rica, Denmark, Ethiopia, Finland, New Zealand, Norway, Sweden, Switzerland and Uruguay.

on a convergence of fiscal, macroeconomic, distributive and environmental arguments.

Another important contextual factor is the international price of oil. Albeit economically inefficient, energy subsidies provide economic benefits to actors who consume fossil fuels and producers who extract them. Interest groups that demand subsidies are mostly well organised, while simultaneously the beneficial effects of these subsidies strengthen these interest groups' awareness of their need to sustain policy subsidies (Victor 2009: 7). Here it is important to differentiate between consumer and producer subsidies: *consumer* subsidy reform is easier when oil prices are low. Under low oil prices, such as in the period between 2014 and 2016, the economic and political costs of consumption subsidy cancellation or reform are less severe than under high oil prices. As a result, 'a rational interest group that benefits from fuel subsidies lobbies less aggressively for their continuation when oil prices decrease' (Benes et al. 2015: 10). Reform of *producer* subsidies, by contrast, should in theory be easiest when prices are high, as they were between 2010 and 2014.<sup>6</sup> When fossil fuel prices are low, we would expect *producers* to lobby harder for their subsidies because they account for a higher relative share of their net profits due to the lower prices for their products.

### 5.3.3 Discursive Contestation

The third driving force of the dynamic evolution of norms is 'discursive contestation'. In constructing their cognitive frames, norm entrepreneurs face opposition from firmly embedded norms and frames that create alternative perceptions of both appropriateness and interest ('external contestation'). For example, fossil fuel subsidies are still often represented as social policy, helping to bring energy services to the poor, particularly in rural areas. They have also been justified on the grounds of redistributing national wealth, fostering energy security or promoting economic development by supporting energy-intensive industries (Commander 2012; Strand 2013). Supporters of fossil fuel subsidy reform counter these arguments by pointing to the fiscal, economic, environmental and distributional costs of fossil fuel subsidies (Coady et al. 2015b; Rentschler and Bazilian 2017). They argue that governments may reap political benefits from offering a salient and visible bonus to their citizens (Victor 2009).

There can also be contestation among the supporters of the norm themselves ('internal contestation'), often on matters of definition (Krook and True 2010; see also Chapter 2). Such controversy usually plays out in the form of 'frame

<sup>6</sup> We are indebted to an anonymous reviewer for this point.



contests', whereby actors promote competing discourses that differ in how they make sense of different situations and events, attribute blame or causality and suggest lines of action (Schön and Rein 1994). Critical constructivist scholars argue that such norm contestation is a permanent feature of any normative system (Wiener 2008).

The vague description of fossil fuel subsidies at the G20 Pittsburgh Summit demonstrates that framing an international norm is a highly strategic process. The concept of fossil fuel subsidy reform was not defined in the summit's outcome document, and no specification was given to the terms 'rationalise', 'medium term' and 'inefficient'. If a detailed definition had been given, many countries would have probably not accepted the Pittsburgh pledge to phase out fossil fuel subsidies. The BRICs group (Brazil, Russia, India and China), with India as their agent, succeeded in including the word 'rationalise' in the commitment (Kirton and Kokotsis 2015: 230). Saudi Arabia was less successful when it tried to replace the term 'fossil fuel subsidies' with the more generic 'energy subsidies', thus targeting, among other things, subsidies for biofuels. After the summit, Saudi Arabian authorities were quick to claim that the country's subsidies were not 'inefficient' and therefore should not be subject to reform (Lahn and Stevens 2011: 12–13).

Many G20 countries made a similar argument in their reports submitted after Pittsburgh. Of the 20 member countries, eight stated that they had no 'inefficient' fossil fuel subsidies that needed to be phased out, including two (the United Kingdom and Japan) that provided no information at all.<sup>7</sup> The number of countries opting out of reporting entirely tripled from two in 2010 to six in 2011 (Van de Graaf and Westphal 2011). The emerging norm of fossil fuel subsidy reform is thus a perfect illustration of the argument that the institutionalisation of norms in international forums and treaties should not be conflated with the genuine adoption of the norm. The success of international agreements or conventions often depends on the impreciseness of their content, or as Wiener (2004: 198) puts it, 'detail is not necessarily conducive to agreement.' A broad and often imprecise formulation fosters a broader adoption of the norm precisely because the norm means different things to different people. Therefore, it maximises the potential for consensus but complicates the task of determining what types of behaviour constitute a violation of the norm (Krook and True 2010: 110).

There is not just disagreement over what constitutes a fossil fuel subsidy but also over how to best measure its different elements (IISD 2014). The IEA follows the

<sup>7</sup> Those eight states were: Brazil, China, France, India, Japan, Saudi Arabia, South Africa and the United Kingdom.



above-mentioned ‘price-gap approach’ in defining energy subsidies as ‘any government action that concerns primarily the energy sector that lowers the cost of energy production, raises the price received by energy producers or lowers the price paid by energy consumers’ (IEA 2006: 1). The OECD, by contrast, follows the ‘inventory approach’ and defines ‘energy subsidies’ (or ‘support’ as it prefers to call them) as ‘[a] result of a government action that confers an advantage on consumers or producers [of energy], in order to supplement their income or lower their costs’ (OECD 2010: 191). This definition is based on the WTO’s Agreement on Subsidies and Countervailing Measures, according to which a subsidy only exists when it confers a benefit to a specific party, and is meant to be consistent with the OECD’s treatment of government support to agriculture and fisheries. The OECD recognises the fossil fuel consumption subsidies measured by the IEA as an important component of total support to fossil fuels, but it does not measure such subsidies itself because to do so would constitute a duplication of effort. Thus, the OECD views its estimates as complements to those of the IEA, its sister organisation.

The lack of a consensus over the definition and measurement of energy subsidies is not merely a technical matter but a deeply political one. It translates into hugely varying estimates of the size of energy subsidies, ranging from USD 325 billion (IEA 2016) to USD 5.3 trillion in 2015 (Coady et al. 2015). These diverging estimates obviously convey different messages about the magnitude and urgency of the policy issue at hand and what kinds of reform (if any) are recommended. The disagreement over what should be counted and how is thus an inherently value-laden exercise (Van de Graaf and Zelli 2016). The IEA’s estimate of USD 325 billion covers most consumer subsidies, which are especially rampant in non-OECD countries, but it leaves out production subsidies, which might actually contribute to the energy security of the IEA’s member governments, still the agency’s primary objective. Economists at the IMF typically frame energy subsidies in terms of fiscal stability, which is related to the organisation’s core tasks, but their estimates also factor in various externalities, such as climate change, air pollution, and traffic congestion. In WTO terms, subsidies are only relevant insofar as they are trade distorting because that could make them legally actionable. In sum, when actors define energy subsidies differently, they construct different policy problems according to their value stance.

## 5.4 Conclusion

This chapter has examined the drivers behind the development of fossil fuel subsidy reform as an emerging international norm. Our analysis reveals that the initial articulation of the fossil fuel subsidy reform norm can be clearly linked to

specific norm entrepreneurs. The anti-subsidies campaign has been backed by an informal coalition of NGOs (most notably the Global Subsidies Initiative, Oil Change International and the World Resources Institute), policymakers (notably the Obama administration) and international organisations and their staff (the IEA, IMF, OECD and World Bank). The Obama administration was probably the most important norm entrepreneur; without its leadership, the norm would have not reached the same level of institutionalisation. The global financial crisis also played a key role in turning the attention of the G20 to fossil fuel subsidy reform.

The norm is also characterised by internal and external contestation and discursive cleavages. Neither the definition of ‘fossil fuel subsidies’, nor the precise meanings of ‘inefficient’ or ‘reform’, have been settled. It has become clear that different alternative framings of the norm coexist, targeting different audiences. Efforts to forge a common definition of fossil fuel subsidies, or a common methodology, among international organisations are likely to falter. However, a division of labour among international organisations may be emerging, such as between the IEA and the OECD, who view their estimates of fossil fuel subsidies as complementary. Such acts of coordination could bring more coherence to the fragmented landscape of international organisations that govern energy subsidies (Van de Graaf and van Asselt 2017).

The availability of more data on fossil fuel subsidies and on how reform strategies can be successfully implemented might in itself spur more countries to enact reforms. To the extent that this happens, the diffusion of the norm of fossil fuel subsidy reform may come to rely less on the mechanism of *moral persuasion* (a communicative process through which actors convince each other that subsidy reform is ‘the right thing to do’) and more on *learning* (the experience of others provides new information on the effectiveness of policies, leading to an update of causal beliefs) and *emulation* (the desire of actors to conform to widespread social practices).

Clearly, the fossil fuel subsidy reform norm has not yet reached the stage of being ‘taken for granted’. While this chapter has described the emergence and uneven diffusion of the norm, it did not assess the causal influence of the international norm on actual domestic policy reforms. If countries reformed fossil fuel subsidies in the 1980s and 1990s without referring to it as such and before the norm emerged in the G20, to which degree are the recent domestic reforms the result of the norm being diffused? Future studies could attempt to parse out the effects of the 2009 pledge on the global level of subsidies. In addition, they could look more closely into the causal mechanisms through which fossil fuel subsidy reform as a (contested) norm influences domestic policy processes; for example, it may empower certain constituencies or shift the framing and content of specific reforms.

These questions show that analysing fossil fuel subsidy reform from an international norm perspective opens up a promising area for governance and policy scholars, one that we believe can yield both valuable theoretical and empirical insights.

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## 6

# International Push, Domestic Reform? *The Influence of International Economic Institutions on Fossil Fuel Subsidy Reform*

JAKOB SKOVGAARD

### 6.1 Introduction

Over the last decade, fossil fuel subsidy reform has been rising on the agenda of international economic institutions such as the Group of 20 (G20), the Organisation for Economic Co-operation and Development (OECD), the World Bank and the International Monetary Fund (IMF). International *environmental* institutions such as the United Nations Framework Convention on Climate Change, by contrast, have been rather silent on the issue (see [Chapter 8](#)), with the exception of the United Nations Environmental Programme (UNEP [2015](#)). Simultaneously, fossil fuel subsidies are increasingly debated in a number of countries, often leading – particularly in developing countries – to their reform. The question arises whether this correlation indicates a causal influence from the international economic institutions on domestic policies.

A growing body of literature is seeking to identify the role of different political, economic and social factors in fossil fuel subsidies and their reform (Victor [2009](#); Cheon et al. [2013](#); Lockwood [2015](#)). Although studies of individual fossil fuel subsidy reforms point to the role of international economic institutions as one factor among many (Beaton and Lontoh [2010](#); Lockwood [2015](#)), there is no cross-country study of the influence of these institutions. This gap deserves to be addressed due to the impact of these institutions on government policy (Vreeland [2007](#)). An important aspect of the impact of these institutions is *how* – or, more precisely, through which causal mechanisms – they influence domestic policy. Whether the institutions have influenced domestic policy via socialisation into norms, learning or more coercive mechanisms of influence (Holzinger and Knill [2005](#); Dobbin et al. [2007](#)) is both academically and politically relevant.

To address these issues, this chapter aims to answer the following research questions: (1) through which causal mechanisms did international economic



institutions influence domestic decisions regarding fossil fuel subsidies, and (2) to what extent did these institutions drive or shape fossil fuel subsidy reform?

These questions concern the impact of the G20, the IMF, the World Bank and the OECD on national policies defined as fossil fuel subsidies in Denmark, India, Indonesia, the United Kingdom and the United States. The chapter focuses on the mechanisms of influence rather than the institution from which they emerged, including the intervening causal steps of such influence rather than just the initial source (Heinze 2011: 5). Focusing on mechanisms rather than institutions is more politically relevant, since there is more scope to change the mechanism than the institution. It is also easier to identify and compare the effects of different mechanisms than of different institutions, given that each institution operates via several mechanisms *and* constitutes an element of an institutional complex (Biermann et al. 2009), making it difficult to isolate its influence. International organisations are to be understood as constituting one subset of international institutions (Keohane 1989: 3–4).

This chapter first outlines the theoretical framework for studying international influences on domestic policy. It then outlines how this theoretical framework has been operationalised, followed by the application of the framework in the five country cases.

## 6.2 A Framework for Studying International Influence

This chapter draws on existing frameworks for comparing different mechanisms of influence from the international to the domestic level and identifies three casual mechanisms of influence: ideational, learning and power based (Dobbin et al. 2007; Bernstein and Cashore, 2012). Studying these influences requires a focus on their impact on policy processes and policy debates related to fossil fuel subsidy reform, including the actors within this process and the setting in which they operate (Kingdon 2003). The chapter focuses on influence on the public and policymaking agendas and on policymakers discussing whether and how to reform fossil fuel subsidies (Kingdon 2003: 2–3). How fossil fuel subsidy reform is carried out is important for its chances of success (Victor 2009; Beaton and Lontoh 2010).

‘Ideational influences’ concern both the room for manoeuvre for actors to influence decision-making and how actors perceive the world. Both kinds of ideational influence may involve the emerging norm of fossil fuel subsidy reform, which draws attention to the issue of fossil fuel subsidies and defines these subsidies as inappropriate (see Chapter 5). The two kinds of ideational influence may also concern the various definitions of fossil fuel subsidies; debates, for

instance, can be shaped by the definition that is used to determine whether a country has subsidies (see [Chapter 2](#)). The former kind of ideational influence includes influences on the public and policymaking agendas. Reports, statements or commitments by the institutions affecting the placement of fossil fuel subsidies on the public (media) and policymaking (within government, parliamentary committees, etc.) agendas constitute the most relevant instances of influence. Such influence allows actors favouring reform to initiate a debate about whether the country has fossil fuel subsidies and whether they should be reformed. In this way, ideational influence may allow for new framings (e.g. framing a policy as a fossil fuel subsidy), legitimise goals (e.g. to reform fossil fuel subsidies) and associate non-compliance with them with reputational costs.

The ideational influences affecting actors' perceptions involves policymakers internalising specific goals and beliefs (particularly regarding appropriateness) and taking them for granted (Checkel 2005: 804). It is relevant to focus on whether policymakers have internalised beliefs regarding fossil fuel subsidies, such as the norm of fossil fuel subsidy reform or the more specific belief that a given kind of policy (such as tax exemptions) constitutes a fossil fuel subsidy. This chapter focuses on the institutions influencing policymakers directly, since this is the main channel of interaction between the international institutions and the domestic level.

'Learning' is understood as changing beliefs concerning the 'best' (generally most efficient or effective) way to achieve an objective based on experience, in this case that of other actors (Dobbin et al. 2007: 460). Unlike ideational influence, learning does not involve changes in actors' goals or beliefs and ideational structures defining what is appropriate. Here it is pertinent to focus on international institutions actively disseminating best practices (see Lehtonen (2007) regarding the OECD and Seabrooke (2012) regarding the IMF) or acting as forums for peer-based learning (from both successful and unsuccessful reforms) among policymakers (Haas 2000).

'Power-based influences' may affect the power of those opposed to, or conversely, in favour of fossil fuel subsidy reform. The institutions may alter the power of these actors by imposing direct conditionalities on the states (e.g. IMF or World Bank programmes) or by providing support (e.g. technical assistance) for reform. Such influences may hinder certain actions while empowering or disempowering particular constituencies (Kahler 2000). The power of international economic institutions is well documented, particularly the influence of IMF and World Bank structural adjustment programmes (Vreeland 2007).



### 6.3 Methods

The countries studied in this chapter are Denmark, India, Indonesia, the United Kingdom and the United States. These countries have been selected based on their important roles in the international discussions of fossil fuel subsidy reform, yet they vary in terms of experiences with such reform. While the United Kingdom and Denmark have been reluctant to acknowledge that they provide fossil fuel subsidies, the other countries acknowledge their subsidies but have seen varying success on reform. Reform has been very limited in the United States and mixed in Indonesia (pre-2014), but successful reforms have taken place in India and Indonesia (post-2014). Interestingly, while the United Kingdom and Denmark have actively promoted fossil fuel subsidy reform at the international level, India has been outright sceptical of international efforts. Lastly, the countries studied cover both industrialised and emerging economies (but not least-developed countries due to those countries' smaller share of global fossil fuel subsidies) and G20 members as well as non-G20 members. The focus is on the period following the 2009 G20 commitment on fossil fuel subsidy reform, after which fossil fuel subsidies became intrinsic to the activities of the international economic institutions.

Ideational influence on the public agenda has been operationalised by identifying articles in the two leading newspapers of each country that establish a connection between the international institutions' activities regarding fossil fuel subsidies and the country in question. Such a connection could include using IMF or OECD estimates of a country's fossil fuel subsidies when discussing reforming the policies included in those estimates. This number is compared to the total numbers of articles referring to fossil fuel subsidies domestically and internationally. The analysis also focuses on whether domestic actors (e.g. non-governmental organisations) were successful or, conversely, unsuccessful in exploiting the activities of the international institutions to promote subsidy reform.

Learning, power-based influence and ideational influence on the beliefs and goals of actors have been studied through process tracing, relying on a combination of official documents, key informant interviews, second-hand sources and the author's observations as an official working on the topic. The official documents originate from the governments and institutions in question. The key informants (a total of 22) are primarily senior officials currently or previously responsible for fossil fuel subsidies at finance ministries or other key ministries or agencies in the countries studied, as well as in some cases representatives of the institutions that interact with the country. Since ideational and learning-

based influences predominantly take place via direct interaction between officials and the institutions, the informants selected have been central to this interaction, which is why most of them come from finance ministries.

Ideational and learning-based influences on the beliefs and goals of actors can be identified in terms of whether the understandings and framings of key issues inherent to official documents change over time and whether informants point to such changes stemming from the institutions. Power-based influence is identified, first, by identifying whether the institutions had programmes in place that could influence the power of domestic fossil fuel subsidy actors within the country in question and, second, whether key informant interviews and secondary sources show that these programmes indeed influenced decision-making regarding fossil fuel subsidies.

The analysis also explores the degree to which the institutions were influential compared with other factors affecting whether and how countries would reform fossil fuel subsidies.

#### **6.4 International Economic Institutions Addressing Fossil Fuel Subsidy Reform**

The efforts of international economic institutions to address fossil fuel subsidies go back decades but were raised to a higher level by the 2009 G20 commitment to ‘phase out and rationalise over the medium term inefficient fossil fuel subsidies while providing targeted support for the poorest’ (G20 2009). The commitment resulted in a process, among others, by which the member states report their fossil fuel subsidy reform strategies and timetables. In the reports, it is up to the members to identify which fossil fuel subsidies exist in their own country and how to phase them out. Seven countries (Australia, Brazil, France, Japan, Saudi Arabia, South Africa and the United Kingdom) have claimed to have no *inefficient* fossil fuel subsidies, whereas other countries have submitted plans for phasing out their subsidies with varying degrees of ambition (Kirton et al. 2013: 62–69). In 2009, the G20 also asked the World Bank, the OECD, the International Energy Agency (IEA) and the Organization of the Petroleum Exporting Countries to analyse the scope of fossil fuel subsidies and to provide suggestions for implementing this initiative.

Later, the G20 added the possibility for states to submit their fossil fuel reform strategies to voluntary peer reviews by other G20 members and representatives of international organisations. At the time of writing, the United States and China had completed their peer reviews, while those of Germany and Mexico were in progress.

Crucial to the discussion of whether a country has fossil fuel subsidies is what definition of fossil fuel subsidies is used and the degree to which one focuses on

consumption or production subsidies (van Asselt and Skovgaard 2016). Regarding definitions, analysts can use an ‘inventory’ or ‘conferred-benefits’ approach, which focuses on identifying government activities that transfer benefits to specific groups (e.g. consumers of kerosene), or a ‘price-gap’ approach, which focuses on whether prices are below a benchmark price, or a combination thereof (OECD 2010; see Chapter 2). The benchmark price is generally based on the international price of the fuel in question and sometimes also includes transport, distribution, value-added tax and taxes corresponding to the externalities stemming from the fuel (Gerasimchuk 2014). Regarding producer subsidies (directed at the extraction of fossil fuels) and consumer subsidies (directed at the use of fossil fuels), the latter are concentrated in developing countries, whereas the former are common in both industrialised and developing countries.

Beyond the G20, the OECD addressed fossil fuel subsidies before the G20 commitment as part of their environmental performance reviews of individual member states, studies of pricing policies and general studies. The OECD’s activities created knowledge about fossil fuel subsidies and promoted the norm that fossil fuel subsidies should be reformed (Skovgaard 2017). Using a total support estimate approach (fundamentally an inventory approach that also includes price-gap analysis) to identifying fossil fuel subsidies, the OECD Secretariat found fossil fuel ‘support’<sup>1</sup> measures in all 34 OECD countries (OECD 2010, 2011). Furthermore, the OECD Secretariat has arranged workshops on fossil fuel subsidies for representatives of its members.

The IMF and the World Bank have both followed a two-pronged approach: they induce states following adjustment programmes to reform their subsidies, and they provide knowledge about and promote fossil fuel subsidy reform. The first approach dates back decades, as the two institutions have promoted the restriction of any kind of subsidy irrespective of its environmental consequences. The second took off after the G20 commitment, especially following the G20’s request to the World Bank and other organisations to analyse fossil fuel subsidies. Importantly, in 2013 and 2015, the IMF published reports using a price-gap approach that included environmental externalities in the benchmark; this approach led to estimates of global fossil fuel subsidies of, respectively, USD 1.9 trillion and 5.3 trillion (Clements et al. 2013; Coady et al. 2015). The IMF’s definition constituted a radical break with the established definitions within international institutions, and as a result of this definition, the IMF estimates are many times higher than the estimates of global subsidies by, for example, the IEA (USD 325 billion in 2015, based on benchmark prices without such externalities; IEA 2016).

<sup>1</sup> The OECD uses the term support rather than subsidies.

## 6.5 Influencing Domestic Fossil Fuel Subsidies

### 6.5.1 United States

The OECD identifies US federal fossil fuel subsidies as tax expenditures in support of producers of oil, gas and coal and as consumption subsidies, particularly those directed at the energy costs of low-income households. Both are valued at greater than USD 1 billion (OECD 2016e). The IMF estimates that fossil fuel subsidies in the United States total USD 700 billion, of which non-priced externalities constitute more than USD 600 billion (IMF 2015). The US federal government has long acknowledged the existence of US fossil fuel production subsidies. Particularly in 2011 and 2012 – but also in budget proposals for other years – the Obama administration and Democratic senators attempted to end tax breaks for fossil fuel companies as part of budget-related negotiations. Yet these reforms did not pass the Senate due to opposition from Democrats from fossil-fuel producing states and Republicans (Rucker and Montgomery 2011; US Senate 2012). However, a liability cap and two royalty exemptions for oil and gas extraction – which amounted to tens of million dollars annually – were identified in the reports to the G20 as fossil fuel subsidies that could be reformed without congressional approval. They were terminated, respectively, in 2014 and in 2016 immediately following the presidential elections (US Government 2015; Bureau of Land Management 2016). Internationally, the United States has actively promoted fossil fuel subsidy reform, especially in securing the adoption of the G20 commitment (see Chapter 5). This active role complemented the Obama administration's domestic effort to phase out federal tax breaks to fossil fuel producers (Interview 1). It was mainly the White House and the Treasury that addressed fossil fuel subsidies both domestically and internationally, the latter being the department most engaged on a day-to-day basis (Interview 2).

On the public agenda, fossil fuel subsidies have received more attention over the years (Table 6.1), but only within the domestic context about proposals to end tax breaks. As Table 6.1 shows, the total number of articles referring to fossil fuel subsidies increased with a peak of 22 in 2012. However, only a few of them referred both to fossil fuel subsidies (in a way that related to US subsidies) and to the international economic institutions, peaking with five articles in 2015. None of the articles made a connection between the activities of the international institutions and reforming domestic fossil fuel subsidy reform (e.g. by referring to the institutions' reports when discussing fossil fuel producers' tax breaks).

The US government submitted a self-report of the federal policies it considered fossil fuel subsidies, which was reviewed by a team chaired by the OECD

Table 6.1 *Fossil fuel subsidy debate in the United States: New York Times and Washington Post coverage*

	2009	2010	2011	2012	2013	2014	2015	Total
<b>Articles referring to US fossil fuel subsidies and international economic institutions</b>	3 (G20)	1 (G20)	1 (G8)	2 (1 OECD, 1 World Bank)	2 (World Bank)	0	5 (2 OECD, 2 G20, 3 IMF, 1 World Bank)	14
<b>All articles referring to fossil fuel subsidies (international and domestic)</b>	3	6	20	22	9	8	16	84

Secretariat and including representatives from China, Germany and Mexico. In this report and in the 2014 G20 progress report, the United States acknowledged that both tax reductions and support for low-income households' energy costs constitute fossil fuel subsidies but argued that the latter were not inefficient and hence should not be reformed (US Government 2014, 2015). The 2015 report included four tax exemptions and a liability cap (ranging from USD 0 to 342 million) that had not figured in the 2014 report (US Government 2014). These five subsidies were identified in an interagency process carried out in anticipation of the peer review with the intention of identifying additional subsidies that merited inclusion (Interview 3).

In this way, the G20 changed the policymaking agenda by placing the identification of fossil fuel subsidies on the agenda of several agencies that do not usually deal with the issue. It also changed the ideational context of action by reframing specific policies as fossil fuel subsidies and making it difficult to argue that they did not constitute such subsidies. The three subsidies reformed are among those acknowledged in the 2015 report, but not in the 2014 report (and were the only ones not requiring congressional approval); in this way, the Obama administration sought to live up to the G20 commitment to the greatest extent possible within the constraints of the political system. Yet the decision to terminate one subsidy – the liability cap – was made one year before the peer review, whereas the decision to terminate the royalty exemptions were already well under way during the review; the latter decision was adopted within the Department of the Interior in isolation from the policy processes addressing the G20 commitment (Interview 4). The peer review agreed with the US self-review regarding the subsidies identified (including support for low-income households' energy costs not being inefficient), but it also argued that the support for inland waterway infrastructure mainly used to transport

fossil fuels – not included in the self-report – constituted a fossil fuel subsidy (G20 Peer Review Team 2016: 31). It is noteworthy that the OECD chaired the peer review and hence exerted ideational influence over the United States due to the G20 commitment. Otherwise, the OECD's definition of specific policies as subsidies – as included in its own reports – had little impact, since these policies had already been acknowledged as subsidies. Altogether, the G20 commitment institutionalised the norm of fossil fuel subsidy reform, which the Obama administration sought to adhere to within domestic constraints. The G20 commitment also held the United States accountable in regard to policies it was reluctant to define as fossil fuel subsidies.

In terms of learning, Treasury officials interacted with the IMF officials who developed the broader IMF definition of fossil fuel subsidies, which facilitated understanding of the issues in both organisations (Interview 5). Yet this collaboration did not induce the Treasury to adopt a price-gap approach that includes environmental externalities, in adherence with the IMF's definition of fossil fuel subsidies (Clements et al. 2013).

Finally, the United States has not been subject to any conditionalities, support or other programmes from the international economic institutions that could alter the power of actors involved in decision-making regarding fossil fuel subsidies. Consequently, power-based influences (at least in the sense used here) did not play a role.

### **6.5.2 United Kingdom**

The OECD identifies fossil fuel subsidies in the United Kingdom as consisting mainly of reduced rates of value-added tax for fuel and power and of the covering of liabilities related to coal mining. It estimates the value of these to be several billion pounds (OECD 2016d). The IMF estimates UK fossil fuel subsidies at GBP 40 billion, of which non-priced externalities constitute more than GBP 36 billion (IMF 2015). The UK government has promoted fossil fuel subsidy reform at the international level, including within the G20 (Interview 6). Internationally (in the reports to the G20) and domestically, the UK government has argued that the United Kingdom provides no inefficient fossil fuel subsidies (Kirton et al. 2013: 62–69). This argument is based on the definition of fossil fuel subsidies as 'any Government measure or programme with the objective or direct consequence of reducing, below world-market prices, including all costs of transport, refining and distribution, the effective cost of fossil fuels paid by final consumers, or of reducing the costs or increasing the revenues of fossil-fuel

Table 6.2 *Fossil fuel subsidy debate in the United Kingdom: Guardian and Independent coverage*

	2009	2010	2011	2012	2013	2014	2015	Total
<b>Articles referring to UK fossil fuel subsidies and international economic institutions</b>	0	0	2 (G20)	7 (5 G20, 1 OECD, 1G8)	8 (5 G20, 2 IMF, 1 OECD, 1G8)	5 (4 G20, 1 IMF, 1 OECD,)	9 (3 G20, 5 IMF, 2 WB, 2 OECD)	31
<b>All articles referring to fossil fuel subsidies (international and domestic)</b>	0	0	8	11	10	9	27	65

producing companies' (Department of Energy and Climate Change and HM Treasury 2013: para. 122).

On the public agenda, the number of newspaper articles mentioning fossil fuel subsidies has increased substantially since 2011 (Table 6.2). Several articles link the G20 commitment and the IMF's 2015 report to fossil fuel subsidies within the United Kingdom. Actors including members of the House of Commons' Environmental Audit Committee pointed to the perceived inconsistency between the UK government's high international profile on fossil fuel subsidy reform and the existence of, even growth in, fossil fuel subsidies domestically (Carrington 2015).

Importantly, the ideational influence from the G20 commitment put fossil fuel subsidies on the policymaking agenda when the House of Commons' Environmental Audit Committee (which includes members of all major parties) issued a report on energy subsidies challenging the UK government's claim that it does not subsidise fossil fuel (2013). The report opened new venues for actors – including environmental organisations and renewable-energy companies – opposed to fossil fuel subsidies. Many of these actors testified to the Committee, which relied on these testimonies in its report, particularly their criticism that the government's fossil fuel subsidy definition was too restrictive (House of Commons Environmental Audit Committee 2013: 6–9). The Committee used a price-gap approach that (unlike the government) included value-added tax in the benchmark price and defined, for example, a consequently lower value-added tax on households' and small businesses' electricity bills as a GBP 3.6 billion subsidy. The Committee – unlike the UK



government – also defined tax rebates for high-cost oil and gas fields and fracking as subsidies.

UK officials from the Treasury and other ministries interacted regularly with the different international economic institutions, as the Treasury was responsible for developing the UK government's definition of fossil fuel subsidies and for the G20, the IMF and, to a lesser extent, the World Bank. The two other ministries with important roles – the Department of Energy and Climate Change and the Department for International Development – focused mainly on the international level (Interviews 7 and 8). This interaction increased awareness of the issue but did not amount to fundamental ideational and learning-based influences on Treasury beliefs and goals regarding British fossil fuel subsidies. This was mainly because even before the institutions became closely involved, the Treasury perceived fossil fuel subsidies in terms similar to those of the economic institutions, namely as undesirable, because of their macroeconomic effects and, as a secondary consideration, their environmental effects (Interview 6; see Stern (2006: 277–79) for an example of how the Treasury perceived fossil fuel subsidies through an environmental economics perspective). The Treasury interacted most closely with the IEA, which defines fossil fuel subsidies (using a price-gap approach excluding environmental externalities) in a way similar to how the UK government had already defined it (Stern 2006: 277–79).

Finally, similarly to the United States, the United Kingdom has not been subject to any programmes from the international economic institutions that could alter the power of relevant actors, and hence power-based influences did not play a role concerning UK fossil fuel subsidies.

### **6.5.3 India**

According to the OECD, fossil fuel subsidies in India consist almost exclusively of selling diesel, kerosene and liquefied petroleum gas at a loss and are estimated at hundreds of billions of Indian rupees or billions of US dollars (OECD 2016b). The IMF estimates Indian fossil fuel subsidies at USD 277 billion, of which non-taxed externalities constitute more than USD 250 billion (IMF 2015). The Indian government acknowledges the existence of Indian fossil fuel subsidies and has since 2013 carried out a series of reforms, liberalising prices and focusing subsidies on the poor (see Chapter 12).

The ideational influence of the institutions on the public agenda is extremely limited (Table 6.3). Only once did the two major newspapers refer to fossil fuel subsidies and one of the institutions (the World Bank) in the same article, although without explicitly linking them and instead focusing on the Rio+20

Table 6.3 *Fossil fuel subsidy debate in India: Hindu and Times of India coverage*

	2009	2010	2011	2012	2013	2014	2015	Total
<b>Articles referring to Indian fossil fuel subsidies and international economic institutions</b>	0	0	0	1 (World Bank)	0	0	0	1
<b>All articles referring to fossil fuel subsidies (international and domestic)</b>	0	1	10	35	37	19	17	119

summit and the ‘green economy’ (Ganesh 2012). Rather, fossil fuel subsidies were framed solely as a domestic issue on the public agenda, yet they increased in importance.

This framing corresponds to the Indian government’s scepticism about addressing fossil fuel subsidy reform on the international level, including within the G20. Ideational influences have been limited by this scepticism, particularly regarding the G20 framing of fossil fuel subsidies as an environmental issue, since the Indian government preferred to frame it as an economic and fiscal issue (see e.g. Dasgupta 2013). The scepticism reflects the historically predominant (yet increasingly challenged) view within the Indian elite that climate change is the responsibility of industrialised countries and that developing countries should not commit to climate change actions (Thaker and Leiserowitz 2014). Nonetheless, the Indian government has implicitly acknowledged the relevance of the norm to India by reporting its plans to reform fossil fuel subsidies to the G20.

The Ministry of Finance and the Ministry of Petroleum and Natural Gas are responsible for the reforms. According to the former and current officials of the two ministries interviewed, the main reasons for undertaking these reforms have been fiscal and macroeconomic: there are cheaper ways of alleviating poverty, and the fossil fuel subsidies were detrimental to the public budget and the balance of trade (as they increased oil imports). Two contextual factors made the reform possible: low oil prices and the liberalisation of the Indian economy since the early 1990s. Low oil prices created the scope in which to liberalise fuel

prices without attracting public protests. Although the liberalisation of the Indian economy is arguably the result of ideational influences promoting the belief in free-market economic governance (Mukherji 2013), more specific ideational influences concerning fossil fuel subsidies have not been significant.

Concerning learning, the World Bank arranged workshops that provided opportunities for peer-based learning from other emerging economies that had undertaken similar fossil fuel reforms and in this way influenced the shape of concrete fossil fuel subsidy reforms in India (Interview 9).

In the period after 2009, India has not been subject to any programmes from the international economic institutions that could alter the power of relevant actors, and hence power-based influences did not play a role concerning Indian fossil fuel subsidies during the period studied here.

#### **6.5.4 Indonesia**

The OECD identifies fossil fuel subsidies in Indonesia as constituted mainly by the setting of oil product prices below the market price; it estimated this support as totalling more than IDR 100 trillion or USD 10 billion (OECD 2016c), which at times equals 4.5 per cent of gross domestic product or 20 per cent of public expenditure (Dartanto 2013). The IMF estimated Indonesian fossil fuel subsidies at USD 70 billion, of which non-taxed externalities constitute more than USD 50 billion (IMF 2015). The Indonesian government acknowledges that these policies constitute fossil fuel subsidies and has since 2000 attempted, with varying success, to reform them (see Chapter 11). Since Joko Widodo became president in 2014, subsidies to petrol have been phased out and diesel subsidies reduced (IISD 2015).

The institutions' ideational influence on the public agenda has been very limited (Table 6.4). Most newspaper articles focus on solely on domestic aspects of subsidy reform. The few articles that link these reforms to the institutions mainly rely on IMF reports – especially the 2013 report – to substantiate calls for fossil fuel subsidy reform. Generally, the Indonesian public are unaware of the existence of fossil fuel subsidies or tend to underestimate them (see also Chapter 11).

Regarding ideational influences, Indonesia has continuously reported its plans and efforts to reform fossil fuel subsidies to the G20 and committed itself to undergo a peer review (Steenblik 2016). The fossil fuel subsidy reform norm has been influential among government policymakers, since failure to live up to the commitment is considered politically embarrassing (Interview 10). World Bank interaction with policymakers and technical officials has been close and has covered all three kinds of influence; in addition, it has shaped the most

Table 6.4 *Fossil fuel subsidy debate in Indonesia: Kompas and Tempo coverage*

	2009	2010	2011	2012	2013	2014	2015	Total
<b>Articles referring to Indonesian fossil fuel subsidies and international economic institutions</b>	0	0	0	4 (4 IMF, 1 G20)	2 (2 IMF, 1 World Bank)	1 (World Bank)	0	7
<b>All articles referring to fossil fuel subsidies (international and domestic)</b>	0	1	4	61	28	45	18	157

recent round of fossil fuel subsidy reform when the Widodo presidency moved the issue up the policymaking agenda. First, ideational influence – in terms of co-producing and disseminating an analysis of fossil fuel subsidies – was important in influencing policymakers’ beliefs concerning these subsidies, particularly by framing the subsidies in terms of inequality (most are captured by the non-poor) and the other purposes (especially infrastructure) that the money could finance (Interview 11). The IMF and, to a lesser degree, the OECD have also been influential in providing analysis of Indonesian fossil fuel subsidies. The IMF collaborated with the World Bank, following a standard division of labour in which the IMF focused more on the monetary exchange rate and broad fiscal setting, whereas the World Bank focused on sectoral and micro-economic issues (Interview 12). While civil servants (at least during the period studied) considered fossil fuel subsidies problematic and hence could not be influenced in this direction, an analysis of how to undertake fossil fuel subsidy reform could influence them to a greater degree (Interview 13). The institutions also could influence the policymaking agenda by framing the subsidies in terms of inequality and the possibilities for using the money for other purposes (Diop 2014). Second, regarding learning, the World Bank facilitated important learning about the experiences of other countries replacing fossil fuel subsidies with targeted measures – such as direct cash transfer to the poor – by inviting officials from Indonesia’s planning ministry Bappenas to Brazil to learn from their cash-transfer scheme (Interview 11). This influence shaped the

compensatory measures that experts argue are crucial to the successful reform of fossil fuel subsidies (Beaton and Lontoh 2010; OECD 2011).

Finally, power-based influence can be discerned, since the World Bank provided the technical assistance necessary for creating the cash-transfer scheme (Interview 11), thus making certain policies possible by altering the resources available. According to Chelminski (Chapter 11), the provision of social assistance constituted the most important factor and a necessary condition for the success of the recent reforms; thus, without this power-based influence from the World Bank, it is far from certain that the reforms would have succeeded. In 2002, and thus before the period mainly studied here, the IMF programme following the 1997 Asian financial crisis led to increases in fixed fuel prices (Government of Indonesia 2002; see also Chapter 11). After this programme ended, the absence of direct leverage meant that the IMF played the part of a trusted policymaker rather than an active stakeholder (Interview 12).

However, the drivers underlying Indonesian fossil fuel subsidy reforms are primarily domestic. The Indonesian Ministry of Finance has been an important driver of such reforms (and interacted closely with the World Bank) due to concerns about the impact of reforms on the budget (Interview 14).

### **6.5.5 Denmark**

According to the OECD, the Danish government subsidises fossil fuels by reducing energy taxes for fuels used for specific purposes and for oil extraction. The subsidies, as identified by the OECD, are estimated to amount to billions of Danish kroner or hundreds of millions of US dollars (OECD 2016a). According to the IMF, fossil fuel subsidies in Denmark amount to USD 5.8 billion, of which non-taxed externalities constitute more than USD 4 billion (IMF 2015). The Danish government has acknowledged that fossil fuel production is subsidised but argues that tax expenditures for consumption do not constitute subsidies because total fossil fuel taxes exceed the total externalities (Danish Ministry of Climate Change 2015). Internationally, the Danish government has promoted fossil fuel subsidy reform, particularly through the Friends of Fossil Fuel Subsidy Reform (see Chapter 9).

The ideational influence on the public agenda is limited (Table 6.5). Despite the increasing focus on fossil fuel subsidies since 2010, only one article linked one of the institutions (the G20, of which Denmark is not a member) and Danish fossil fuel subsidies (Nielsen and Andersen 2015). Generally, fossil fuel subsidies have been framed as an international rather than a Danish phenomenon.

Regarding ideational influences on the policymaking agenda, 'green' politicians have referred to the IMF's estimate that Danish fossil fuel subsidies

Table 6.5 *Fossil fuel subsidy debate in Denmark: Politiken and Jyllands-Posten coverage*

	2009	2010	2011	2012	2013	2014	2015	Total
<b>Articles referring to Danish fossil fuel subsidies and international economic institutions</b>	0	0	0	0	0	0	1 (G20)	1
<b>All articles referring to fossil fuel subsidies (international and domestic)</b>	0	0	3	3	5	8	9	28

amount to USD 1,000 per capita, and they have thereby forced the government to admit to granting fossil fuel production subsidies (Danish Ministry of Climate Change 2015; Poll 2016). Concerning influences on the beliefs of policymakers, participation in workshops about fossil fuel subsidies arranged by the OECD increased knowledge and awareness of the topic within the Finance Ministry and other ministries. Yet, the Danish ministries have mainly focused their attention on consumption subsidies and have addressed fossil fuel subsidies mainly as a developing-country phenomenon, which does not necessitate changes to Danish policy (Interview 15). Consequently, learning has only been relevant in terms of changing Danish beliefs regarding how best to undertake fossil fuel subsidy reform in developing countries, not in industrialised ones.

As with several of the other countries studied here, Denmark has not been subject to any programmes from international economic institutions that could alter the power of relevant actors, and hence power-based influences did not play a role.

## 6.6 Conclusion

Although the correlation between international economic institutions' promotion of fossil fuel subsidy reform and domestic reform did not amount to the former causing the latter, important causal influences were nonetheless at work. The analysis shows that the three kinds of influence of the international economic institutions varied in importance.

First, the ideational influence on the public agenda was limited, whereas the influence on the policymaking agenda in Denmark and the United

Kingdom was significant. Most importantly, the G20 commitment established fossil fuel subsidy reform as a norm that governments had to take seriously. Even India – which was sceptical of the norm, though it did undertake domestic reforms – had to acknowledge the relevance of the norm in its G20 reports. The UK and Danish governments supported the norm but claimed it did not apply to them. But they were pushed by actors exploiting the G20 commitment and the IMF reports to enter into debates about the validity of those claims, and those debates centred on which definition of fossil fuel subsidies was most relevant. These findings underscore the importance of the institutions in promoting the norm of fossil fuel subsidy reform and the importance of definitional questions in domestic norm diffusion (see [Chapter 5](#)).

Second, learning mattered in terms of workshops organised by the World Bank and, to a lesser degree, the OECD. These workshops helped change beliefs regarding how to reform fossil fuel subsidies among government officials. In India and Indonesia, learning was important in relation to actual fossil fuel subsidy reform, and it shaped how the reforms were carried out.

Third, power-based influences were relevant only in the case of Indonesia, in which World Bank technical support and, at an earlier stage, an IMF programme were influential in shaping Indonesian fossil fuel reform. A key take-away from this is that international power-based influences *can* be very important under specific conditions (particularly conditionalities in times of crisis) but that these conditions are relatively rare.

Despite their (predominantly ideational) influence on discussions of fossil fuel subsidies, the economic institutions were not significant causes of fossil fuel subsidy reform (except for reforms in Indonesia in the early 2000s), but they played a significant role in shaping reform in developing countries.

Exploring the scope conditions for the different kinds of influence could be a useful venue for future research, beyond the fact that fiscal and economic crises and government changes provide windows of opportunity. Furthermore, it makes sense to adopt a longer-term perspective and explore the role of international economic institutions not only when fossil fuel subsidy reform is introduced but also in terms of maintaining those reforms.

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### Interviews

- Interview 1 Former senior official, Department of the Treasury, United States (8 April 2014)
- Interview 2 Former senior official, Department of the Treasury, United States (6 May 2014)
- Interview 3 Official, Department of the Treasury, United States (20 December 2016)
- Interview 4 Senior official, Department of the Interior, United States (15 December 2016)
- Interview 5 Senior economist, International Monetary Fund (24 April 2014)
- Interview 6 Official, HM Treasury, United Kingdom (24 November 2014)
- Interview 7 Official, Department for International Development, United Kingdom (24 November 2014)
- Interview 8 Official, Department of Energy and Climate Change, United Kingdom (7 October 2014)
- Interview 9 Senior official, Ministry of Finance, India (5 November 2014)
- Interview 10 Officials, Ministry of Finance, Indonesia (14 September 2016)

- Interview 11 Senior official, World Bank (13 September 2016)  
Interview 12 Former senior official, International Monetary Fund (14 December 2016)  
Interview 13 Senior official, Ministry of National Development Planning (Bappenas),  
Indonesia (20 December 2016)  
Interview 14 Senior official, Ministry of Finance, Indonesia (26 February 2016)  
Interview 15 Senior official, Danish government (13 January 2014)

# Fossil Fuel Subsidies and the Global Trade Regime

RONALD STEENBLIK, JEHAN SAUVAGE AND CHRISTINA TIMILIOTIS

[T]he on-going political debate on reforming fossil fuel subsidies has largely bypassed the WTO . . . Given that WTO members have decided to tackle the issue of environmentally harmful subsidies in the fisheries sector as part of the Doha Round, the absence of this topic from the WTO radar screen can be considered as a missed opportunity.

– *Pascal Lamy, former Director-General of the WTO, 29 April 2013*

## 7.1 Introduction

The World Trade Organization's (WTO) Agreement on Subsidies and Countervailing Measures (ASCM) has for years disciplined the use of trade-distorting subsidies by countries. Surprisingly, these rules have been largely absent in debates about fossil fuel subsidy reform. WTO rules provide, nevertheless, a clear set of indications on what might constitute a subsidy, as well as allowing some of these subsidies to be challenged by trading partners through a dispute-settlement mechanism. In this regard, the dearth of disputes involving fossil fuel subsidies is puzzling.

This chapter discusses the current and potential contribution of the trade regime to the identification and reform of fossil fuel subsidies. It analyses in particular how different types of fossil fuel subsidies do and do not intersect with existing trade rules. The chapter then offers thoughts on why fossil fuel subsidies have not been challenged yet through dispute settlement mechanisms nor even through unilateral trade remedies. Last, it discusses ways in which existing trade rules could be augmented to facilitate the reform of fossil fuel subsidies.

## 7.2 Why Have Countries Sought to Discipline Subsidies in General?

Subsidies have long been used by governments for a wide variety of reasons, including as a means to support particular activities that are deemed socially beneficial (e.g. public goods) or to reward individuals or institutions that are politically well connected. While citizens and firms are generally the direct recipients of government assistance, subsidies vary greatly in their design and whether

they target incomes, production levels, the use of production inputs or the consumption of particular goods or services. This implies that different subsidies can have very different effects. A firm thus may attract subsidies for investing in capital equipment, which increases both the demand for the machines the firm is using and the firm's output. Or a household may receive transfers from the government that reduce the price it pays for a good or service – be it diesel fuel or healthcare – thereby increasing the household's consumption of that product.

As economies become ever more interdependent, it is reasonable to expect a subsidy applied by one country will affect its trading partners and also possibly all other economies.<sup>1</sup> This means that subsidies usually need to be considered also from an international perspective, since subsidies applied by one country impose an externality on other countries, whether positive or negative. Here the logic of economics would posit that governments seek to encourage positive externalities while attempting to internalise or mitigate negative ones. By that token, subsidies to exporting firms ought to be welcomed by importing countries because all efficiency costs are, in that case, borne by the exporter, whereas the benefits are reaped by importers in the form of improved terms of trade (i.e. cheaper imports, a positive externality). Only where countries possess a collective preference for domestically produced goods and services would export subsidies 'hurt' importing countries (Johnson 1965).

Yet subsidies are an area in which trade law often appears – at least on the surface – to follow a different logic than that of economic theory. Far from welcoming their trading partners' export subsidies, countries have instead sought to discipline the use of trade-distorting subsidies through bilateral and multilateral arrangements in the context of the WTO (Sykes 2010). What these arrangements make clear is that, in practice, countries are wary of the damage that foreign subsidies can cause domestic producers of like products more than they are content to allow domestic consumers to benefit from the downward pressure that production subsidies put on prices.

Part of the drive for subsidy disciplines has also been the need to secure the benefits of tariff concessions negotiated through the General Agreement on Tariffs and Trade (GATT), as subsidies to import-competing firms may undermine what foreign exporters have gained through the removal of import tariffs. The discipline of subsidies proceeds in this case from a concern to ensure a level playing field in international economic relations. It can be seen as a necessary addendum to the traditional theory of tariff bargaining, in which trade agreements are meant to

<sup>1</sup> This would be the case if the subsidising country were large enough to affect global demand or supply of the subsidised goods or services.

address the negative externality that import tariffs impose on other countries through lower terms of trade (Bagwell and Staiger 1999).

Another reason why countries have sought to discipline subsidies using trade rules may be that governments lack the political clout to reform them domestically, even though they perceive those subsidies as economically inefficient or wasteful. Subsidies create their own constituencies, which makes it very difficult for elected officials to remove them. Just as Odysseus tied himself to the mast of his ship to resist the chant of the Sirens, governments may seek to ‘tie their own hands’ at the supra-national level in order to resist domestic pressures for maintaining or increasing subsidies. This argument was described by Putnam (1988) in the general form of a ‘two-level game’, whereby governments use pressures at the domestic level for securing larger concessions at the international level, and vice versa. Under this logic, a government thus may attempt to empower itself domestically – that is, to increase its ability to resist domestic demands for more subsidies – by signing onto international agreements that limit its own ability to provide subsidies.

### **7.3 The Particular Case of Fossil Fuel Subsidies**

On the face of it, the preceding arguments could apply equally to fossil fuel subsidies, since they essentially are a subset of all subsidies benefiting industries or consumers. As with most subsidies, the economic effects of fossil fuel subsidies can extend beyond a country’s own borders. This would be the case if a large oil-importing economy were to massively subsidise its domestic consumption of gasoline, thereby increasing global oil demand and imposing a negative terms-of-trade externality on other importing countries through higher oil prices and the accelerated depletion of oil resources. A positive terms-of-trade externality, by contrast, would ensue if an oil-exporting nation were to subsidise its production and increase global oil supply. In the former case, importing nations would have an incentive to cooperate and discipline fossil fuel subsidies, whereas the reverse would hold in the second case.

Fossil fuel subsidies also have implications for the competitiveness of industries that rely heavily on the use of energy products as inputs, such as steel-making (Rentschler et al. 2017). For such industries, fossil fuel subsidies may confer an advantage to local producers in the form of lower marginal costs (Burniaux et al. 2011). The World Steel Association (2014) estimates, for example, that energy currently accounts for about 20 to 40 per cent of the total costs of steel production. To the extent that fossil fuel subsidies confer advantages to certain import-competing industries, they may well distort international trade and impose negative terms-of-trade externalities on exporting countries.



Fossil fuel subsidies differ nevertheless from most other subsidies in at least one important respect: they impose environmental externalities – generally negative – on other countries in addition to the terms-of-trade and other externalities described earlier. This changes the picture by adding one potential argument for countries to negotiate disciplines on fossil fuel subsidies. A need for international cooperation would thus arise where these subsidies generate trans-boundary environmental externalities, whether the externalities are global (e.g. climate change) or more localised (e.g. transboundary air pollutants such as sulphur oxides). The Intergovernmental Panel on Climate Change's Fifth Assessment Report (IPCC 2014: 17) notes in this regard that '[e]ffective mitigation will not be achieved if individual agents advance their own interests independently. Cooperative responses, including international cooperation, are therefore required to effectively mitigate GHG [greenhouse gas] emissions and address other climate change issues.' Since the reform of fossil fuel subsidies is an essential component of the mitigation toolkit (OECD 2017), the same basic argument holds and points to the need for countries to act in a concerted manner.

As with every collective action problem à la Olson (1971), international cooperation for disciplining fossil fuel subsidies may prove difficult where countries lack incentives to cooperate. This is particularly the case where (1) the benefits from cooperation (e.g. limiting increases in average global temperatures) are diffuse and have attributes of a public good, meaning that they are available to and shared by everyone, and (2) the number of countries involved is large.<sup>2</sup> In this situation, some nations may be tempted to free ride on the efforts of others, leaving them to bear a disproportionate share of the burden of climate change mitigation (Nordhaus 2015).

Given the economic, fiscal and environmental co-benefits of reforming fossil fuel subsidies (see also Chapter 3), it may often be in countries' own interests to reform such subsidies, irrespective of what other countries do and independent of climate change-related benefits. This would particularly be the case where net-oil-importing countries devote significant fiscal resources to subsidising the consumption of fossil fuels and where the impacts of higher fuel prices on industrial competitiveness are minor. To mention just one example, in 2015, the government of Indonesia unilaterally phased out its gasoline subsidies in a move to rein in public deficits and make better use of public funds. In this case, low international crude oil prices provided the opportunity and fiscal pressures provided the motive, not climate change mitigation (see Chapter 11).

<sup>2</sup> Olson (1971: 35) famously observed that 'the larger the group, the farther it will fall short of providing an optimal amount of a collective good'.

#### 7.4 How Effective Has the Multilateral Trade Regime Been in Disciplining Fossil Fuel Subsidies?

Even where climate change mitigation is not the main factor behind the reform of fossil fuel subsidies, reforming countries may still wish to secure additional benefits through international cooperation, be they environmental or economic. [Section 7.3](#) has already shown that fossil fuel subsidies can impose terms-of-trade externalities on other countries, as do many other subsidies. Countries may also seek to ‘tie their own hands’ at the international level so as to resist future domestic pressures to reinstate the reformed subsidies (see also [Chapter 8](#)). The trade regime offers in this regard an appealing option, since it already possesses a set of rules and institutions for disciplining subsidies. Most countries are already members of the WTO (164 as of April 2018) and parties to one or several plurilateral, regional or bilateral trade agreements. In particular, the WTO’s Agreement on Subsidies and Countervailing Measures is currently the only body of trade law – and the only multilateral institution – regulating government use of fossil fuel subsidies that is backed by a dispute settlement mechanism (DSM).

A core requirement for concerted international action is to ensure that the scope of what is considered a subsidy is clear among participating nations. To that end, Article 1 of the ASCM specifies the conditions under which policies can be considered subsidies. Guidance to WTO members concerning the trade harm that different subsidies generate uses a ‘traffic light approach’. The ASCM thus distinguishes between subsidies that are deemed prohibited (red) – including export subsidies and local content requirements (LCRs) – and those that are only ‘actionable’ (amber). Should a country wish to challenge the ‘actionable’ subsidy of a trading partner, it must first demonstrate that the subsidy causes ‘adverse effects’. Such effects would include (1) injury to the industry by another member or (2) nullification or impairment of benefits accruing directly or indirectly to other members under the GATT.<sup>3</sup>

Upon successful demonstration, the country alleging that another member is maintaining a prohibited or actionable subsidy can follow one of two procedural tracks to take action: either initiate a formal dispute through the DSM or impose a countervailing duty on subsidised imports from the offending country. The assessment of potentially adverse trade effects, however, critically hinges upon the availability of adequate data. To that end, Article 25 of the ASCM has established extensive reporting requirements, obliging all members to ‘notify any subsidy as defined in paragraph 1 of Article 1’ on an annual basis and requiring that

<sup>3</sup> Article 6.1 of the ASCM, which defines a situation in which serious prejudice is deemed to exist, expired on 20 December 1999.

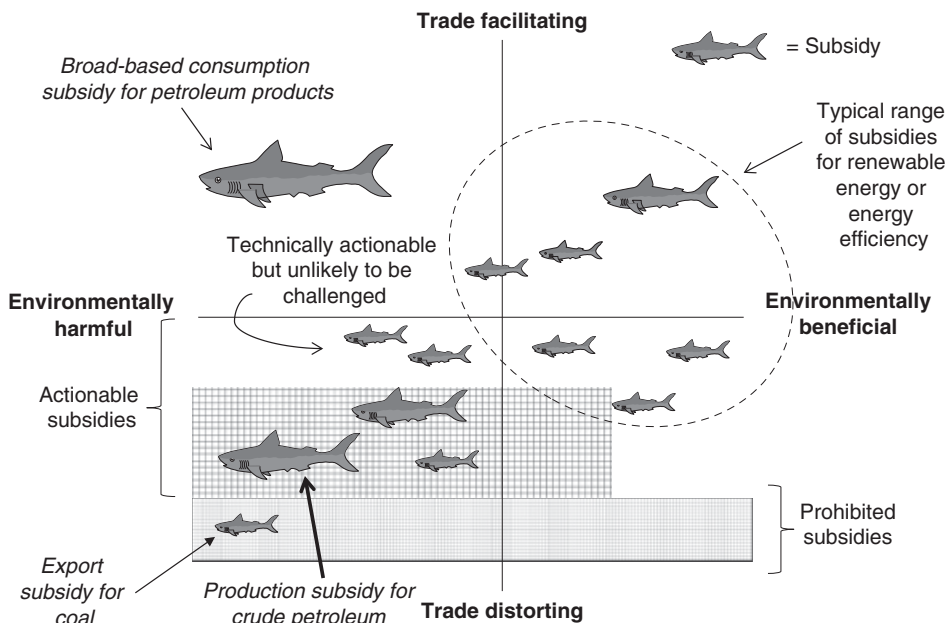


Figure 7.1 Subsidies according to their environmental and trade effects  
(Source: Adapted from Steenblik 2010.)

each notification contain information on the essential features of the reported subsidies. As explained below, however, compliance with Article 25 has been spotty.

WTO trade rules thus offer a useful framework for restraining the use of specific fossil fuel subsidies that are trade distorting – a definition, a notification process and, most importantly, the ability to enforce an obligation by means of trade remedies and countervailing measures.

Steenblik (2010) illustrates the relationship between trade impediments and environmental effects with a graph depicting subsidies as ‘fish’ caught (or not) by nets representing the international trade regime (Figure 7.1). For subsidies that are both environmentally harmful and trade distorting, the likelihood of trade rules discouraging them is greatest, particularly if the subsidies are prohibited. In Figure 7.1, this is illustrated by the tighter mesh preventing fish from slipping through the net. Actionable subsidies, meanwhile, may be caught by the looser mesh, provided that the DSM is activated or countervailing measures are put in place.

Despite the stricter rules governing export subsidies and LCRs, none tied to fossil fuels have been the subject of any disputes brought to the WTO since the introduction of the ASCM. Nor have fossil fuel production subsidies been challenged at the WTO (Meyer 2017). Fossil fuel subsidies are a prominent feature in

economies that started exploiting their fossil fuel endowments many years ago. The amount spent by governments to support the production of fossil fuels can be significant. Germany, for example, imposed a levy on final electricity consumers from 1975 to 1995 to enable coal-fired thermal plants to buy domestically produced hard coal, which plants were required to use and which was much more expensive than imported coal. Here, as in numerous other cases, trade effects may have been present, though apparently those effects were not significant enough to incite coal exporters to challenge the subsidies.

Indeed, we are aware of only one case involving fossil fuel production subsidies that came even close to a formal trade dispute. In the early 1990s, the government of Australia began pressing the European Community on its Member States' coal producer subsidies, which Australia alleged was hurting its own coal producers' export revenues (GATT 1991). In this case, however, the two economies settled out of court, and on 15 December 1993, they signed the bilateral European Community–Australia Coal Agreement. The European Community agreed to a standstill in subsidised coal production, and Australia committed to not challenge the Community's coal subsidy scheme.

Even unilateral trade remedies have not been used against fossil fuel production subsidies. A search through the World Bank's Global Antidumping Database (Bown 2016a) and its Global Countervailing Duties Database (Bown 2016b) – which cover antidumping and countervailing duty actions taken between 1980 and 2015 – reveals only one formal attempt to seek protection via one of these instruments. Save Domestic Oil, Inc., filed antidumping and countervailing duty petitions on certain crude petroleum oil products imported from Iraq, Mexico, Saudi Arabia and Venezuela; the US Department of Commerce ultimately dismissed them in an administrative determination issued in September 2000 (US Department of Commerce 2000). One of the reasons given for not initiating investigations pursuant to these petitions was that there was inadequate domestic industry support for taking action. Basically, the larger multinational companies depended on imports from these and other countries and so opposed the petitions. Overall, roughly 40 per cent of the industry was in favour of pursuing the petitions and 60 per cent against.

These various examples lend credence to Meyer's finding that fossil fuel subsidies have largely avoided trade-related subsidy disciplines because WTO members have chosen not to challenge them (Meyer 2017). Crucially, though, most fossil fuel subsidies are not actually trade distorting in the mercantilist sense but rather trade facilitating in that they increase imports of fossil fuels.<sup>4</sup> As of 2014,

<sup>4</sup> Consumption-related fossil fuel subsidies may, of course, reduce imports of cleaner forms of energy or related technologies, but because those products are not 'like' the competing fossil fuel products, potential exporters of cleaner energy would find it difficult to challenge those subsidies.

85 per cent of all the budgetary support and tax expenditures for fossil fuels provided by the (then) 34 countries of the Organisation for Economic Co-operation and Development (OECD) – plus Brazil, Russia, India, Indonesia, China and South Africa – were devoted to the consumption of fossil fuels, and most of them were ‘non-specific’ (OECD 2015).<sup>5</sup> Many consumer support measures shield end users from price volatility and reduce incentives for adjusting consumption in response to changes in international prices. As a result, a significant share of global demand has proven resilient to hikes in fossil fuel prices in the past. Considering the market-creating effects of these types of consumer subsidies, there is no a priori reason for WTO members that produce fossil fuels to initiate a dispute. Net importing countries, by contrast, could argue that a country that extensively subsidises the consumption of fossil fuels artificially increases global demand, thereby contributing to higher international fossil fuel prices (see [Section 7.3](#)). To our knowledge, no country has ever invoked this argument at the WTO.

Subsidies that are both trade facilitating and environmentally beneficial are the most benign subsidies among those depicted in [Figure 7.1](#) and are typically not restricted by trade rules. By contrast, subsidies that are trade distorting but environmentally beneficial have been a persistent source of disputes in the WTO in recent years. Six cases were filed against renewable energy subsidy programmes between 2010 and 2014; a seventh was lodged in 2016.<sup>6</sup> The most contended complaint – from Japan and the European Union (EU) relating to the implementation of LCRs under the feed-in tariff programme adopted by the Canadian province of Ontario – pertained to prohibited subsidies (Article 3 of the ASCM) and was ultimately settled in favour of the plaintiffs.

### **7.5 What Makes Environmentally Harmful Energy Subsidies Resilient to WTO Disputes**

The ASCM rules equally apply to environmentally harmful and environmentally beneficial energy subsidies, but distinct features of both subsidy programmes can explain why renewable-energy subsidies have repeatedly been the subject of WTO disputes, whereas fossil fuel subsidies have largely been overlooked. Contrary to the production of fossil fuels, the production of environmental technologies for the generation of renewable energy can theoretically be carried out by any country. Traditional market leaders hence face higher competition and fear the loss of

<sup>5</sup> ‘Specificity’, in this context, refers to a legal requirement by which subsidies can only be disciplined under the ASCM if they are specific to ‘a certain enterprise’ (i.e. ‘an enterprise or industry or group of enterprises or industries’) or particular region.

<sup>6</sup> [www.wto.org/english/tratop\\_e/dispu\\_e/dispu\\_status\\_e.htm](https://www.wto.org/english/tratop_e/dispu_e/dispu_status_e.htm).

market segments as other industrialised countries – as well as developing countries – enter the market. The investigations against foreign renewable-energy subsidy programmes thus can be seen as a means to protect domestic ‘green-collar’ jobs (Cameron 2009) and strengthen a nation’s environmental industry’s competitiveness rather than a sign of environmental concern.

Moreover, while a variety of renewable energy subsidy programmes exist, almost all cases filed against renewables to date have been based on Article 3 (‘prohibited subsidies’) due to the inclusion of LCRs. LCRs in the oil and gas industry are mostly tied to investment conditions and fall under the disciplines of the Agreement on Trade-Related Investment Measures, not the ASCM, and subsidies usually are not involved.<sup>7</sup> Moreover, the barriers to litigate a dispute are high insofar as the burden of proof lies entirely with the complainant (De Bièvre et al. 2017). Typically, proving that a subsidy (1) is specific and (2) has caused trade harm is not a straightforward matter in practice (Asmelash 2015).

One concern related to the burden of proof is the availability of adequate data. Hopes that the reporting requirements established through Article 25 of the ASCM would facilitate this requirement have not been fulfilled. Instead, the WTO noted in 2006 that ‘information is only available for less than half of the WTO membership’ (WTO 2006: 111). According to Steenblik and Simón (2011), this weak performance emanates from the lack of an effective system to enforce the ASCM’s disclosure obligations, as well as a low capacity in many countries to monitor their own budgetary and tax expenditures. A lack of clarity as to which subsidies ought to be reported and controversies on estimation methods add to the complexity of the task (Casier et al. 2014).

Calculating the equivalent of the value conferred to the recipients of a subsidy is a potentially intricate task, as no universally recognised standard exists to do so (Jones and Steenblik 2010). In accordance with the ASCM rules, the value of direct transfers or tax breaks is simply their face value. The calculation of the value conferred through government loans or government provision of equity, by contrast, requires a more complex analysis. In the mid-1990s, the newly established WTO Committee on Subsidies and Countervailing Measures set up an expert group to explore such measurement issues. Agreement was initially reached on how to estimate some of the subsidy forms, such as those related to the government provision (Recommendation 15) or the government purchase of goods (Recommendation 16) (WTO 1998). But expectations soon turned to

<sup>7</sup> Countries that ‘significantly strengthened their local content legislation since 2000’; in the oil and gas sector include Brazil, Indonesia and Kazakhstan (IFRI 2015: 10). Ghana, Mozambique, Tanzania and Uganda introduced LCRs tied to concessions even before the start of any production.



disappointment; absent a consensus on most of the remaining subsidies discussed, these early efforts were abandoned in 1999 (WTO 1998, 1999, 2005).

Lastly, WTO members seem, in practice, less worried about how foreign fossil fuel subsidies undermine the competitiveness of their fossil fuel producers than they are about the effects of such subsidies on other industries (e.g. steel-making). Some industries that might be hurt by fossil fuel subsidies may not be in the position to challenge them either because the subsidies are not sufficiently specific or because the harmed industry (e.g. a manufacturer of wind turbines) does not sell a directly comparable, or 'like', product. The latter concern gained in importance during the accession of Russia and Saudi Arabia, both of which are large hydrocarbon producer economies, but was eventually dropped (Asmelash 2015). Together these factors contribute to explaining why countries have not made use of the ASCM to challenge fossil fuel subsidies despite the fact that the Agreement could restrain a large share of such subsidies, given the number of countries the WTO covers. This also helps explain why the WTO has not had any measurable effect on fossil fuel subsidy reform at the national level.

### **7.6 What Could Be Done in the Future?**

While WTO rules exist that can certainly be used to discipline subsidies to production, as well as consumption subsidies that are specific enough, these rules have been used little to date. Rules also exist regarding the notification of subsidies to the WTO's Committee on Subsidies and Countervailing Measures, but adherence continues to be patchy at best.

Some have suggested that the existing WTO rules and procedures could be used more robustly. An important question is, who would mount a challenge, and on what basis? On the production side, only producer countries would have any basis for challenging another country's production subsidies, and they could only challenge subsidies for a like product. That is to say, an exporter of heavy fuel oil could not challenge another country's subsidies for local coal production, even though it could be argued that one effect of the coal subsidy would be to reduce the market in that country for heavy fuel oil. It remains to be seen whether increased production from unconventional plays (e.g. shale and tight oil) may eventually increase the frequency of disputes related to fossil fuel subsidies in the WTO.

Most other proposed options would necessitate changing the rules. For example, at the beginning of the Doha Round, the European Union proposed that countries be sanctioned for not notifying the WTO of their subsidies. The European Union's own state aid rules require members to notify the European Commission of any



subsidies they intend on providing. If they fail to do so, the subsidies can be declared illegal, and the recipient may be compelled to refund them to the Member State.

Various commentators (Jones 2016; Horlick 2017) have also suggested that the WTO develop a new sectoral agreement on fossil fuel subsidies (or energy subsidies more generally) that complements the Agreement on Agriculture and the plurilateral Agreement on Trade in Civil Aircraft (WTO 2007). Proponents of such a sectoral agreement have looked less to these trade-motivated agreements than to the proposals that have emerged following the negotiating mandate contained in the 2001 Doha Ministerial Declaration ‘to clarify and improve WTO disciplines on fisheries subsidies’ (WTO 2001: para. 28). The various attempts to craft new disciplines on fisheries subsidies have generally related more to the effect of subsidies on the underlying resource than on their effects on trade per se. In a similar vein, many advocates of a possible Agreement on Fossil Fuel Subsidies would like to see many or most fossil fuel subsidies prohibited because of their adverse effects on the environment.

New Zealand’s government has indicated that it wants the WTO to turn its attention to environmentally harmful subsidies, starting with fisheries, and even expanding eventually to other environmentally harmful subsidies (New Zealand Mission 2015).

In support of this initiative, several international non-governmental organisations have offered a wide range of ideas on actions that the WTO can take to address fossil fuel subsidies (Wooders and Verkuijl 2017). These include engaging in capacity building on how to identify, measure and evaluate fossil fuel subsidies and various ideas for increasing transparency. Other ideas are to urge WTO members to make unilateral pledges to eliminate or reduce their fossil fuel subsidies and, beyond that, to negotiate an interpretive understanding on how the ASCM rules apply to such subsidies. At the most ambitious end are calls for adopting an ‘Energy Sector Agreement’, classifying fossil fuel subsidies as prohibited or allowing an environmental-effects test for subsidies.

Already, the Friends of Fossil Fuel Subsidy Reform (FFFSR) have made use of the standing WTO Committee on Trade and Environment (CTE) to update WTO members on their efforts, thereby keeping the issue ‘alive’ in the WTO (WTO 2017a). And for the first time, fossil fuel subsidy reform was formally raised by a discussant (New Zealand), rather than simply by members from the floor, during Russia’s first Trade Policy Review since its accession (2016).

New Zealand’s Minister of Trade, Todd McClay, has gone even further, suggesting that *only* the WTO could deliver on the various political commitments that have been made to date to reform fossil fuel subsidies (McClay 2016).

Can we convert the political commitment, made by the G20 [Group of 20], APEC [Asia-Pacific Economic Cooperation] and through SDG [UN Sustainable Development Goal] 12, to reform fossil-fuel subsidies into legally enforceable disciplines? Again, the only way to do that effectively is on a multilateral basis, and the only place to do it is in the WTO. In practical terms, is it worth us starting to think seriously about how the WTO might successfully discipline fossil fuel subsidies?

A major new development occurred at the WTO's 11th Ministerial Conference in Buenos Aires, where 12 WTO members signed a Ministerial Declaration encouraging the reform and phasing out of fossil fuel subsidies. This statement, for the first time, asserts a link with trade and calls for an enhanced role for the WTO, 'aimed at achieving ambitious and effective disciplines on inefficient fossil fuel subsidies that encourage wasteful consumption' (WTO 2017b). Whether other WTO members rise to this challenge remains to be seen<sup>8</sup> (see Chapter 9), but given the recent history of the WTO in developing new rules, it is fair to assume a WTO Agreement on Fossil Fuel Subsidies is a medium-term prospect at best.

Understandably, countries that are the most concerned about fossil fuel subsidies have looked for possibilities for obtaining quicker results through regional or plurilateral agreements (Greens-EFA 2014). Regional trade agreements (RTAs) are agreements signed among two or more trading partners, generally located in the same region of the world, and which cover substantially most trade between or among the parties to the agreement. As of April 2018, the WTO listed over 285 RTAs covering trade in goods or goods and services currently in force (WTO n.d.).<sup>9</sup> Plurilateral trade agreements often include economies from different regions of the globe and focus on one sector, such as trade in civil aircraft or in services, or type of government policy, such as government procurement. The logic of RTAs and plurilateral agreements is simple: because they involve fewer parties, they can be negotiated much more quickly than can accords that have to be worked out among the WTO's more than 160 members.

Sectoral trade agreements have been much less common than RTAs, and there is only one that is in force<sup>10</sup> that addresses subsidies: the Agreement on Trade in Civil Aircraft (WTO 2007). Negotiations did take place at the OECD to develop agreements to limit subsidies to shipbuilding and to iron and steel, but those never came into force (Pagani 2008). At the end of 2016, there were two other sectoral agreements being negotiated at the plurilateral level: the Environmental Goods

<sup>8</sup> The other members, as of July 2017, were Costa Rica, Denmark, Ethiopia, Finland, Norway, Sweden, Switzerland and Uruguay. Importantly, three of these are EU Member States, for whom trade-negotiation competence resides with the European Union.

<sup>9</sup> The exact number depends on whether one counts overlapping agreements and economic integration agreements.

<sup>10</sup> The 1951 Treaty Constituting the European Coal and Steel Community (ECSC) contained quite stringent prohibitions on subsidies to coal and steel production, but derogations from this language later became commonplace, and in 2002, the Treaty expired and all the activities and resources of the former ECSC were absorbed by the European Union.

Agreement and the Trade in Services Agreement. The Environmental Goods Agreement involved 17 WTO members, until negotiations were suspended after the failure of parties to finalise the agreement in December 2016; if it is revived, it may eventually address subsidies, but the initial focus of the negotiations was on tariff concessions. Similarly, though there was clearly an interest in disciplining subsidies in the Trade in Services Agreement, according to leaked drafts seen by Messenger (2016: 187), ‘in its current form it does not appear to include subsidy regulation at all’. In any case, the Environmental Goods Agreement and Trade in Services Agreement would unlikely have a significant depressing effect on the use of subsidies for fossil fuels.

Plurilateral agreements, if they cover enough countries so as to affect most of global trade in the targeted goods or services, minimise the problem of free riding. In the case of RTAs, however, any language in the agreement to restrict the use of subsidies that is more limiting than that found in the ASCM benefits (in a mercantilistic sense) not only the other party or parties to the RTA but also all countries that trade with those parties; a country cannot selectively reduce subsidies only on goods exported to other RTA parties. This logic has, for most of the era of RTAs, kept out language on subsidies, except for prohibitions against export subsidies (Geloso-Grosso 2003). However, new possibilities begin to present themselves when the main concern about subsidies is their effect on shared natural resources, such as the marine environment or the atmosphere.

Arguably, the first RTA in modern times to include language addressing fossil fuel subsidies is the EU–Singapore Free Trade Agreement (EC 2015), which was concluded in October 2014 but as of April 2018 had yet to come into force. Its Article 13.11 states:

The Parties recognise the need to ensure that, when developing public support systems for fossils [*sic*] fuels, proper account is taken of the need to reduce greenhouse gas emissions and to limit distortions of trade as much as possible. While subparagraph (2)(b) of Article 12.7 (Prohibited Subsidies) does not apply to subsidies to the coal industry, the Parties share the goal of progressively reducing subsidies for fossil fuels. Such a reduction may be accompanied by measures to alleviate the social consequences associated with the transition to low carbon fuels.

Since Singapore produces no coal and consumes only about 0.6 million tonnes annually (compared with the European Union’s annual consumption of around 600 million tonnes), this part of the paragraph clearly is aimed mainly at the European Union itself. Moreover, though trade effects are mentioned, the rationale for this soft constraint on ‘public support systems for fossil fuels’ is clearly environmental.

The environmental motive for disciplining certain subsidies is even more evident in the Comprehensive and Progressive Agreement for Trans-Pacific

Partnership Agreement (TPP-11), the legally verified text of which was released publicly on 26 January 2018. This Agreement, which has been billed as ‘mega-regional’ because of the combined economic power of the countries involved, has been signed but not ratified by all parties. Article 20.16 of the Agreement set out a number of rules applicable to all parties on the use of subsidies to marine capture fishing (including subsidies to fuel used by fishing vessels) and establishes subsidy notification requirements. Among subsidies that would be prohibited are those which have a negative effect on overfished fisheries (paragraph 5a), benefit vessels carrying out illegal, unreported and unregulated fishing (paragraph 5b) and any new specific subsidies to fisheries that contribute to overfishing or excess capacity to fish (paragraph 7).

Interestingly, fossil fuel subsidies also were addressed in an earlier version of the TPP’s Environment Chapter, at a time when the United States was still a party to the negotiations. The chapter’s Consolidated Text of 24 November 2013, as posted on the website WikiLeaks (WikiLeaks 2014a), contained the following language in Article SS.15, paragraph 6:

The Parties recognize their respective commitments in APEC to rationalize and phase out over the medium term inefficient *fossil fuel subsidies* that encourage wasteful consumption, while recognizing the importance of providing those in need with essential energy services. Accordingly, the Parties agree to undertake, as appropriate, cooperative and capacity building activities designed to facilitate effective implementation of these commitments, including in applying the APEC Voluntary Reporting Mechanism.

*(emphasis added)*

According to the Report from the Chairs for the Environment Chapter, also dated 24 November 2013 and also posted by WikiLeaks (2014b), several of the poorer Southeast Asian economies in the negotiations objected to the reference to fossil fuels, and it was dropped.

What is significant about the text pertaining to fossil fuel subsidies, as opposed to the final language on subsidies to fisheries, is that it was essentially referential: reminding parties of their pre-existing APEC obligations, as stated in the Leaders’ Communiqué of November 2009, and merely building on that commitment with a non-binding appeal to the parties to ‘undertake as appropriate, cooperative and capacity-building activities’.

This brings us to the third approach: informal law (Pauwelyn et al. 2012; Shaffer et al. 2015). The APEC Leaders’ Declaration of 14 November 2009 (APEC 2009) echoed a similar declaration issued by G20 leaders at the end of their meeting in Pittsburgh the previous September. Although they fall outside the international trade regime itself, both declarations commit their membership ‘to rationalise and phase out over the medium term fossil fuel subsidies that encourage wasteful consumption’, recognising the importance of providing those in need with essential

energy services. Compared with the hard law of the ASCM, such hortatory language may appear toothless. But it sets out a broad common goal within which the more enthusiastic members have been able to craft processes that allow them to move forward in small steps. And, as seen by the reference to the APEC commitment in the failed attempt to include language on fossil fuel subsidies in the Trans-Pacific Partnership, the declarations can also buttress efforts in other forums, including the United Nations Framework Convention on Climate Change (see van Asselt and Kulovesi 2017; see also [Chapter 8](#)).

Since 2009, both the G20 and APEC have created processes for annual reporting of their fossil fuel subsidies and for conducting voluntary peer reviews. The annual self-reports of subsidies, particularly those by G20 countries, have been criticised for their omissions by several nongovernmental organisations (e.g. Koplou 2012; Bast et al. 2015); however, the peer reviews have since increased at least the level of transparency, if not ambition (Mathiesen 2016; Ogden and Marano 2016). Moreover, thanks to the importance of the G20 and APEC in the world economic order, many other organisations, both intergovernmental and non-governmental, have used the G20 and APEC commitments as a springboard to collect data and to undertake their own reports and reviews.

## 7.7 Conclusion

So was Pascal Lamy right? Has the global trade regime missed the opportunity to do something about fossil fuel subsidies? In one sense it has: though some countries and organisations have called for new or tougher WTO disciplines on fossil fuel subsidies, no new negotiations towards that end have been started. Rather, a number of countries have endorsed non-binding bilateral or plurilateral commitments to phasing out some of their fossil fuel subsidies eventually, outside of the multilateral trade regime. These various informal law initiatives, which lack formal disciplines and dispute mechanisms, could be seen as bypassing the traditional route to subsidy disciplines: multilateral trade rules. But they could also be viewed as creating alternative routes for reaching the same eventual objective.

Indeed, it is difficult to see any path forward to hard international subsidy disciplines on fossil fuel subsidies that does not involve efforts on multiple fronts, involving negotiations in the WTO, regional and plurilateral trade instruments and work in non-trade arenas such as the UNFCCC and the G20. These discussions and negotiations, in turn, need to be informed by sound data and analysis undertaken by intergovernmental and non-governmental organisations.

However, to facilitate the process of eventual multilateralism, these disparate efforts need to rest on common foundations and norms. The first such foundation is a common concept of what constitutes a ‘fossil fuel subsidy’. The advantages of

aligning the definition and coverage of the term with that defined in Article 1 of the ASCM are that it enjoys international recognition, and there is a wide body of analytical work that has been done on the different subsidy elements (by both economists and lawyers). The second is that whatever disciplines are imposed on fossil fuel subsidies, they need to avoid being ‘WTO negative’ – that is, the disciplines created should not be weaker than those set out in the ASCM. This still leaves the possibility that certain types of subsidies will not be addressed through omission, but this approach is less problematic than appearing to contradict the multilateral rules on subsidies to which most of the world’s economies have already agreed to adhere.

### Disclaimer

All authors were at the time of writing working for the OECD’s Trade and Agriculture Directorate and were writing in a strictly personal capacity. The views expressed are theirs alone and do not necessarily reflect those of the OECD Secretariat or the member countries of the OECD.

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# 8

## Fossil Fuel Subsidies and the Global Climate Regime

HARRO VAN ASSELT, LAURA MERRILL AND KATI KULOVESI

### 8.1 Introduction

The adverse environmental, economic and social implications of the sizeable subsidies handed out by governments for the production and consumption of fossil fuels are increasingly clear. These implications are particularly significant for the socio-environmental challenge of addressing climate change. Anthropogenic climate change mainly results from the combustion of fossil fuels such as coal, oil and gas, with fossil fuel combustion accounting for 69 per cent of global greenhouse gas (GHG) emissions in 2010 (Blanco et al. 2014: 354). Indeed, there is an increasing recognition that to avoid dangerous climate change, most fossil fuel reserves will need to be left in the ground (IEA 2012; McGlade and Ekins 2015). By promoting the extraction and use of fossil fuels, subsidies thus exacerbate the climate problem.

Against this background, it is perhaps striking that the global climate regime put in place by the United Nations Framework Convention on Climate Change (UNFCCC) hardly addresses fossil fuel subsidies. This is in part due to the mitigation architecture of the global climate regime: the international climate treaties do not specify which policies and measures countries are required to implement to reduce GHG emissions, leaving each country free to choose how to mitigate climate change. However, the lack of substantive obligations related to fossil fuel subsidies – or, conversely, measures to reform or remove them – also reflects broader concerns about the governance of this sensitive issue area of energy policy.

This chapter explores how the global climate regime established by the UNFCCC has governed and could govern fossil fuel subsidies. It begins by reviewing the literature documenting the relationship between fossil fuel subsidy (reform) and climate change (mitigation), which reveals not only that there is increasing evidence of the impacts of fossil fuel subsidies on GHG emissions but also that efforts to reform subsidies can yield important climate change mitigation benefits. The chapter then moves on to discuss how parties to the UNFCCC have by and

large sought to avoid addressing fossil fuel subsidies directly, notwithstanding efforts by some parties. Although this could lead one to conclude that the global climate regime has had no discernible influence on fossil fuel subsidy reform at the national level, the chapter moves on to discuss the various ways in which the UNFCCC can exert influence on fossil fuel subsidy reform in the future.

The chapter concludes that even though the role of the UNFCCC in the broader regime complex for fossil fuel subsidies may be constrained (Van de Graaf and van Asselt 2017), it can nevertheless be an important complementary venue for promoting fossil fuel subsidy reform by (1) increasing the reputational costs of not following through on voluntary pledges to reform subsidies, (2) improving transparency around fossil fuel subsidies, (3) changing incentive structures by providing financial support, (4) strengthening an emerging international social norm on fossil fuel subsidy reform and (5) offering a platform for inter-country learning.

## 8.2 The Climate Change Impacts of Fossil Fuel Subsidies and Their Removal

There is a growing body of literature highlighting the impact of fossil fuel subsidies and their removal on emission reductions at both the global and national levels, particularly for consumer subsidies. This section reviews some of the key findings from these studies.

In terms of the climate impacts of fossil fuel subsidies, the International Energy Agency (IEA) suggests that 13 per cent of global carbon dioxide (CO<sub>2</sub>) emissions in 2014 were from subsidised fossil fuels (equivalent to a subsidy of USD 115 per tonne of CO<sub>2</sub>). In comparison, all the emissions trading schemes in the world in 2014 covered only 11 per cent of global CO<sub>2</sub> emissions (IEA 2015b: 23). This estimate (based on the IEA's price-gap methodology; also see Chapter 2) may still be conservative, however. Stefanski (2014, 2016), for instance, estimates that subsidies led to 36 per cent of global CO<sub>2</sub> emissions between 1980 and 2010. Focusing on the US government's tax breaks to the oil and gas industry, Erickson et al. (2017: 3) further suggest that 'the CO<sub>2</sub> emissions associated with subsidy-dependent future U.S. oil production are equivalent to 1% of the remaining carbon budget for the entire world' (emphasis in original).<sup>1</sup>

In addition to their contribution to increased fossil fuel production and consumption (and, by implication, to GHG emissions), fossil fuel subsidies prevent the uptake of renewable energy because they 'impair the competitiveness of renewable-energy technologies, reinforce the continuation of fossil fuel-based systems

<sup>1</sup> The 'carbon budget' refers to the maximum amount of CO<sub>2</sub> that can be released into the atmosphere to keep the global average temperature increase below 2°C with a more than 66 per cent likelihood (IPCC 2013).

and distort investment decisions in favour of fossil fuel technologies' (Bridle and Kitson 2014: 18). The negative climate impact of fossil fuel subsidies thus could be even greater if their effects on renewable energy promotion are considered part of the equation.

Various studies have modelled the impact of removing fossil fuel subsidies on emission reductions globally and for individual countries. The range of emission reductions from the phasing out of consumer fossil fuel subsidies is very broad, depending on the scenarios employed, the countries included in the modelling, the scale of the subsidies and the timeframe for the phase-out. For example, research by the Organisation for Economic Co-operation and Development (OECD) shows that removal of fossil fuel consumption subsidies could lead to global GHG emission reductions of about 3 per cent by 2020, rising to about 8 per cent by 2050 (Burniaux and Château 2014; Durand-Lasserve et al. 2015). The IEA (2015a) finds that accelerating the partial phase-out of subsidies to fossil fuel consumption would lead to a 10 per cent reduction in energy-sector emissions by 2030. Focusing on producer subsidies, Gerasimchuk et al. (2017) reveal that the removal of upstream subsidies to fossil fuel producers alone could result in emission reductions of up to 37 gigatonnes (Gt) of CO<sub>2</sub> equivalent, roughly corresponding to total annual global emissions.

In addition to these global estimates, several studies offer national estimates. Merrill et al. (2015a) examine 20 countries,<sup>2</sup> finding that if these countries would reduce their fossil fuel subsidies to zero between 2016 and 2020, this would result in average GHG emission reductions of about 11 per cent across these countries. Others have carried out country-specific studies. For instance, Lin and Ouyang (2014) estimate that the removal of consumer subsidies in China in 2006–10 led to emissions savings of 3.72 per cent of total CO<sub>2</sub> emissions during that period. In Turkey, the elimination of production subsidies to coal could yield CO<sub>2</sub>-equivalent emission reductions of 2.5 per cent by 2030, and the removal of regional investment subsidies could result in reductions of 5.4 per cent (Acar and Yelden 2016).

Studies on the relationship between the phase-out of fossil fuel consumption subsidies and emissions reductions stress that although the removal of subsidies to consumers can lead to domestic and international GHG emission reductions, it requires policies to cap emissions (Burniaux and Château 2014; Schwanitz et al. 2014; Merrill et al. 2015b). For example, Burniaux and Chateau (2014) suggest that fossil fuel subsidy reform in the presence of an emissions cap increases emission reductions from about 8 to 10 per cent.

<sup>2</sup> Algeria, Bangladesh, China, Egypt, Ghana, India, Indonesia, Iran, Iraq, Morocco, Nigeria, Pakistan, Russia, Saudi Arabia, Sri Lanka, Tunisia, United Arab Emirates, United States, Venezuela and Vietnam.

A related finding is that fossil fuel subsidy reform will only have long-term impacts on emission reductions if it is implemented alongside complementary energy and climate policies. Notably, the savings can be reinvested into social safety nets to mitigate the impacts of rising energy prices or swapped in the energy system to enable a shift towards low-carbon energy sources. This is key to enabling a switch towards sustainable electricity, access to cleaner and sustainable fuels, investment in energy efficiency and domestic finance for public transport and sustainable-energy infrastructure such as renewables. For instance, Merrill et al. (2015a) found that if 30 per cent of the funds saved by removing fossil fuel subsidies were used for renewable energy (10 per cent) and energy efficiency (20 per cent), average emissions reductions from across 20 countries could go up from 11 to 18 per cent by 2020. This point is not new: in 1987, a paper noted that '[b]y redirecting the funds spent on energy subsidies, governments could mitigate the impacts of energy price increases on lower income groups. Tax rebates or investments in improving the energy efficiency of equipment used by the poor (kerosene lanterns and stoves, for instance) are two alternatives' (Kosmo 1987: 50). Although technologies have improved since then, the proposition is still valid. For example, a United Nations Environment Programme (UNEP) report explains that hypothetically redirecting one year's worth of kerosene subsidies towards kerosene-free lighting systems (e.g. solar) would eliminate the need for all subsequent subsidies for the service life of those new systems (UNEP 2014). More generally, achieving the combined renewable-energy targets for 2020 in the Middle East and North Africa could cost up to USD 200 billion, which is less than one year's worth of fossil fuel subsidies in the region (USD 237 billion; Bridle 2014).

In summary, fossil fuel subsidies emerge as a policy instrument that can engender carbon lock-in (i.e. the building of costly and long-lasting energy infrastructure; see Unruh 2000; Erickson 2015), further contributing to climate change. This also means, however, that *reform* of fossil fuel subsidies is a potentially powerful tool and catalyst for other policies to help deliver climate change goals, potentially helping to disrupt the existing lock-in. Yet, as Section 8.3 will show, this potential has thus far remained largely untapped in the main international regime addressing climate change: the UNFCCC.

### 8.3 Fossil Fuel Subsidies and the Climate Change Convention: The Story So Far

Throughout its evolution over the past 25 years, the global climate regime has, by and large, eschewed the issue of fossil fuel subsidies.<sup>3</sup> Even though some parties

<sup>3</sup> This section is adapted from van Asselt and Kulovesi (2017).

have drawn attention to the linkages between such subsidies and climate objectives since the inception of the UNFCCC, support to fossil fuel production or use is not explicitly mentioned in any of the three climate treaties – let alone made subject to legally binding obligations. Indeed, fossil fuels are not directly addressed at all in the UNFCCC, the Kyoto Protocol or the Paris Agreement (van Asselt and Lazarus 2015; Piggot et al. 2017).

One of the key reasons for this omission is that countries are generally reluctant to cede their national sovereignty over natural resources. They are also prone to challenge any supra-national effort to govern energy, including fossil fuels. This can be witnessed in other areas of international governance, such as energy trade, but it is also true in cases of supra-national governance, such as the European Union (Van de Graaf et al. 2010: 103). Throughout the history of the climate regime, developing countries have also tended to resist the idea of international climate change mitigation obligations, fearing that these would limit their economic development opportunities. Addressing energy – including fossil fuel subsidies – under the UNFCCC therefore links to long-standing concerns over national sovereignty and the divides between developed and developing countries.

Rather than highlighting fossil fuel production and consumption as a source of GHG emissions, the debate in the climate regime has focused on fossil fuel-producing nations' concerns that taking climate action would have a negative impact on their economies. Members of the Organization of the Petroleum Exporting Countries, including Kuwait and Saudi Arabia, initially sought to emphasise scientific uncertainty over climate change and 'went to great lengths to . . . avoid any reference to energy' in the Convention (Dessai 2004: 19). Their concerns were reflected in the Convention and have led to a protracted discussion on the impacts of 'response measures' on developing countries (Depledge 2008; Chan 2016).

All this is not to say that no attempts have been made to address fossil fuel subsidies through the climate regime. Already during the negotiations of the UNFCCC in the early 1990s, Vanuatu, on behalf of the Alliance of Small Island States, suggested that the climate treaty should have a provision including a 'prohibition on subsidising activities which contribute to climate change' (UNFCCC 1991a: 30). Sweden likewise called for a commitment to reduce 'subsidies for the production and use of fossil fuels with a view to abolish such subsidies at the latest by the year (2000)' (UNFCCC 1991b: 4). Notwithstanding such calls, countries decided against listing any specific mitigation measures in the Convention that parties would need to adopt.

In the negotiations leading up to the 1997 Kyoto Protocol, some parties – including France, New Zealand, Norway and Switzerland – raised the prospect



of fossil fuel subsidy reform or phase-out as possible ‘policies and measures’ to mitigate climate change (Depledge 2000: paras. 72–73). Switzerland, for example, suggested to either put in place targets for subsidy reduction or to have a blanket removal of ‘all types of subsidies except those related to research and environmental protection’ (UNFCCC 1996: 4). But it was not only developed countries advocating for fossil fuel subsidy reform; some oil-producing nations also put proposals forward, with Iran proposing the removal of coal subsidies ‘as the most pollut[ing] source of energy’ (UNFCCC 1997: 32). But just as in the negotiations on the UNFCCC, countries could not agree on a list of policies and measures that Kyoto parties would be obliged to implement. Instead, they could only reach agreement on an indicative list of policies and measures. While fossil fuel subsidies are not mentioned in that list as such, the Protocol does mention the ‘[p]rogressive *reduction or phasing out* of market imperfections, fiscal incentives, tax and duty exemptions and *subsidies* in all greenhouse gas emitting sectors that run counter to the objective of the Convention and application of market instruments’ (Article 2.1(a)(v); emphases added). This could be seen as an implicit acknowledgement of fossil fuel subsidy reform as a possible climate mitigation measure.

Yet, while the Kyoto Protocol has arguably provided the most sophisticated international legal framework for climate mitigation to date, its importance is rapidly diminishing. The first commitment period from 2008 to 2012 included all key developed countries apart from the United States, which never ratified the Protocol, and Canada, which formally withdrew in 2011. The Protocol amendment for the second commitment period from 2013 to 2020 is yet to enter into force, but even if it did, other major developed countries such as Japan and Russia also have decided to opt out.

The future mitigation framework under the climate regime will be based on the Paris Agreement, which came into force in November 2016. The Agreement’s key achievements include setting long-term mitigation objectives, engaging all parties in mitigation action and introducing five-year ambition cycles. The Paris Agreement also includes provisions on enhanced transparency and regular global stocktaking (Bodansky 2016; van Asselt 2016). The Agreement’s main substantive provision provides that ‘[e]ach Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve’ and that ‘Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions’ (Article 4.2). The Agreement thus emphasises the role of national governments in determining their own mitigation ambition levels and measures in the form of nationally determined contributions (NDCs).

Although several developed and developing countries referred to fossil fuel subsidies in their submissions on issues to be included in the Paris Agreement (Benninghoff 2013), fossil fuel subsidies do not feature in the new treaty. However, as the Paris Agreement cements the discretionary approach to policies and measures under the UNFCCC regime, with countries being free to adopt the policies they choose to pursue their targets, it has provided an opportunity for some parties to put forward fossil fuel subsidy reform as a mitigation measure. Specifically, the lack of standardisation for NDCs leaves countries with the option to include the types of information they deem useful (Merrill et al. 2015b). The range of mitigation policies and actions in countries' NDCs could take the form of either specific actions and their expected outcomes or defining the outcome (e.g. an emissions target) and listing key policies and measures through which the target will be achieved. This has opened the door for some countries to include fossil fuel subsidy reform in their intended NDCs (INDCs). Terton et al. (2015) found that 13 countries included references to fossil fuel subsidy reform in their INDCs in the run-up to Paris. Ethiopia's INDC, for example, indicates that the country has 'already removed fossil fuel subsidies to enable enhanced generation and use of clean and renewable energy' (Ethiopia 2015: 7). Morocco's INDC commits the country to '[s]ubstantially reducing fossil fuel subsidies, building on reforms already undertaken in recent years' (Morocco 2015). And India's INDC explains how India has 'cut subsidies and increased taxes on fossil fuels (petrol and diesel) turning a carbon subsidy regime into one of taxation' (India 2015: 27). These developments thus show that even though the Paris Agreement offers no concrete guidance, parties have nevertheless started to link fossil fuel subsidies to climate change policy.

#### **8.4 The UNFCCC and Fossil Fuel Subsidies: (Possible) Pathways of Influence**

Section 8.3 suggests that the influence of the global climate regime on fossil fuel subsidy reform has been minimal thus far. However, it also shows that fossil fuel subsidies have not been completely absent from the political agenda and that with the new architecture put in place by the Paris Agreement, new opportunities may arise in which the climate regime, working through its parties and non-state actors, can exert influence on fossil fuel subsidy reform.

This section suggests that there are at least five possible pathways through which the UNFCCC could influence fossil fuel subsidy reform at the national level, following different schools of thought in international relations and international legal theory. While none of these pathways of influence rely on coercion

or enforcement, they nevertheless highlight that the climate regime could offer further support for national reform efforts.

The first pathway is inspired by Keohane's (1984) rational-functionalist account of regimes, which highlights the importance of reputational costs for cooperation. Drawing on Guzman (2008), Smith and Urpelainen (2017) elaborate on this idea in the context of international institutions addressing fossil fuel subsidy reform, focusing on the Group of 20 (G20) and the Asia-Pacific Economic Cooperation (APEC) group. They argue that the adoption of formal commitments by states to reform or remove fossil fuel subsidies can increase the reputational costs of reneging on that commitment. States have adopted such (voluntary) commitments already through the G20 and APEC. The NDCs communicated to the UNFCCC – some of which already include fossil fuel subsidy reform, as we saw earlier – could be similarly seen as voluntary commitments. Including fossil fuel subsidy reform in NDCs may make it harder for political leaders to backslide and may even make it harder for future governments to reverse reforms, as domestic stakeholders may try to hold their governments to account for their non-binding international commitment.

Yet the influence exerted through this first pathway is likely to depend on a second way in which an international institution can drive national politics and policies: by providing information. The G20 and APEC have followed their commitments up with peer reviews of the fossil fuel subsidies handed out by several countries (Aldy 2017).<sup>4</sup> But the UNFCCC, like most other multilateral environmental agreements, also incorporates a reporting and review process that aims to increase the transparency of countries' performance (Gupta and van Asselt 2017). Although the transparency arrangements of the UNFCCC are in flux following the adoption of the Paris Agreement, existing rules offer space for countries to shed light on both the levels of their fossil fuel subsidies and their efforts to reform them (Benninghoff 2013), and future rules may similarly provide sufficient leeway for countries to do so. This information-producing function should not be underestimated. The generation and diffusion of information by an international institution can empower a variety of domestic stakeholders (e.g. non-governmental organisations, parliamentarians, opposition parties, or even other ministries) and help them hold their governments and leaders to account (Dai 2007; see also Kahler 2000).

Another pathway follows the rationalist assumption that by changing incentive structures, international institutions can influence national politics. The climate regime can do so by putting in place financial incentives, particularly for

<sup>4</sup> Under the G20 process, reviews have taken place for the United States and China, as well as Germany and Indonesia. Under the APEC process, reviews have taken place for Chinese Taipei, New Zealand, Peru and the Philippines, with reviews of Brunei Darussalam and Vietnam forthcoming.

developing countries. One such incentive would be to make reform efforts eligible for financial support, for instance, through the Green Climate Fund. Support does not have to be limited to financial flows but could also be aimed at enhancing the technical capacity to understand the extent of subsidies or at generally building institutional capacity (cf. Cheon et al. 2013). Already countries such as Denmark are offering funding to support fossil fuel subsidy reform, for instance, through the World Bank's Energy Sector Management Assistance Programme. While providing climate finance for fossil fuel subsidy removal – which, on its own, ultimately should lead to increasing revenues for governments – may sound counterintuitive, such finance could take the form of bonds, which would generate finance upfront, allowing governments to repay when they make savings in the future (Hale and Ogden 2014). Such savings can be significant. For example, Indonesia freed up around USD 15.6 billion in 2015 (Pradipto et al. 2016), and India reduced the subsidy bill by USD 15 billion in 2014 (IEA 2015a).

A fourth pathway more closely follows social constructivist thinking. As pointed out by Van de Graaf and Blondeel in [Chapter 5](#), fossil fuel subsidy reform could be viewed as an emerging norm – that is, a ‘standard of appropriate behaviour’ (Finnemore and Sikkink, 1998) – in international governance. To the extent that they are correct – and it is admittedly not yet crystal clear whether such an international norm indeed exists – the role of international institutions such as the UNFCCC can be to act as an ‘organisational platform’ to further clarify and diffuse this norm, amplifying the activities of other institutions and potentially helping to trigger a ‘norm cascade’ (cf. Finnemore and Sikkink, 1998). As discussed above, parties to the climate regime have so far refrained from referring to fossil fuel subsidies directly in any legal text. The closest they have come is the provision in the Paris Agreement that specifies that one of the goals of the treaty is to ‘[make] finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development’ (Article 2). Although this provision does not mention fossil fuel subsidies as such, financing the continued production and consumption of fossil fuels is most certainly not in line with ‘with a pathway towards low greenhouse gas emissions and climate-resilient development’.

One way to strengthen the climate regime as an ‘organisational platform’ for diffusing a norm on fossil fuel subsidy reform would be for the parties to adopt a decision containing specific language on the phasing out of fossil fuel subsidies, or acknowledging that this goal has been adopted in the context of other international forums, such as the outcome document of the Rio+20 Summit in 2012 (United Nations 2012: para. 225) and repeated declarations issued by the G20

(e.g. G20 2009). Reiteration of such goals would not necessarily mean that the UNFCCC would play a stronger role in the monitoring of whether this goal is being met, but it offers an important signal that the goal is supported by the international community of developed and developing countries and that fossil fuel subsidy reform is seen as a legitimate and useful tool to achieve climate policy objectives.

Finally, also along the lines of constructivist theories of international relations and international law (Brunnée and Toope 2012), environmental regimes such as the climate regime can be important facilitators of learning and the diffusion of policies (Haas 2000; Holzinger et al. 2008). One specific way in which the climate regime can foster learning is through its so-called technical expert meetings, which have been a regular staple on the negotiation agenda and will continue to be so until at least 2020. At these meetings, governmental and non-governmental experts share experiences and views on specific actions, technologies and policies with high mitigation potential. The meetings thus far have focused on topics such as energy efficiency in urban environments, renewable energy, non-CO<sub>2</sub> GHGs and carbon capture and storage (UNFCCC n.d.). Fossil fuel subsidy reform was proposed as a topic by some countries, including New Zealand (2013), and was included as a session as part of a broader technical expert meeting on the social and environmental costs of carbon in 2016. The subject has also been raised consistently by the Friends of Fossil Fuel Subsidy Reform in dedicated side events at UNFCCC Conferences of the Parties and inter-sessional meetings since 2013 (see [Chapter 9](#)), as well as via an international communiqué presented in 2015, which has been endorsed by over 40 countries and associations representing thousands of businesses (FFFSR 2015). Future meetings could address fossil fuel subsidy reform in more detail, with the UNFCCC providing a formal framework and venue for such capacity building. In addition, technical papers prepared in relation to the technical expert meetings have already repeatedly highlighted fossil fuel subsidy reform as an option for increasing mitigation ambition (e.g. UNFCCC 2016: 23–24).

The preceding discussion shows that there may be ways in which the global climate regime can help drive fossil fuel subsidy reform. However, the limitations of the regime – and the reasons why fossil fuels were never explicitly tackled in the first place – should also be acknowledged. As Keohane and Victor (2013) write, the problem structure of addressing climate change – focused on a global public good, with high levels of conflict over the distribution of costs and benefits – is not easily amenable to tackling energy challenges. The history of the climate regime's treatment of energy and fossil fuels likewise suggests that any efforts to explicitly address these issues will meet with resistance from at least

some parties. Combined with an already full agenda and consensus rule of the UNFCCC, this may make it challenging for the climate regime to exert any influence (Lang et al. 2010).

Moreover, as several other chapters in this book underscore, the UNFCCC would by no means be the only international institution influencing fossil fuel subsidy reform. On the contrary, it would step into an already crowded field occupied by other international organisations (e.g. the OECD, IEA, International Monetary Fund, and World Bank; see [Chapter 6](#)) and non-governmental organisations (e.g. the Global Subsidies Initiative; see [Chapter 10](#)). This means that the extent to which the climate regime affects fossil fuel subsidy reform efforts at the national level depends on how it acts in concert with other institutions. Yet the UNFCCC is unique in that it can link fossil fuel subsidies to their climate change impacts, and it offers a forum in which more than 190 countries from the developed and developing world participate.

## 8.5 Conclusion

This chapter has discussed what role, if any, the global climate regime established by the UNFCCC plays in the international governance of fossil fuel subsidies and in which ways the regime could exert influence in the future. The climate benefits of fossil fuel subsidy reform are clear. A growing number of studies show that these subsidies have led to a significant amount of GHG emissions. Moreover, research has indicated that even a partial reform of fossil fuel subsidy reform would lead to global emission reductions of between 3 and 8 per cent. Further mitigation gains can be made through the reinvestment of savings made in sustainable energy.

Given the climate change impacts of fossil fuel subsidies – and, conversely, the mitigation potential of measures to reform them – the climate regime is one of the international institutions that could be expected to address fossil fuel subsidies. However, as we have shown in this chapter, parties to the UNFCCC have so far refrained from addressing fossil fuel subsidies directly, even though some parties have started to include fossil fuel subsidy reform as a national climate change mitigation measure in the wake of the Paris Agreement.

Although it still remains to be seen whether the climate regime will become more active in the international governance of fossil fuel subsidies in the future, we have outlined five possible pathways through which the regime can influence the governance of fossil fuel subsidies at the national level. The first pathway highlights the reputational cost of cooperation in the context of voluntary commitments to subsidy reform made by UNFCCC parties, notably in their NDCs. A second pathway emphasises transparency and information linked to both NDCs and



UNFCCC reporting mechanisms. The third focuses on the possibility of building incentive structures through international private and domestic finance. A fourth pathway underscores the possible role of the UNFCCC in amplifying an emerging norm on fossil fuel subsidy reform. And finally, the UNFCCC could also influence subsidy reform by providing a framework for learning and building institutional capacity.

The extent to which parties to the climate regime (as well as other actors) pursue any of these pathways remains to be seen, and much will depend on developments and factors exogenous to the climate regime, from elections in fossil fuel-producing countries to the development and uptake of new clean-energy technologies. However, there seems to be at least some movement, as evidenced by the inclusion of fossil fuel subsidy reform in several NDCs. As parties continue to look for options that could deliver significant mitigation and sustainable-development benefits, it is more likely than not that fossil fuel subsidy reform will reappear on the political agenda of the climate regime. If and when it does, the potential impact of subsidy reform as a policy tool for reduced emissions and as a fiscal instrument to save and reinvest government resources towards sustainable energy should not be overlooked.

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# Anatomy of an International Norm Entrepreneur

## *The Friends of Fossil Fuel Subsidy Reform*

VERNON RIVE

### 9.1 Introduction

Within the fossil fuel subsidy reform literature to date, little attention has been paid to the role of informal transgovernmental networks in promoting what might be regarded as an emerging fossil fuel subsidy reform norm at the international level (see also [Chapter 5](#)). A coalition of nine non-Group of 20 (G20) countries known as the Friends of Fossil Fuel Subsidy Reform (FFFSR) is a prominent example. The FFFSR has been variously described as a ‘norm entrepreneur’ (Rive 2016),<sup>1</sup> ‘ginger group’ (Gerasimchuk and Zamudio 2012: 5) and ‘influential epistemic community’ (Interview 2). Since 2010, the group has been active both publicly and behind the scenes in a range of activities and contexts ostensibly directed towards the stated objective ‘to support implementation of the existing commitment made by G20 Leaders in Pittsburgh in September 2009 to “rationalise and phase-out inefficient fossil fuel subsidies”’ (NZMFAT 2010: 2).

This chapter subjects the background, approach and strategies of the FFFSR to scrutiny. Drawing on constructivist-influenced frameworks for analysing international norm development, the analysis focuses on three aspects of the norm emergence cycle: (1) the framing of fossil fuel subsidies and fossil fuel subsidy reform, (2) the securing of support of state and non-state actors and (3) the strategic use of expertise and information to influence the behaviour of other states.

An analysis of the role and approach of the FFFSR in framing fossil fuel subsidies and subsidy reform confronts a perennial definitional issue – that is, whether and how to categorise particular subsidies and classes of subsidies as ‘inefficient’ and therefore in need of phasing out. The analysis also confronts another issue that has caught the attention of some sections of the international community: whether in the process of framing and addressing undesirable fossil fuel subsidies, *production* subsidies ought to be treated any differently from

<sup>1</sup> On norm entrepreneurs in the climate change context generally, see Abbott (2014).

consumption subsidies. As discussed by Rive (2016), an examination of that issue reveals fault lines among the international community (and conceivably within the FFFSR and its associated networks) which, if unaddressed, may impede ongoing progress in reform.

Viewed from the perspective of Finnemore and Sikkink's (1998: 895) 'norm life-cycle' hypothesis, the activities of the FFFSR over the period 2010–17 can be broadly seen as reflecting the behaviour of a norm entrepreneur in stage 1 (norm emergence) and early stage 2 (norm cascade). Stage 1 of the norm life-cycle centres on a norm entrepreneur with an organisational platform as the primary actor, using persuasion as its dominant mechanism for influence (Finnemore and Sikkink 1998: 898). By stage 2, actors involved in the emergent norm diffusion have expanded to include states, international organisations and networks (Finnemore and Sikkink 1998: 902). Dominant mechanisms of influence during this stage are socialisation, institutionalisation and demonstration. As the following account illustrates, the FFFSR have paid particular attention to the cognitive framing of fossil fuel subsidy reform and have extensively used 'expertise and information to change the behaviour of other actors' (Finnemore and Sikkink 1998: 899). The FFFSR have also had some degree of success in securing the overt support of both state and non-state actors as part of a wider project aimed ultimately at socialising, embedding and internalising fossil fuel subsidy reform as a norm at the international and domestic levels.

This chapter is structured as follows. First, the nature of 'friends' coalitions is examined. The origins and drivers for the FFFSR are explored, leading into a discussion of membership. The matter of framing is then considered, followed by the strategic use of expertise and information to influence the behaviour of other actors. The final substantive section reviews the extent to which the initiative has had discernible influence on domestic practices and is followed by a brief assessment and conclusions.

## **9.2 Friends Groups in Global Governance**

Friends groups have been part of the policy development and negotiating landscape within international trade, development, environment and disarmament contexts for many years. By their nature, such groups are flexible, dynamic and generally unhindered by formal constitutional structures. O'Malley (2014:10) defines 'Friends groups' as 'coalition[s] of like-minded participants trying to influence group members and outside actors of the proper path forward to solve a problem using their own national interests as a guide'.

Friends groups operating within the World Trade Organization context include the Friends of Anti-Dumping Negotiations, Friends of Special Products (in



agriculture negotiations), Friends of Ambition (Non-Agricultural Market Access), Really Good Friends in Services and Friends of Fish (WTO 2016). Friends groups have also been operational and effective in the international peace advocacy context as well as within international climate negotiations (Prantl 2005; Whitfield 2007; Kjellén 2010).

Although these types of Friends groups typically engage and cooperate with a variety of non-state actors (including non-governmental organisations (NGOs), corporations and intergovernmental organisations), their core membership is at the state level. Such groups thus can be seen as transgovernmental networks, defined by Slaughter (2004: 14) as ‘a pattern of regular and purposive relations among like government units working across the borders that divide countries from one another and that demarcate the “domestic” from the “international” sphere’. Referring to both Keohane and Nye (1974) and Slaughter (2004), Raustiala (2003) observes that transgovernmental networks ‘involve specialised domestic officials directly interacting with each other, often with minimal supervision by foreign ministries. They are “networks” because this cooperation is based on loosely structured, peer-to-peer ties developed through frequent interaction rather than formal negotiation.’ Although they differ in emphasis and context, the descriptions of transgovernmental networks described by Keohane and Nye, Slaughter, and Raustiala all apply to the FFFSR. The group can also be conceptualised as a ‘minilateral’ initiative (van Asselt 2014: 83) or ‘climate club’ (Weischer et al. 2012), increasingly regarded as important elements of the evolving international climate change regime complex (Keohane and Victor 2011).

Unlike more formally established intergovernmental organisations or formal negotiating blocs, the effectiveness of Friends groups on international norm and policy development and negotiations largely does not depend on securing and wielding political ‘hard’ power, such as the use of a larger state’s market access to ‘encourage’ entry into a particular environmental agreement (for an example in the whaling context, see Hirata 2005: 132). Instead, it depends on their ability to network, influence, innovate, problem solve and profile raise. Slaughter regards such entities as integral to no less than a ‘new world order’. In terms that have particular resonance for the nine (all non-G20) members of the FFFSR, she suggests that ‘[i]n a world in which their ability to use their hard power is often limited, governments must be able to exploit the uses of soft power: the power of persuasion and information’ (Slaughter 2004: 4).<sup>2</sup>

<sup>2</sup> For an alternative (and more sceptical) assessment of the influence of transgovernmental networks, see Anderson (2005).



At their best, Friends groups have the capacity to catalyse policy development in bureaucratic and complex negotiating environments, enabling normative leaps in processes typically limited to slow, incremental change. However, like other informal forms of normative development, questions arise about transparency, legitimacy and the consistency of adopted strategies with broader principles of international law (Young 2011). It is appropriate – as in this chapter and in other analyses by the author (Rive 2016) – to subject the objectives and strategies of Friends groups to the same kind of scrutiny given to the negotiations towards policy and rule development in ‘harder’ international contexts.

### **9.3 Origins of and Drivers for the Friends of Fossil Fuel Subsidy Reform**

Attempts to discern and analyse underlying state motivations for adopting particular foreign policy positions – in this case, to initiate or join an international coalition of countries explicitly focused on the elimination of ‘inefficient’ fossil fuel subsidies – are inevitably challenging. In some instances, statements by senior officials or other state representatives are publically available that may shed some light on the factors influencing decisions to be part of the FFFSR.<sup>3</sup> However, even when such statements are available, they need to be carefully scrutinised.

Nevertheless, it is useful to pay attention to domestic and international political and economic drivers for particular state involvement in an international fossil fuel subsidy reform project for at least two reasons. The first is that understanding what has motivated New Zealand and other countries to position themselves internationally as fossil fuel subsidy reformers may highlight factors and considerations directly relevant to the recruitment of other countries to the cause. The second reason (drawing on theories of norm emergence and diffusion referred to earlier) is that the effectiveness of the international norm entrepreneur on this policy – as on others – will depend at least in part on a perception of authenticity and credibility of position. Finnemore and Sikkink (1998: 904) note that ‘[b]ecause much norm advocacy involves pointing to discrepancies between words and actions and holding actors personally responsible for adverse consequences of their actions, one way to think about norm entrepreneurs is that they provide the information and publicity that provoke cognitive dissonance among norm violators’. It follows that if the norm entrepreneurs themselves are perceived as either disingenuous (in part or whole) in their role as norm advocates and/or are themselves regarded as

<sup>3</sup> The most extensive record of the ostensible reasoning for the New Zealand government’s decision to launch the FFFSR is contained in Cabinet briefing papers supplied to the author in 2013 in response to a request under New Zealand’s Official Information Act 1982. The papers are discussed in more detail in Rive (2016).

demonstrating ‘discrepancies between words and actions’, their effectiveness may be impeded. A similar point is made by Andresen and Agrawala (2002: 42), who, when examining the function of different forms of leadership in the climate regime, observe: ‘[c]heap and symbolic action does not qualify as leadership in this sense; some sacrifice has to be made to make it credible.’

The FFFSR was launched and is led by New Zealand, a small (population 4.6 million) member of the Organisation for Economic Co-operation and Development (OECD) with an economy heavily reliant on agricultural exports and tourism. The country has received acclaim from some quarters for having relatively successfully implemented domestic subsidy reform and economic restructuring (including, but not limited to, the agricultural sector; Tyndall 2015). Generally, it is regarded as having adopted a proactive and engaged stance on selected areas of economic, environmental and security concerns at the global level since at least as early as the mid-twentieth century (Kennaway 1999; Oram 2007).

So what were the factors and influences that led New Zealand to embark on the Friends initiative? The initial impetus for the initiative appears to have been the 2009 G20 Pittsburgh Leaders’ Statement committing G20 members ‘to phase out and rationalise over the medium term inefficient fossil fuel subsidies while providing targeted support for the poorest’ (G20 2009; see also APEC 2009). New Zealand Cabinet papers show that planning for the launch of the FFFSR commenced in the months after the Pittsburgh Statement, culminating in a public launch in Paris in June 2010 (NZMFAT 2010: 3). At the launch, Vangelis Vitalis, who was then the New Zealand Deputy High Commissioner to Australia, announced New Zealand’s intention ‘to help and support the G20 in [its] endeavour on the reform of fossil fuel subsidies’ for which ‘setting up this group is an important step’ (Vitalis 2010). From the outset, the initiative was intended as a forum for non-G20 countries (NZMFAT 2010), and it has maintained that membership criterion – understood as necessary to allow effective independent lobbying of G20 countries and the G20 grouping – as it has evolved.

New Zealand government announcements on the initiative have emphasised two main drivers for New Zealand’s decision to convene the FFFSR. The first was a desire for (other) countries to benefit from the fiscal advantages of reducing public spending on fossil fuel energy subsidies, including the freeing up of public funds for other priority policy objectives such as health and education. The second concerned environmental and climate change benefits, which have increasingly been associated with fossil fuel subsidy reform (NZMFAT 2010). These reasons align with a broader and long-standing strategy for New Zealand to position itself internationally as environmentally conscious and a proactive, engaged and responsible global citizen (Kennaway 1999; Oram 2007).

The 2010 New Zealand Cabinet papers highlight other underlying objectives that are not so obviously aligned with New Zealand's international positioning strategy. Among them is the country's aim to help secure stronger international disciplines for the limiting of agricultural subsidies in key overseas markets (Rive 2016). It is acknowledged that in this respect, New Zealand's mixed motives for its leadership role in the FFFSR are neither unusual for any significant foreign policy venture, nor do they necessarily undermine the utility of the project. However, if the underlying motivation for the initiative is at least in part different from the professed drivers, that is relevant to a political economy analysis of the activities of the FFFSR as well as an informed assessment of its norm-building endeavours.

#### 9.4 Securing Support of State and Non-State Actors

As observed by Finnemore and Sikkink (1998), a feature of the first stage of the norm emergence process is securing the support of other state and non-state actors. In the case of the FFFSR, while the process has been iterative and is still evolving, it has involved two main phases. The first was the process of New Zealand securing additional members of the core Friends group. The second phase involved expanding the circle of overt (but necessarily more diffused) support by state and non-state actors through the 2015 Fossil-Fuel Subsidy Reform Communiqué.

##### 9.4.1 Expansion of the Friends Membership

At its launch in November 2010, New Zealand named only one other country as a founding member of the FFFSR: Sweden. However, it made clear that additional members would be recruited, provided that they met the criteria of being 'serious, credible, countries that share our interest in a high-ambition and transparent outcome from the G20 on the reform of fossil fuel subsidies' (Vitalis 2010).

Over the following 12 months, six additional countries joined the group so that, by the end of 2011, membership had grown to eight: Costa Rica, Denmark, Ethiopia, Finland, New Zealand, Norway, Sweden and Switzerland (IISD 2011). Figure 9.1 shows the current members of the FFFSR (including Uruguay, which joined in April 2016), highlighting overlapping memberships over a number of formal and informal organisations and groupings.

Figure 9.1 shows several significant common memberships, reflecting the tendency of relationships developed through existing networks to be leveraged into additional alliances through personal contacts. The largest membership grouping

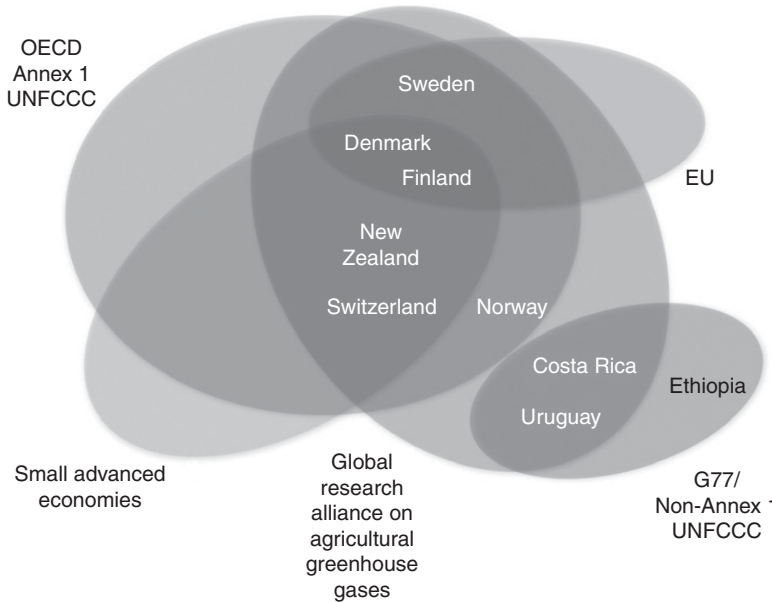


Figure 9.1 Overlapping member groupings of the Friends of Fossil Fuel Subsidy Reform  
(Source: Created by the author based on a figure from Gerasimchuk and Zamudio (2012: 4).)

within the FFFSR belongs to the Global Research Alliance on Agricultural Greenhouse Gases, another New Zealand-led initiative launched in December 2009 ‘focused on research, development and extension of technologies and practices that will help deliver ways to grow more food (and more climate-resilient food systems) without growing greenhouse gas emissions’ (GRA 2017). The membership of Costa Rica and Uruguay – which are relative ‘outsiders’ compared to the group of OECD/small advanced economy grouping – might be partly explained by the existing connections with the Global Research Alliance.<sup>4</sup>

The next-largest membership is that of the OECD: six of nine members are developed countries (also listed in Annex II to the United Nations Framework Convention on Climate Change (UNFCCC)). Within the six OECD members is a significant subgroup of Nordic countries (Denmark, Finland, Norway and Sweden) – regarded by at least some commentators (alongside the European Union more generally) as proven norm entrepreneurs on environmental and other areas of international policy and therefore potentially seen as natural members of a progressive coalition on fossil fuel subsidy reform (e.g. Lawler 1997;

<sup>4</sup> Of course, the demonstrated interest in fossil fuel subsidy reform is also a significant factor for membership of ‘outlier’ countries such as Costa Rica, Ethiopia and Uruguay.

Ingebritsen 2002; see also Bandarage 2010). Four members are part of the Small Advanced Economies Initiative, an international working group comprising Denmark, Finland, Ireland, Israel, New Zealand, Singapore and Switzerland (Small Advanced Economies Initiative 2017).

The minority sub-grouping of Costa Rica, Uruguay and Ethiopia, which are all members of the Group of 77 and non-Annex I members of the UNFCCC, stand apart from the six OECD members. Of these three, as already noted, Costa Rica and Uruguay were already part of the Global Research Alliance, leaving Ethiopia as the outlier. But Ethiopia's presence within the FFFSR can be explained by its interest in and commitment to fossil fuel subsidy reform (Sintayehu 2014), as well as the credibility and balance it provides in what might otherwise be regarded (at least in relation to the six OECD members) as an elite 'club'.<sup>5</sup>

#### 9.4.2 Taking the Project Wider: The FFFSR Communiqué

Securing the support of a wider group of state actors (including key influencers or gatekeepers), as well as obtaining the support of key non-state actors, can be a significant factor in the effective diffusion and uptake of emerging norms (Finnemore and Sikkink 1998). By early 2015, the FFFSR had expanded its membership to eight (as noted earlier, Uruguay joined in 2016) and had successfully contributed to arrangements for piloting voluntary peer review exercises within the Asia-Pacific Economic Cooperation (APEC) and the G20. A natural next step would be to seek broader endorsement for the project beyond the core group of non-G20 members from a wider circle of state and non-state actors. The landmark United Nations Climate Conference in Paris at the end of 2015 was an obvious high-profile launch pad for the initiative's expansion.

In April 2015, as part of the World Bank/International Monetary Fund (IMF) Spring Series meetings in Washington, DC, the FFFSR publicly released its Fossil Fuel Subsidy Reform Communiqué (FFFSR, 2015). This aspirational vision statement, and commitment, is a further articulation of the emerging fossil fuel subsidy reform norm that the group seeks to advance. At the Washington launch, FFFSR representatives indicated that the document would be tabled at the Paris conference later that year. On 30 November 2015, the Communiqué was formally presented to UNFCCC Executive Secretary Christiana Figueres by New Zealand Prime Minister John Key.<sup>6</sup>

<sup>5</sup> The 2010 briefing paper to the New Zealand Cabinet suggested that '[t]he consolidation of [FFFSR] membership, particularly to include non-OECD and APEC members, will be important for its credibility' (NZMFAT 2010: 2, emphasis added).

<sup>6</sup> A webcast of the high-level event is available at <http://unfccc6.meta-fusion.com/cop21/events/2015-11-30-12-30-fffsr>.

The text of the communiqué is broadly consistent with the approach adopted in the 2009 G20 and APEC statements. The final paragraph of the statement invites ‘all countries, companies and civil society organisations to join us in supporting accelerated action to eliminate inefficient fossil-fuel subsidies in an ambitious and transparent manner as part of a major contribution to climate change mitigation’. Arguably, references to ‘elimination’ of fossil fuel subsidies represents progress compared to the G20 statement’s softer references to ‘phase out and rationalise’. The communiqué also makes explicit reference to the need for a timetable for implementing reforms; however, it does not suggest a timeframe itself.

The communiqué initiative is also important because of the number and range of state and non-state actors that have now openly endorsed a commitment to fossil fuel subsidy reform (in the case of G20 or APEC state actors, this is, of course, a *further* commitment). In this regard, the explicit endorsement of the communiqué by the United States is notable, as are the endorsements from key G20 states, including Canada, France, Germany and the United Kingdom, and from oil-, coal- and gas-producing states known to maintain appreciable levels of fossil fuel subsidies such as Malaysia and Mexico.

### **9.5 The Friends’ Framing of the Emergent Fossil Fuel Subsidy Reform Norm**

An important component of the norm emergence process theorised by Finnemore and Sikkink (1998) is the act of ‘framing’ by norm entrepreneurs (see also [Chapters 5 and 8](#)). The process of framing is dynamic, iterative and frequently involves both the reframing of existing concepts and norms and the contestation with potentially opposing norms (Busby 2007). All these processes can be observed in relation to the FFFSR initiative.

The FFFSR is by no means the first group to take up the issue of the need to reform fossil fuel subsidies, nor to frame them as a pressing contemporary issue for action. At least as early as the 1970s, academics such as Hudson (1977) had identified and discussed the negative resource implications of energy subsidies. As climate change climbed global agendas in the 1980s and 1990s, the link between fossil fuel subsidies and increasing emissions became a focus of analysis by economists and policymakers (Steenblik and Wigley 1990; Anderson and McKibbin 1997).

Implicit in both the G20 and APEC statements is a reframing of a conception of fossil fuel subsidies as a legitimate government tool to enhance economic development, energy security and welfare into a normative conception that is broadly negative in fiscal and environmental terms. The potential for energy subsidies to be



used for the support of economically disadvantaged sections of the polity is recognised and guardedly affirmed ('while providing targeted support for the poorest'). It is also acknowledged that there may be some categories of fossil fuel subsidies which are 'efficient' and therefore acceptable.

As noted above, from the outset, the FFFSR explicitly and deliberately linked its objective and *raison d'être* to the G20 Pittsburgh Statement. In early material produced on behalf of the FFFSR, it was made clear that the coalition was not advocating for the elimination of *all* fossil fuel subsidies, but rather the reform of *inefficient* fossil fuel subsidies (NZMFAT, 2010). In this regard, and concerning the reframing of conceptions of fossil fuel subsidies generally, FFFSR adopted a position that reflected emerging trends within the G20 and APEC and was supported in particular by the International Energy Agency (IEA), OECD and other international organisations (e.g. IEA et al. 2010).

The FFFSR adopted two further framing strategies during the period 2010–14 that are notable. The first was an emphasis on the domestic fiscal opportunity costs of governments (particularly of developing countries) who devote significant volumes of public funds to fossil fuel subsidies rather than applying limited funds to more 'worthy' ends, such as public health facilities or education.<sup>7</sup> The second was to focus on the negative climate change consequences of fossil fuel subsidies, a theme developed and repeated in every communication on the topic and prominent in the communiqué.

The G20, APEC and FFFSR all used the qualifier 'inefficient' in framing unacceptable fossil fuel subsidies, but an important observation is that no clear definition or explanation of what is meant by 'inefficient' has ever been identified, publicly at least. As a criterion, 'inefficient' is capable of having multiple meanings, and in public policy contexts it remains a highly flexible and contestable concept (Alexander 2009). In this regard, an emerging norm focused on the medium-term phase-out/rationalisation of inefficient fossil fuel subsidies shares an inherent degree of flexibility and ambiguity with other emergent norms at the international level, such as 'sustainable development'.<sup>8</sup>

As observed by Hadden and Seybert (2016) in their analysis of the trajectory of sustainable development as an evolving international norm, the 'shifting content'

<sup>7</sup> As an example, during an official FFFSR side event at the 2012 Doha Conference of the Parties to the UNFCCC, Martin Lidegaard, Minister of Climate, Energy and Buildings in Denmark, was quoted as saying that 'subsidies for fossil-fuel consumption in developing countries were estimated by the [IEA] to be \$523 billion in 2011, and global producer subsidies are estimated to be more than \$100 billion per year'. He went on to note 'that some governments spend more on fossil-fuel subsidies than they do on health and education combined' (GSI 2012).

<sup>8</sup> Of course, there is (clearly deliberate) flexibility and ambiguity concerning other important components of the G20 commitment to fossil fuel subsidy reform, namely 'phase out and rationalise' (rather than 'eliminate') and 'over the medium term'.



of the norm is at once an explanation for its rapid diffusion but also its disappointing performance. A vague and flexible commitment is far easier to both sell and accept, but it inevitably carries the greater risk of disappointing levels of material change in policy and practice change.

### 9.6 Strategic Use of Expertise and Information to Influence the Behaviour of Other Actors

A further element of the early stages of the norm emergence cycle is the strategic use of information and expertise by norm entrepreneurs to influence other actors (Finnemore and Sikkink 1998). Scholars such as Payne (2001) offer more sophisticated theories of this aspect of the norm diffusion process than Finnemore and Sikkink, maintaining the ongoing relevance (and empirically observed use) of traditional ‘material’ levers as part of the process of persuasion, in addition to the inherent persuasive power of ideas and norms themselves. Payne (2001: 39) also invites attention to the ‘social process’ within which persuasion of actors is attempted or achieved, which in his view ‘almost certainly matters more than the content or framing of specific messages’ (see also Risse 2000). However, despite differences in emphasis, there is reasonable recognition (at least among constructivist-leaning theorists) of the role of strategic information and expertise sharing as part of norm diffusion in an increasingly globalised and interconnected world.

The FFFSR placed targeted dissemination of information and expertise at the heart of their strategy from the beginning (NZMFAT 2010: 7–8). Working closely with professionally qualified officials, diplomats and experienced ministers – and drawing on the skills of aligned NGOs such as the Geneva-based Global Subsidies Initiative (see Chapter 10) – the FFFSR have engaged in a programme of information and expertise sharing across a wide spectrum of forums, including the EU, G20, APEC, World Bank, IMF, UNFCCC and others.<sup>9</sup>

From official documents, public statements and discussions with individuals involved in strategy development and implementation of the FFFSR, it is apparent that from the outset there was clear recognition that the group would need to adopt a targeted and strategic approach to dissemination of its core messages, relying upon credible expertise and practical information as opposed to blunt diplomatic force. Indeed, this approach was the only realistic one available to New Zealand and the Friends, none of whom individually are able to exert significant influence on other major state or non-state actors through economic, military or other means.

<sup>9</sup> For details of known FFFSR public engagements between 2010 and early 2016, see Rive (2016: 89).

Two notable initiatives in which the FFFSR have played a catalytic expert role have been the pilot peer-review processes recently launched within APEC and the G20. As convener of the FFFSR, New Zealand played a leading role in establishing the process for peer review of fossil fuel subsidies within APEC, volunteering along with Peru to participate in a first round of peer reviews completed in 2015 (APEC 2015; see also APEC 2014). The FFFSR have also played a part in promoting and technically supporting the voluntary peer review process within the G20 (FFFSR 2013), which resulted in a first round of reviews involving the United States and China in 2016. A second round involved Germany and Mexico (OECD 2016).

Part of the FFFSR's approach has been to take opportunities to present and engage with other actors on conceptual, economic and practical aspects of fossil fuel subsidy reform at events at which relevant actors would be present for other reasons. One such high-profile gathering of state officials, professionals, business representatives and members of civil society is the annual Conference of the Parties to the UNFCCC. The FFFSR have organised or participated in dedicated side events on fossil fuel subsidy reform at every annual meeting since 2011 and have undoubtedly had opportunities for informal engagement with key players at those events (see also Chapter 8).<sup>10</sup>

### 9.7 What Impact Has the FFFSR Initiative Had at the Domestic and International Levels?

In 2013, one of the architects of the initiative, Vangelis Vitalis, professed that the initiative had been effective 'beyond [his] wildest dreams' (Interview 1). However, it is doubtful that he meant that there was then, or is now, clear evidence of material changes in domestic practices that can be *directly* attributed to the FFFSR activities.

No empirical analyses have been undertaken (or at least published) on the concrete impacts of the FFFSR activities, meaning that there is inevitably a degree of speculation involved in assessing the success of the venture. What can be said is that there have been material *procedural* advances at the international level that can be fairly linked to the ongoing advocacy and profile raising of the FFFSR. The securing of a wider network of state and non-state actor support through the Communiqué can be regarded as a material procedural achievement directly flowing from the FFFSR initiative. So too is the ushering in of a voluntary peer-review process for (self-selected) state fossil fuel subsidy practices within the G20 and APEC.

<sup>10</sup> This can be considered an example of what Slaughter (2004: 13) describes as a 'vertical' network, in which an actor – in this case, a transgovernmental network – interacts with a supranational entity such as the UNFCCC, G20 and so on.

The voluntary peer reviews that have occurred so far fall short of explicit state commitments to the elimination of fossil fuel subsidies. However, frameworks are now in place within the G20 and APEC which may, in time, bear fruit. One reason for optimism in this regard is the constraining influence of transparency through voluntary peer-review processes – even if that influence, as Bianchi (2013: 5) puts it, plays ‘an accessory, secondary role’ to more direct normative obligations (see also Aldy 2017). The second reason – which also applies to membership of the FFFSR itself as well as signatory status under the Communiqué – is that various forms of public commitment to fossil fuel subsidy reform increase the scope for ‘rhetorical entrapment’ (Schimmelfennig 2001) by opening opportunities for domestic non-state actors to hold their state to account against the norm of subsidy reform.

An example of exactly this kind of NGO pressure was the widely reported ‘fossil of the day’ award to New Zealand at the UNFCCC Conference of the Parties in Paris in 2015 for ‘urging countries to phase out fossil fuel subsidies’ while maintaining production subsidies on the order of tens of millions of USD itself (Rive 2015). Criticism over inconsistency on the matter of production subsidies has not been limited to New Zealand. Concerns have also been raised with FFFSR’s apparent focus in published material and in international presentations on the (perceived) priority task of eliminating fossil fuel *consumption* subsidies in oil-, coal- and gas-producing developing countries while accommodating ongoing subsidisation of fossil fuel production within developed countries, including the OECD members of the FFFSR (Rive 2016).

The (admittedly narrow, but nevertheless material) criticisms that have been levelled at the FFFSR raise reasonable questions as to whether a ‘thicker’ process of engagement with a wide range of international and non-state actors would be appropriate. Such a process could address concerns about the consistency of FFFSR strategy with broader principles of international equity and, potentially, with the specific principle of ‘common but differentiated responsibilities and respective capabilities’ that forms part of the UNFCCC and several other relevant international environmental legal frameworks.<sup>11</sup> At the time of writing, no alteration to the FFFSR approach in this regard is apparent. It remains to be seen how, if at all, the group will respond to expressions of concern.

## 9.8 Conclusion

This chapter has examined whether particular constructivist-influenced theories of norm emergence and contemporary scholarship on the role of transgovernmental

<sup>11</sup> On the issue of the need for ‘thicker’ forms of cooperation to enhance legitimacy in the context of ‘informal law’, see Pauwelyn et al. (2012: 512).

networks and ‘minilateral’ initiatives assist in understanding and assessing the role of the FFFSR in contributing to fossil fuel subsidy reform at the national and international levels. In material respects, the activities of the FFFSR reflect Finnemore and Sikkink’s conception of a norm entrepreneur through its theorised stage 1 (norm emergence) and early parts of stage 2 (norm cascade). The FFFSR’s strategy has included the successful securing of the support of state and non-state actors, achieved in the first instance through the managed expansion of the Friends’ core state membership and subsequently the wider engagement with state and non-state actors through its Communiqué. Following the lead of a number of international organisations (notably the G20, APEC, OECD and IEA), the Friends have adopted framing and reframing strategies that have contributed to emerging expectations concerning the appropriateness of fossil fuel subsidies internationally and at the national level. The FFFSR have also engaged in strategic use of expertise and information to influence the behaviour of other actors, notably through contributions to the establishment of voluntary peer-review initiatives within APEC and the G20 – initiatives that appear set to expand in both organisations following successful pilots in 2015 and 2016, respectively.

Procedural advances at the international level can be fairly linked to the activities of the FFFSR. However, considerable work remains before any credible claim could be made for the maturing of an emergent norm for the disciplining of harmful fossil fuel subsidies (see also [Chapter 5](#)). A critical element of ongoing subsidy reform policy development is a clearer understanding of what is meant by ‘inefficient’, a central limiting criterion in almost all intergovernmental commitments to the rationalisation and phase-out of fossil fuel subsidies. Meaningful responses are also required – in particular, from the FFFSR – to legitimate concerns over the implicit and explicit prioritisation of the elimination of fossil fuel consumption subsidies in developing countries over the need to address and curb ongoing generous subsidisation of fossil fuel production within developed countries.

If accompanied by a process of open engagement, debate and interaction, the community of endorsees currently represented by an expanding list of logos on the FFFSR website might conceivably approach something akin to a broad-based transnational policy network, with enhanced measures of legitimacy, accountability and – ultimately – normative power.

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## Interviews

- Interview 1 Vangelis Vitalis, former Ambassador to the European Union, New Zealand (13 December 2013).
- Interview 2 Ronald Steenblik, Senior Trade Policy Analyst, OECD (14 December 2013).



The Global Subsidies Initiative  
*Catalytic Actors and the Politics of Fossil  
 Fuel Subsidy Reform*

NATHAN LEMPHERS, STEVEN BERNSTEIN AND MATTHEW HOFFMANN

### 10.1 Introduction

Amid the more recent push for fossil fuel subsidy reform, the Global Subsidies Initiative (GSI) was an early entrant into the political fray and arguably played a significant role in catalysing global action. Since it was established by the International Institute for Sustainable Development in 2005, the GSI has become a key player in international and domestic efforts to reform fossil fuel subsidies. This chapter examines the GSI's catalytic role in promoting and maintaining the momentum of subsidy reform as an issue with global resonance. It focuses on the political mechanisms through which the GSI has generated interest in, and promoted, subsidy reform and its specific impacts on intergovernmental organisations (IGOs) and the national governments of India and Indonesia.

Our focus on politics responds to the dearth of such research on fossil fuel subsidy reform (see [Chapter 1](#)). Moreover, most of those studies focus on country-level or IGO-led efforts (Doukas 2016; Van de Graaf and van Asselt 2017; see also [Chapter 3](#)). While valuable, our attention to the role of the GSI – a non-governmental organisation (NGO) – adds an important aspect of the global subsidy reform politics story previously neglected.

Given that the world's economic, energy and transportation systems are locked into carbon (Unruh 2000; Seto et al. 2016), these subsidies exist within fossil fuel-reliant economies where producers and consumers typically claim to 'need' and 'deserve' support and where subsidies are seen as essential for economic growth. Given this dominant frame, we need an approach that explains the political dynamics – leveraged and catalysed by the GSI – that led to the disruption of this conventional wisdom. Furthermore, such an analysis should provide insight into whether that disruption is durable and likely to catalyse and scale actions towards ending fossil fuel subsidies.

To this end, we focus on three political mechanisms identified by Bernstein and Hoffmann (2016) by which purposeful interventions (such as the GSI) attempt to

disrupt the status quo of carbon locked-in systems (such as those which support fossil fuel subsidies): coalition building, capacity building and normalisation. Because our starting point is a single important actor and mechanisms of influence, we do not make claims about the ultimate causes of fossil fuel subsidy reform. Rather, focusing on these mechanisms at both the international and domestic levels allows us to identify the processes through which the GSI generated influence and trace how it catalyses change and/or induces more actors to pursue change (scaling) and whether these effects show evidence of durability or resistance to reversal (entrenchment). Our focus is therefore on *how* an intervention such as the GSI produces effects and disruption. Initiatives to disrupt the status quo will also, inevitably, interact with other causal factors such as economic and political interest; indeed, the GSI aims precisely to affect those interests, and the mechanisms identified provide insight into how this could occur.

The chapter proceeds as follows. First, we provide an historical overview of the GSI's work. Second, we elaborate on how the three political mechanisms work to catalyse change. We then analyse the political dynamics that the GSI catalysed and their impact on fossil fuel subsidy reform. Throughout, we focus especially on the cases of India and Indonesia. Both are currently implementing significant subsidy reform (see [Chapters 11](#) and [12](#)). Moreover, relative to the other countries it targeted, the GSI has devoted substantial resources to those reform efforts, meaning that they provide clear illustrations of many of the dynamics under examination. For evidence of these mechanisms and impacts, we draw from a variety of primary and secondary sources, as well as interviews conducted via telephone and in person at the GSI office in Geneva between 23 April 2014 and 8 August 2016.

## 10.2 The Global Subsidies Initiative's Role

The beneficiaries of fossil fuel subsidies are, not surprisingly, wary of subsidy reform because it may erode the benefits they receive or diminish the ability of a government to maintain power (Victor 2009). Thus, to disrupt this aspect of carbon lock-in and reform fossil fuel subsidies, political change is needed. Analysing such change requires attention to interventions such as the GSI that aim to disrupt the fossil fuel subsidy system.

In 2005, the International Institute for Sustainable Development, a Canadian NGO that works globally on sustainable development issues, marshalled funding from several European countries and philanthropic foundations to found the Global Subsidies Initiative, based in its Geneva office.<sup>1</sup> Originally, the GSI focused on

<sup>1</sup> Funding has come from the governments of Denmark, Finland, New Zealand, Norway, Sweden, Switzerland and the United Kingdom, and grants have come from the William and Flora Hewlett Foundation. The GSI also gets income from consulting with NGOs, IGOs, governments and corporations.

biofuel subsidy reform, but since 2009, it has largely focused on reforming fossil fuel subsidies, which represents around 70 to 75 per cent of total GSI expenditures (Danida 2015; GSI 2016b). In 2016, the GSI was a 10-person team with an annual budget of USD 2 million (GSI 2016a).<sup>2</sup> The organisation also contracts with many external consultants and national research institutes to undertake country-level analysis and facilitate engagement on subsidy reform.

In general terms, the GSI helps improve the ability of countries and organisations to estimate subsidies, evaluates options for subsidy reform and communicates those options to the public. The GSI has published dozens of research reports on the characteristics of producer and consumer subsidies, identified lessons for reform, conducted country-specific research and reported on subsidy estimation methods. Communication of its findings to non-experts is also a major activity. It publishes the Subsidy Watch Blog, publicises subsidy reform-related events and news articles on its website, produces policy brief versions of many of its reports and provides an online archive of subsidy reform research from a host of organisations.<sup>3</sup> The GSI also facilitates discussions on fossil fuel subsidy reform among key governments, NGOs and IGOs, including through the organisation of side events at major international meetings, such as the Conferences of the Parties to the United Nations Framework Convention on Climate Change, the 2012 United Nations Conference on Sustainable Development (Rio+20), the Group of 20 (G20) and the Asia-Pacific Economic Co-operation (APEC) forum. It also acts as a consultant that governments, IGOs and NGOs hire on a pro-bono basis for technical and communications advice on subsidy reform (GSI 2016b). Since 2010, the GSI has targeted subsidy reform in Brazil, Canada, China, France, Ghana, India, Indonesia, Iran, Italy, Malaysia, Mexico, North Sudan, Poland, Russia, Senegal, South Africa, Turkey and Ukraine.

### 10.3 Analysing the Global Subsidies Initiative's Impact

Assessing the GSI's impact entails tracing the political ramifications of its activities. The mechanisms through which these activities can produce impacts include capacity building, coalition building and normalisation on both the national and international levels (Bernstein and Hoffmann 2016).

Coalition building can help interventions strengthen ties across a wide variety of political actors and build necessary alliances. For example, an NGO can catalyse coalitions by framing an issue in ways that allow disparate actors to see common interests and benefits and that actively try to build a social movement around that frame, ideally generating commitment to a longer-term campaign (Tarrow 2005;

<sup>2</sup> On a full-time equivalent basis. <sup>3</sup> See [www.iisd.org/gsi/news](http://www.iisd.org/gsi/news).

Levi and Murphy 2006). Coalition building is facilitated by identifying and building linkages among ‘winners’ who benefit from change and neutralising ‘losers’. It can even include ‘baptist-bootlegger’ coalitions of activists and businesses if changes reward those already engaging in practices that could benefit from policy changes (Vogel 1995; Levin et al. 2012).

Capacity building can take a number of forms, including ‘direct funding, education, training, [technical] assistance, and co-governance via partnerships between public and private actors and authorities’ (Bernstein and Cashore 2012: 593; Weible and Sabatier 2014). In this case, the most relevant means are knowledge based (e.g. information and learning processes, especially about policy options and effects), technical expertise and demonstration effects (Selin and VanDeveer 2009; Bernstein and Cashore 2012).

Normalisation can be catalysed by interventions when they reframe notions of appropriate action or support arguments and advocacy that persuade others to accept new norms (Finnemore and Sikkink 1998; Keck and Sikkink 1998; see also Chapter 5). In tandem with capacity building (learning and demonstration effects), normalisation can usher in a new common sense for decision-makers.

An intervention such as GSI – which may spark these political mechanisms – is crucial for disrupting the taken-for-grantedness of fossil fuel subsidies for the simple reason that the largest obstacles to political change include existing coalitions that support subsidies, insufficient technical capacity to make the case for reform and popular beliefs that subsidies are beneficial or do not exist. In Indonesia, where fuel subsidies sometimes account for 20 per cent of central government spending (Owen 2016), popular resistance to subsidy reform has been particularly acute (Pradiptyo et al. 2015). An International Monetary Fund (IMF) study of 22 countries that have attempted subsidy reform found that opposition to reform was highly dependent on the national context. In some countries, trade unions played a key role; in others, national oil companies or pro-poor political parties did so (IMF 2013). According to the IMF (2013), the difficulty faced by policymakers who want to implement reform often stems from making changes too drastically over a short period of time, with little information, compensation or alternatives provided to concerned groups. In India and Indonesia, until recently, the public and even government officials knew little about energy subsidies. Several interviewees noted the limited knowledge and engagement of journalists and consumer-protection NGOs on subsidy reform; similarly, several noted the limited expertise within the bureaucracy (Interviews 1 and 2). This limited capacity has made the normalisation process more difficult for the GSI.

Thus, the political mechanisms provide the potential for the GSI to have a catalytic impact on subsidy reform. This impact is observable in the way that the GSI’s campaign goals spread to other actors (scaling) and become durable or

embedded (entrenchment) in policies and programmes. Below we elaborate on how these mechanisms played out in the GSI case.

### ***10.3.1 Coalition Building***

The GSI has leveraged and organically built diverse coalitions to advocate for fossil fuel subsidy reform at the national and international levels (Interviews 3, 5 and 6). It has positioned itself as a ‘bridge’ or ‘matchmaker’. It has worked with countries from five continents and with organisations as diverse as Greenpeace and the Organization of the Petroleum Exporting Countries (OPEC) (Interviews 7, 8 and 9). The membership of these coalitions varies across locations. In general, environmental NGOs are a key ally in the global North, whereas anti-poverty NGOs and social welfare ministries are key allies in the global South (Interviews 3 and 4). According to a GSI employee, one unique role of the GSI has been to bring together actors who do not normally communicate around the common goal of fossil fuel subsidy reform to build what another GSI staff member calls a ‘community of practice’ (Interviews 3 and 8).

Defining subsidies has been a source of some division among proponents of subsidy reform (see [Chapter 2](#)). By 2010, the GSI chose to advance a definition in line with the World Trade Organization’s (WTO’s) Agreement on Subsidies and Countervailing Measures (WTO 1994; GSI 2010a; see [Chapter 7](#)). When the IMF adopted a more expansive – and, for some, more controversial – definition of subsidies in 2013, the GSI did not revisit its definition, which likely would have undermined the GSI’s credibility and previous analysis and alienated existing collaborators. This decision strengthened the GSI’s legitimacy and ability to build coalitions because of the widespread use of this earlier definition of subsidies. WTO members are obligated to follow the WTO definition, which is applied across sectors, not only in relation to fossil fuels. This helped position the GSI as a moderate organisation that can constructively engage a wide range of institutions.

In countries where the GSI is active, such as India and Indonesia, it builds coalitions by partnering with local research or poverty-reduction organisations (e.g. The Energy and Resources Institute and Integrated Research and Action for Development in India or the National Team for the Acceleration of Poverty Reduction in Indonesia). These organisations, in turn, can convene key local stakeholders and disseminate GSI-sponsored research to the media, academics, government officials and politicians (Interviews 2 and 9). Through its networking activities – with the Friends of Fossil Fuel Subsidy Reform (FFFSR), the G20, APEC, the Organisation for Economic Co-operation and Development (OECD), domestic NGOs, states and donor governments – the GSI has built and

strengthened coalitions pushing for subsidy reform (Interview 10).<sup>4</sup> They also act as a bridge between domestic partners, international financial institutions, donor governments and philanthropic foundations (Interview 5).

On the international level, the GSI also serves as an informal secretariat for the FFFSR, a coalition of countries that helps hold G20 members accountable to their 2009 commitment to phase out fossil fuel subsidies (see [Chapter 9](#)). Officially spearheaded by New Zealand (Groser 2010), the group comprises representatives from Costa Rica, Denmark, Ethiopia, Finland, New Zealand, Norway, Sweden, Switzerland and Uruguay (FFFSR 2016a). The initial idea of the FFFSR came from Ronald Steenblik, a former GSI research director, and Vangelis Vitalis, a New Zealand diplomat and trade negotiator who was New Zealand's Deputy High Commissioner in Canberra at the time of the FFFSR's founding (Interview 6). Steenblik and Vangelis were once colleagues at the OECD and had been involved in creating the Friends of Fish, a group of countries that work to remove fisheries subsidies at the WTO.

Vitalis contends that 'it is not conceivable the Friends initiative would have gone forward without the GSI' (Interview 6). The coalition brought together by the FFFSR is expanding. In 2016, dozens of countries, beyond the formal members of the FFFSR – along with dozens of major corporations (e.g. Unilever, Tesco, 3M) – signed a communiqué organised by the FFFSR (FFFSR 2016b; see [Chapter 9](#)).

In both India and Indonesia, the influence of international actors in the fossil fuel subsidy reform process was minimal in comparison to the influence of domestic actors. The GSI is aware of this dynamic, which it encounters in many countries (see [Chapters 6](#) and [12](#)). As a consequence, it strategically partners with domestic organisations to aid in overcoming some of the potential barriers, such as concerns over foreign interference that domestic actors may have with international groups, especially those from the global North (Interviews 11 and 12). In India, domestic partnerships also helped improve the GSI's access to domestic policy networks that may otherwise have been less receptive to policy advice from foreign NGOs (Interview 12). However, an assessment of the GSI's work in Indonesia noted the lack of substantial engagement with the traditional opponents of subsidy reform, including trade unions and vested business interests (Danida 2015). An interviewee familiar with GSI's work in India stressed the need to build coalitions through capacity-building work with consumer-protection and rural-development NGOs (Interview 1).

<sup>4</sup> When the G20 requested the IEA, OECD, World Bank and OPEC work together on the scoping of fossil fuel subsidies and reform implementation strategies, the GSI successfully leveraged existing working relationships with the other three IGOs to explain to OPEC how to engage with them.



### 10.3.2 Capacity Building

The GSI directs different capacity-building activities at its two targets: states and IGOs. The role of the GSI as a capacity builder of domestic policy is seen in its strategic approach to country-level engagement (Merrill 2014). Many countries lack significant domestic expertise on fossil fuel subsidy reform among both officials in finance and resource-development ministries and among NGOs and journalists in civil society. Estimating and reforming fossil fuel subsidies remain very technical and complex tasks. Despite the size of India's press corps, only five journalists there have the expertise to competently write on the subject, according to an expert in energy subsidy reform in India (Interview 1). In GSI's experience, it takes about 18 months to two years of working with reputable local experts and influential research institutions to build local technical capacity sufficient for results and impact. For example, the GSI has been engaged for five years in both Indonesia and India to help improve the ability of these countries to estimate fossil fuel subsidies,<sup>5</sup> evaluate options for subsidy reform (Interview 2)<sup>6</sup> and communicate those options to the public (Interview 12). Consistent and constructive domestic engagement on subsidy reform that reaches out to actors beyond those normally engaged by international financial institutions – such as journalists and civil society organisations – also helps the GSI to build local capacity (Interview 5). The GSI has published dozens of country-level case studies and lessons-learned reports from various reform efforts that 'demonstrated to countries that this problem [of fossil fuel subsidy reform] wasn't too difficult to tackle [and] that there were strategies that they could follow that could make the process easier' (Interview 13). One-off reports or inconsistent financial support has historically limited the effectiveness of NGOs and IGOs advocating for fossil fuel subsidy reform, especially when there is often very limited domestic technical capacity regarding subsidy reform (Interview 7). By contrast, since 2005, the GSI has built a solid base of institutional knowledge and publications (e.g. Koplow 2007; GSI 2010b; GSI 2013; Interview 7).

At the level of IGOs, the GSI is also able to go to where decision-makers meet and host side events, such as at G20, APEC and WTO meetings and at climate summits. These GSI side events – as well as those it organises for the FFFSR – are often attended by ministers from key states and high-level staff from the World Bank, IMF, IEA and the OECD and help to build capacity for fossil fuel subsidy reform (GSI 2015a). For example, the GSI built capacity by providing technical

<sup>5</sup> Letter from Directorate General of Budget, Ministry of Finance, Republic of Indonesia, noting that the GSI's research on energy pricing reform has been highly appreciated, 23 March 2016; see also IISD (2014).

<sup>6</sup> The Minister of Petroleum and Natural Gas of the Government of India, Dharmendra Pradhan, participated in a May 2016 event organised by the GSI, where he praised its research in informing liquefied petroleum gas and kerosene subsidy reforms (Sharma and Clarke 2016).



and logistical assistance to the G20 at key meetings, to G20 member governments and to the IGOs tasked with procuring information on subsidy reform, as well as to the APEC Energy Working Group (Interviews 8 and 10).<sup>7</sup> One consultant to an IGO noted that in preparation for writing an analysis for the IGO on subsidy reform, he made sure to read several of the latest reports from the GSI (Interview 14). An IEA staff member stressed the valuable expertise that the GSI brought as one of the organisations that undertakes early peer reviews of IEA analysis on subsidy reform (Interview 13).

### **10.3.3 Normalisation**

Because of the many actors working to reform fossil fuel subsidies at the national and international levels, it is difficult to isolate the role of the GSI in normalisation. The work of the GSI has clearly benefited from a normative shift in how policy-makers from around the world see fossil fuel subsidy reform (Interview 7). In Indonesia, there has been a recent dramatic shift in the acceptability of subsidy reform that was absent in previous attempts at reform. Since 2015, it has been normalised that energy subsidies should be increasingly given to low-income individuals rather than to fossil fuel products (e.g. kerosene or liquefied petroleum gas), which has tended to benefit the middle and upper classes (Interview 11).

At the international level, global expectations about what constitutes appropriate behaviour regarding fossil fuel subsidies has changed in the wake of the landmark G20 (2009) commitment to phase out and rationalise fossil fuel subsidies and the IMF's strong and integrated stance on the issue (see [Chapter 5](#)). The GSI has successfully leveraged these international normative shifts to increase its organisational effectiveness and legitimacy (Interview 15).

While the GSI does not have the same scope of influence as an IGO, it has been able to reach out to some NGOs and domestic actors who may be sceptical of organisations like the IMF or the World Bank and help to normalise fossil fuel subsidy reform with those groups (Interview 5). The GSI's partnerships with respected domestic research organisations also helps to legitimise and normalise subsidy reform as an issue of domestic concern, especially in countries where some political actors regard with apprehension international NGOs that strongly advocate on certain issues (Interview 9). The GSI has also been a key player in advocating for and normalising improved rigour in fossil fuel subsidy reporting, helping to 'shift the debate' on energy price reform (Interview 15). The consistency of the GSI's efforts over the past 10 years within key states – as well as its persistent

<sup>7</sup> The GSI also tracked the progress of the G20, made recommendations on how G20 countries can fulfil their phase-out commitment (e.g. GSI 2010c) and published a paper on how G20 countries can peer review the subsidy estimates of other G20 countries.

engagement with subsidy reform at key IGO meetings and multilateral forums – has also helped to normalise the issue among states and IGOs.

Concurrent to norm changes specific to fossil fuel subsidies, a larger trend is evident in many countries towards improved transparency and accountability of financial reporting for both the private and public sectors (Camfferman and Zeff 2006; PwC 2015). Leveraging this trend, the GSI has linked norms around financial responsibility during times of fiscal hardship to norms of social justice and environmental stewardship (Interview 8). When these multiple frames are invoked, the barriers to removing fossil fuel subsidies are reduced, as actions aimed at reform become more commonsense.

### 10.3.4 Evidence of Catalytic Effects

The political dynamics of coalition building, capacity building and normalisation suggest that the GSI has contributed to the scaling and entrenching of fossil fuel subsidy reform. To be clear, it is often not possible to make a direct causal link between the GSI's effort and the decision of a national government to eliminate subsidies. This is due to the confounding and interdependent effects of a growing number of actors (e.g. NGOs, IGOs and multiple government ministries) becoming more involved in reform efforts and the increasing fiscal burden of subsidies. Nevertheless, the evidence presented here suggests the GSI holds a catalytic role in fossil fuel subsidy reform.

#### 10.3.4.1 Scaling

The work of the GSI has scaled up in three key ways. First, a growing number of states and IGOs began to listen to and work with the GSI on fossil fuel subsidy reform (McFarland and Whitley 2014). In 2014, nearly 30 countries – many of which have been strategically targeted by the GSI and other IGOs – took action to reduce fossil fuel subsidies (GSI 2015b). While these national-level actions are caused by a range of factors, preliminary evidence suggests that the GSI positively contributed to the subsidy reform process in India and Indonesia. In these countries, government officials have stated that the GSI's analysis improved their ability to evaluate options for subsidy reform, which their respective governments are implementing.<sup>8</sup>

Second, the GSI has catalysed the emergence of complementary initiatives. As noted earlier, the GSI was instrumental in providing support for the FFFSR,

<sup>8</sup> Letter from Directorate General of Budget, Ministry of Finance, Republic of Indonesia, noting that the GSI's research on energy pricing reform has been highly appreciated, 23 March 2016. The Minister of Petroleum and Natural Gas of the Government of India, Dharmendra Pradhan, participated in a May 2016 event organised by the Global Subsidies Initiative, where he praised the GSI's research in informing recent liquefied petroleum gas and kerosene subsidy reforms (Sharma and Clarke 2016).

which can be seen as a complementary activity catalysed by the work of the GSI (Interview 6). Analysis by the GSI also improved the ability of other NGOs to advocate for subsidy reform (GSI 2011). Environmental groups such as Greenpeace leveraged the work of the GSI to inform its position at the UN Rio+20 Conference (Lerner and Tsenikli 2012).

Finally, other initiatives have explicitly copied the GSI's methods and prescriptions. In Canada, the GSI's 2010 producer subsidy report estimated that federal subsidies to the fossil fuel industry amounted to USD 1.3 billion in 2008 (Sawyer and Steibert 2010). Groups including the Green Budget Coalition, labour and environmental NGOs and political parties publicly used this estimate (BlueGreen Canada 2012; New Democratic Party n.d.). In addition, the Green Budget Coalition used the GSI's analysis to successfully lobby Canada's finance ministry for subsidy reform (Green Budget Coalition 2013). These activities, independent of the work of the GSI and often much more public than the GSI's own work, were highly complementary to the GSI's stated goals. Events such as the 2012 GSI subsidy reform forum for policy makers in Southeast Asia (GSI 2012) or the GSI's numerous 'lessons learned' reports have the explicit goal of sharing best practices among states and provide an ideal format for the conscious copying of subsidy reform policies and practices.

The GSI's work with IGOs is also in evidence. The World Bank's Energy Sector Management Assistance Programme – which, like the GSI, provides technical assistance to countries attempting to reform fossil fuel subsidies – has a partnership with the GSI to collaborate on framing the World Bank's subsidy reform programme and on knowledge events and publications (World Bank 2017). For example, the GSI and the World Bank have worked close on the communication of subsidy reform in some countries, and some World Bank documents draw upon GSI publications. Staff at the Energy Sector Management Assistance Programme also read GSI publications. However, as an IGO, the World Bank clearly has a different role than a small NGO in subsidy reform efforts of developing countries, working more closely with governments, as opposed to civil society organisations.

#### *10.3.4.2 Entrenchment*

Evidence presented below indicates that the GSI's prescriptions are becoming more durable. Fossil fuel subsidy reform is becoming more entrenched, with the GSI playing a catalytic role in entrenchment through the three political mechanisms described earlier.

First, a growing number of countries have eliminated or progressively reduced fossil fuel subsidies. As phase-outs progress, they become harder to reverse, especially if financial benefits accrue from eliminating them from budgets. For

example, in Canada, where GSI analysis has been used extensively in subsidy reform policy debates and federal lobbying, the federal budgets of 2007, 2011 and 2012 eliminated approximately USD 400 million a year of fossil fuel subsidies (Green Budget Coalition 2013).

Second, over time, we observe increasing political costs to reversing at least the rhetorical shift towards fossil fuel subsidy reform. This can be seen in the renewal of the G20 and APEC commitment to phase out fossil fuel subsidies at every subsequent G20 and APEC meeting since 2009, in the 2016 G7 commitment to phase out fossil fuel subsidies by 2025 and at larger venues such as the UN Rio+20 conference in 2012. The GSI's catalytic role can be seen in its efforts to raise the profile of the G20 commitment, to disseminate best practices of subsidy reform and to support the FFFSR. Each subsequent reaffirmation makes it politically more costly for a country to avoid reforming fossil fuel subsidies or to justify a lack of reforms. The rising political costs of reversing commitments to subsidy reform also contribute to normalisation, as efforts to phase out fossil fuel subsidies become taken for granted. That said, national governments could continue to publicly support such pledges while working to erode the stringency of the pledge's requirements (Consultant 2014).

Finally, entrenchment is occurring as the benefits from pursuing reform become tangible. This can be seen as more IGOs become more consistently involved in fossil fuel subsidy reform. Since 2013, the IEA, IMF, OECD and World Bank – along with the GSI – have been holding face-to-face or web-based meetings more or less quarterly to keep each other informed of their respective efforts (Interview 8). As these IGOs commit more funding, technical expertise and senior staff time to fossil fuel subsidy reform, their role as advocates on this issue becomes more entrenched. This occurs not only through involvement in inter-organisational meetings but also through technical assistance missions, policy papers and mainstreaming subsidy reform considerations into other core activities, which helps create institutional lock-in. In certain cases, the IMF and other international lending agencies now attach conditions related to fossil fuel subsidy reform (IEA 2015; see Chapter 6). For national governments, the new beneficiaries from public funding that was previously spent on fossil fuel subsidies can create new coalitions that defend against retrenchment of these new policies.

### *10.3.5 An Uneven Trajectory*

The trajectory of fossil fuel subsidy reform has progressed in fits and starts. While this chapter argues that the GSI played a catalytic role, helping to speed up subsidy reform, other events have clearly shifted the trajectory of reform. The clearest example of a quick leap towards reform is the 2009 G20 commitment to phase out

fossil fuel subsidies, which caught many working on this policy issue – including the GSI staff – by surprise and resulted in ‘an order of magnitude difference in the political attention on that issue from one day to the next’ (Interview 8). Suddenly ‘we had political commitment but we didn’t have the data’, which is a reversal of the ‘typical’ evidence-based policymaking process (Interview 10; see also Steenblik 1999). The G20 announcement helped fossil fuel subsidy reform to ‘gain traction globally’, and the GSI was ‘well positioned to lead’ reform efforts after this announcement (Interview 16). In this vastly changed policy landscape, the GSI advocated for creating a consistent definition of subsidies and mapping out the stages needed to obtain greater transparency; it also selected which countries should be more closely examined and where it could best contribute to the larger effort (Interview 10).

While the influence of the GSI accelerated following the G20 commitment, several challenges remain that make fossil fuel subsidy reform, and the work of the GSI in particular, more difficult. In some cases, the same institutions that support subsidy reform sometimes also reinforce carbon lock-in, slowing the trajectory of reform. Negative feedback can occur if – as is the case with the World Bank and some other international lending agencies – reform is tied to the funding of fossil fuel energy infrastructure (IEA 2015; Doukas 2016). For example, the World Bank’s policy loan programme – which provides funding in exchange for mutually agreed upon policy and institutional reform – provided USD 5 billion in fossil fuel subsidies in four countries (Egypt, Indonesia, Mozambique and Peru) between 2007 and 2016 (Bank Information Center 2017), working at cross-purposes to the World Bank’s efforts to reform energy subsidies. The Asian Development Bank, with whom the GSI has worked closely,<sup>9</sup> continues to finance coal power plants (Friends of the Earth Asia-Pacific 2017). Thus some organisations simultaneously promote subsidy reform and further entrench fossil fuel use. This inconsistency undermines the transformative potential of fossil fuel subsidy reform and complicates the GSI’s engagement strategy with these lending agencies.

Fossil fuel markets, particularly for oil, are some of the most volatile commodity markets. Hence, there is significant uncertainty regarding the potential financial impacts from reforming fossil fuel subsidies. As countries such as Indonesia, Nigeria and Yemen have experienced, avoiding retrenchment of subsidy reforms can be extremely complex. This makes the work of organisations like the GSI – which can share best practices in implementation, help policymakers navigate the

<sup>9</sup> See acknowledgements section of the Asian Development Bank’s 2016 report on fossil fuel subsidy reform (ADB 2016: viii), which mentions that the report was coordinated with the GSI and draws on a previous report from the GSI for the Asian Development Bank. The GSI gave the Asian Development Bank similar assistance on country-specific fossil fuel subsidy reform reports for Thailand and Indonesia.

politics of reform and work with local civil society organisations – all the more important.

#### 10.4 Conclusion

This chapter has underscored the importance of politics in achieving fossil fuel subsidy reform. The key to implementing reform is not simply finding the right technical solution based on the most appropriate methodology or even timely high-level support, although both help. Rather, it is in understanding how fossil fuel subsidy reform gains support or is resisted.

The GSI is a small but well-connected and influential NGO that has had an important catalytic impact on efforts to reform fossil fuel subsidies at the international level and the national level, as illustrated here in the cases of India and Indonesia. Serious obstacles to durable reform remain (Van de Graaf and van Asselt 2017), but the GSI has played an important catalytic and entrepreneurial role in shifting the politics of subsidy reform at both national and international levels by building capacity through technical analyses and local partnerships, by building and supporting coalitions through the FFFSR and assistance to IGOs and by normalising subsidy reform through consistent and strategic engagement.

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## Interviews

- Interview 1 Bhamy Shenoy, expert on Indian energy subsidies and former senior advisor to the Center for Energy Economics, University of Texas (22 July 2016)
- Interview 2 Professional working for the Republic of Indonesia in the area of poverty reduction and subsidy reform, Republic of Indonesia (27 July 2016)
- Interview 3 Employee, Global Subsidies Initiative (11 July 2014)
- Interview 4 Employee, Global Subsidies Initiative (11 July 2014)
- Interview 5 Economist on energy subsidies, International Monetary Fund (23 February 2016)
- Interview 6 Vangelis Vitalis, former Deputy High Commissioner to Australia, New Zealand (19 November 2015)
- Interview 7 Doug Koplow, President, Earth Track, Inc. (20 May 2014)
- Interview 8 Employee, Global Subsidies Initiative (2 June 2014)
- Interview 9 Energy economist, Indian think tank (28 July 2016)
- Interview 10 Former employee, Global Subsidies Initiative (23 May 2014)
- Interview 11 Indonesian academic expert on subsidy reform (27 July 2016)
- Interview 12 Indian academic expert on subsidy reform (8 August 2016)
- Interview 13 Economist on energy subsidies, International Energy Agency (23 February 2016)

- Interview 14 Trevor Morgan, managing director, Menecon Consulting, Ltd., former IEA economist (10 February 2016)
- Interview 15 Economist on energy subsidies, International Monetary Fund (17 February 2016)
- Interview 16 Former employee, International Institute for Sustainable Development (23 April 2014)



## **Part IV**

# The Domestic Politics of Fossil Fuel Subsidies and Their Reform



# Fossil Fuel Subsidy Reform in Indonesia

## *The Struggle for Successful Reform*

KATHRYN CHELMINSKI

### 11.1 Introduction

Indonesia's first attempt at fossil fuel subsidy reform following the 1997 Asian financial crisis exacerbated the already dire economic crisis for people across the country. The dramatic increase in fuel prices ignited protests and violent riots, representing the breaking point in public patience for the Suharto regime's rampant corruption and poor governance; the weeks of unrest following the reforms contributed to Suharto's resignation in 1998. Numerous fuel subsidy reforms were attempted in Indonesia in the following decades but with varying degrees of success. Indonesia makes an excellent case study for analysis because it is illustrative of the challenges involved in subsidy reform in developing countries – including corruption, vested interests, democratisation and domestic energy consumption dependent on fossil fuels.

Indonesia is often referenced in the fossil fuel subsidies literature as a case of successful reform. However, these reforms have been going on for 15 years, and subsidies are still offered. This chapter asks whether the Indonesia case provides an example of successful subsidy reform by analysing three periods of reform: (1) the aftermath of the Asian financial crisis under Presidents Suharto, Megawati and Wahid (1997–2003), (2) the introduction of social assistance programmes under President Susilo Bambang Yudhoyono, also known as SBY (2004–13) and (3) the most recent reforms under President Joko Widodo, also known as Jokowi (2014–15). The success of these reforms will be examined through several angles: the durability of the reforms, the economic effectiveness in reducing the amount of government expenditures to fossil fuel subsidies and the ability of the reforms to increase state revenue and improve the overall distribution of socio-economic benefits.

This case study of Indonesia examines how domestic political actors influence the outcomes of macroeconomic factors in determining the relative success of fuel subsidy reforms. This chapter observes how ideas and norms surrounding



fuel subsidy reform have changed over the three periods of analysis. Using qualitative analysis, and adopting a political economy approach, this chapter looks at the factors of external crisis, political leadership and strong communication campaigns and social assistance and evaluates them across three periods of reforms using process tracing (Checkel 2006; Collier 2011). Data were collected from primary and secondary documents, field research and semi-structured interviews.<sup>1</sup>

## 11.2 Drivers of Successful Fossil Fuel Subsidy Reform

According to the International Energy Agency (IEA), Indonesia allocated approximately 64 trillion Indonesian rupiah (IDR) (USD 5 billion) in its 2016 budget, compared to IDR 240 trillion (USD 19.3 billion) in 2014 (IEA 2016). The IEA estimates that only 5 per cent of the poorest third of Indonesian households benefit from this budget or consume subsidised fuel; by contrast, 70 per cent of the wealthiest top third of households consume subsidised fuels.

In their joint report for the Group of 20 (G20) on the phase-out of fossil fuel subsidies, the IEA, the Organisation for Economic Co-operation and Development (OECD) and the World Bank define an energy subsidy as ‘any government action that lowers the cost of energy production, raises the revenues of energy producers, or lowers the price paid by energy consumers’ (IEA et al. 2009: 5). This chapter will use this definition and hence only focus on policies that have an impact on fossil fuel prices (see also Chapter 2). Fossil fuel subsidies can be further broken down into production and consumption subsidies; this chapter focuses on the latter because it is the most politically significant kind of subsidy in Indonesia. In Indonesia, fossil fuel subsidies encourage energy consumption with cheap energy prices, distort energy markets, provide an opportunity for fuel smuggling and produce macroeconomic instability exacerbated by volatility in the currency exchange rates and global oil market (World Bank 2009; HSKIP 2013: 78–79; Bridle and Kitson 2014; GSI 2014). Indonesia allocated subsidies to electricity and a range of fuels, including liquefied petroleum gas (LPG), kerosene, automotive diesel and gasoline.

It is important to distinguish between what qualifies as political reform and what drives successful reform. Hill (2013: 109) defines ‘successful reform’ as ‘durable and significant policy change that improves aggregate socioeconomic welfare, consistent also with an objective function that recognises distributional and

<sup>1</sup> Interviews were carried out in Jakarta, Indonesia, from July to August 2015 with a range of government officials from the Ministry of Finance and Ministry of Energy, policy analysts, international organisations and local nongovernmental organisations working on energy subsidy reform.

environmental considerations'. 'Durable' implies that reforms are socially and politically acceptable or are not overturned by major political backlash.

The political economy literature has outlined several drivers of the degree of success of political reform or the decision to undertake such reform (see also [Chapters 1 and 3](#)). Macroeconomic factors such as economic crises and other kinds of crises provide the need and urgency to initiate required reforms that may be unpopular in stable economic times (Drazen and Grilli 1993; Aswicahyono et al. 2009; Hill 2013). The role of public support for reforms – e.g. from community groups, industry associations and students – is important in determining the durability of political reforms (Basri and Hill 2004). Agency in the shape of political leadership, informed by technical advisors, is important for building support for reforms, leading communication campaigns or persuading and incentivising diverging political interests to reach consensus (Hill 2013; Wenzelburger and Horisch 2016). Political commitment to reform helps to mobilise action and enhances credibility and transparency for the changes (Garcia Villarreal 2010). Strategic communication campaigns that explain reforms and the policies for reducing negative impacts are an important element of successful reform, providing knowledge to ensure that the economic logic of the reforms is better understood by those most affected (Indriyanto et al. 2013; Pradiptyo et al. 2015). This chapter aims to illuminate the political and economic factors that contributed to successful reform of fossil fuel subsidies in Indonesia.

The trouble with fossil fuel subsidy reform in Indonesia is that subsidies were originally implemented for poverty reduction purposes, yet they did not reach their targeted population. The World Bank found that for 2012, nearly 40 per cent of fuel subsidies went to the richest 10 per cent of households and less than 1 per cent went to the poorest 10 per cent, which makes fuel subsidies essentially 'generous transfers of taxpayer money to the rich' (Diop 2014: 4). Indonesia's fuel subsidies mainly covered transportation fuels, which largely benefited middle- to upper-class households that can afford vehicles (HKSIP 2013). Yet indirect impacts of fuel subsidy reforms negatively affected poor populations, since the increase in fuel prices created headline inflation, raising the overall cost of consumer goods and subsequent cost of living; this affects all consumers but hits the poor populations the hardest (Guillaume et al. 2011; Beaton et al. 2013; ADB 2015; Casier and Beaton 2015). Therefore, social assistance programmes were seen as a way to provide a cushion to the most vulnerable households against the indirect impacts of reforms. This is an important point in the case of Indonesia because it differs from other countries, where the populations directly affected by reforms receive compensation such as tax breaks or assistance through direct deposits into specific household or business bank accounts, as in the cases of India (see [Chapter 12](#)) and Iran (Guillaume et al. 2011).

### 11.3 Political Economy of Fossil Fuel Subsidies in Indonesia

For the purpose of this chapter, fuel subsidy reform will be operationalised as the change in fuel prices to improve fiscal balances. However, the complete reform of these fossil fuel subsidies that are fixed below market prices requires the removal of price controls so that domestic fuel prices reflect global oil prices. A successful reform involves the achievement of socio-economic benefits as well as distributional considerations (Hill 2013). Success is defined by the ability of the government to raise energy prices without overwhelming public protest, and to achieve economic objectives such as reducing government expenditures on subsidies and/or improving aggregate socio-economic welfare and development. In the case of Indonesia, this involves the reduction of budgetary deficits (Aldy 2013), the redistribution of the budget to economic development and a buffer for poor populations affected by the negative externalities of fossil fuel subsidy reform (i.e. inflation and the rise in costs of consumer goods). While this buffer helps influence the social acceptability of reforms, it is arguably intertwined with what makes a reform durable. This section explores the case-study background and political economy of fuel subsidy reform in Indonesia.

#### 11.3.1 Fossil Fuel Subsidies in Indonesia

Fossil fuel subsidies have had a major impact on Indonesia's energy policy, development and overall economic health – but not in the way the government intended. Following the 1973 oil crisis, Indonesia benefited from rising global oil prices and domestic production. As Indonesia became a member of the Organization of the Petroleum Exporting Countries and a major producer in the mid-1960s, the government began subsidising fossil fuels for domestic consumption to alleviate poverty, to reduce the impacts of inflation and as a basic public service obligation underlined in the Constitution (GOI 1945). Oil exports fuelled an economic boom throughout the 1980s and 1990s, but mismanagement, overproduction and corruption led to long-lasting negative impacts. One of the most significant impacts is Indonesia's transition from a net oil exporter to net importer in 2004 due to decades of mismanagement and lack of investment in the oil sector; this change meant the government began subsidising imported fuels, a policy that quickly became economically unsustainable when combined with dramatic increases in domestic energy demands. Subsidies consumed up to 24 per cent of government expenditure and contributed to ongoing energy crises caused by insufficient supply, growing demand and much-needed infrastructure investment (HKSIP 2013). These challenges put pressure on the Indonesian government to prioritise energy diversification, reduce subsidies and raise fuel prices. Table 11.1 provides an overview of the history of fossil fuel subsidy reforms in Indonesia from 1997 to 2016.

Table 11.1 *Timeline of fossil fuel subsidy reforms in Indonesia*

Date	Pricing reform
1997	Following the Asian financial crisis, government increased kerosene, diesel and gasoline prices by 2, 60 and 71 per cent, respectively.
2000	Kerosene, diesel and gasoline prices were raised for households despite violent demonstrations.
2001	Kerosene, diesel and gasoline prices were raised for industry.
2003	An attempt was made to link movements in domestic fuel prices and international prices.
2005	Prices increased by 29 per cent in March and 114 per cent in October. Industry was no longer eligible to access subsidised diesel.
2006	Prices increased for industrial users.
2007	Introduction of kerosene-to-LPG conversion programme encouraged LPG use, and the kerosene subsidy was phased out.
2008	Prices increased in May of 33 per cent for gasoline, 28 per cent for diesel and 25 per cent for kerosene. Gasoline and diesel prices were lowered in December by 20 and 15 per cent, respectively, as international oil prices eased.
2009	Prices lowered in January by 11 per cent for gasoline and 7 per cent for diesel, leaving gasoline prices the same as diesel prices (close to 2005 levels).
2013	One-off price increase averaged 40 per cent.
2013	Base tariff increased by 15 per cent over 2013 (households consuming more than 450 to 900 volt-amperes were not included).
January 2014	An attempt was made to raise prices of 12-kilogram cylinders, but the price increase was rolled back.
November 2014	Government initiated price increases of 31 per cent for gasoline and 36 per cent for diesel.
January 2015	Subsidies for gasoline were entirely removed, but low oil prices result in a price decline of 12 per cent. Diesel subsidies reduced to IDR 1,000 per litre.
2016	Diesel subsidy was removed.

(Sources: Beaton and Lontoh 2010; IMF 2013; ADB 2015; IEA 2016; Kojima 2016.)

### *11.3.2 Political Economy of Fuel Subsidy Reform and Actor Constellations*

Indonesia's political economy and governance capacity – to implement reforms, address corruption and clientelism and achieve economic development – provide the foundation that underlies the history of fuel subsidy reform in the country. The politics of fossil fuel subsidy reform are intertwined with Indonesia's history of oil production, whereby the government redistributed wealth earned from oil revenues through

subsidies to reduce poverty (IEA 2016). The public acceptability of the reforms is therefore interlinked with the belief that the public is entitled to a redistribution of wealth from the production of national resources, national patrimony through subsidies or government compensation for increasing fuel and commodity prices through other forms of social assistance (Lockwood 2015). Throughout the periods examined in this chapter, the government of Indonesia's provision of either subsidies or social assistance as a complement to fuel subsidy reform is used to increase political support for the government rather than provide development and poverty alleviation.

The political economy of fossil fuel subsidy reforms provides insights into the various special interest groups that benefit from fuel subsidies and may challenge or create obstacles to subsidy reform. One of the sizeable interest groups in the Indonesian middle class that has an interest in maintaining subsidised fuel increases is owners of motorbikes or scooters (referred to as *ojeks* in Bahasa). There are an estimated 76 million scooters in Indonesia, which is approximately one scooter for every three people (Schlogl and Sumner 2014). Indonesia is strongly reliant on private transportation, and the government has systemically promoted motorbike ownership through substantial subsidies for transportation fuels, underinvestment in public transportation or rail systems and 'public-sector hostility to non-motorized modes of transportation' (Hook and Repogle 1996: 80). The motorbike owners who benefit from subsidised fuels have vested interests in maintaining subsidies and have actively opposed and protested fuel price hikes, although their opposition has been manipulated by political parties to protest subsidy reform.

Vested interests in industries that benefit most from subsidised fuels – such as the state-owned oil company Pertamina, the Indonesian oil-trading lobby, vehicle manufacturers and distributors and freight and public transport – remain opposed or ambivalent towards reforms and have lobbied intensively against them (IEA 2016). Pertamina's interest in maintaining the fuel subsidies relates to the company's inability to compete effectively in the downstream market due to insufficient investment in the company's refining capacity, as well as a reliance on the certainty of continued subsidies. According to the IEA (2016: 72), Pertamina's management has indicated that liberalisation of the fuels market would probably need to be accompanied by some protection for the company. In other words, according to Pertamina management, a clear timeframe for reform would have to be accompanied by greater public investment in upgrading Pertamina's refining capacity. Other vested interests include vehicle manufacturers – who are closely engaged with the Ministry of Industry – that have an interest in maintaining the supply and demand for vehicles, which run on low-octane fuels, such as the subsidised RON88 fuels (IEA 2016). Transitioning out

subsidised low-octane fuels would require an upgrade of vehicles to run on non-subsidised fuels.

Indonesia's history of oil production and fossil fuel subsidies has created the country's 'oil and gas mafia', known for its corruption, including embezzlement of funds from the Ministry of Energy, extortion, tax fraud and smuggling (Cassin 2014; Sukoyo 2014). One of the issues is the black market created by subsidised fuels – cheap, subsidised oil is smuggled and sold at below-market prices for a profit – to businesses or consumers who are not eligible for the subsidy or need more than their quota. Fuel smuggling contributes to distorted fuel prices and is a frequent negative externality of fossil fuel subsidies (Sdrulevich et al. 2014).

These vested interests and overarching macroeconomic factors have affected decisions taken on the reform of fossil fuel subsidies. The next sections delve into the historical perspective of the aftermath of the Asian financial crisis in 1997, when the first attempt to reform subsidies was implemented. They then examine SBY's reforms and the introduction of social assistance, as well as more recent reforms under President Jokowi. Socio-economic and macroeconomic factors play an important role in the durability of these reforms.

## 11.4 Policy Tools for Navigating Macroeconomic Factors

### 11.4.1 *Managing the Asian Financial Crisis*

In the six months following the Asian financial crisis between July 1997 and January 1998, the rupiah collapsed from 2,500 against the USD to nearly 10,000, dramatically increasing prices and halting imports (Pisani 2014: 47). To abate the financial crisis, President Suharto committed to a 50-point agreement with the International Monetary Fund (IMF) to qualify for an emergency loan (Beaton and Lontoh 2010; IMF 2013). Some of the points included dismantling state and private monopolies and cutting subsidies of basic commodities, including fossil fuels. While the IMF package envisioned a gradual phase-out of subsidies between 1998 and 1999, the government dramatically raised prices on kerosene (25 per cent), diesel (60 per cent) and gasoline (71 per cent) in May 1998, prior to the first IMF loan disbursement meeting (Beaton and Lontoh 2010). The government pursued severe austerity and dramatic increases in fuel prices, creating inflation, without adequate buffers for the public or vulnerable populations, demonstrating the urgency in reducing government expenditures.

The result was disastrous. Student groups in cities across Indonesia went to the streets in protest of rising prices, which they deemed as resulting from corruption.



The subsidy reform and fuel price increases were the tipping point in discontent with the rampant corruption under Suharto's regime. For three months, protesters demanded the resignation of Suharto and eventually occupied Parliament. Suharto resigned and handed power to his vice president, B.J. Habibie, in May 1998 (Mydans 1998). The new government had a steep agenda, as the economy was in a state of freefall with high inflation, food shortages, bankruptcies and economic paralysis due to the rupiah's dramatic depreciation. Nearly all subsequent attempts to reform subsidies by Presidents Wahid and Sukarnoputri (Megawati) between 2000 and 2003 resulted in violent demonstrations as students and the public felt that the price increases were linked to powerful interest groups (Bacon and Kojima 2006; Beaton and Lontoh 2010). The government promised to use budget savings to help low-income households, but in reality, subsidies for rice and education were low in this period, and many compensation programmes did not materialise (Bacon and Kojima 2006; Beaton and Lontoh 2010).

During this period, the external shock of the Asian financial crisis and the conditionality attached to the IMF stabilisation loan were the major factors driving the adoption of fossil fuel subsidy reform. However, despite the fact that the economic crisis was important in creating the urgency for reforms, it was unsuccessful in shifting fuel subsidy reform to 'low politics'; the problems with corruption of the government surrounding this period were too severe for reforms to be disassociated from the dissatisfaction with the political system. The legacy of corruption and lack of governance capacity had left the public in outrage. Nevertheless, the fossil fuel subsidies became a symbol of oil wealth redistribution, particularly in the absence of adequate policies to reinvest oil welfare in infrastructure development or social welfare programmes. Subsidy reform therefore represented to the public further failures of the government and its ongoing corruption. Lastly, there was an absence of social assistance or political leadership adequately explaining reforms during this period, which further demonstrated the poor implementation of reforms and lack of governance capacity.

#### *11.4.2 Yudhoyono and the Beginning of Social Welfare Politics*

As Indonesia grappled with the damage of the Asian financial crisis, the second period (2004–13) marked the beginning of a shift in Indonesian energy policy, whereby the need to reform subsidies overrode the lack of political favourability for reform. In this period, the Indonesian government began initiating a social welfare system to compensate poor populations for the indirect economic burden of subsidy reforms. These programmes were important in shifting popular



opinion in favour of subsidy reform, which helped make substantial price changes possible.

In 2004, Susilo Bambang Yudhoyono was elected as the Indonesian president in the same year that Indonesia shifted from a net oil exporter to a net oil importer. The government's subsidies on imported fuels had a disastrous impact on the budget and energy security; it exposed the government budget to major fluctuations in prices on the international market, to tariff barriers and to potential geopolitical vulnerabilities with security of supply. Spending on fossil fuel subsidies for gasoline, diesel and kerosene rose to USD 8 billion (out of total government expenditures of USD 374 billion; Beaton and Lontoh 2010: 8; World Bank 2017a). The SBY government was forced to remove fuel subsidies to alleviate the budget deficit (Interview 1). Fuel prices were increased in March by 29 per cent and then in October 2005 by 114 per cent, which reduced the deficit by USD 4.5 billion and then USD 10 billion, respectively (Beaton and Lontoh 2010).<sup>2</sup> This reform was politically possible – without major backlash from the public – arguably because of the introduction of social assistance programmes. These types of programmes not only provide a buffer for the resulting economic shocks from fuel prices increases, but they also provide credibility for the government's commitment to social welfare (Perdana 2014).

The provision of social assistance also illustrates the government of Indonesia's prioritisation of poverty alleviation and its shift towards a welfare state. In the early 2000s, in the post-Suharto era, the government became increasingly accountable to the public, and candidates in local and national elections promised ambitious social welfare assistance for education, poverty reduction and healthcare (Aspinall 2013: 114). Social assistance became a salient issue in politics. SBY's tremendous public support can be attributed to heavy investment in social programmes, which improved his poll figures (Mietzner 2009). To overcome the political challenges of subsidy reform and to alleviate the burden of price increases on the poor, SBY's administration started to provide cash-transfer and compensation programmes, including clean cookstove dispersals for kerosene-to-LPG conversion, and it increased spending on health, education and social welfare (Budya and Arofat 2011; World Bank 2013).

While this period showed the positive impacts of social welfare in shifting the political support for subsidy reform, increasing global oil prices also limited the fiscal impacts of fuel subsidy reforms. For example, in 2008 and 2011, when oil prices breached USD 100 per barrel, the fiscal burden of energy subsidies rose as well. In response to high oil prices, Indonesia attempted to initiate energy subsidy

<sup>2</sup> Since the expenditure on fossil fuel subsidies would have increased significantly in 2005 compared to 2004 had the reforms not been introduced. The increase in fuel prices reduced the fiscal burden of subsidies and subsequently the deficit as well.

reforms and raise prices. In May 2008, the Indonesian government raised prices of diesel and kerosene and then lowered prices of diesel by 12 per cent, when international oil prices decreased (Beaton and Lontoh 2010; IMF 2013; ADB 2015). Although an unconditional cash transfer, a 'rice for the poor' programme and a loan-interest subsidy for small enterprises were dispersed through social assistance programmes, the fluctuations in oil prices were too volatile and affected prices at the pump; the subsidy reform was repealed (Figure 11.1).

These reforms illustrated the importance of political leadership with strong communication campaigns and social assistance programmes as a buffer against the indirect effects of fuel subsidy reform. However, the government had not incorporated a buffer to reduce the overall impacts of international oil price fluctuations on the population, meaning the continued cycle of fossil fuel subsidy reforms, price shocks and public unrest necessitated social assistance programmes or the repeal of subsidies. To fully remove subsidies and price controls, better implementation of subsidy reform coupled with buffers and the reinvestment of the subsidies budget in development was still needed.

#### ***11.4.3 Oil Market Fluctuations and Widodo's Subsidy Reform Policy***

Energy subsidies on imported fuels leave fiscal policy vulnerable to fluctuations in global oil prices as well as currency exchange markets. A weakening of the rupiah means a higher price of energy products on the domestic market and subsequently a higher share of subsidies if domestic prices are not adjusted (Diop 2014: 2). This was evident in the 2008 financial crisis, when the Indonesian rupiah lost 28 per cent of its value against the dollar between October and November 2008 (Basri and Rahardja 2011). Figures 11.1 and 11.2 show the response of the Indonesian government to volatility in the oil market through subsidisation.

The Jokowi administration implemented its last series of reforms in 2014, under the rhetoric of the need to reallocate public finances towards infrastructure investment; the aim was to let domestic fuel prices follow the global oil market and to remove price controls (Interviews 2 and 3). In the lead-up to the implementation, the Ministry of Energy created the Oil and Gas Task Force to reform the oil and gas sector and reduce corruption, particularly within Pertamina. Faisal Basri was appointed as the head of the Task Force, and the technocratic team was made up of 11 members, including ministers, academics, bureaucrats and activists (Sipahutar 2014; Interview 4). The Task Force made the following recommendations for

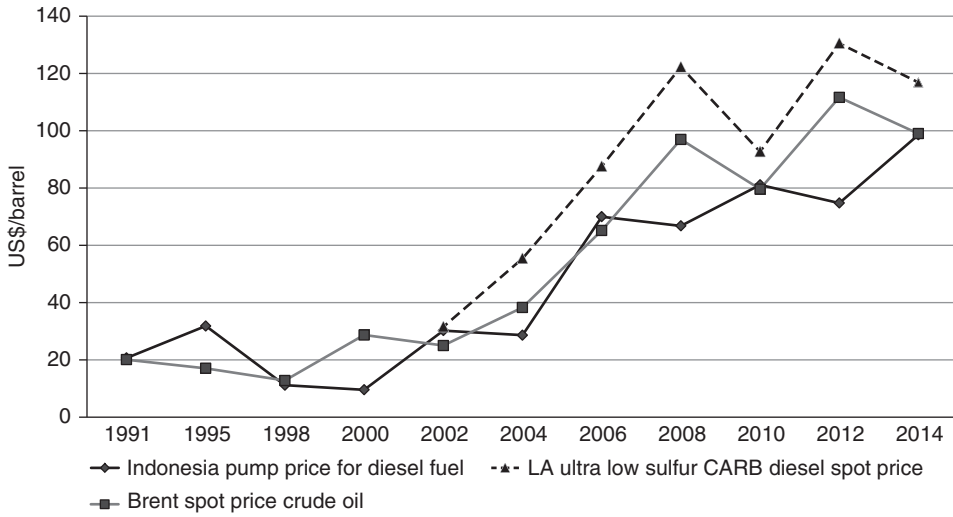


Figure 11.1 Indonesia fuel prices compared to international oil market prices (Sources: EIA 2017; World Bank 2017b.)

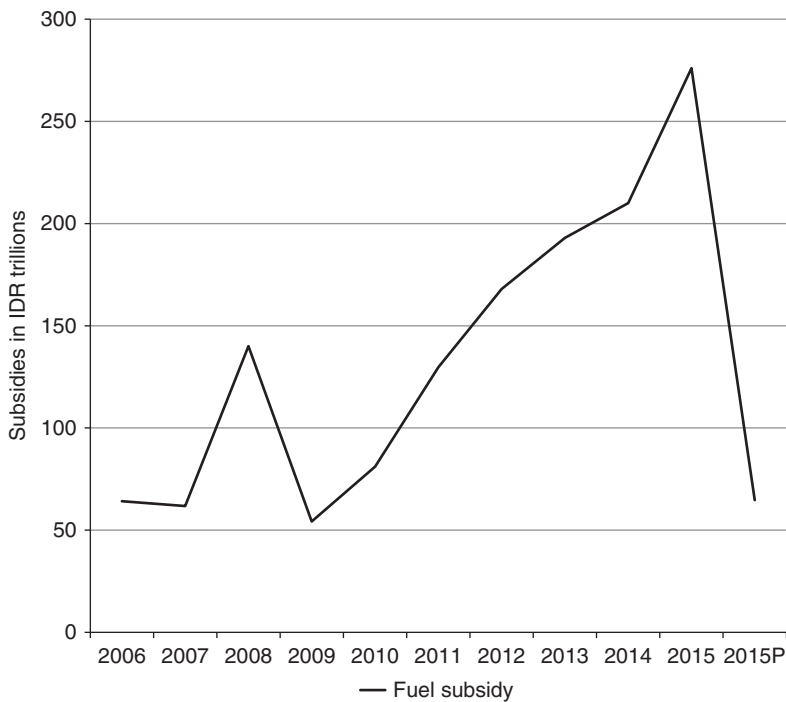


Figure 11.2 Fuel subsidies in Indonesia (2006–15) (Source: Prawiraatmadja 2015.)

reforms in the oil and gas sector: the dissolution of Petral (Pertamina's oil trading arm), the creation of the integrated supply chain unit within Pertamina to take over procurement of crude oil and petroleum products from Petral, a gradual fossil fuel subsidy phase-out with a social welfare programme, the creation of a buffer to better manage price fluctuations and more efficiency from upstream petroleum regulator SKK Migas (Cahyafitri 2015; Interview 4). Fossil fuel subsidy reform would also be the most effective way to deal with the oil smuggling if domestic fuel prices matched international prices, as this would remove the incentive to smuggle fuels. Many of the recommendations of the Task Force were put in place, including the removal of gasoline subsidies from the budget (which de facto transferred the budget to pay off debts to Pertamina), the dissolution of Petral, increases in gasoline and diesel prices and other changes to address corruption in the oil and gas sector.

The major opposition to subsidy reform during this period was launched by Prabowo Subianto – Jokowi's competitor in the 2014 elections and the son-in-law of Suharto (Kapoor 2014). His 'Red-White coalition' opposes fuel subsidy reforms with a misleading argument that reforms are unnecessary in light of low oil market prices and the assertion that reforms will increase poverty (Wikipdr 2014). However, their opposition is likely linked to corruption and vested interests from the old so-called corruption, collusion and nepotism regime (commonly known as the 'KKN' regime) under Suharto (The Economist 2014).

The plans to fully reform fossil fuel subsidies in Indonesia preceded the crash of the global oil market in 2015. Scholars argued this was the best moment to implement the reforms because price shocks would be low (Benes et al. 2015). The price for oil dropped to USD 30 per barrel in August 2015 but then rebounded to USD 49 per barrel in October 2016; in parallel, gas price fell from USD 400 to USD 318 per metric ton in June 2016, opening up the window for LPG subsidies reform (Lontoh and Toft 2016). Furthermore, in 2015, the Indonesian rupiah depreciated to levels not seen since the Asian financial crisis, but then the currency rebounded in 2016 to IDR 13,271 against the USD from IDR 14,000/USD 1 (Nangoy and Suroyo 2015; Lontoh and Toft 2016).

The macroeconomic fluctuations have not led to dramatic changes in the subsidies policy in the budget, but there are changes in who bears the cost of subsidy policy and the transparency of the policy. Since the removal of subsidies was already signed into law in 2015, the 2016 budget did not include a budget line for gasoline subsidies, but it kept subsidies for 3-kilogram LPG tanks, diesel and new and renewable energy; a fixed diesel subsidy of IDR 1,000 per litre had a dramatic change in managing diesel subsidies (APBN 2016; Interviews 2 and 5). Between January and March 2015, the government implemented a series of price changes, mainly decreasing domestic consumer prices in line with lower market prices.

However, when international market prices increased, a price gap was created. The financial burden of the subsidies' price gap was transferred to Pertamina, covering the difference from the production costs and market price of oil, which amounted to USD 1 billion (IDR 15 trillion; Otto 2015; Samboh and Cahyafitri 2015; Witular 2015). This was not a formal policy but rather seen as a response to the transitional period while the government continued to apply the three-month price adjustments (Interview 6). The government informally compensated Pertamina by keeping pump prices the same when global oil prices fell to account for price gaps and Pertamina's deficit (Interview 6). While the long-term plan to peg the domestic pump prices to international prices will ameliorate this issue, there is still a great deal of policy support needed to make this transition. Stronger fiscal policy combined with investment in infrastructure and directed social assistance is still needed to successfully remove price controls and ensure the permanent reform of fossil fuel subsidies in Indonesia.

### **11.5 Drivers of Successful Reform of Indonesia's Fossil Fuel Subsidies**

From Suharto to SBY to Jokowi, the evolution of fossil fuel subsidy reform policies across the three periods of analysis help determine the factors contributing to the success and durability of reforms. The relevant drivers of successful fuel subsidy reforms in the case of Indonesia were agents actively promoting or opposing fossil fuel subsidy reform, as well as strategies comprising the provision of social assistance, political leadership and the framing of such reform. Macroeconomic factors, more precisely external crises, were also important influences in the success of fossil fuel subsidy reforms. The analysis that follows will discuss each factor in turn.

The largest factor influencing reforms in the case of Indonesia has been macroeconomic factors creating economic crises in Indonesia. Volatility in the oil market and currency exchange rates – as well as other external economic shocks – have had an enormous impact in driving fuel subsidy reforms in Indonesia. Macroeconomic factors included the Asian financial crisis, the shift of Indonesia from a net exporter of oil to a net importer in 2004, the 2008 global recession and increase in global oil prices and the depreciation of the rupiah in 2014. These external shocks have created economic crises and massive budget deficits in Indonesia because of subsidies on (especially imported) fuels. The shocks have driven the government of Indonesia to implement significant fuel subsidy reforms, even when they were extremely unpopular. While external shocks have played a large role in driving reforms, they also mitigate the

effectiveness of reforms in general. Until the price controls are removed, fiscal policy will remain vulnerable to volatility in the oil and currency markets, creating pressure for increasing or reintroducing subsidies.

The provision of social assistance as a buffer to poor populations against the negative consequences of fuel subsidy reform is the most important factor in the success of reforms and can be considered a necessary condition. Social assistance became increasingly salient in political campaigns and has influenced the expectations of the public towards the provision of public goods by the government. While developmental states typically have a centralised policy of wealth redistribution and poverty alleviation, Indonesia's fossil fuel subsidies can be viewed as an informal policy of 'rent' redistribution in exchange for political support (Khan 2000; Lockwood 2015). The introduction of social welfare effectively reduced public protest to reforms by addressing the needs of the poor populations most impacted by the negative externalities of increased fuel prices. While social assistance provided a buffer against the impacts of the rise in fuel prices on the poorest populations in the short term, a long-term development strategy is needed to maintain macroeconomic stability.

Political leadership and strategic communication campaigns that increase the public's knowledge of subsidy reforms are also necessary conditions for durable reforms. The political capital of SBY grew tremendously in 2006 and 2009 after the generous provisions of social assistance to compensate for fuel price increases. Likewise, Jokowi's political leadership and agency in shifting the discourse of subsidy reforms to generate support and political backing was quite successful overall. In terms of economic effectiveness, some of the subsidy reforms have been more successful than others in relieving budgetary crises over deficits, which is mainly determined by the currency exchange rates and the prices of the oil market. The social acceptability and durability of the 2005–7 and 2013–15 reforms, combined with the alleviation of budgetary crises, make these two series of reforms the most successful. Many of the implemented reforms that were eventually retracted were still successful in temporarily relieving budgetary pressure by reducing government expenditures.

Overall, the leadership of reforms that combined social assistance and strategic communications lent legitimacy to the Indonesian government and generated support for the historically politically unpopular reforms. The last period of reforms under Jokowi demonstrated the success in shifting norms and ideas that previously depicted fuel subsidy reform as government corruption and inequitable wealth redistribution; such reforms are now seen as credible and necessary for fostering economic development through a focus on investment in infrastructure as

a road to growth. Moving forward, there is still a need to further depoliticise fuel subsidy reforms and how fuel prices are set, which will require institutional reform in the government ministries that currently handle subsidy reforms.

## 11.6 Conclusion

Using a qualitative case-study analysis of fossil fuel subsidy reforms in Indonesia between the Asian financial crisis and recent reforms in 2015, this chapter investigated the factors that made successful, durable reform of fossil fuel subsidies possible. The major factors investigated were external shocks or economic crises, political leadership for reform, communication campaigns and social assistance. The analysis found that macroeconomic fluctuations leading to economic crises overwhelmingly drove reforms, but strong political leadership, strategic communication and social assistance were the most critical factors in facilitating durable reform in Indonesia – representing decisive political and economic policy choices. Two series of fuel subsidy reforms in Indonesia, first between 2005 and 2007 and then again between 2013 and 2015, were the most successful reforms because they achieved both social acceptability and economic objectives of alleviating government expenditures on fuel subsidies.

Indonesia's history of fuel subsidy reforms offers insight into the tensions between political leadership for fuel subsidy reforms and vested interests in maintaining the status quo. The case study demonstrates that the domestic political drivers of successful and durable fuel subsidy reform determine the ultimate influence of macroeconomic factors such as financial crises and oil market volatility. The success of particular fuel subsidy reforms, particularly during periods of economic crisis, were influenced by the Indonesian government's strong leadership in fostering support and lending credibility to politically unpopular energy price increases. The success in political leadership can be attributed in large part to the provision of social assistance and strategic communication of these programmes to the public.

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## Interviews

- Interview 1 Muhamad Chatib Basri, economist and former Minister of Finance of Indonesia (23 September 2015)
- Interview 2 Triharyo Soesilo, Project Director for Energy Sector, Ministry of Energy and Mineral Resources of the Republic of Indonesia (29 July 2015)
- Interview 3 Fabby Tumiwa, Executive Director, Institute for Essential Services Reform (10 August 2015)

- Interview 4 Agung Wicaksono, Director, President's Delivery Unit for Development Monitoring and Oversight, Republic of Indonesia (6 August 2015)
- Interview 5 Sunandar, S.Kom.,M.Si, Oil and Gas Sub-Directorate, Directorate of Energy, Mineral and Mining Resources, Indonesian Ministry of National Development Planning (BAPPENAS) (11 August 2015)
- Interview 6 Lucky Lontoh, Consultant, International Institute for Sustainable Development (15 December 2016)

## Lessons from the World's Largest Subsidy Benefit Transfer Scheme

### *The Case of Liquefied Petroleum Gas Subsidy Reform in India*

ABHISHEK JAIN, SHALU AGRAWAL AND KARTHIK GANESAN

#### 12.1 Introduction

Consumer energy subsidies in developing countries are used in lieu of social security nets, aimed at shielding poor consumers from price shocks (Grubb et al. 2014). However, energy subsidies are fiscally burdensome, crowd out social spending, disproportionately benefit richer people, distort energy markets and engender higher greenhouse gas emissions (Savatic 2016). Yet, reforming fossil fuel subsidies has been politically as well as administratively challenging. Several developing countries have made unsuccessful attempts at energy price reforms, sometimes with politically disastrous consequences (Salehi-Isfahani et al. 2015).

In view of the rising subsidy burden, the Indian government has undertaken a series of fossil fuel subsidy reforms over the last few years. For instance, the government successfully deregulated gasoline and diesel prices in June 2010 and October 2014, respectively (Ganguly and Das 2016). In 2012, to contain the subsidies for liquefied petroleum gas (LPG), the predominant 'clean' cooking fuel in India, the government restricted the subsidy benefit to six LPG cylinders (14.2 kilograms each) per household, which was subsequently raised to 12 due to political pressure (Nag 2014).<sup>1</sup> Prior to 2012, there was no limit on the amount of subsidised LPG that a household could consume.

Reforming cooking fuel subsidies is particularly challenging due to opposition from poor households, as energy costs form a significant share of their expenditure budgets, even though they benefit disproportionately less than wealthier households (Savatic 2016). In 2013, the government of India introduced the Direct Benefit Transfer Scheme for LPG (DBTL scheme), a conditional cash-transfer scheme.

While cash transfers are a popular means of social assistance in developing countries, few countries have used them in the context of energy subsidies reform.

<sup>1</sup> Or 35 cylinders weighing 5 kilograms each for households using smaller cylinders.

In 2005 and 2014, the government of Indonesia implemented an unconditional but targeted cash-transfer programme to compensate poor families against fuel price rise (Savatic 2016; see Chapter 6). Iran implemented a uniform cash-transfer scheme in tandem with an energy price hike in 2010 to cushion its poor population and make the reform politically feasible (Salehi-Isfahani et al. 2015).

In the context of the global discourse on fossil fuel subsidy reform, the DBTL scheme is an interesting reform to look into for various reasons. First, unlike the conventional reforms for reducing the fossil fuel subsidy, the DBTL scheme focuses on improving the efficiency of the subsidy delivery mechanism to decrease the leakage of the subsidised commodity to unintended users and uses. Second, the DBTL scheme provides a platform for the government to selectively target the subsidy to specific groups of beneficiaries, instead of providing it universally (as was the case before it was introduced). Third, the sheer scale of the DBTL scheme, which covered about 139 million households in October 2015<sup>2</sup> – making it the largest benefit-transfer scheme in the world (MoPNG 2015e) – calls for its assessment, particularly because no comprehensive analysis currently exists.

This chapter presents the results of a performance evaluation of the DBTL scheme. It seeks to draw lessons from the overall experience of the scheme, focusing on the following three key questions: (1) How successful was the implementation process of the scheme, and what were the gaps in implementation, if any? (2) How successful was the scheme in achieving its stated objectives? (3) Why did the DBTL scheme achieve this degree of success? In answering these questions, we specifically focus on the key actors and stakeholder groups involved or affected by the scheme and on the strategies employed by each to design and administer the scheme as well as to overcome the challenges encountered during the scheme's implementation.

The chapter begins with an overview of challenges associated with the LPG subsidy programme in India and the DBTL scheme. It then discusses the methodology adopted for the evaluation. Next, we discuss the results, focusing on efficacy of the implementation process, success of the DBTL scheme in achieving its stated objectives and the factors that made DBTL scheme implementation a success. We conclude with key lessons for fossil fuel subsidy reform processes for other countries while highlighting the next steps for DBTL scheme reform.

## 12.2 The LPG Subsidy and the DBTL Scheme in India

Several issues afflicting the LPG subsidy programme in India have been highlighted in the literature. These include (1) a rising subsidy burden, (2) a skewed

<sup>2</sup> As of 12 March 2017, the scheme covers 165.9 million domestic connections (MoPNG 2017).



distribution of the LPG subsidy (and of consumption) among urban versus rural areas and across income classes, (3) the diversion/leakage of subsidised LPG for unintended purposes,<sup>3</sup> (4) ownership of multiple connections by several households and (5) fake or 'ghost' connections<sup>4</sup> (Morris and Pandey 2006; Lang and Wooders 2012; Soni et al. 2012; MoPNG 2013; Clarke et al. 2014; Clarke and Sharma 2014; Docherty 2014; Jain et al. 2014). To address some of the challenges, these studies have proposed diverse reforms ranging from reducing the subsidy amount and imposing a realistic cap on a subsidised commodity (for each household) to implementing a direct cash transfer and targeting the beneficiaries.

To curb the diversion of subsidised LPG for unintended purposes and to ensure that the households received their subsidies, the government of India introduced the DBTL scheme. The scheme aimed to reduce leakages by achieving a common market price for LPG and by channelling the consumption-linked subsidy directly to the bank accounts of LPG consumers (MoPNG 2013). Under the scheme, households buy LPG at the market price (instead of the subsidised price) and receive the subsidy directly into their bank accounts (following the purchase, for a maximum of 12 cylinders of 14.2 kilograms each per household per year).

This scheme was first launched on 1 June 2013 and subsequently expanded to 291 districts in six phases covering 17 million people (Nag 2014). The scheme was successful in curbing the leakages in the LPG distribution system, but it also suffered from numerous consumer grievances due to the speed at which it was rolled out and the requirement that a consumer should have an Aadhaar number<sup>5</sup> to receive the subsidy (MoPNG 2014). In view of such issues, the DBTL scheme was suspended in early 2014, and an expert committee was established to review it.

Incorporating the recommendations of the committee, a modified DBTL scheme, also known as PaHaL (*Pratyaksha Hastaantarit Laabh*), was relaunched in 54 districts in November 2014 and expanded to the rest of the country in January 2015 (MoPNG 2015b). The modified scheme was launched with the following stated objectives (MoPNG 2015b): (1) protecting entitlement and ensuring that the subsidy reaches the consumer, (2) removing incentives for diversion, (3) weeding out fake/duplicate connections and (4) improving the availability/delivery of LPG cylinders for genuine users.

<sup>3</sup> Earlier, LPG for households was available at subsidised market prices, unlike for commercial entities. This led to a direct incentive for siphoning and diversion of subsidised commodity for commercial uses, primarily by LPG distributors but also by consumers.

<sup>4</sup> Many distributors (and consumers) had taken connections under 'ghost' names with illegal documents to receive the benefit of the subsidised commodity for non-domestic purposes.

<sup>5</sup> An Aadhaar number is a 12-digit unique identification number for Indian residents that is linked to the resident's basic demographic and biometric information stored in a centralised database.



### **12.3 Methodology and Data Collection**

To answer the research questions, we followed a mixed-methods approach that systematically integrates quantitative and qualitative research methods (Bamberger 2013). Although the DBTL scheme is a pan-India scheme, we focused on three states, namely Gujarat, Haryana and Kerala, to get an in-depth picture of on-the-ground realities. We chose these states to capture diversity on three main criteria: (1) the proportion of households with an LPG connection, (2) the share of LPG consumers enrolled in the DBTL scheme and (3) the proportion of rural households in the state. The selected states also represent three different geographies (south, west and north). Most of the states in the eastern part of the country exhibit a low penetration of LPG and, due to limited resources, could not be included in the study.

For our assessment, we focused on all the key stakeholders involved in the scheme's implementation, including

1. The Director (LPG) at the Ministry of Petroleum and Natural Gas (MoPNG) responsible for coordination and implementation of the entire scheme,
2. National sales heads of each of the three oil marketing companies (OMCs),
3. Field officers of OMCs supervising LPG distributors at district level,
4. Lead district managers (LDMs) of lead banks at district level responsible for coordination and implementation of the scheme from the banks' end, and
5. LPG distributors who stock and deliver LPG to consumers.

We conducted unstructured in-person interviews of the first two stakeholders and semi-structured telephone interviews of field officers (nine) and LDMs (three). We focused our interview with the Director LPG on national-level challenges that the scheme's implementation encountered and how the ministry tried to overcome them. We also discussed the details of the implementation strategy that the government followed. Finally, we discussed the roles and responsibilities of the various actors involved, as well as the coordination efforts undertaken between different actors and institutions. In our interviews with national sales heads of OMCs, we focused on operational issues, support and directives received from the ministry, as well as their perspective on findings from consumer and distributor surveys, to add further nuance and context to the findings and validate them. For LPG distributors, we conducted a structured telephone survey of 92 randomly selected distributors to ensure that our findings were representative. The interviews and survey were focused on understanding stakeholders' perceptions of the adequacy of the support received from other stakeholders, difficulties faced and measures taken to overcome these difficulties during the scheme's implementation. We used stakeholder perceptions along with the extent of consumer enrolment in the scheme as measures to assess the efficacy of the implementation process.

To assess the scheme's success in meeting its stated objectives, we conducted a telephone survey of 1,270 randomly selected LPG consumers, proportionate to the market share of the three OMCs in each state. The survey focused on consumer awareness about the scheme's objectives, ease of enrolment and perceived impact of the scheme on service delivery. Further, since distributors were responsible for enrolling the consumers in the DBTL scheme and directly engaged with them, we also enquired about their perception of the scheme's impact on customers, diversion of subsidised LPG and fake connections. To validate the results obtained from the survey and stakeholder interviews, and to derive lessons learned from the scheme's implementation, we supplemented our findings with an analysis of official data (on LPG sales) and secondary data sources, such as government press releases. All the engagements were conducted in May 2015 (see Jain et al. 2016 for a detailed methodology).

## **12.4 Efficacy of the Implementation Process**

### ***12.4.1 Status of Consumer Enrolment in the Scheme***

Results from the distributor survey indicated an enrolment rate of about 85 per cent, with the highest rate reported in Kerala (87 per cent), followed by Gujarat (85 per cent) and Haryana (81 per cent). The findings correspond well with official data reported by the MoPNG, validating the representativeness of the survey.

However, in the consumer survey, a higher proportion of households (94.6 per cent) reported being enrolled in DBTL. The higher reporting could be partly attributed to those households who had submitted their application and perceived themselves as being enrolled, even though the enrolment process was not yet completed for them. This is reflective of the scheme's ongoing process but also highlights the lack of information of consumers regarding their state of enrolment.

Households that reported as not being enrolled in the DBTL scheme (5.6 per cent) stated that lack of interest in the subsidy and lack of awareness about the enrolment process were major reasons. Further, rejection of documents by the banks and lack of a bank account were other reasons. Non-enrolment due to a lack of interest indicates the scheme's potential in weeding out households that do not need the subsidy, a positive externality. This provides an important lesson that instead of providing a subsidy as a default, the government should ask for enrolment to receive subsidy benefits, which can help weed out non-deserving populations to some extent.

Though very few respondents cited the absence of bank accounts as a reason for non-enrolment, it highlights the fact that households without bank accounts could

be left out of the scheme and, hence, miss out on the subsidy benefits. The important lesson here is to keep the scheme design inclusive when drafting such reform.

## ***12.4.2 Stakeholder Experiences during the Implementation Process***

### *12.4.2.1 LPG Consumers*

We found that a majority (73 per cent) of the enrolled households reported the enrolment process to be 'easy'; only 2.5 per cent found the process to be 'difficult'. This indicates that the process was largely smooth. This could be attributed to the constant improvement in the process by the OMCs and innovative approaches adopted by the distributors, among other reasons. For instance, we found out during the field officers' interviews that distributors in some urban areas of Haryana delivered and collected enrolment forms at the doorsteps of the households through their deliverymen. This indicates the importance of designing the schemes to minimise consumer effort for enrolment, resulting in a positive perception of the process and rapid enrolment.

As per the government procedures for DBTL scheme enrolment, households had to make either two visits (for Aadhaar-based allocation of funds or seeding) or just one visit (for bank seeding). However, we found that 45 per cent of the households made three or more visits to the banks and distributors combined, indicating inefficiency in the implementation process. Despite a certain inefficiency in the process, the majority of customers did not find the enrolment process difficult. Admirably, less than 1 per cent of the households enrolled reported instances of corruption at the hands of distributors or bank officials, indicating a highly transparent process.<sup>6</sup>

### *12.4.2.2 LPG Distributors*

Given the strict timelines for the scheme's implementation, 88 per cent of the surveyed distributors reported facing one or more challenges during implementation (Figure 12.1). We further found that 75 per cent of distributors reported that the Aadhaar-based seeding process was easier than the bank seeding process. Under the former, distributors have to enter only the Aadhaar number, whereas under the latter, they are required to enter several data fields related to bank account details, which is relatively tedious and error prone. This highlights the importance of simple and easy procedures for ensuring hassle-free programme implementation.

Document verification or form submission at banks was reported as the major challenge under both categories. Banks often delayed the verification

<sup>6</sup> In the Corruption Perception Index 2016, India is ranked low at 79 out of 176 (Transparency International 2017).

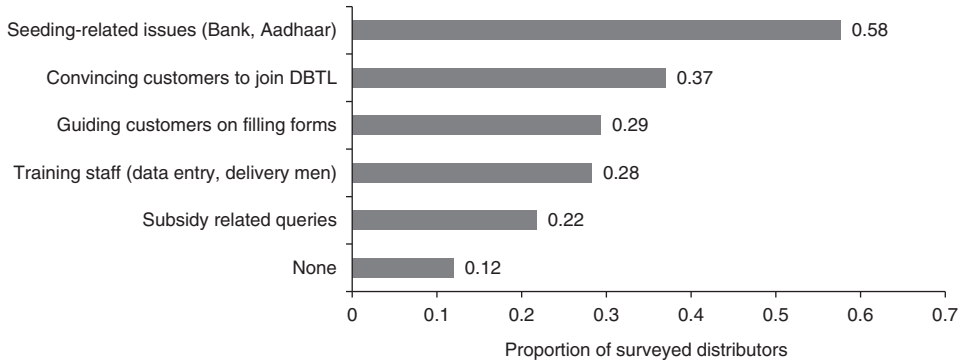


Figure 12.1 Challenges for distributors during the DBTL scheme rollout in India.  
(Source: Authors' analysis of survey data)

process and rejected high volumes of applications due to spelling mismatches. This suggests the importance of considering the procedural details and the resulting challenges in order to put contingencies and flexibilities in places. In this case, to meet the scheme's timeline, the MoPNG directed OMCs and distributors to enrol customers through direct bank seeding, skipping the banks' verification process in the short run, and later conducted the verification retrospectively.<sup>7</sup> Although this significantly increased the rate of enrolment, it also led to wrong entries of bank details by the distributors and thus affected the effectiveness of the subsidy-transfer process.

The absence of bank accounts for customers also posed difficulties to the distributors. It put the onus of guiding the customers (about opening new accounts) on the distributors, who had strict timelines to achieve the enrolment targets. Furthermore, about 36 per cent distributors did not find banks to be cooperative in handling and solving the customer complaints. At the national level, the Department of Financial Services (under the Ministry of Finance) was in alignment with the MoPNG to make the DBTL scheme a success and issued two sets of guidelines for banks to prepare themselves for DBTL scheme enrolment. However, it was found that banks were not entirely prepared for effective implementation of the scheme.

Due to delays or non-receipt of the subsidy in bank accounts, distributors had to tackle customers' subsidy-related queries without sufficient information or capacity. Subsidy-related queries were specifically cited as a major challenge by 22 per cent of the surveyed distributors (see Figure 12.1). This shows the importance of an active communication system not only between implementing agencies but also with the customers to establish trust and empower the implementers.

<sup>7</sup> Based on our discussions with officials at the MoPNG.

While distributors reported various difficulties, the majority (87 per cent) acknowledged that the OMCs provided adequate support during the entire process. Based on our interviews with LPG leads, we found that OMCs supported the distributors in terms of both capacity building and financially (for the enrolment process). Field officers played a critical role in training and supervising the distributors.

#### *12.4.2.3 Banking Personnel*

Our interviews with LDMs revealed that banks were not well prepared for the scheme's implementation, even though the Ministry of Finance's Department of Financial Services issued notifications to the banks to facilitate adequate support. There was a lack of dedicated staffing in the banks for the DBTL scheme, with the responsibility bouncing from one employee to another; this often led to a waste of resources on repetitive capacity building. While the distributors received financial assistance from the OMCs on a per-enrolment basis, banks did not. Furthermore, banks lacked coordination between their headquarters and local branches. For instance, local bank personnel were not informed about the status of Aadhaar seeding when it was delayed at the central level, even though they were responsible for addressing customer enquiries.

The LDMs encountered several problems due to a lack of standardisation of the processes and protocols followed by different banks. For instance, banks were following different protocols to determine whether a joint account could be used for seeding with the LPG account (with or without Aadhaar). Such issues often created hassles for customers, distributors and LDMs.

LDMs also faced difficulties due to lapses in support from the distributors and gaps in information flows to the customers. On multiple occasions, LPG distributors shared LDMs' contact details with the consumers for any subsidy-related queries. Consequently, LDMs were burdened by such queries, for which they were not responsible; they also did not have the capacity or information to deal with them. Interviews with senior officials at the OMCs and the MoPNG highlighted that the Ministry of Finance worked in close coordination with MoPNG and that towards the later stages, the coordination between banks, field officers and distributors improved significantly.

Overall, the DBTL scheme was well publicised and had fairly wide coverage, with efforts to increase enrolment rates by leveraging other ongoing schemes. While consumers found the scheme's implementation largely smooth and transparent, distributors and bank personnel encountered several difficulties, particularly due to the short timeframe of implementation. However, its smooth rollout in the short four-month timeframe was facilitated by strong leadership by the OMCs and MoPNG, coordination between different stakeholders and constant improvements in the scheme during implementation.

## 12.5 Success of the Scheme in Achieving Its Stated Objectives

### 12.5.1 Effectiveness of Subsidy Disbursal to Consumers

Direct subsidy disbursal into the bank accounts of the beneficiaries was largely successful. Based on the consumer survey, 75 per cent of the households who purchased LPG cylinders after enrolling in the DBTL scheme reported receipt of subsidies in their bank accounts. The share was marginally lower in rural areas (73 per cent).

Notably, a significant proportion (16.6 per cent) of households was unaware of the status of their subsidy receipt, and a substantial share (8.6 per cent) reported non-receipt of subsidies for any cylinder purchased. We found that the issue was the lack of proactive information flows to consumers about their subsidy transfers, which was also confirmed by the findings from the distributor survey. Upon being asked about the main improvement area for the DBTL scheme, a quarter of the surveyed distributors highlighted the need to improve timely delivery of the subsidy as well as the information to consumers. Instances of non-receipt of subsidy were repeatedly cited as an issue by distributors, field officers and LDMs. However, all stakeholders mentioned that the rate of complaints significantly decreased over time.

### 12.5.2 Impact on Diversion of Cylinders

A majority (85 per cent) of the distributors reported that the scheme had a significant impact on reducing the diversion of cylinders. Our analysis of publicly available sales data<sup>8</sup> of non-domestic LPG and auto-LPG<sup>9</sup> confirmed these findings.

The growth in the sales of non-household-packed LPG has been declining since 2009–10, with a negative growth rate in fiscal year (FY) 2013–14 and FY 2014–15. That began to turn around after November 2014, when the modified DBTL scheme was introduced. Since December 2014, the non-household-packed LPG sales have shown a significant positive growth rate, continuing for FY 2015–16, with an annual growth of 39.3 per cent (Figure 12.2). Such a marked increase in the growth of non-household-packed LPG can be attributed to the DBTL scheme's impact in constraining the diversion of subsidised LPG from the distributors' end; lower oil prices also had a partial impact by boosting demand.

Similarly, the LPG sales for transportation (auto-LPG), which have witnessed a declining growth rate since 2010–11, revived in January 2015 (concurrent to the

<sup>8</sup> Monthly sales performance review reports are published by the Petroleum Planning and Analysis Cell, a body under the MoPNG.

<sup>9</sup> LPG used for automobiles.

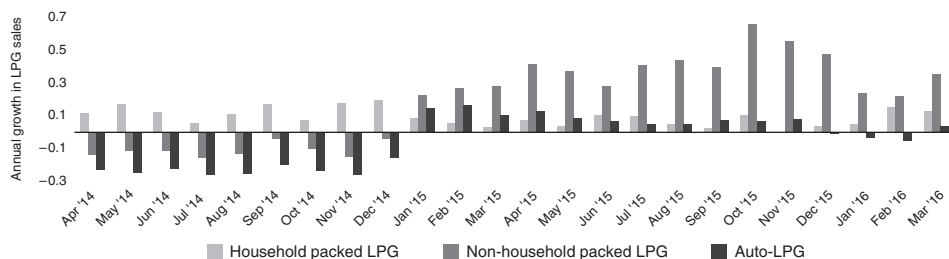


Figure 12.2 DBTL scheme's impact on growth of sales for non-domestic and auto-LPG in India.  
(Source: Authors' analysis based on Petroleum Planning and Analysis Cell data.)

nationwide launch of the modified DBTL scheme). For FY 2015–16, the overall growth in auto-LPG sales has been 4.3 per cent compared to a negative growth rate of 24.4 per cent in FY 2014–15 (Figure 12.2).

Even though the DBTL scheme has tried to facilitate a uniform market price of household LPG cylinders, there still is a difference between the market price for household and non-household LPG. The difference is due to the different tax structures applicable to household and non-household LPG and could still remain as an incentive to divert household LPG for non-domestic purposes. A reform in LPG taxation would be necessary to ensure entirely uniform pricing and further reduce the diversion of household LPG for unintended uses.

### 12.5.3 Impact on Eliminating Multiple and Fake Connections

LPG is a regulated commodity in India, and each household is allowed to have only one LPG connection. Duplicate connections, siphoning off subsidised commodities, have been a major challenge in LPG distribution. During the distributors' survey, 84 per cent of the distributors reported that the scheme had a significant impact on controlling duplicate or multiple connections.

The government of India claims that the DBTL scheme has been able to eliminate close to 33 million 'ghost' (fake or duplicate) connections (MoPNG 2015f). All these ghost connections are basically inactive LPG connections (no refills done in the past six months). However, to estimate the extent of the scheme's impact on controlling multiple connections, it is important to consider the number of inactive connections before the relaunch of the DBTL scheme (i.e. before November 2014).

An inactive connection also might not necessarily mean a ghost or duplicate/multiple connection. An unintentional impact of the DBTL scheme could be the conversion of some genuine LPG consumers into inactive connections, especially



those from poorer economic backgrounds who have insufficient cash flows to buy LPG cylinders at the market price.

Under the scheme, the initial subsidy amount is transferred to the household's bank account in advance to ensure that there is no additional outlay by the consumer while refilling a cylinder at the market price. However, in many rural areas, withdrawing money from the bank could mean losing out on half a day's salary (as bank branches are far away). Consequently, some poorer LPG consumers might reduce LPG consumption, although our study did not test this hypothesis.

Thus, of the 33 million inactive connections, a significant proportion could be fake or duplicate. However, a more careful assessment is required to estimate the impact of the DBTL scheme in eliminating such connections while acknowledging the possible withdrawal of genuine households away from LPG due to reasons discussed earlier.

#### ***12.5.4 Impact on Availability and Delivery of LPG Cylinders***

One of the four key objectives of the DBTL scheme was to improve the availability/delivery of LPG cylinders for genuine users. To assess this, we asked consumers about the change in delivery time of the cylinders in the previous two months. More than half the households reported that the timely delivery of cylinders had improved. Another 39 per cent of households reported no change in delivery time, whereas close to 9 per cent felt that the service had deteriorated. Interviews with senior officials at the OMCs suggest that the consumer perception of improved regularity in cylinder delivery could be attributed to the avoidance of collusions at the dealers' and/or deliverymen's end as a result of the DBTL scheme.

Overall, we found that the DBTL scheme was fairly successful in achieving its objective of direct transfer of subsidies to consumers, although some gaps remain. The scheme also succeeded in limiting the diversion of subsidised products and eliminating duplicate connections, although the extent of this needs to be carefully evaluated. Finally, the consumer perception of improved timely delivery of LPG cylinders following the scheme's implementation could also be attributed to the DBTL scheme.

### **12.6 What Worked for the DBTL Scheme: Lessons Learned**

This section discusses and highlights the key factors that led to the successful implementation of the DBTL scheme. It also elaborates on the lessons learned from the scheme's implementation, which could be useful for designing fossil fuel subsidy reforms in other contexts and countries.

### **12.6.1 Political Leadership and Framing of the Narrative**

We find that strong leadership from the national government was a prime factor behind the successful and smooth implementation of the world's largest cash-transfer scheme, as it infused a momentum throughout the entire range of actors along the LPG supply chain involved in the implementation process. For instance, the scheme's implementation was regularly reviewed by the Prime Minister (Prime Minister's Office 2015) and monitored directly by the Minister of Petroleum and Natural Gas (MoPNG 2015d).

Unlike earlier initiatives for subsidy reforms, the DBTL scheme was implemented without any political backlash due to several factors. The dramatic fall in oil prices played a significant role in allaying public fears of any potential fallouts of the scheme. The government used this opportunity and framed the narrative on subsidy reforms as a measure to plug wasteful leakages and improve service delivery. Customer perception on this front was confirmed in our survey. The narrative was well timed, given popular sentiments against corruption (Sukhtankar and Vaishnav 2015).

For consumers, the scheme only changed the mode of subsidy disbursement and did not amount to subsidy withdrawal or reduction, which implied that only those accessing subsidies illegally were affected. These include local but unorganised commercial entities, which could not mobilise any opposition. While the LPG consumers who lacked access to banking services, mainly rural poor, might have been adversely affected, these cases were relatively few and diffused, given the low penetration of LPG in rural areas.

Thus, timely recognition of the opportunity for reform, smart framing of the narrative and direct monitoring by the political leadership at the national level were critical to the timely and successful implementation of the DBTL scheme.

### **12.6.2 Institutional Coordination**

The scheme's implementation involved multiple stakeholders, including several government ministries, the entire LPG retail supply chain, the banking sector and the district-level administration. Effective coordination across different institutions, with often different mandates, was essential for the scheme's success.

For instance, regular meetings between the MoPNG and the Department of Financial Services were critical in ensuring overall alignment of banks in the scheme. The OMCs played a leading role in identifying and resolving bottlenecks by coordinating with all the relevant stakeholders throughout the scheme's implementation. As one of the field officers interviewed suggested: 'The entire implementation was under mission mode. From top to bottom, the

momentum was built and leveraged, as everyone was pushing the roll-out collectively.' An elaborate multi-tiered structure of project management teams was put in place to facilitate coordination and enable troubleshooting during implementation.

### ***12.6.3 Exploiting Motivations at the Individual Level and Supporting Capacity Building***

One of the interesting lessons from the DBTL scheme is that giving individual ownership and responsibility to stakeholders could be instrumental in the implementation of such large-scale public programmes. For instance, the senior and middle managers of the OMCs, along with the officials and Minister at the MoPNG, were the guardian officers for one district each (MoPNG 2015c). This created a sense of individual responsibility for effective implementation of the scheme in their respective districts. Further, the annual performance appraisal of the field officers of the OMCs was linked to the enrolment rate under the DBTL scheme.

Close to 16,000 LPG distributors across the country were mobilised, given individual targets and monitored on a daily basis for the scheme's implementation. They also received periodic training and supervision from the field officers of the OMCs, along with adequate financial compensation to cover the costs incurred. Similarly, the bank personnel were trained by the LDMs, in coordination with the field officers. While an absence of dedicated bank personnel for the DBTL scheme led to delays and difficulties in the enrolment process, this was eventually overcome through continued efforts by MoPNG, Department of Financial Services, banks and LDMs.

The experience with the DBTL scheme provides an important lesson about effectively using different individual motivational drivers to facilitate effective and timely implementation of a government scheme.

### ***12.6.4 Learning from Past Experience***

As discussed in [Section 12.2](#), the modified DBTL scheme incorporated insights from a review of the scheme's first round of implementation. For instance, it included an alternative enrolment procedure, which addressed the politically sensitive issue of exclusion of LPG consumers lacking an Aadhaar number. Further, the review identified the difficulties faced by different stakeholders. This helped the OMCs to devise robust systems (such as improved information technology systems and software), along with teams of experts, to quickly respond to real-time on-the-ground enrolment issues. A comprehensive grievance-redressal system was also

established in line with the recommendations of the committee to help resolve customer issues.

This shows the importance of reviewing reform programmes and incorporating the feedback of key stakeholders, particularly end consumers, to improve the scheme design and implementation processes.

### ***12.6.5 Leveraging Existing Systems and Schemes***

The DBTL scheme rested on the effective use of several other government schemes and efforts. Any digital cash-transfer scheme requires a branchless banking network and a robust authentication system (Banerjee 2015). In the case of the DBTL scheme, the Core Banking Solution<sup>10</sup> enabled electronic transfer of money to beneficiaries' bank account, while the efforts towards the financial inclusion of the households ensured that most LPG consumers had or could open a new bank account to enrol in the DBTL scheme. In fact, about 14 per cent of enrolled households did not possess an existing account and had opened a new bank account to take advantage of the subsidy. About half of these accounts were opened under another national scheme for financial inclusion, *Pradhan Mantri Jan Dhan Yojana*. This highlights the benefits of convergence and the need for greater coordination between different government schemes. Furthermore, the OMCs conducted a 'know your customer' drive before the DBTL scheme's launch that created a digital database of beneficiaries (LPG consumers) and enabled the enrolment of customers under the DBTL scheme. The Aadhaar numbers, meanwhile, facilitated the online authentication of beneficiaries by linking their bank accounts to the core banking server (Banerjee 2015).

While there was a clear convergence of past and ongoing schemes, sustained efforts must continue to improve the banking infrastructure and services for all households, particularly as rural and/or economically poor households will make up the majority of future LPG adopters in India.

### ***12.6.6 Strong Emphasis on Awareness Generation***

The DBTL scheme was well publicised through an intensive information education campaign. This comprised advertising through different media and direct outreach to consumers through the use of text messages, calls and public announcements (MoPNG 2014, 2015d). An information education campaign was devised and implemented for each district. The effectiveness of the awareness campaign was

<sup>10</sup> The Core Banking Solution entails the networking of branches, enabling customers to operate their accounts and use banking services from any branch of the bank on the network regardless of where the customer maintains his or her account.

reflected in the consumer survey, in which all surveyed households knew about the DBTL scheme. However, there were gaps in awareness about the enrolment process and the status of subsidy transfer, which could be overcome through proactive information flows. The messaging in the awareness campaigns, which focused on ensuring households that they would retain their deserving subsidy benefit, also improved compliance with the scheme.

## 12.7 Conclusion

With increasing coverage and use of LPG as a domestic fuel in India, the need for reforming the LPG subsidy programme is growing. Apart from capping the consumption of a subsidised product, the Indian government implemented the DBTL scheme to improve the efficiency of subsidy disbursement and to reduce diversion of subsidised LPG to unintended users and uses.

This chapter assessed the performance of the DBTL scheme in terms of its implementation and the achievement of its objectives based on the experiences of key stakeholders. Using a mixed-methods approach, we found that the DBTL scheme fared well in both implementation and achievement of objectives. However, challenges remained pertaining to delays in the subsidy transfer, information gaps and a lack of financial inclusion. In summary, the DBTL scheme was successfully implemented due to strong political leadership at the national level combined with effective institutional coordination, strategies to motivate individuals, convergence of various government efforts, learning from past experiences and a focus on awareness generation.

By guaranteeing transfers directly to the beneficiary, the DBTL scheme made the reform of LPG subsidies and the liberalisation of LPG prices possible. It has paved the way for further reforms to improve the equity of the LPG subsidy programme by targeting the beneficiaries. The Indian government has already started excluding wealthy households on the basis of income information. Potential reforms, such as differential subsidies to different types of households – classified on the basis of income, socio-economic conditions, family size or urban-rural domicile – are now possible to further improve the targeting.

The largely positive experience of the DBTL scheme has inspired the government to use direct benefit transfer for other social benefits to improve the targeting and efficacy of government subsidy expenditures. However, the government should continue its efforts to ensure that no deserving consumer is deprived of the subsidy benefit due to a lack of information, difficulty during enrolment or poor access to banking services. Sustained efforts to bring such consumers within the scheme's fold will be required, particularly as the penetration of LPG increases in rural areas, where access to banking services is a challenge.

The DBTL scheme is one of the few shining examples of fossil fuel subsidy reform achieving successful implementation on a massive scale without any significant public opposition. Strong political will and leadership, along with effective communication and messaging, coupled with a robust implementation plan and good management, led to the success of the DBTL scheme. Insights from this scheme could inform effective design and implementation of cash-transfer programmes in particular and fossil fuel subsidy reforms in general.

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## Sustaining Carbon Lock-In

### *Fossil Fuel Subsidies in South Africa*

JESSE BURTON, TAWNEY LOTT AND BRITTA RENNKAMP

#### 13.1 Introduction

South Africa is a highly carbon-intensive country. Its government has committed to domestic climate change mitigation policy and international treaties to reduce emissions. At the same time, the government also continues to support the production and use of fossil fuels directly (through supporting coal-fired electricity and the conversion of coal into liquid fuels) and indirectly (through the provision of supporting infrastructure). While the dominance of fossil fuels has been explained through the historical co-evolution of state, business and mining interests (Fine and Rustomjee 1996; Marquard 2006; Baker 2012), little is known about the extent of current government support for fossil fuel industries and why such support persists. This chapter quantifies fossil fuel production subsidies in South Africa over the period 2007–15 and offers an analysis of the politics underpinning such subsidies.

Any study of the politics and reform of fossil fuel subsidies in South Africa requires an investigation into the existence of subsidies and their scale, who benefits from them, the actors providing them and their justifications for doing so. To date, only one analysis has attempted to describe and quantify fossil fuel production subsidies in South Africa, for 2013 and 2014 (Garg and Kitson 2015). This chapter extends their analysis, first, by highlighting how historical state support has created a system of ‘cheap’ fossil fuels through long-running formal and informal institutions and, second, by quantifying subsidies over a longer time period (2007–15). Remarkably, given that there are indeed extensive subsidies in South Africa to fossil fuel production, the South African government has indicated to the Group of 20 (G20) that it has no ‘inefficient’ subsidies.

In quantifying the scale of fossil fuel subsidies, we outline the rationales underpinning the varying mechanisms of support the state provides. We show that subsidies are used to support government objectives related to energy

security and economic development. We argue that key drivers of subsidies include apartheid-era industrial and energy policies that have become locked in over time. Despite major political change at the end of apartheid in 1994, many sustaining subsidies have persisted, while whereas new subsidies have emerged with justifications that echo the apartheid state. The South African state does not frame such support as fossil fuel production subsidies – which could spark a national debate around their role in economic development (contrasted against mitigation policies such as carbon taxes) – but instead frames subsidies as supporting ‘vital’ or ‘strategic’ investments (e.g. Transnet 2007; National Treasury 2010; DoE, 2016). Such policies often have a distinctly distributive aim (Whitley 2013). Echoes of the distributive policies of the apartheid state remain in the political allocation of coal contracts and in the lack of reform of liquid fuels pricing. Subsidies that have persisted or emerged since the end of apartheid ostensibly support new beneficiaries, but the analysis shows how the structure of these benefits continues to advantage the existing beneficiaries of production subsidies.

While there has been limited public debate on fossil fuel subsidies, there is debate on South Africa’s future development pathways and the role of fossil fuel extraction and use within that (Winkler and Marquard 2009; Altieri et al. 2015; Baker et al. 2015). Subsidies have not been a crucial part of the debate either within or outside of government. We suggest that this may be because the scale of subsidies is not well known, and much of the detail is obscured or hidden.

The support of fossil fuel production needs to be seen against the backdrop of the broader political economy of energy in South Africa, which has historically been characterised as the ‘minerals-energy complex’. This denotes a particular set of interlinked sectors and relationships between industry, state-owned enterprises (SOEs) and the state (Fine and Rustomjee 1996). Support for these sectors persists because they are viewed as key to economic development; the state’s industrial policies are often based on the assumption that growth is encouraged through large infrastructure investments, which frequently support minerals extraction and heavy industry (NPC 2011).

Methodologically, this chapter draws on the analysis of national and departmental budgets, estimates of national expenditure, annual reports of SOEs and personal communications with civil society and government representatives. The chapter begins by outlining the current structure and historical development of the coal, electricity and liquid fuels sectors in South Africa to highlight the extent of historical support that has locked in the structure of the energy sector. This is followed by a quantification of recent fossil fuel subsidies and a description of their rationales. The chapter then analyses the politics of reform.

### 13.2 Historical Development of South Africa's Fossil Fuel Subsidies

The South African fossil fuel subsidy regime mainly sustains the production of coal for export and for conversion into electricity and liquid fuels. The energy sector heavily relies on coal and was shaped by the unique politics of energy security and the country's international isolation during apartheid. The minerals sectors shaped energy-intensive industrial development along with SOEs, such as the vertically integrated monopoly utility Eskom and (formerly state-owned) liquid fuels producer Sasol (Fine and Rustomjee 1996; Marquard 2006; Baker 2012). From the 1970s onwards, the apartheid state intervened via regulation and continuously stimulated demand for coal through the state-owned electricity, coal-to-liquids, railway and steel industries. This demand built up significant reliance on fossil fuels.

Coal accounts for 65 per cent of primary energy consumed in South Africa (DoE 2010). Eskom generates 95 per cent of South Africa's electricity, of which 90 per cent is coal fired (Eskom 2014). Sasol's energy- and emissions-intensive coal-to-liquids process accounts for 25 per cent of liquid fuels consumption. Eskom and Sasol account for roughly 90 per cent of domestic coal consumption and about 55 per cent of South Africa's emissions (Eberhard 2011; DEA 2014).

Support for fossil fuel production is concentrated on relatively few large actors that are primarily state owned. Eskom has received government support and has passed this on in the form of 'underpriced' electricity (Steyn 2001; NPC 2011). Benefits have accrued to producers and to very large, mostly corporate consumers of electricity, which account for roughly 44 per cent of Eskom's electricity sales (EIUG 2015). Sasol has received state subsidies since its inception, and the liquid fuels pricing regime continues to ensure large profits in the coal-to-liquids business. Transfers have primarily been from the state and consumers to private firms and Sasol (Rustomjee et al. 2007). This is unlike other fossil fuel-producing countries, where consumers are often beneficiaries and subsidies play an important role in maintaining political stability (Victor 2009). Coal mining benefits from infrastructure provision and from the subsidy-enhanced demand from Eskom and Sasol, although direct subsidisation of coal mining is limited.

### 13.3 Quantifying Fossil Fuel Subsidies in South Africa

'Fossil fuel production' refers to production in the coal, oil and gas sectors, including access, exploration and appraisal; development, extraction, preparation and transport of fossil fuel resources; plant construction and operation; distribution and decommissioning; and fossil fuel electricity generation (Bast et al. 2015: 9). We use the definition proposed by the Global Subsidies Initiative, which reflects

Table 13.1 *Annual subsidy estimates by category for South Africa*

Subsidy category	2007	2008	2009	2010	2011	2012	2013	2014	2015
Direct transfers	–	830	830	1,001	169	134	12.8	17.0	1,707
Government revenue foregone	24.3	18.8	126	397	506	512	566	578	267
Sasol market price support	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	127	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>

*Note:* All amounts in 2016 USD million.

<sup>a</sup> No transfers for that subsidy in a given year or lack of data.

*Source:* Authors' calculations; Lott 2016; see Lott et al. 2016 for assumptions.

the full range of benefits provided to the fossil fuel industry. This definition includes the mechanisms of subsidisation specified in the World Trade Organization's Agreement on Subsidies and Countervailing Measures (see Chapter 7), as well as additional support mechanisms (GSI 2010: 4–5). Earlier work found that the value of national production subsidies was an average of 213 million South African rands per year (or USD 20 million) in 2013–14 (Garg and Kitson 2015).<sup>1</sup>

There are several mechanisms through which fossil fuel production is subsidised. The most 'visible' form of subsidisation, and most easily measured, is direct transfers or budgetary outlays (Koplow 2015: 4; OECD 2015: 27). Under the World Trade Organization definition of a subsidy, a loan qualifies as a 'potential' direct transfer from the government. Fossil fuel producers can also be subsidised through tax expenditures (see Chapter 2). Similar to direct transfers, these measures effectively reduce the cost of producing fossil fuels below the costs that would prevail under a standard tax treatment. Finally, fossil fuel production is subsidised through market price transfers, which result from policy interventions and produce transfers between consumers and producers (OECD 2010: 19). In this case, liquid fuels producers receive guaranteed returns, with large transfers from consumers to producers via the regulated fuel price.

Table 13.1 shows the subsidies to fossil fuel production via direct transfers, government revenue foregone and Sasol market price support in the period 2007–15. We exclude public finance for production but note that this is an important and growing mechanism of support. Public finance for 2013–14 is included in Garg and Kitson (2015) and Bast et al. (2015). For example, public finance for fossil fuel electricity production within South Africa was USD 198 million in 2013

<sup>1</sup> This estimate was for quantifiable national subsidies (excluding SOE investment and public finance). We exclude SOE investment in fossil fuels but include state transfers to SOEs.

and USD 45 million in 2014 (Lott et al. 2016), and support for coal mining was USD 35.6 million in 2014–15 (IDC 2015).

The subsidies shown in Table 13.1 are part of substantial and long-running support to fossil fuel production in South Africa. The following sections describe this history – showing how subsidies have become locked in because they support state objectives of energy security and economic growth – and explain how the substantial subsidisation shown in Table 13.1 is an extension of the minerals-energy complex in South Africa.

### 13.3.1 *Historical Subsidies to the Coal Sector and Eskom*

Coal mining benefited historically from various apartheid laws that lowered the cost of doing business, including exemptions from the usual environmental protections and the ability to pay very low wages to mine workers and provide them with little or no labour, health or safety protections. State take via royalties did not exist until 2010.<sup>2</sup> This created a system of cheap fossil fuels, with benefits accruing to either coal suppliers or electricity users, who were frequently the same firms and who enjoyed unparalleled access to the state, including Anglo American and Gencor (later BHP Billiton) (Fine and Rustomjee 1996; Burton 2011).

Eskom's coal costs were furthermore kept low via two contracting models. In the first model, Eskom provided capital to 'cost-plus mines', supporting coal producers by financing production and guaranteeing off-take. Eskom remains responsible for capital investment in these mines, as well as for liabilities such as mine rehabilitation. The second model involved fixed-price contracts with mines, where coal sold to Eskom was subsidised from exports, with low coal costs passed through Eskom to benefit electricity users (Eberhard 2011; Matthews 2015).

The allocation of coal contracts was politicised. Contracts were shared out among companies and were used to develop local mining capacity and companies with political/ethnic ties to the state, creating new (white) 'Afrikaner' capital as distinct from (white) English or 'imperial' interests (Fine and Rustomjee 1996). The coal sector has evolved since 1994, but it remains reliant on Eskom as the largest user of coal, and there are crucial similarities that persist. There are links between coal mining interests and the ruling African National Congress (ANC) Party. Eskom also uses its market power to promote Black Economic Empowerment in coal. Black Economic Empowerment describes economic policies that are intended to redress the racial inequities of apartheid through privileging black or historically disadvantaged individuals. Eskom's procurement policy

<sup>2</sup> The state has continued to forego royalty revenues (Daniel et al. 2015; National Treasury 2015b).

is explicitly distributive and favours new black-owned mining firms that may or may not have competitively priced coal; Eskom's support for new producers is thus based on racial economic development objectives (Burton and Winkler 2014).

Eskom's provision of support for mining is seldom analysed in terms of the distributive consequences for the broader economy. This is similar to liquid fuels pricing, discussed later, where a regulated price is maintained due to concerns about downstream employment and new black ownership in the retail sector.

Recent examples of direct transfers to Eskom are shown in [Table 13.2](#). Government support of Eskom is not new; when the utility was undertaking a large expansion programme in the 1970s and 1980s, it received subsidies through government guarantees for foreign loans and through state-supplied forward cover on currency risk (Steyn 2001).<sup>3</sup> As we explain, current support includes transfers to ensure the financial stability of Eskom and promote supply security in the electricity sector, which have been necessary given the utility's financial and supply problems.

In response to rolling power cuts in 2008, the national government issued a loan of USD 5.45 billion to Eskom (RSA 2008: 2) to recommission three mothballed coal plants and finance two new coal power stations. In 2014, the state converted a portion of the loan to equity (USD 2.52 billion) (Nene 2015), resulting in direct transfers of USD 840 million between 2008 and 2011. We estimate that interest foregone on the loan between 2009 and 2014 totals USD 2.29 billion (Lott et al. 2016).

Eskom received a further direct transfer in 2015 when Parliament enacted the Eskom Special Appropriation Act to assist Eskom in expanding electricity generation capacity (RSA 2015: 2). The value of this bailout was USD 1.63 billion.

Potential direct transfers can also be identified in the provision of government loan guarantees. These loan guarantees link Eskom's debt to the sovereign's investment rating, lowering Eskom's cost of borrowing by lowering the risk associated with Eskom debt. The government assumes a financial liability in the case of default. Eskom has borrowed a total of USD 12.8 billion against the total loan guarantee of USD 23.8 billion (National Treasury 2016b).

Direct transfers of USD 47.5 million from the National Treasury and Department of Water Affairs were made for water infrastructure in the Waterberg mining basin. The water infrastructure is explicitly for supplying water to Eskom's Matimba and Medupi coal power plants and for de-bottlenecking coal supplier Exxaro's existing pipeline. Phase two of the project is 'a prerequisite to enable the further

<sup>3</sup> Eskom was initially also capitalised by the state in 1922, benefited from tax exemption and dividend-free equity and had a 'captive' domestic market for its bonds due to prescribed asset rules (Steyn 2001).

Table 13.2 *Subsidies to coal and electricity production in South Africa*

Subsidy	Type of subsidy	2007	2008	2009	2010	2011	2012	2013	2014	2015
Eskom loan	Government funding	a	830	830	830	a	a	a	a	a
Loan interest	Revenue foregone	a	a	123	390	491	449	409	407	a
Eskom transfer	Government funding	a	a	a	a	a	a	a	a	1,691
Water infrastructure	Government funding	a	a	a	15.3	26.6	a	a	a	0.26
	Government funding	a	a	a	a	a	a	a	a	5.23
Eskom loan guarantee	Government funding	a	a	a	a	a	a	0.02	0.09	a
	Potential direct transfer	a	a	a	a	a	a	a	a	a
Eskom diesel rebate	Government revenue foregone	24.3	18.8	2.87	7.33	15.4	63.3	157	171	267
<b>Total</b>		<b>24.3</b>	<b>849</b>	<b>956</b>	<b>1,242</b>	<b>533</b>	<b>512</b>	<b>566</b>	<b>578</b>	<b>1,964</b>

Note: All amounts in 2016 USD million.

<sup>a</sup> No transfers for that subsidy in a given year.



development of the Waterberg coalfields' (TCTA 2014: 47; see also National Treasury 2014b, 2015: 40, 2016a: 953).

The National Treasury considers such transfers a 'funding mechanism' for 'strategic projects' that contribute to water and energy security (National Treasury 2016c). User charges go to pipelines and transfer schemes, and the government supplies guarantees to enable strategic projects. To what extent user charges cover the full costs is not known; in rail, Transnet has indicated that contracts do not fully cover the costs of new rail expansions on the coal line (Creamer 2015). Since these developments are run through SOEs, there is very little information publicly available on long-term financing.

Support for fossil fuels in the electricity sector has seldom been understood as a 'fossil fuel subsidy'. Rather, subsidies have been used for energy security and industrial development in sectors that are considered by the state to be important drivers of development. Quantifying and reframing this support as a subsidy to fossil fuels are thus key in promoting discussion and debate in South Africa about the role of this support.

### ***13.3.2 Historical Subsidies to the Liquid Fuels Sector and Sasol***

The liquid fuels industry has received considerable historical support from the South African government in terms of direct and indirect subsidies. A favourable regulatory regime guaranteed 'the profitability and the financing of every segment of the fuel value chain' (Roberts and Rustonjee 2010: 63).

The liquid fuels subsidy regime that developed between 1950 and early 2000 privileged synthetic fuel<sup>4</sup> producers Sasol and Mossgas/PetroSA. In addition, so-called other oil companies (OOCs) operate in South Africa, including Shell, BP, Total, Chevron and Engen. These actors also historically benefited from favourable policies and regulations, though to a lesser extent. The regulated price of petroleum was introduced to encourage industrialisation and import substitution by providing favourable pricing to OOCs. Profits for OOCs had to be maintained through the regulatory regime to ensure that domestic refining capacity would remain in apartheid South Africa. As such, fuel pricing in South Africa has historically been based on an import parity price<sup>5</sup> that guarantees returns for domestic refiners. However, the synthetic fuel producers emerged as the primary beneficiaries of direct and indirect subsidies due to the state's interest in reducing the country's dependence on imported fuel. The emphasis on energy security grew in the 1970s in response to the oil crises and apartheid oil embargoes.

<sup>4</sup> Synthetic fuels (or 'synfuels') were developed during apartheid for energy security and other reasons. Sasol gasifies coal and converts it to liquid fuels; Mossgas converts gas to liquids.

<sup>5</sup> The cost, insurance and freight price of fuel plus additional costs related to international transport and tariffs.

Support for Sasol took several forms. The first was the provision of an import parity price to Sasol when it was established in 1947. Sasol also enjoyed tariff protection when the price of oil fell below a defined threshold, which was first introduced when the coal-to-liquid plant Sasol 1 was commissioned. The South African government further stipulated that the OOCs uplift (purchase and sell) 100 per cent of production from Sasol.<sup>6</sup> Importantly, each of these provisions was extended when Sasol expanded in the 1980s. The upliftment agreements, designed to give preference to Sasol's synthetic fuels in the inland market,<sup>7</sup> were 'effectively a government-brokered and sanctioned form of private regulation' (Competition Tribunal 2006: 19). To accommodate Sasol's production, the OOCs mothballed 30 per cent of their refining capacity, receiving state compensation in the form of levies and guaranteed returns on investment paid to the refiners (Competition Tribunal 2006: 22).

In 1992, the government commissioned state-owned Moss gas. Similarly to Sasol, Moss gas received tariff protection and upliftment agreements with the OOCs, as well as transfers through levies on the fuel price (Rustomjee et al. 2007: 61). In 1999, PetroSA was formed as a merger between Moss gas and the state-owned oil and gas exploration company Soekor. PetroSA continues to receive state support.

The apartheid state's emphasis on the development of local refineries and petrochemicals capacity established the synthetic fuel producers as entities through which the government could pursue these objectives. Post-apartheid energy policy reform has not been accompanied by any fundamental pricing reform, highlighting the persistence of regulatory support for the sector.

Indeed, although South Africa altered its fuel pricing regime in 2003 to be a more accurate reflection of an import parity price, it is well documented that this price remains above a competitive price and confers a benefit to liquid fuel producers through market price transfers (Competition Tribunal 2006: 51). The Department of Energy set a 2010 deadline for the deregulation of pricing (Competition Tribunal 2006: 31), but this goal has not been met in part because the department claims deregulation will affect the sector's new Black Economic Empowerment entrants by removing protection for retailers (where small black-owned firms are active). Sasol is therefore protected by its own important supply position in the inland market (where refinery and pipeline capacity limits conventional supply) and by the other distributive policies of the state regarding Black Economic Empowerment, even though Sasol benefits only indirectly from these latter

<sup>6</sup> This agreement was terminated in 2003.

<sup>7</sup> The inland market, or 'Sasol supply area', included the inland provinces of South Africa (Competition Tribunal 2006: 19).

Table 13.3 *Subsidies to the liquid fuels industry in South Africa*

Subsidy	Type of subsidy	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sasol	MPS	a	a	a	a	a	127	a	a	a
Transnet pipeline	Government funding	b	b	b	148	137	127	b	b	b
PetroSA (personnel training)	Government funding	b	b	0.37	0.32	0.29	0.26	0.38	b	b
Central Energy Fund (oil and gas)	Government funding	b	b	b	8.32	5.51	6.41	6.70	8.62	9.94
SANEDI	Government funding	b	b	b	b	b	b	5.69	8.28	b

*Note:* All amounts in 2016 USD million.

<sup>a</sup> No transfers for that subsidy in a given year or lack of data.

<sup>b</sup> Lack of data.

objectives. The company's own lobbying efforts are also important; the Competition Commission, for example, has noted Sasol's opposition to pricing reform.

Sasol is presently the primary beneficiary of fuel pricing regulation due to its low production costs, which has resulted in the company receiving economic rents through the import parity price (on top of the direct subsidies it received). Sasol's excessive profits as a result of the pricing rules have been a bone of contention (Competition Tribunal 2006). We estimate the value of the market price transfers to Sasol for 2012 (the only year for which data were available) at USD 127.44 million (in 2016 USD) (Lott 2016: 78).

Support to the liquid fuels sector has also taken the form of direct transfers to finance infrastructure in support of energy security. The Department of Energy, for example, transferred USD 411.46 million to Transnet – the operator of state-owned ports, railways and pipelines – between fiscal year 2011 and fiscal year 2013 to support the commissioning of a large new pipeline.

Finally, SOEs also received direct transfers for personnel training, the promotion of oil and gas exploration and production and research and development on hydraulic fracturing and carbon capture and storage (PetroSA 2010, 2012, 2013; Maqubela 2014: 18; National Treasury 2014a, 2015, 2016a). These subsidies are shown in Table 13.3.

### 13.4 The Politics of Fossil Fuel Subsidies and Their Reform in South Africa

Legitimate reasons for subsidies – such as energy security – blend with the long-term lock-in of entrenched institutions and the interest groups that have formed around them in the mix of different subsidies and their rationales (Victor 2009). There is no public debate on fossil fuel incentives in South Africa, as the scale of support for fossil fuel production remains largely unknown. These subsidies form the core of long-running economic-development interventions by the state and its support for particular sectors. Finally, subsidies are inextricably linked to the distributive politics and racial economic transformation goals of the post-apartheid state.

Questions of subsidy definition and policy problem definition in South Africa have effectively kept the issue off the institutional or decision agenda (cf. Kingdon 2014). There is no agreement on what constitutes a subsidy or the scale of subsidisation, particularly for production subsidies. Many national civil society organisations define non-priced externalities as subsidies, with their work focused on community impacts. For example, we found only one non-governmental organisation active in the energy sector that has carried out considerable research on public support to large industries (Centre for Environmental Rights et al. 2016).

The Treasury has a narrower focus on the consumption subsidies and taxes over which it has institutional influence, with little focus on production subsidies, which cross institutional boundaries (Machingambi 2014). The Treasury does engage with international groups (e.g. G20) around subsidies, and the international level provides some impetus to reform subsidies and to adopt broader low-carbon policies (National Treasury 2016b).

The above-mentioned rationales for the subsidies are often linked to broader economic development plans and thus reflect ideas within the state and the ruling ANC Party about the nature and form of economic development and the state's role in that context. Many policy documents outline the ANC's goal for the 'developmental state' to take an active part in shaping the country's economic trajectory; such documents also emphasise the importance of resource utilisation (the use of coal and other minerals) as a basis for industrialisation (Mohamed 2007). Providing infrastructure is an important component of this developmental approach. The National Development Plan, New Growth Path, and internal ANC policy documents all emphasise this role and the role of SOEs such as Eskom in supporting growth (ANC 2007, 2010; NPC 2011). For example, 'investment in energy, rail, roads, ports and other infrastructure remains a cornerstone of [the] government's economic strategy' (National Treasury 2010: 96).

Eskom in particular has received large state bailouts – which essentially support coal-fired power and mining – because unbundling the ailing monopoly has not

been politically feasible. Attempts to liberalise the electricity sector in the late 1990s as part of the new post-apartheid energy policy process met with resistance from unions and parts of the ANC, who perceived liberalisation as the first step to privatisation of a sector that is intended to provide a public good and is a core component of the developmental state. Eskom also opposed being broken up or sidelined (Eberhard 2007; Baker and Burton 2018).

The contradictions between climate change mitigation and the use and support of fossil fuels for development are widespread. Such contradictions reflect long-running internal contestations in the government and within the ANC about industrial policy, even as research has shown that shifting away from resource-based industrialisation would have better economic outcomes (Altieri et al. 2015). Diversification away from minerals has been a prominent goal of industrial policy, but the blunt-force ‘heavy industry’ approach of state provision of railways, pipelines and other infrastructure has continued to receive substantial support. Such support has been concentrated in sectors that are core to the minerals-energy complex.

This may be because this type of ‘heavy industrialisation’ – which is closely aligned with types of industry that are based on, support or use fossil fuels – is easier for states to implement when they have limited capabilities. Forward-looking strategies in the National Development Plan focus extensively on the development of state capability as part of an economic diversification strategy. However, the tension between diversification and minerals/heavy industry has not been resolved in policy (neither in the National Development Plan nor in industrial policies), with persistent subsidisation for sectors deemed important for the economy.

Climate policy has emerged alongside older policies and is based in parts of the government not necessarily responsible for the original subsidy. For example, climate policy is based in the Department of Environmental Affairs, and the carbon tax is based in the Tax Directorate in National Treasury. Yet liquid fuels pricing, which perversely guarantees profits for the carbon-intensive coal-to-liquids sector, is the ambit of the Department of Energy and is not a Treasury mandate (National Treasury 2016c). Indeed, the state has continued to subsidise production while attempting to introduce a carbon tax on emissions as a reform measure to promote economic efficiency. While this is inefficient in terms of transaction costs, it may reflect diverging objectives in government (since many departments make direct on-budget transfers for infrastructure development), as well as the relative power of different state departments, their own interests and their relationships to and shared ideas with interest groups. While Treasury manages state finances, departments are responsible for overseeing their policy spaces and managing their budgets. SOEs report to the Department of Public Enterprises or to ministries in that sector.

Finally, these notions of development further link to the distributive elements of fossil fuel subsidies. Eskom has for many years been central to the system of accumulation of the minerals-energy complex. The coal sector indirectly benefits from the support given to state-owned companies such as Eskom (and previously Sasol). The rationale for the creation and maintenance of subsidies historically and currently is often implicitly related to industrial policy and is explicitly distributive – to create new capitalists in the coal sector, for example, or to ensure ‘radical economic transformation’ in the liquid fuels sector (Fine and Rustomjee 1996; Marquard 2006; Whitley 2013; DoE 2014). In the case of Sasol, the benefits that accrue to the company are not seen as a transfer from consumers to a producer, and a new pricing system for liquid fuels is not a priority on the policy agenda. This is partly because of the persisting narrative that Sasol is key to energy security, as well as the company’s perceived strategic importance to the economy in terms of security of supply, investment, tax, job creation and value added, i.e. beneficiation of coal into higher value products domestically (RSA 2007; Rustomjee et al. 2007). Reform also would threaten new Black Economic Empowerment entrants in the retail sector.

Benefits continue to accrue to fossil fuel producers and reflect the lock-in of the transfers to corporations set up by the authoritarian apartheid state. These subsidies are not socially, environmentally or economically efficient, but they remain unchanged because of concerns about potential risks to security of supply and the state’s limited capability to regulate different market structures. Many of the large transfers are embedded in the specificities of the South African energy sectors and have rationales beyond merely reproducing a fossil fuel system. These include the lack of other options and ideas regarding industrialisation and development, which may account for much of the ongoing support.

Quantifying the scale and extent of support is an important first step towards reform of production subsidies (Rentschler and Bazilian 2017). Reform will require the emergence of as-yet-unseen conditions, including coalitions between non-state actors and the state. As in other areas of policy, the government faces opposition from those who benefit (e.g. in the case of Sasol). In many cases the benefits of reform may be clearly more equitable or efficient, but the potential for organised opposition and reform of subsidies is limited without knowledge on who benefits, how and why.

### 13.5 Conclusion

Our analysis has shown that fossil fuel production has been and continues to be supported in various ways in South Africa. Since 2008, direct transfers have ranged between USD 454 million and USD 2.09 billion per year, whereas quantified



revenues foregone have been between USD 2.45 million and USD 336 million. This increases considerably when we include the price support received by Sasol via the regulated fuel price. Beyond this, substantial unquantifiable subsidies exist but require further research to quantify.

Quantifying these subsidies contributes to the debate on fossil fuel subsidies in South Africa, which until now has been largely hindered by a lack of information and secrecy around subsidisation. We have distilled key elements of state support for fossil fuels and extended prior analyses. Quantifying subsidies to fossil fuels will enable the necessary research to understand the economic and distributional impacts of reform. However, further research is required to understand the options for reform in different sectors and departments, as well as within the ANC. While we have outlined some substantial subsidies to fossil fuels, these also require further research to analyse the political dynamics of the ministries responsible.

Given the importance of state intervention in fossil fuel production in South Africa, our findings raise important questions about the role of the state in economic development, the costs of intervention, and policymaking processes in South Africa more broadly. Mitigation is viewed as ‘too costly’ (Baker et al. 2015), yet the state continues to support fossil fuels. Liquid fuels pricing reform remains off the policy agenda despite the large rents accruing to Sasol through the pricing system. This is partly explained by the borders of different policy spaces, where new policies have emerged alongside (rather than in place of) existing support in different parts of the state. Understanding the internal dynamics of different ministries and their perception of their role in subsidising fossil fuel sectors is an important avenue for future research.

Support for fossil fuel production cannot be divorced from more general analyses of the political economy of particular states and sectors, nor from broader questions regarding politics and economic strategies. The distributive implications of reform must be better understood, especially since Black Economic Empowerment objectives are supported by policies that promote subsidies for fossil fuels.

Reform will require determined action from civil society and other groups opposed to subsidies. South Africa needs debate, discussion and consultation about reforms, as well as further economic analyses of the outcomes of individual subsidy reform. Quantification is a necessary first step in understanding the scale of fossil fuel subsidies in South Africa. Ultimately, long-term economic development planning may need reinvigoration and new ideas to infuse into the state and the ANC. Without revising the current industrial development plans and pathways, state support for fossil fuels will remain locked in and continue to support a high-carbon development pathway. Fossil fuel subsidy reform may offer a narrow



mechanism where disparate groups can agree on reform, especially in South Africa, where production obviously benefits so few, usually large, corporate actors.

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## The Politics of Subsidies to Coal Extraction in Colombia

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### 14.1 Introduction

Following the 2016 peace agreement with the Revolutionary Armed Forces of Colombia (FARC), the Colombian government focused on the crucial issue of how to finance the peace process, especially as oil revenues declined following rapid price decreases the same year. A structural fiscal reform was promulgated at the end of 2016 with the aim of rebalancing public accounts and addressing critical revenue challenges. Reform proposals focused on issues such as value-added tax (VAT) and tax evasion, yet long-running fiscal support to sectors such as mining received a free pass, even though the restructuring or elimination of subsidies might have unlocked an additional source of government revenue.

Colombia is one of the top five exporters of thermal coal globally, and the coal mining sector became a core pillar of the government's economic-development policy during the 2000s. However, debate about the governance of the extractives sector (i.e. production of minerals, coal, oil and gas) has increased, notably around the real costs and benefits of mining, including large-scale coal mining. This debate has focused on the lack of transparency in the governance of mining and on the use of income generated by mining activities, as well as its environmental and social impacts. As a result, the mining sector, including coal extraction, suffers today from a growing legitimacy deficit in the eyes of the general public and, increasingly, local governments, who argue that they do not reap enough of the economic benefits (Long 2017).

This situation has contributed to a redesign of the mining policy (MME 2016) and has encouraged the government to become a member of the Extractive Industries Transparency Initiative (EITI) in an attempt to improve governance of the sector. Despite these changes, subsidies to the mining sector, including to coal mining, are increasingly a controversial subject in Colombia. There is, however, little explicit 'subsidies' language in policy debates or the academic literature, and

the first two EITI reports submitted by the Colombian government (MME 2017; 2015a) make no mention of any subsidies to extractive industries.

To understand the resilience of fiscal support to coal mining in Colombia, this chapter explores the political dynamics behind the introduction and maintenance of various kinds of subsidies that support extraction. It focuses particularly on the subsidies regime associated with large-scale coal production. After a brief overview of the sector and its socio-economic importance, we introduce some of the key subsidies to large-scale coal extraction and then explore why and how these subsidies have been maintained. We discuss two key examples of subsidies – the Plan Vallejo and a royalty rebate – in more detail before drawing conclusions.

## **14.2 The Economic, Social and Political Roles of Coal Extraction in Colombia**

Colombia produced roughly 85 million tonnes of coal in 2015, corresponding to 1.5 per cent of global production (BP 2017). More than 90 per cent of this is high-quality thermal coal from large-scale open-pit mines (SIMCO 2016). Compared to many other major coal producers, Colombia consumes little coal domestically: only 6.5 per cent, mainly for power generation and industrial use (IEA 2016). In 2015, virtually all the large-scale coal production in the La Guajira and César departments was exported (SIMCO 2016). Most of the coal consumed internally is produced by small- and medium-scale mines. Therefore, coal production serves other, more significant societal functions than ensuring power generation and energy security. This is reflected in the fact that the legal and institutional framework governing coal extraction is for minerals, whereas other fossil fuel extraction activities such as oil and gas fall under the country's energy policy. Since 2000, coal extraction has been dominated by private companies, with three of them – Cerrejón, Drummond Ltd. and Prodeco – producing more than 76 per cent of all Colombian coal (MME 2015a).

In 2015, coal mining represented little more than 1.3 per cent of the country's gross domestic product (GDP) and 12 per cent of exports (MME 2016: 43). Yet the economic weight of coal extraction is particularly significant in the two main producing departments: in 2013, the industry contributed to 38 and 47 per cent of the regional GDP in the César and La Guajira departments, respectively (DANE–Banco de la República 2015a, 2015b).<sup>1</sup>

The extractives industry in general has been a substantial contributor to the country's public finances, accounting for about one-third of revenues in 2013

<sup>1</sup> In 2015, more than 92 per cent of coal was produced in the César and La Guajira departments (SIMCO 2016).

(Nieves Zárata and Hernández Vidal 2016). Most of that comes out of the hydrocarbons sector; in 2015, the sector was responsible for three-quarters of the extractives industry's contributions to the country's public revenues via taxes, royalties and other types of financial compensation (MME 2017). For royalties alone, 82 per cent in 2014 came from oil and gas extraction, compared to 15 per cent from coal extraction and 3 per cent from other minerals (MME 2015b).

However, the wider economic benefits of large-scale mining have been the subject of growing criticism. Some highlight a lack of overall socio-economic development despite the extraordinary rents the commodity boom brought to the country (Rudas Lleras and Espitia Zamora 2013; Torres et al. 2015); others worry about the potential negative macroeconomic effects of resource extraction (Torres González 2014). In a 2015 study commissioned by the Colombian Mining Association, 59 per cent of the interviewed inhabitants of mining municipalities said their well-being would improve if no further mining activities were developed (Arteaga 2016).

Serious concerns over the environmental and human security impacts of large-scale coal mining have also been raised, focusing on community (voluntary or forced) relocation, indigenous and Afro-Caribbean communities' rights (Múnera Monte et al. 2014) and air, water and soil pollution (Cabrera Leal and Fierro Morales 2013; Cardoso 2015). Between 2000 and 2016, at least 179 social conflicts linked to the extractives sector (especially coal, gold and oil) have been documented (Valencia and Riaño 2017). However, although 86 per cent of Colombians in 2016 thought that mining is destroying the environment, 78 per cent considered it essential for development (Rojas and Hopke 2016).

Coal production also plays an important part in the country's politics. Since the 1990s, the national government has based its economic policy on internationalisation and has embraced the extraction of natural resources as a main driver for development, thus facilitating the entry and operation of foreign financial and technological capital into the large-scale extractives sector (Vélez-Torres 2014). During this period, key mining actors reinforced their links with the national political elite (Sankey 2013), enabling the creation of a strong alliance between the national government, local elites and the mining sector under the administrations of Álvaro Uribe (2002–10) and Juan Manuel Santos (2010–18).

### 14.3 Subsidies to Coal Extraction in Colombia

As mentioned in [Chapter 1](#), defining subsidies is a political exercise (see also [Chapter 2](#)). We draw on the definition from the Global Subsidies Initiative



(GSI 2010a, 2010b), which builds on and expands the definition from the World Trade Organization's Agreement on Subsidies and Countervailing Measures. The GSI thus defines subsidies as preferential treatment in all forms (financial and otherwise) provided to selected companies, to one sector or product when compared to other sectors or to sectors or products in one country when compared to other countries. It distinguishes the following categories of subsidies to fossil fuel producers: direct and indirect transfer of funds and liabilities, government revenue foregone, government-provided or government-purchased goods or services and income or price support.

Although incentives to coal extraction are rarely referred to as 'subsidies' in Colombia, the work by Rudas Lleras and Espitia Zamora (2013), Pardo Becerra (2014; 2016) and Chen and Perry (2015) shows that there are a broad range of incentives to large-scale coal extraction, some of which can be considered subsidies. Many of these are tax incentives, a form of indirect support. The Directorate of National Taxes and Customs reported 179 tax discounts for the mining sector in 2014 (Parra et al. 2014: 31).

Here we provide a non-exhaustive account of subsidies from which the large-scale coal sector benefits (or has benefited from) to illustrate the diversity of mechanisms used to support the sector. While in many cases coal companies are conferred benefits because they belong to the wider mining or extractives sector, in some cases subsidies are specific to the coal sector. The following examples also show that while some of the subsidies are conferred through legal or administrative measures that target the (coal) mining or extractives sector explicitly (*de jure*), other conferred benefits are more general economic incentives that have ended up serving the interests of the mining or coal industry disproportionately (*de facto*). Table 14.1 summarises the subsidies according to the Global Subsidies Initiative classification.

In terms of *revenue foregone*, the coal sector (and the rest of the mining industry) benefits from an exemption on departmental and municipal taxes. This implies that departmental and municipal governments are prevented from generating additional tax income from coal exploitation and exploration (Pardo Becerra 2014). The mining industry, including coal, also benefits from a deduction for anticipated investment amortisation: mining exploration and development expenditures are written off within at least five years, and expensing of failed explorations is allowed.

Between 2004 and 2011, the sector disproportionately benefited from a special deduction in their income tax of 30 per cent from the investment value of newly acquired real productive fixed assets (Rudas and Espitia 2013). When introducing this measure in 2003, President Uribe – recognising it could incur significant



Table 14.1 *Examples of subsidies to coal Extraction in Colombia by subsidy category*

Subsidy category	Subsidy type	Colombian case	Conferred benefit as
Government revenue foregone	Tax expenditure	Exemption from departmental and municipal taxes (e.g. tax on industry and commerce)	Mining industry (de jure)
		Special deduction in income tax for newly acquired real productive assets	Mining industry (de facto)
		Deduction for anticipated investment amortisation	Mining industry (de jure)
		Exemption from special tax on combustibles	Coal industry (de facto)
		Various exemptions and deductions through Plan Vallejo	Coal industry (de facto)
		Certificate for tax rebate	Extractives sector (de jure)
Government-provided or government-purchased goods or services	Reduced royalties payment	Royalties tax rebate	Mining industry (de jure)
	Private Property Recognition scheme	Specific case (de jure)	
Relief from normal costs and procedures	Under-pricing of government-provided goods and services	Security and protection services	Specific case (de jure)
	Exemption from government procedures normally followed by enterprises	Faster/easier licensing and title-securing process through the Project of National and Strategic Interest classification	Specific case (de jure)

Sources: GSI 2010a, 2010b.

fiscal costs – framed it as a way to stimulate foreign direct investment and employment in a national context marked by insecurity and infrastructure deficits (Presidencia de la República 2003). However, because it proved both costly and ineffective (Galindo and Meléndez 2010), this measure was abandoned when President Santos came to power as part of an effort to improve tax collection efficiency.

Further, a 1959 measure to stimulate exports, known as the Vallejo Plan, allows Colombian companies to claim total or partial exemption from customs duties (such as tariffs and VAT) when they import raw materials, intermediate inputs, capital goods and spare parts that are destined for the manufacture of export goods. The Vallejo Plan was intended to incentivise the manufacturing industry and promote non-traditional exports. However, it ended up disproportionately favouring the coal sector (see Section 14.5). In addition, the 2016 fiscal reform reintroduced for the extractives sector the Certificate for Tax Rebate, a credit that can be applied to taxes on income, custom duties and other taxes.

Besides the tax expenditures just described, large-scale coal mining has also benefited from an exemption from special taxes because of its geographical proximity to Venezuela. In 2001, a tax relief measure was introduced to support the economy of border areas, exempting liquid combustibles distributed by the national oil company Ecopetrol from VAT, import duty and the ‘global’ tax on gasoline and diesel. This measure was initially supposed to be temporary but was extended and modified on several occasions. In 2007, the exemption was restricted to big consumers, or those consuming on average more than 20,000 gallons a month. As a result, there were fewer beneficiaries from the measure; however, one of these was the large-scale coal industry. The subsidy was eliminated in 2010 as part of tax reform in the Santos administration.

The coal sector, like the rest of the mining industry, is also eligible to deduct royalties from its income tax (see Section 14.5). This measure cost the Colombian state more than COP 13 trillion (approximately USD 6.2 billion) between 2006 and 2012 (Congreso de la República 2014).

Some coal companies benefit from special conditions under the Private Property Recognition scheme, a legal provision establishing the royalty rate at 0.4 per cent or more of the production value. This compares with the general minimum rate of 5 per cent of the mining pit revenue for companies extracting up to 3 million tonnes annually; the rate is 10 per cent for companies extracting more than 3 million tonnes annually. This special regime applies to certain mining titles issued by the state to private individuals during the nineteenth century (intended to boost mining). It did not include environmental, technical or economic obligations

until 2011, when the 0.4 per cent minimum royalty rate was introduced through a ruling by the Constitutional Court. Three of the 55 existing Private Property Recognitions are for coal (Pardo Becerra 2012), including one for a title owned by Cerrejón (Cerrejón 2010).

Regarding *benefits from the provision of goods and services below market value*, the mining sector receives special security and protection services by the Colombian government (CODHES 2011; Vélez-Torres 2014). This can take the form of providing information, escort and backing, as well as designing security protocols and managing dynamite stocks on site. Companies appear to be contributing to part of these costs but not all of them (Glencore 2015). This type of relationship between companies and the state is established formally in agreements between the Ministry of Defence and the companies themselves (Sarmiento 2008). However, these contracts are mostly kept secret under the argument of preserving national security (Tierra Digna 2015). In 2011, about 12,000 army and navy personnel were reported to be protecting extractive operations (Mining Colombia 2011).

In the category of *relief from normal costs and procedures*, an example of a subsidy is the use of the Project of National and Strategic Interest classification. Private projects that are deemed strategic for the social and economic development of the country are eligible for special procedures relating to environmental licensing and land ownership applications (González Espinosa 2015). The Colombian Ministry of Mines and Energy lists four coal Projects of National and Strategic Interest, including mines operated by Cerrejón, Prodeco and Drummond Ltd. (MME 2018).

These are only some key examples that illustrate the diversity of subsidies to the (coal) mining industry and the mechanisms used to confer them. However, it is possible that coal mining companies benefit from additional subsidies through special conditions negotiated directly in the contracts they signed with the state (Tierra Digna 2015).

#### 14.4 The Power Dynamics Behind Coal Subsidies in Colombia

Understanding why subsidies were originally introduced is essential for identifying the opportunities and challenges for their reform. Here we turn attention to the political strategies used by a particular coalition of actors in Colombia – comprising the national government, coal extraction companies and other mining companies – to introduce and maintain subsidies that benefit coal extraction. As Victor (2009) highlights, the politics of subsidies include both their demand from typically well-organised groups of private actors and their

supply by government in the pursuit of specific policy goals (e.g. attracting foreign investment or fostering industrial development). The introduction of the special income tax deduction for investment in real productive fixed assets by President Uribe in 2003 (see [Section 14.3](#)) is an example of the latter.

Various authors have conceptualised the relations between policymakers, public officials and incumbent companies as an alliance interested in maintaining the status quo and resisting fundamental change (Geels 2014; see [Chapter 4](#)). One example is the ‘minerals-energy complex’ in South Africa, which describes capital accumulation of fossil fuels companies backed by policymakers (Fine and Rustomjee 1996; see [Chapter 13](#)).

Building on Geels (2014) and Kern (2011), the approach we take is to explore the political strategies and factors behind coal subsidies by analysing different forms of power: discursive, instrumental and institutional. ‘Discursive’ forms of power refer to processes of elaborating and making public discourses, which shape not only what is being discussed (thus setting agendas) but also how issues are discussed (see the discussion of ideational factors in [Chapter 1](#)). A better understanding of how ideational factors influence the introduction, maintenance and removal of subsidies can be gleaned by examining how those advocating for or offering subsidies frame coal extraction and the benefits or ‘necessity’ of government support. ‘Instrumental’ forms of power refer to cases where actors use resources (e.g. positions of authority, money, access to media, personnel and networks) to achieve their goals and interests (see also [Chapter 1](#)). ‘Institutional’ forms of power refer to how elements embedded in political cultures and governance structures (or socio-political factors) are mobilised or contribute to shape the subsidies regime (see also [Chapters 1](#) and [4](#)).

#### *14.4.1 Discursive Forms of Power*

Exploiting natural resources has been a key pillar of modernisation efforts in Latin America since the 1950s and remains an essential component of economic development models across the region, notably with the global boom in commodity prices of the 2000s (Veltmeyer and Petras 2014). The relationship between extraction and economic development has been a key narrative used by the region’s governments to legitimise the existence of incentives to the extractives sector.

In Colombia, the development model shifted noticeably towards the extractives sector during the Uribe administration (2002–10). A special role in fuelling economic development was given to both hydrocarbons and minerals extraction. The development of the energy and mining sectors, together with the democratic

security policy,<sup>2</sup> was seen as the path for Colombia to become one of the leading economies in Latin America by 2019 (Insuasty Rodriguez et al. 2013). The government's discourse on the special role of the mining sector in Colombia's economic development was accompanied by statements on the need for foreign investment to fully develop Colombia's mining potential – and therefore on the need to increase the country's competitiveness by providing incentives to foreign investment.

During the first administration of Juan Manuel Santos (2010–14), resource extraction maintained its central role and was framed as one of the 'locomotives of development' in the National Development Plan (NDP 2010). In this period, the government also increasingly used the concept of 'responsible mining' (Presidencia de la República 2013; Santos Calderón 2014). Since 2015, however, this metaphor was abandoned in response to the economic and legitimacy issues of the mining sector. A new 'peace' frame was introduced: the national government now justifies the importance and incentives given to the extractives sector based on its expected contribution to funding the peace process and its associated social programmes (González Espinosa 2015).

This new frame not only ensures that the extractives sector is perceived as a key partner, or even an enabler, of the country's new development era after the peace deal with FARC, but it also leads to distorted public perceptions about the actual importance of coal in Colombia's economy and its actual contribution to the state's income, as well as to the diffusion or suppression of some of the concerns raised about the sector's socio-economic impacts. As the leading mining industry, coal has benefited from being included in a broader mining and energy package that levels out the particularities and differences between minerals and hydrocarbons. For instance, the differences in terms of revenues generated and scope of payments between the hydrocarbons and the mining sector are considerable. The extractive sector paid COP 35 trillion (USD 18.5 billion) to the Colombian state in 2013, but only COP 2.3 trillion (USD 1.2 billion) was from the mining sector. Of that, 85 per cent was paid by the three main coal companies, Cerrejón, Drummond and Prodeco (MME 2015a).

#### 14.4.2 *Instrumental Forms of Power*

A key political factor behind the maintenance of subsidies to the coal sector in Colombia is the strengthening of a broad constellation of actors that include mining business associations and others that benefit from the subsidies regime.

<sup>2</sup> This policy aimed to re-establish internal order and to protect civilians from illegal, armed organisations, theoretically under a framework of rights and protections related to the rule of law. In practice, the policy privileged a conventional military approach (Mason 2003).

Traditionally, lobbying through business associations has been an effective way for mining companies to secure significant subsidies for the sector, as described in [Section 14.5](#). Until 2014, there were three main business associations defending mining interests: the Colombian Chamber of Mining, the Association of Large-Scale Mining Sector and the Miners' Association (Asomineros). However, they combined to create the Colombian Mining Association in order to improve bargaining positions and communication to the general public. This fusion implies that the Colombian Mining Association is now representing a very large portion of the mining industry, articulating and representing interests from operators, producers and goods and services providers to the sector.

As was the case with framing strategies, coal producers have partnered with the rest of the mining industry to benefit from a more powerful position when negotiating with the government. However, this partnering strategy also creates additional challenges for the large-scale coal sector. While facing its own reputational challenges, it now also indirectly faces criticism that was traditionally linked to other mining subsectors, such as the disastrous environmental impacts of mercury use in gold extraction. While the coal sector's strategy had been to keep a low profile to reduce financial and operational risks deriving from social acceptance issues (González Espinosa 2013), large companies are now increasingly engaging in communication activities, using the media to respond to accusations and improve their image.

The large-scale coal sector has also been involved in important partnership initiatives with public institutions aimed either at improving the performance of the sector (e.g. the EITI) or at engaging in social programmes (e.g. Alianza Social, a programme through which mining companies made voluntary commitments with the National Agency for Overcoming Extreme Poverty). These initiatives have been useful platforms for the sector to interact with key policymakers at the national level. At the local level, coal companies and political leaders have historically been closely linked, including through the revolving-door channel (when policymakers join industries they used to regulate and vice versa) or through political campaign financing (Transparencia por Colombia 2014). For example, several former governors and other local political leaders have had a long-standing relationship with Cerrejón, from when the state still had a stake in the company (González Espinosa 2013).

### ***14.4.3 Institutional Forms of Power***

One key element in understanding government support to coal mining, including subsidies, is the historical legacy of internal conflict and the Colombian state's

weakness and lack of legitimacy among large sections of the population. In 1991, the country underwent a constitutional reform that sought to increase the presence of the state by devolving fiscal and political power to lower levels of government and expanding basic social services (Torres del Río 2015). These measures, together with defence efforts to deal with drug trafficking, paramilitary activities and guerrilla warfare, required considerable resources. The state thus needed revenues urgently and introduced successive fiscal reforms that would prioritise rapid revenue production (or limit specific expenditures such as regional transfers) instead of tax efficiency, a situation that has prevailed since the 1990s despite several attempts at structural reform (Olivera et al. 2010). Indeed, royalties became one of the most important public revenues in resource-rich regions. In La Guajira, royalties reached an annual average of USD 23.6 million between 1985 and 2004; this amount increased along with production between 2005 and 2007 to an annual average of USD 105 million (FCFI 2009: 10).

At the same time, conditions established in loan agreements with the International Monetary Fund in 1998 and 2003 led to a series of privatisations and restructuring of the state. Compared to other Latin American countries, where structural adjustment and pro-market economic policies aimed to reduce the role of the state, Colombia intended to use these measures to strengthen the state's administrative functions (Flórez Enciso 2001). This pursuit of short-term revenues partly explains why the economic policy of the 2000s prioritised the extractives sector and introduced incentives for mining. The thinking was that development of this sector would deliver a steady flow of rents for the state, as long as conditions were made attractive enough to foreign investors (Caballero Argáez and Bitar 2015).

Another key dimension here is the fragmentation of political parties and lack of programmatic discipline, a result of modifications to the Constitution of 1991 concerning political parties' representation in the Congress and also of powerful lobbying by interest groups (Pizarro Leongómez 2002). These political dynamics have favoured the expansion of nominal tax rates while simultaneously expanding tax exemptions (Salazar 2013).

### **14.5 Political Factors in the Introduction, Maintenance and Removal of Subsidies**

This section describes how the political dynamics introduced earlier have shaped the establishment, maintenance and/or removal of two subsidies that have highly benefited the Colombian coal industry.



### **14.5.1 Plan Vallejo**

Plan Vallejo was introduced under the Alberto Lleras administration at the end of the 1950s in response to a deep economic crisis characterised by a drop in the price of coffee, a crisis in foreign trade, structural unemployment and a decades-long agrarian conflict. The Plan, combined with tighter currency controls and import restrictions, aimed to boost the transformation of imported raw materials and subsequent export, as well as to expand Colombia's export capacity (Garay Salamanca 1998). This effectively represented a shift from the import-substitution industrialisation model to a new model based on the promotion of non-traditional exports. As a result, non-coffee exports started to increase exponentially after the 1967 modifications to the currency exchange policy (Amézquita Zárate 2009). This framing remains today: the Minister for Trade announced an expansion of the Plan at the end of 2016 with the aim of increasing exports from sectors other than mining and energy (Lacouture 2016).

The 1960s economic policy change was also the result of a significant shift in the country's politics. At that time, a political agreement known as the National Front (1958–74) had emerged after years of bipartisan violence and military dictatorship, where the two main political parties (the Liberal and Conservative Parties) alternated power during four presidential terms. Under these special political circumstances, clientelism deepened (Leal Buitrago and Dávila Ladrón de Guevara 2010), bringing economic elites together and safeguarding the interests of the emerging bourgeoisie and old landowners around the patrimonial order and the generous profits from coffee exports and industrial production (Leal Buitrago 1996).

Although the Plan has gone through a series of modifications since its introduction, especially regarding its administration, its main terms are still being applied five decades later. However, the definition of 'non-traditional exports' has not been adjusted over time, even as the actual export mix has changed, and as a result – against the spirit of the initiative – the industry benefiting most from the policy has been coal mining. Along with the internationalisation of Colombia's economy, the share of coal exports under Plan Vallejo increased from 3.2 per cent in 1985 to 27.2 per cent in 1990 (Garay Salamanca 1998). In 2015, over one-third of the exports made under the Plan consisted of coal (Granada López et al. 2016).

The maintenance of Plan Vallejo was called into question by the World Trade Organization, whose Trade Policy Review Body identified the Plan as an export subsidy in 1996 and reported it to the Committee on Subsidies and Countervailing Measures (see also Chapter 7). Colombia was given until 2003 to phase out Plan Vallejo and other export-related incentives. Thanks to 'heavy diplomatic artillery',

the country was granted a three-year extension (El Tiempo 2002). After further negotiations, Colombia managed to keep the Plan for raw materials and services, although it had to limit the scope with regard to capital goods and spare parts. Subsequently, during negotiations about a free trade agreement, the United States initially requested elimination of the Plan for raw materials. Once again, however, Colombia managed to keep it rolling; after negotiations, the trade agreement allowed Plan Vallejo to remain in place (El Tiempo 2005).

Pressure on the Plan not only came from outside but also from inside the country. In 2004, at a Presidential Summit of the Andean Community, President Uribe suggested dismantling Plan Vallejo if other Andean countries would do the same with similar instruments. This generated strong opposition not only from the coal sector but also from other export-oriented sectors that rely heavily on the Plan's incentives to maintain their competitiveness (Correa 2004). This suggests that an important factor for the maintenance of the Plan is support and lobbying from other industries, such as flowers and textiles production, through broader business associations such as the National Association of Exporters (Analdex).

In summary, framing and instrumental strategies have been essential in ensuring that the industry keeps the conferred benefits despite both internal and external pressures. The strength of the discourse around the contribution of Plan Vallejo for Colombia's industrial development, along with effective lobbying from a coalition of exporting industries, has enabled the Plan to remain legitimate in a different economic model than the one in which it originated. This example also illustrates how a policy that was not designed as a subsidy to the coal sector when it was introduced became one as a result of changes in the domestic and global economic context.

### *14.5.2 Royalties Rebate*

In 2005, a decision by the National Tax and Customs Directorate allowed mining companies to deduct the royalties they pay from their income taxes. This measure was introduced in response to a formal request by Carlos Alberto Uribe, who was then the president of Asomineros (and is not a close relative of the ex-president). The business association argued that royalties are a cost for companies – although the Colombian Constitution establishes that royalties constitute a mandatory compensation to the state generated by the exploitation of non-renewable natural resources.

The decision marked a significant change in the institution's interpretation of Colombia's tax law, since it had itself responded negatively to the same request on two earlier occasions, in 1998 and 2004 (Proyecto de Ley 071 2014). In 2005,

however, the National Tax and Customs Directorate argued that mining companies should be given the same treatment as the national oil company Ecopetrol and be allowed to discount royalties from their income taxes.

There have already been at least four attempts to remove the subsidy since its introduction: in November 2011, when the Senate discussed the government take from mining activities; in 2012, when the Liberal Party led a proposal to reform the royalties system; in 2013, when a group of congressmen and academics submitted a simple invalidity action to the State Council, and again in 2014 through a legislative proposal from Senator Julio Guerra Soto. The lawsuit filed in 2013 was ultimately successful. In October 2017, the State Council canceled the measure (Morales Manchego 2017).

This last example not only illustrates how powerful and well-organised private interests contributed to the introduction of a key subsidy to coal production in Colombia through instrumental strategies, but it also shows how the mining sector, dominated by coal companies, has made use of institutional means to get new subsidies in place. It also raises questions about accountability and democracy in relation to the subsidy's introduction; despite the subsidy's significant impact on the state's spending capacity, and resulting indirect impacts on the Colombian population's well-being, its adoption was made by a non-representative authority.

## 14.6 Conclusion

The Colombian case illustrates the diversity of subsidies that are provided to fossil fuel production. It provides insights into the varied and innovative framing strategies used by producers and the governments to justify the existence of fiscal incentives. It also suggests that a powerful actor coalition exists in Colombia beyond the coal sector itself, including not only other minerals producers but also the national government and, in some cases, other export sectors. While relying mainly on traditional instrumental strategies, the coal industry has also made efforts to develop innovative framing strategies while relying on institutional support from the national government to maintain existing or obtain new subsidies.

In Colombia, a complex set of objectives is being pursued by the government, not all of which relate to the energy or natural resources sectors. The Colombian example highlights issues of democratic legitimacy and accountability in the establishment of subsidies, as evidenced by the example of the royalty rebate. When the Colombian Congress discussed the 2016 fiscal reform, there was significant debate about a VAT increase – a measure known for placing a high burden on the poorer segments of the population – but little was said about

sectoral subsidies, such as those described here benefiting coal mining. The Congress did not discuss the actual socio-economic benefits of such subsidies or the opportunity cost of maintaining them. This is nevertheless a crucial matter within the context of the peace agreement's implementation. The process needs significant public resources, and peace is contingent on the well-being of and economic opportunities for Colombians in rural areas, which depend on how public resources are used.

The Colombian case offers insights into how historically inherited political and social factors have influenced the governance of the sector, including the provision and maintenance of subsidies. Many of these influential socio-political factors are shared with the rest of Latin America, as a result of the continent's historical processes of integration in the global economy. A historical comparative assessment of the Colombian case with other Latin American fossil fuel and minerals producers – such as Brazil, Chile, Peru and Venezuela – would provide interesting perspectives on how domestic and global political and economic factors have interacted to shape the current subsidies regime for fossil fuel extraction in these countries. Understanding these interactions will be essential to effectively combine domestic and global strategies for reforming fossil fuel subsidies.

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## Reforming Egypt's Fossil Fuel Subsidies in the Context of a Changing Social Contract

TOM S. H. MOERENHOUT

### 15.1 Introduction

In July 2014, as a very first measure under newly elected President Abdel Fattah el-Sisi, the Egyptian government drastically reformed domestic energy prices. It increased the prices of most petroleum products and electricity for a wide range of consumers including industry, commercial businesses and households. At the time these reforms were implemented, Egypt faced a disconcerting record-high fiscal deficit, public debt surpassing 100 per cent of the country's gross domestic product (GDP) and the highest unemployment rate in decades, particularly among the country's youth (World Bank 2017).

While this dire situation had been long in the making due to Egypt's inequitable and excessive subsidisation system, the Arab Spring aggravated the country's predicament. In the wake of unprecedented political instability – and a political revolution that led to the ousting of Hosni Mubarak in 2011 – both the Morsi and El-Sisi governments had expanded certain patronage packages, while growth rates dropped about 4 percentage points to below 2 per cent. To top things off, the net-hydrocarbon-importing country had faced international oil prices of around USD 100 per barrel in the preceding years. As a consequence, fossil fuel subsidies had become the largest government expenditure item, comprising 20 per cent of expenditures in 2013–14 (Moerenhout 2017).

In short, it was a situation of superlatives: fossil fuel subsidy reforms were exceptionally urgent, while the political climate appeared utterly hostile. At first sight, Egyptian politics appeared in disarray. Among other demands, a quest for more socio-economic justice and dignity was at the heart of the Arab Spring (Beissinger et al. 2015). When Mohamed Morsi failed to deliver, mass protests supported by the military led to his arrest. By the time General El-Sisi (who had led the revolt against Morsi) became President El-Sisi, it was considered a substantial political risk to reform what was the country's foremost method of distributing welfare.

It was to the surprise of many that the sizeable reforms were implemented with relatively little public, political and private opposition – notwithstanding the fact that they fundamentally contradicted the implicit social contract that had existed for decades. This chapter explains why political economy conditions in 2014 were actually exceptionally beneficial to the implementation of subsidy reforms. It does so with reference to ‘behavioural realist traditions’, i.e. theories on how heterogeneous stakeholders act and why. I first shortly summarise political developments since the Arab Spring in Egypt. Next, I explain behavioural realism and how to understand key stakeholder dynamics in Egypt. I then discuss each of these stakeholder dynamics in detail for the July 2014 reforms (with reference to the historical context). Finally, I discuss how these dynamics have changed since 2014, effectively constraining the government’s legitimacy.

## **15.2 Crisis and Political Turmoil in Post–Arab Spring Egypt**

In February 2011, President Mubarak was ousted as a result of large street protests and a decision by the military to stay neutral. The key slogans of the revolution were a demand for dignity and socio-economic justice and opportunity. In late 2011, the Muslim Brotherhood won the parliamentary elections and its leader, Morsi, won the presidential election in June 2012. The Brotherhood was the most organised opposition group and had wide support among the many groups to which it offered social services. In the end, Morsi won with a narrow margin in the second round against Mubarak’s former prime minister, Amhed Shafik.

The subsequent efforts of President Morsi and the Brotherhood to consolidate political power came at the expense of countering the economic crisis. As Morsi’s popularity decreased and he repeatedly antagonised the military establishment, the military strongly supported street protests, which quickly grew to more than a million people across Egypt. In early July 2013, the military intervened, officially ‘on behalf of the people’; by many, it was heralded as a *de facto* coup. The army removed Morsi and the Brotherhood from power and installed an interim government until new presidential elections were held. The leader of the armed forces, General El-Sisi, gained a huge amount of popularity during this time. The Muslim Brotherhood was removed (by force) from Egyptian politics.

In the July 2014 election, Sisi was elected in the first round by more than 90 per cent of the vote. The election was recognised internationally and by all opposition parties. His first measure in office was to reform the country’s fossil fuel subsidies. From 2014 to 2016, Sisi’s popularity decreased as the impact of reforms was painful and accusations of governmental corruption were rampant. In 2015, Sisi had to replace his entire government because of corruption allegations. Furthermore, he used repressive tactics to reduce potential domestic opposition.

While there were positive results from the necessary but drastic domestic reforms, the resulting fiscal breathing space was used to pursue further reforms in August 2016. This second round of large, structural reforms was required to unlock an urgent International Monetary Fund (IMF) loan. Reforms included energy pricing increases, the introduction of a value-added tax and the free floating of the Egyptian pound. These measures led to a spike in inflation, which further increased Sisi's unpopularity. At the time of writing, it is best to understand Egypt's reform process as a country walking on a balancing cord in a socio-political hurricane (Moerenhout 2017).

### 15.3 Behavioural Realism and the Implementation of Fossil Fuel Subsidy Reform

#### 15.3.1 *The Nature and Pace of Reforms: Stakeholders Matter Most*

The failure to reform fossil fuel subsidies is primarily due to the political economy aspects of reform (Victor 2009). Many analysts (from the IMF, the World Bank and the Global Subsidies Initiative) point to a maze of conditions that explain why reforms are successful or not, including timing, political regime, internal coordination, interest-group behaviour and technical characteristics of reform (Beaton et al. 2013; IMF 2013a, 2013b; Kojima 2016). While it is clear that different conditions affect each other and that a successful reform outcome is causally complex, it is possible to understand (and, to a certain extent, predict) the political arena by understanding the dynamics among stakeholders. A behavioural realist stakeholder assessment has the advantage of recognising that stakeholders reach decisions in heterogeneous ways.

What does this mean? In general, it means that a political economy analysis of subsidy reform starts with how stakeholders actually behave rather than with how they should rationally behave to achieve the economically best possible subsidy reform process. It is logical that organisations concerned with macroeconomic stability (such as the IMF and World Bank) prescribe gradual reform as a key to successful long-term subsidy reform. This would be the wisest path from an economically rational standpoint. A behavioural realist school of thought argues that this does not coincide with the political reality under which many subsidy reforms take place.

Behavioural realism argues that different stakeholders make choices in different ways. Some stakeholders act rationally and will decide on exercising pressure based on the distributive impact of reforms, their interest and their potential influence (Baron 2013). As described later, in the Egyptian context, the military and political opposition parties behaved in a more rational way. Other stakeholders,

however, do not necessarily act as economically rational individuals. This is where behavioural realism innovates: by looking at the psychological drivers of citizens. It is without a doubt that citizens can be a powerful opposition group to subsidy reforms. This was particularly the case in Egypt, where they had demonstrated their power twice in three years' time.

Therefore, behavioural realism argues that analysing stakeholders' interests from a mere conventional rational choice point of view is insufficient to predict political outcomes (Kahneman 2013). To assess the behaviour of citizens, behavioural realism relies on 'system justification theory' and 'loss aversion'. The latter is the notion in behavioural economics that explains people's preference for avoiding losses instead of acquiring equal gains. The former explains how individuals tend to behave when various belief systems conflict with one another. For example, while reform might be economically disadvantageous, citizens may have different dominant belief systems at the time of reform (such as fear of physical security or patriotism). System justification theory finds that people are often willing to accept rationally negative consequences to remain consistent with such dominant belief systems at the time of reform (Blasi and Jost 2006).

System justification theory and framing are closely related. A key insight of the framing literature is that individuals do not just make decisions based on individual preferences but in evaluation of a social context (Madrian 2014). System justification theory would assess what types of conflicting and dominant belief systems are shared among citizens so that frames can be developed to maximise reform acceptance. In this way, the behavioural realist framework employed here focuses on the role of actors opposed and in favour of reform and how framing may influence such actors within the window of opportunity to change socio-political structures – the social contract – in Egypt (see Chapter 1).

### ***15.3.2 A Behavioural Realist Framework for Studying Fossil Fuel Subsidy Reform in Egypt***

Researching Egypt's 2014 subsidy reforms benefits from a behavioural realist approach. As Table 15.1 shows, the Egyptian reforms were of a 'big bang' nature. Egypt's 2014 reforms are a good example of opportunistic reform. Many subsidy reforms in countries with traditionally low prices happen in shocks and during windows of opportunity, most often at the time of an observable fiscal crisis or after an election. Public choice scholars often speak of the 'crisis hypothesis' and the 'honeymoon hypothesis' to explain why structural reforms tend to be implemented in such an opportunistic fashion (Williamson 1994).

Table 15.1 *Egypt's 2014 and 2016 subsidy reforms*

	Key July 2014 price increases	Key August 2016 price increases
Gasoline	78% (gasoline-80), 41% (gasoline-92), 7% (gasoline-95)	47% (gasoline-80), 35% (gasoline-92), price allowed to float (gasoline-95)
Diesel	64%	–
Kerosene	64%	31%
Natural gas	33–204% (energy-intensive industries), >200% (low users), 500% (medium users), 700% (high users)	±50% (low to medium users), 33% (heavy users)
Heavy fuel oil	50% (cement), 30% (bricks, other users), 40% (bakeries and food)	7% (most users)
Electricity	<50% (low users), ±17% (commercial and other residential users)	Up to 40% residential, up to 20% commercial (mainly medium and heavy users)
Liquefied petroleum gas	Excluded from reforms	87%

*Source:* Collected by author.

As the government is primarily responsible for the planning and implementation of reforms, the possibility of reform ultimately depends on its assessment of the need for reform, as well as whether key stakeholder groups are ready to accept such reforms without threatening the government's legitimacy. In Egypt, I argue that legitimacy depends on three key stakeholder dynamics: (1) the social contract that guides the relationship between the state and its people, with the state composed of the government and the military, but with government primarily responsible towards its citizens, (2) the relationship between the military and the government and (3) the presence or absence of political alternatives to the government (Figure 15.1).

First, the historical contract between the state and the people of Egypt has closely resembled that of other countries in the region. The key characteristic of that social contract is the exchange of people's loyalty to the country's authoritarian regime for a government-driven distribution of welfare. In practice, this means that the state was given a monopoly on Egypt's economy, including the exploitation of hydrocarbons and other resources. In practice, the ruling government exploited the economy for its own benefit and without profound public oversight. In exchange, the government was expected to provide public employment and subsidised food, energy, housing, social security and so on (Fattouh et al. 2016). Taking away fossil

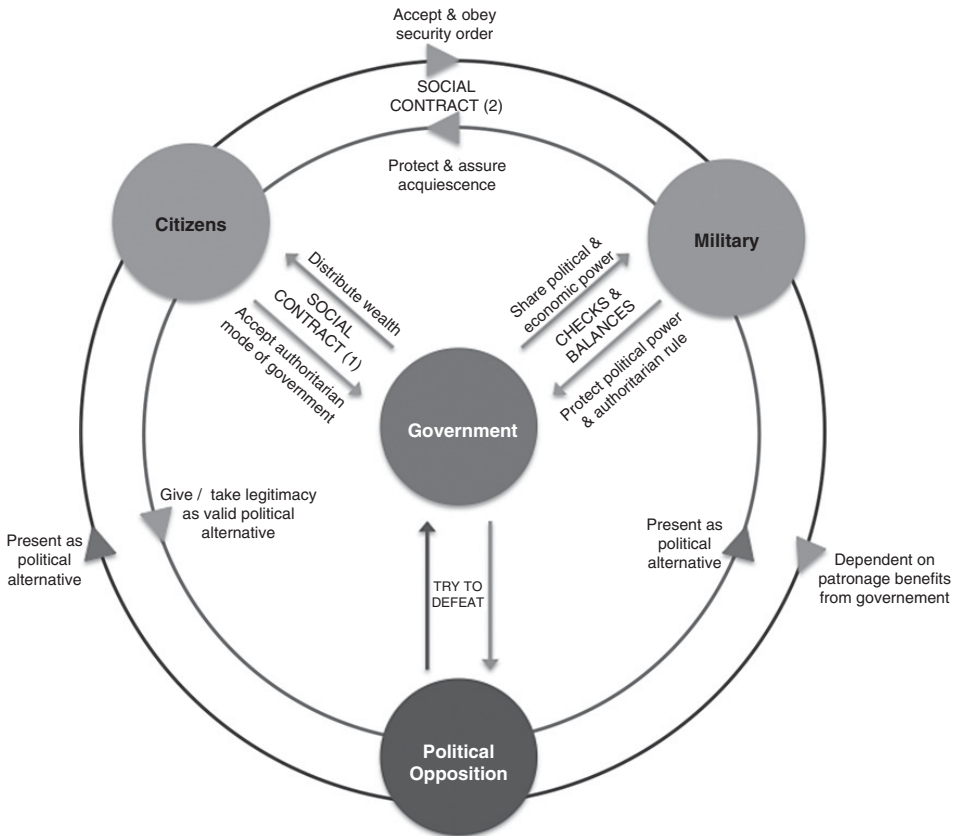


Figure 15.1 Stakeholder dynamics in Egypt.

fuel subsidies not only hurts people's welfare, but it can also be a symbolic measure indicative of a changing social contract. Much of what Sisi has done so far is change the social contract unidirectionally: less distribution of welfare but a maintaining of authoritarian power.

Second, the relationship between the Egyptian military and government is one of checks and balances. The government needs the military to protect the country and, importantly, to support it in the domestic application of its policies. In simple terms, the government uses the security sector to be the 'stick' to ensure civil acquiescence to its regime. When people revolt against the state because of breach of the social contract, they often do this in the first place against the government and only secondarily against the military. This is because the military is believed to provide checks and balances to the government. In Egypt during the Arab Spring, for example, the army acted against Mubarak and Morsi. In reality, the military is a huge institutional apparatus that protects the political and economic power it



shares with government. In practice, such interests are often linked to the energy sector, to large infrastructure projects and so forth. This makes the military a key stakeholder in large reforms.

Third, the government acts to silence political opposition. Political opposition attempts to manifest as a realistic alternative to rule the country. It seeks to influence the perception of stakeholder groups that it can cover their interests better than the current government.

#### **15.4 Military Support and the Absence of Political Alternatives During the July 2014 Reforms**

When Sisi implemented subsidy reforms in July 2014, two out of three constraining factors were mitigated, which made the implementation of fossil fuel subsidy reforms far easier. He had the support of the military, and there was no effective political alternative with the repression of the Muslim Brotherhood.

##### ***15.4.1 Why the Military Mattered to the Implementation of the July 2014 Reforms***

Support of the military for fossil fuel subsidy reforms was necessary for two reasons. First, the military had strong interests in fossil fuel subsidies and could therefore be an opposing actor. Second, the military was needed to showcase strength and prevent unrest following reforms. The fact that President Sisi spent his life as an officer in the Egyptian army improved relationships. The military had been historically involved in non-military manufacturing, including energy-intensive industries (CMI 2013: 2), and in fuel black markets. Under Mubarak, however, many business deals went to private capitalists or internal security forces (Makara 2013: 345–46). This was one of the reasons why the military ultimately did not suppress the Arab Spring protests (Barany 2011; Akkas and Ozekin 2014: 83).

After Mubarak's ousting, the military government re-established its economic and political position. In his one-year rule, President Morsi tried to reverse some of these steps and centralise power at the expense of the military's political power (Brown 2013: 45–50). He also pushed an Islamist agenda in which he counted on military support in safeguarding security. This challenge on two fronts made the military increasingly wary of its relationship with Morsi (CMI 2013: 4). At the same time, Morsi sought more oversight over the Suez Canal expansion project at the expense of the military (Marshall 2015: 11–12). Eventually, the military opposed Morsi and the Muslim Brotherhood and started actively supporting massive demonstrations with the assistance of Saudi Arabia and the United Arab Emirates (Marshall 2015: 18).

After his election as president, Sisi immediately extended the military's influence on major manufacturing, transportation and infrastructure projects. Their leading role in the Suez Canal expansion project was also reaffirmed. He also involved the military in other projects, such as national bank loans to a subsidiary of Tharwa Petroleum, the only state-owned national oil company involved in upstream activities (Marshall 2015: 14–18). As such, fossil fuel subsidy reform could be advantageous for the military because it would strengthen the capacity of Egypt's oil sector to pay off its debts to foreign operators. Via Tharwa Petroleum, the military would then benefit from foreign investors re-entering the Egyptian market (McMurray and Ufheil-Somers 2013). At the same time, following frequent negotiations with the military, Sisi decided to drop liquefied petroleum gas (LPG) from the 2014 subsidy reforms. It is believed that this is because the military was a key stakeholder benefiting from black markets for LPG cylinders (James 2014). In exchange for these benefits, not only did the military support fossil fuel subsidy reform, but it also supported Sisi's reign, which resembles that of a return to a repressive and authoritarian state (Khalaf 2016).

#### ***15.4.2 The Absence of Political Alternatives and Prior Subsidy Reform Under Morsi***

Because of its strong organisation, the Muslim Brotherhood was able to boost the numbers of protesters when it united with nationalistic civil society movements to oust Mubarak. It is also a key reason why it won the subsequent elections. However, the goal of replacing the Mubarak regime with an Islamic regime appeared far less important for most demonstrators than the primary economic reasons and the secondary demands for civil and political freedom (Beissinger et al. 2014: 4). The Muslim Brotherhood, however, spent most of its one-year reign on consolidating power. When the military intervened and removed Morsi from power, they also subsequently crushed the Muslim Brotherhood. Thereby, they effectively nullified the most organised opposition party.

In retrospect, the short time period that the Islamist government under President Morsi was able to govern mostly served as a catalyst for the subsequent El-Sisi presidency to actually implement substantial reforms. It confirmed the nationalistic sentiment that had been prevalent in the wake of the Arab Spring (Akkas and Ozekin 2014: 80) and the need for economic reforms. This is the platform on which Sisi would announce fossil fuel subsidy reforms. At the same time, the Brotherhood had become the scapegoat for the enduring financial crisis, with most political parties supporting its removal from power (Butter 2013: 13). It also increased the popularity of the army, which gave Sisi a huge

amount of political capital at the start of his presidency to actually implement reforms.

That said, Sisi benefited from some key fossil fuel subsidy reforms Morsi had initiated. In the 2012–13 period, prices for gasoline more than doubled for high-end vehicles, fuel oil prices increased by one-third for non-energy-intensive industries and by half for energy-intensive industries, while they rose by one-third for electricity generation. Electricity prices for households also increased on average by 16 per cent (Sdravlevich et al. 2014: 45). Natural gas prices also increased for residential, commercial and industrial consumers. However, the real prices for all refined products actually decreased due to inflation (Clarke 2014). In addition to actual price increases, some institutional innovations were prepared. One success was the development of an electronic tracking system to monitor fuel movements between suppliers and filling stations aimed at cutting fuel smuggling to Turkey and Gaza (James 2014). The result was the uncovering of hundreds of fuel stations that only existed on paper (Butter 2013: 14–15).

### **15.5 Energy Subsidy Reform and a Unidirectionally Changing Social Contract**

Inevitably, the rationalisation of energy prices was going to impact a large part of his constituency, particularly lower- and middle-income households that had lambasted the Mubarak regime for not taking care of its people. To achieve acceptability for the reforms, Sisi attempted to mitigate distributional losses and change the perception of reform. He did this by playing into the belief systems of Egyptians via a wide variety of measures (described later). In this way, he tried to achieve buy-in for a structural reformation of the social contract. While in 2014 such a change may have appeared successful, his subsequent governing style resembles a return to the security state. This section shows that this attempt for a unidirectional change of the social contract has the potential to backfire on the regime.

#### ***15.5.1 A Crisis of Unprecedented Proportions and the July 2014 Reforms***

By the time Morsi was ousted, Egypt's debt surpassed 100 per cent of its GDP, the Egyptian government risked defaulting on its debts, GDP growth had dropped from 5 per cent pre-revolution to around 2 per cent in 2012–14 and unemployment had risen, particularly among the country's youth (about 40 per cent of those aged between 20 and 24). At the same time, there was widespread inflation (rates were around 10 per cent after the Arab Spring) and a record-level budgetary deficit (nearly 14 per cent of GDP in 2012–13). Rural-urban income disparities also were

on the rise, and there were considerable disruptions in fuel and electricity supply (Butter 2013: 4; Paciello 2013: 2; ERPIC 2014; James 2014; Muthuthi 2014). The only economic indicator that looked somewhat acceptable was the balance of payments, and that was only due to a generous financial support package from Gulf countries.

Energy subsidies were one of the main causes of this bleak picture. Expenditure on fuel subsidies had grown with a compound annual growth rate of 26 per cent between 2002 and 2013 (Clarke 2014), amounting to about USD 21 billion, which represented 8.5 per cent of GDP (Griffin et al. 2016: 2) and 20 per cent of public expenditure (El-Katiri and Fattouh 2015). The July 2014 reforms were steep price increases affecting various consumer groups and nearly all fuels and energy products, with LPG being the one notable exception. Among the main transport fuel price increases were a 64 per cent hike in diesel prices, a 78 per cent hike in gasoline-80 and a 40 per cent hike in gasoline-92. Kerosene prices also rose for all users by 64 per cent. Fuel oil prices did not increase for the electricity sector but did for the cement sector, food industry and other users. Natural gas prices increased substantially for all energy-intensive industries and for electricity generation. Residential natural gas prices were staggered by consumption levels, with larger consumers paying more; still, small-scale consumers saw their price double. Finally, electricity prices increased for all consumer groups but were also blocked to eventually allow for cross-subsidisation (Clarke 2014: 4–5).

### *15.5.2 Modest Mitigation Measures to Cover Distributional Losses*

Besides using communication campaigns to affect belief systems (see below), the government also introduced several compensation measures to ease stakeholder reluctance about reform. As Egypt's non-subsidy social safety net was poorly developed, a few short-term measures that strongly resembled conventional social contract politics were used to send out a message that Egypt's government wanted to cushion the effects of the reform. With the crucial help of a USD 12 billion package from Gulf countries, Egypt implemented two stimulus packages in August 2013 and January 2014. Minimum wages in the public sector were raised, even though it increased the budget deficit (Muthuthi 2014: 4). This financial assistance from the Gulf also included USD 3 billion in fuel supplies to reduce the fuel shortages that had been so prominent during Morsi's reign (Butter 2013: 13–14).

Right before the fossil fuel subsidy reform, the government also extended the food subsidy system to include 20 new products (Clarke 2014). This was intended to reduce concerns about food price increases as a consequence of fossil fuel

subsidy reforms. At the same time, the fact that it was implemented before and explicitly linked to the fossil fuel subsidy reform reduced the risk of protest due to loss aversion among the people. When a compensation measure is implemented before subsidy reforms and explicitly linked to such reforms, people are more likely to become attached to this compensation measure and, consequently, feel relatively less averse towards the associated subsidy reforms. Finally, there was a promise to keep LPG – a fuel widely used by poorer households – subsidised (El-Katiri and Fattouh 2015). As far as transport goes, there were several concerns (see below). In response, the government offered some free transport in army buses (James 2014).

### *15.5.3 Psychological Drivers of Citizens at the Time of Reform*

Relative to the size of the fossil fuel subsidy reforms, the aforementioned compensation measures were largely insufficient to ease the welfare losses of a large part of Egyptian households. The reason why the Egyptian population was willing to accept such reforms goes beyond mitigation measures. It is difficult to know whether Egyptians were simply tired of conflict or they were genuinely open to redrawing the blueprints of how Egypt was managed. However, it does seem likely that the government's use of the carrot and stick – as well as the characteristics of reform – certainly played into the belief systems of Egyptians and, as such, increased the acceptability and support for reform. It did so in primarily four interdependent ways.

First, the timing of reform meant that Sisi could take full advantage of the so-called honeymoon period. In the wake of Morsi's ousting, General El-Sisi and the military had gained popularity. Unlike Morsi, El-Sisi was also elected in one round and with about 90 per cent of the vote, giving him extensive political capital (James 2014). El-Sisi used a large part of this political capital immediately by addressing fossil fuel subsidies, which had been left untouched by the transitional government (Paciello 2013: 3). System justification theory supports the notion that to be consistent with their electoral choice, people more easily trust the newly elected leader, even if his choices contradict their material interests (Blasi and Jost 2006).

Second, the immediate announcement of fossil fuel subsidy reform and the communication around subsidy reform left no space for people to doubt that reform was actually happening. By pressing the inevitability of reform, Sisi reduced a status quo bias as change was imminent, not just a potential plan. Behavioural psychology has shown that when change is certain, people adjust more easily to the idea of it (Blasi and Jost 2006). Egyptians were also aware that there were no real political alternatives. After three years of political turmoil, Sisi had a firm grip on

power. In a ruthless display of power, he had cracked down violently on the apparatus of the Muslim Brotherhood. At the same time, public protests had been banned in 2014. This discouraged demonstrations (fear as a dominant belief system), particularly with the awareness that the leading general had just been elected president.

Third, the framing of reform and complementary measures linked back to the key demands protesters called for during the Arab Spring. Communication campaigns addressed the inequitable nature of fossil fuel subsidies by explaining how they disproportionately reached the rich. This argument fell in line with the protesters' argument for more socio-economic justice. It also stressed the urgency of the measure to revive the Egyptian economy, which also played into the major concern that had caused the country's two popular uprisings. Right after his election, Sisi also increased taxes on the wealthy and imposed a new capital gains tax on business. These moves got him praise, as they showed a contrast with the Mubarak regime (Marshall 2015: 19) and increased the belief that the government was serious about its intention to revive the Egyptian economy.

Fourth, a key element of Sisi's strategy was to target the nationalistic sentiment that had been so dominant in the uprisings (patriotism constituting a dominant belief system). Sisi stressed the responsibility and need for 'shared sacrifice' (a key slogan in the fossil fuel subsidy reform communication campaign) to repair Egypt's economy, while admitting that the price increases themselves were unpopular. He mixed the promise of renewed economic opportunity with a Nasser-esque national pride to gain the most effective support for reform possible. One notable example outside of fossil fuel subsidy reform is the Suez Canal expansion project, which increased national sentiment by limiting sales of investment certificates to Egyptian nationals.

#### ***15.5.4 Intra-Governmental Coordination and External Support for Subsidy Reform***

It is a consensus among international experts (such as the IMF, World Bank and the Global Subsidies Initiative) that subsidy reform requires a large level of international coordination and a supportive coalition. Stakeholder interests and influence gave the government a nearly blank cheque for economic reforms in July 2014. On the side of the government, Sisi had a predominantly technocratic cabinet that also favoured reform. This in itself already reduced internal competition within the high ranks of government. Sisi also took on leadership over reform and profiled himself as such externally. That said, even before Sisi's election, Egypt's government was working with internal and external experts (such as the Global Subsidies



Initiative and the World Bank's Energy Sector Management Assistance Programme) to prepare an extensive public relations campaign. This effort was essential given the severe lack of awareness about the costs and inequity of fossil fuel subsidies. Apart from some initial inconsistencies, there generally was consistency in messaging, from everyday governmental communication in the media to Sisi's widely broadcasted televised speech (Clarke 2014).

Sisi could also count on the supporting stance of several other stakeholders. Already for years an informal coalition of businesses, industry, commentators and academics had argued in favour of meaningful subsidy reform (Clarke 2014). The media were also generally supportive of Sisi's proposed reforms (Marshall 2015: 19) and mainly focused on the impact on households and on what the government could do to protect the poor. Both the general media and social media appeared to react in a balanced manner towards the reforms (Clarke 2014). Because of this wide coalition and consensus, other political stakeholders generally did not strongly oppose reform. Most political parties saw their role marginalised following Sisi's landslide election. Some leftist political parties did oppose reform, but mainly on the grounds that they wanted more preparation, particularly with regard to the impact on households (Clarke 2014). Similarly, the wealthy elite did not oppose reforms, even though there was a clear direction from the government to target subsidies better. As in many parts of the middle class, a fatigue and desire for order and stability made the wealthy favour Sisi's proposed reforms (The Economist 2015).

The most vocal actor opposing subsidy reform was the transportation sector. Transport operators believed that they were providing a public service and that this ought to remain supported. President Sisi and the prime minister negotiated with transport operators to make sure that they would not resort to increasing prices in the face of uncertainty. However, transport operators did increase their prices when subsidy reform was announced and even resorted to strikes and demonstrations in Cairo, Sinai and Alexandria (Clarke 2014). Many drivers, however, are not linked to particular political parties or associations, and the drivers' union was fairly weak. This explained how their opposition was relatively well contained during the implementation process.

### *15.5.5 How People's Belief Systems Changed, but Only Temporarily*

Even though many people remained sceptical about the ability of the government to redistribute and invest savings from the subsidy reforms (El-Katiri and Fattouh 2015), system justification theory (Blasi and Jost 2006) suggests that people can easily extend the acceptability of a government within one issue (overthrowing Morsi, favouring economic recovery, measures targeting the rich, etc.) to another



(actually being able to achieve tangible economic progress via subsidy reforms). The characteristics of reforms and actions by Sisi, as mentioned earlier, fundamentally altered the framing of subsidy reform from a measure that affirmed corruption during Mubarak to a necessity for economic revival under Sisi.

As in other countries in the Middle East and North Africa, the gradual acceptance that subsidy reforms were necessary to counter deteriorating economies represented a significant shift in the belief systems of Egyptian people (Moerenhout et al. 2017). The communication campaign approach used by Sisi was also in stark contrast to Morsi's approach and generally to how the earlier social contract had operated for decades. It showed an understanding on the part of the government that convincing the Egyptian people of a particular policy had become a necessity to progress on impactful reforms.

At this stage, the social contract began to shift tangibly. The Egyptian people accepted that the government would no longer support a subsidy-based distribution of welfare, and in exchange, the government spent more effort to communicate its policies to the people. Nonetheless, the people's expectations were high. The government promised more economic opportunity and more targeted social safety mechanisms for those in need. In the years after the subsidy reforms, these expectations were not met. Consequently, and also as a result of Sisi's repressive mode of governing, a large part of the Egyptian people started to notice that the social contract was changing unidirectionally.

### **15.6 Frustration with the Change of the Social Contract Since the 2014 Reforms**

In the two years following the July 2014 reforms, Sisi's popularity decreased, as it became increasingly obvious that the social contract was changing in just one direction. Sisi was not able to meet the people's expectations to deliver more targeted social assistance or to spur domestic economic growth. At the same time, Sisi was increasingly using repressive tactics to silence and prevent domestic opposition. Civil society organisations played a crucial role in mobilising Arab Spring protesters. The ability to freely organise during the Mubarak years covertly shifted the power balance in the social contract. Sisi attempted to undermine such a civil society response to his authoritarian rule.

Already in 2014, the price increases were very unpopular among the poor and lower-middle-income households, subsequently reducing the popularity of Sisi with this group (Clarke 2014). Notwithstanding Sisi's efforts to better target social assistance to the poorer segments of Egyptian society, the slow pace of progress in this field does not re-establish trust in Sisi. On the eve of the 2014 reform, social safety nets had low coverage and inadequate financing and often disproportionately

targeted the non-poor. Given other stakeholder dynamics (see below), strengthening social safety nets is a key priority for the El-Sisi government to retain trust in the reform process. Even though the government is working together with the World Bank to strengthen two large social safety net programmes (World Bank 2015), progress has been slow, while the Egyptian people feel the negative impact of the reforms (Moerenhout et al. 2017).

At the same time, Egypt is still waiting for economic growth. The tourism sector has not recovered, and there are overall few new job opportunities. The drop in international oil prices has been a blessing and a curse. On the one hand, it reduces the gap between international prices and domestic prices. On the other hand, Gulf countries stalled financial aid packages because of their own internal fiscal problems (Aman 2016). This has increased scepticism about Sisi's competence to restore the economy. Also, wealthy Egyptians who favoured stability in 2014 are increasingly discontent as they feel the grip of Sisi's policies that generally favour the poor (Walsh 2016). As far as the military is concerned, the 2014 reforms caused a shift in production and investment to the construction sector (Griffin et al. 2016). However, not all construction projects have yielded results as fast as hoped. For example, while the jury on the Suez Canal expansion is still out, many analysts believe that the government's estimate of additional revenue was on the ambitious side (Egyptian Streets 2016).

On top of all of this, Sisi was obliged to pass a second round of large reforms to access a USD 12 billion IMF loan in August 2016. These reforms included energy price increases, the introduction of a value-added tax and a free floating of the Egyptian pound. The result was a large and unpopular inflation spike that reached almost 20 per cent in November 2016 (Moerenhout 2017).

The 2016 reforms and delay in results seem to have changed the perception of many poor and middle-income groups. One part of system justification theory is that people easily resort back to stereotyping. This played out in Egypt as the trust put in Sisi in July 2014 eroded very fast and was replaced with the traditional stereotype of a corrupt and incompetent government. While there had been allegations of corruption in the social security sector earlier on (James 2014), a painful reality check occurred in the summer of 2015 when Sisi was forced to replace his entire government due to corruption scandals (Moerenhout et al. 2017).

## 15.7 Conclusion

Tough economic reforms and Sisi's repressive mode of governing have frustrated the Egyptian people. The hope for a sustainable, new social contract seems stuck in the history books. In 2014, that hope had seemed real. The Arab Spring had

demonstrated the strength of the people vis-à-vis government. The key priority was socio-economic justice and economic growth. At the same time, the government had a great window of opportunity to pass the difficult reforms needed to restart the engine of economic growth. These reforms included an alteration of the social contract: government could no longer provide across-the-board subsidies. At the same time, Sisi seemed aware of the need to communicate why these reforms were necessary and to ask for ‘shared sacrifice’. Whether or not the government intended it, the messaging and combination of measures played into the behavioural psychology of the Egyptian people, which ultimately led to a smooth implementation of energy pricing reforms.

Soon after 2014, however, the hope for a durable alteration of the social contract disappeared. It became increasingly clear that Sisi was attempting to alter the social contract unidirectionally by clinging to an authoritarian mode of power, while economic pressure on the population kept growing. His popularity decreased because of the negative impacts of subsidy reform. His Nassereseque political gamble to unite the country under a nationalistic discourse until the realisation of economic results failed. He had to replace his entire government due to corruption allegations, and the development of targeted social safety nets was much slower than anticipated. Finally, because of a drop in oil prices, financial aid from Gulf countries was cut off, leaving Sisi no choice but to implement more painful reforms to unlock IMF loans.

Egypt’s situation will be unsustainable if reforms do not quickly spur the engine for economic growth. Unless it provides tangible improvements for its citizens, an unpopular and repressive government that is reforming to comply with the conditions of international financial institutions will be at significant risk of political instability. Fossil fuel subsidy reforms that constitute unidirectional changes to the social contract are not durable in the long run.

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# Actors, Frames and Contexts in Fossil Fuel Subsidy Reform

## *The Case of Trinidad and Tobago*

MICHELLE SCOBIE

### 16.1 Introduction

Small island states tend to frame global climate change action in terms of climate justice and environmental stewardship. In fossil fuel-producing developing states, debates about fossil fuel subsidies also include redistributive justice frames, for instance, that the population has a normative right to cheap energy. The question is, how are these contradictory frames reflected in countries that are simultaneously small island developing states and fossil fuel producers, and do other frames also feature in their debate on fossil fuel subsidy reform?

This chapter examines how fossil fuel subsidies and their reform have been addressed in Trinidad and Tobago, a petroleum producer and small island developing state. It puts forward an analytical framework of actors, frames and contexts that have been central to the global and local subsidy reform debate. The chapter uses this framework to understand the particular context of a small island state that is heavily dependent on hydrocarbon exports for its socio-economic development and that has had entrenched producer and consumer subsidies (in the electricity and transport sectors) since the 1970s. The chapter illustrates how different actors use different frames (e.g. environmental stewardship, economic prudence, climate and energy justice) in the subsidy reform debate and how historical and economic contexts are relevant to the reform process.

### 16.2 The Nature of Fossil Fuel Subsidies in Trinidad and Tobago

Caribbean small island developing states share a history of colonial exploitation (Baptiste and Rhiney 2016), with a peripheral economic development model that kept an entrenched dependence on colonial powers even after independence. Caribbean island states have many of the vulnerabilities of small island developing states that make their survival a remarkable challenge (Fry 2005; Mertz et al. 2009): small size and populations, limited resources, economies that

are vulnerable to external economic shocks and dependent on tourism and primary production, especially agriculture, limited resilience to climate change, high levels of migration and limited commercial prospects due to their small scale and geographical position. Having suffered marginalisation and exploitation at the hands of industrial powers during colonialism, the region now suffers the deleterious effects of industrialisation through climate change impacts (Baptiste and Rhiney 2016; Popke et al. 2016). This includes extreme climatic events, such as floods, hurricanes and drought (Palanisamy et al. 2012; Troitz and Lindo, 2013), that come with adaptation and mitigation burdens (Rhiney 2015).

Trinidad and Tobago has since 1857 used its petroleum industry as a pathway to social and economic development. Its undiversified economy is heavily dependent on hydrocarbon exports (i.e. petroleum, petroleum products and natural gas; IMF 2016). Since 1990, the hydrocarbons sector changed from being based on oil to mainly natural gas recovery, processing, downstream industries and export; it also has one of the largest liquefied natural gas processing plants in the world (GORTT 2017b). It has a population of about 1.3 million and a human development index of 0.772, which in 2014 placed it as sixty-fourth in the world and seventh in the Americas and the Caribbean (UNDP 2016). The country ranked sixteenth in the world in natural gas exports in 2014, with approximately 17.4 billion cubic meters of gas exported (CIA 2017). It has one of the highest per capita emissions in the world largely because of the size of its hydrocarbons industry compared to its small population. Together with all small island developing states, Trinidad and Tobago contributes to less than 1 per cent of global carbon emissions. However, the country is faced with the climate justice dilemmas of all small island developing states: delivering cheap fuel to its low-income groups and globally uncompetitive small business sector while also considering the environmental responsibilities of reducing emissions. The country's petroleum output fell progressively after 2015, and fiscal accounts have been negatively affected by falling energy prices (IMF 2016). The national debate on the need to reduce or remove the fuel subsidy began in the 1990s, driven by falling global petroleum prices; the subsequent falling revenues made it difficult for the government to finance this social transfer.

Trinidad and Tobago has producer and consumer fuel subsidies for the hydrocarbon industry. Producer subsidies include fiscal investment incentives to exploit hydrocarbons and produce petrochemical products, written into production-sharing contracts between the government and large foreign (mainly multinational) companies. Far from removing these incentives, the industry's argument is that the government's incentives should continue or increase because the sector is now



facing diminishing returns – i.e. reserves have fallen, and exploration for unexploited wells in deeper territorial waters is costlier and riskier than the near-shore wells drilled thus far. The incentives include preferential loans, royalty exemptions, depreciation allowances, tax credits, infrastructure allowances and support, research funding and exemptions from import duties on plant and machinery (Iwaro and Mwasha 2010). Consumer subsidies include pre-tax vehicle fuel subsidies for public, commercial and industrial transportation; prices at the pump are fixed by the state and include the refinery price, excise duty, wholesale margin, retail margin, value-added tax, road improvement tax and the subsidy. The country also provides pre-tax electricity subsidies to domestic, commercial and industrial users. Negligible electricity production comes from renewables despite the government's policy to provide incentives for the use of wind and solar power.

Most of the national fuel subsidy reform debate centres on the removal of transport fuel subsidies, for which disaggregated data are available (Imbert 2016c; Imbert and Khan 2016; Imbert and Raffoul 2017). Table 16.1 shows the main uses for transport fuels and how the subsidy has changed between 2011 and 2015.

Pre-tax fuel subsidies for 2006–15 were on average 2 per cent of gross domestic product annually (TTD 31 billion, or about USD 4.6 billion) and strongly correlated to global crude prices (IMF 2016). Lower petroleum prices reduce the subsidy, but this also means that the government has less revenue to finance the subsidy and other social transfers. The transport subsidy disproportionately benefits higher-income groups; in 2014, the average monthly subsidy for the wealthiest households was 95 per cent higher than for low-income households (IMF 2016). In 2016, the drastic fall in national income gave impetus to reform arguments and paved the way for the removal of fuels subsidies for private transport vehicles and a reduction of fuel subsidies for public transportation and cargo vehicles. The country has almost universal electricity coverage; in 2012, 99.8 per cent of the population had access to electricity (World Bank 2016). The state-owned Trinidad and Tobago Electricity Company sells 27 per cent of the electricity it produces to residential clients, 57 per cent to industrial clients and 8 per cent to commercial customers. The subsidised electricity prices are the lowest among Caribbean small island developing states and globally competitive compared to electricity rates of about USD 0.10 per kilowatt hour (kWh) for the United States and USD 0.21 per kWh for Italy (which has one of the highest electricity rates in the world; Marzolf et al. 2015). Electricity subsidies disproportionately benefit higher-income groups and local industries that consume more energy and pay lower rates. Residential users pay a maximum of USD 0.06 (TTD 0.37) per kWh, commercial users pay between USD 0.06 and 0.09 (TTD 0.41 and 0.61) per kWh based on a minimum monthly use of 5,000 kWh, and industrial users pay between USD 0.02

Table 16.1 *Transport fuels subsidised in Trinidad and Tobago*

Type of fuel	Private vehicles, luxury cars	Private vehicles, economy cars	Commercial/ industrial transport	Public transportation vehicles	2011 Subsidy claim values (TTD '000)	2015 Subsidy claim values (TTD '000)
Premium	✓				236,223.25	–
Super		✓			1,634,208.93	662,989.81
Regular		✓		✓	26,301.56	5,111.55
Diesel		✓	✓	✓	2,407,590.11	900,651.62
Liquefied petroleum gas <sup>a</sup>		✓		✓	71,637.10	76,877.81

<sup>a</sup> High incidence of use for domestic and commercial cooking.

Source: Ministry of Energy and Energy Industries 2016.

and 0.03 (TTD 0.1450 and 0.1990) per kWh (TTEC 2001). In 2017, the government proposed a further 25 per cent rebate on domestic users (about 120,000 households) whose bill is below USD 50 (Imbert 2016b).

### **16.3 Understanding the Dynamics of Fossil Fuel Subsidy Reform: Actors, Frames and Contexts**

This section explains the framework that will be used to illustrate the dynamics behind fossil fuel subsidy reform in Trinidad and Tobago: the role of actors with different interests in shaping policy, the ways in which the debates for and against the subsidy have been framed and the prevailing contexts (macroeconomic and local) that can determine the reform trajectory (see also [Chapter 1](#)).

#### **16.3.1 Actors**

Multiple actors influence subsidy reform agendas. The group advocating for subsidy reform usually includes international development agencies (Lockwood 2015), multilateral financial institutions and environmental groups. Traditionally, the group of actors that have championed its maintenance has included labour and elite interest groups and energy-intensive industries (de Moor 2001; van Beers and de Moor 2001; Lockwood 2015). Politicians, especially in developing states, tend to shape policy based on which group of actors has a greater sway on public opinion (Lockwood 2015), except – as we will see later – when it is financially impossible to maintain the subsidy. In developing states, especially where information on the real cost and economic inefficiency of the subsidy is not readily available, politicians are able to use subsidies to gain or keep political patronage with the poor population. In spite of the inefficiency of subsidies, powerful groups were mobilised to strike and stage social disturbances during recent attempts in Nigeria in 2012, Indonesia in 2013 (see [Chapter 11](#)) and Yemen in 2014 to reduce fuel subsidies and use the savings for improved social services (Lockwood 2015).

#### **16.3.2 Frames**

Arguments for and against fuel subsidy reform have been framed in different ways, with actors employing frames related to (1) climate as well as energy redistributive justice, (2) environmental stewardship and (3) economic prudence. Subsidies may be a (contested) way to redistribute national wealth in energy-producing states (climate and energy redistributive justice) or a fillip to environmental pollution (environmental stewardship). They can also contribute to fiscal imbalances and

economic inefficiency and irresponsibility in the case of consumer subsidies (economic prudence); in the case of producer subsidies for the hydrocarbons industry, subsidies may help buttress falling government revenues (economic prudence).

‘Climate justice’ refers to the burden-sharing arrangement for climate change impacts and mitigation actions among states, non-state actors and individuals within both wealthy and poor states (Okereke 2010; Barrett 2013; Baptiste and Rhiney 2016). It draws from political philosophy on fairness (Rawls 2005) in the distribution of resources and responsibilities, rights and obligations for mitigation and adaptation (Caney 2010). ‘Energy redistributive justice’ concerns energy access and affordability and applies ethical and justice arguments to the fields of energy policy (McCauley et al. 2013), energy use and energy production (Sovacool and Dworkin 2015). Rising energy prices have a larger impact on the poor, who have less disposable income (Boardman 2010) and are less able to challenge energy policy related to mitigation measures (such as measures that make fossil fuels more expensive to reduce the demand for them). Poorer countries need low-cost energy resources for economic development. Energy justice may be qualified by climate justice duties that are everyone’s responsibility: negative duties correspond to polluters, and positive duties apply to all capable of contributing to reducing emissions (Duus-Otterström and Jagers 2012). The greenhouse development rights model, for example, may be interpreted as warranting the poor to adopt a part, albeit proportionately minimal, of the burden of higher energy costs that come with the removal of fuel subsidies. In that model, in 2030, least developed countries would have a 1.2 per cent ‘responsibility capacity’ (the measure used for burden sharing) to reduce emissions compared to 25 per cent for the United States (Baer et al. 2008). Thus, energy and climate justice frames can be used to argue both for and against fossil fuel subsidy reform.

Those in favour of keeping fossil fuel subsidies have also used energy redistributive justice frames. Most members of the Organization of the Petroleum Exporting Countries (Hochman and Zilberman 2015) appeal to justice. This is particularly powerful when there is little public confidence in the government’s ability to transfer savings from subsidy removal to other social programmes. Lower energy prices contribute to lower transport and food prices (Soile et al. 2014). Energy subsidies, according to this frame, allow citizens to their entitlement – i.e. citizens (including the poor) own the resource (Whitley 2013). Fuel and electricity subsidies, according to this argument, may also help boost export competitiveness by contributing to lower production costs for small manufacturers (who are disadvantaged by a lack of economies of scale and distance from global markets). Removing subsidies is unappealing to the poor because the

short- to medium-term distributional effects of the removal are harder on low-income groups, at least when remedial measures are not adopted (Mathur and Morris 2014; Siddig et al. 2014; Jiang et al. 2015).

Small island developing states contribute minimally to carbon emissions (World Bank 2017), but from the perspective of climate justice, and acknowledging the principle of common but differentiated mitigation responsibilities under the United Nations Framework Convention on Climate Change, they should also be environmental stewards and avoid fuel subsidies where possible. From the environmental stewardship perspective, fuel subsidies are environmentally harmful: they contribute to global warming, local pollution, traffic congestion and road accidents and damage (see Chapters 3 and 8).

From an economic prudence perspective, fuel subsidies are suboptimal: they reduce economic growth by artificially supporting inefficient national production and have a negative impact on national welfare and the economy (Arzaghi and Squalli 2015). Specifically, fuel subsidies are inefficient wealth-transfer mechanisms (Saboohi 2001; Dube 2003) because the wealthy use more high-energy-consuming goods and benefit most from direct fuel subsidies (Gangopadhyaya et al. 2005; Arze del Granado and Coady 2012; Rao 2012). Savings from removing subsidies – redirected, for example, to health and education programmes – and direct transfers to targeted groups are more efficient ways to distribute national energy wealth (Commander 2012).

International development agencies that provide financial and technical assistance to developing states commonly exert pressure and use narratives for reform within frames of economic prudence and environmental stewardship: subsidies are inefficient social transfer mechanisms, and energy subsidies encourage overuse and increase emissions.

### ***16.3.3 Contexts***

The third part of the framework addresses contexts. For many energy-producing developing states, energy subsidies have been simple – with visible administrative mechanisms to transfer the state’s resources to the poor (Victor 2009) – and easily justifiable to voters (Cheon et al. 2015). However, they tend to be non-transparent (Koplow and Dernbach 2001). Reform advocates recommend several measures, including

- Public and stakeholder consultations for hydrocarbon or energy sector reform (Commander 2012);
- Clear communication of the nature and benefits of the subsidy removal (Jakob et al. 2015);

- Substituting targeted support to the poor, including direct and indirect transfers (AlShehabi 2012; Yates 2014);
- Steps to transparently channel savings into improved infrastructure, health and education (Plante 2014; Siddig et al. 2014; Jiang et al. 2015); and
- Institutional reforms in the hydrocarbons sector to remove political influence over energy pricing (Gangopadhyaya et al. 2005).

Successful reform, however, often depends on national contexts, including the administrative capacity to channel savings towards targeted social assistance, the availability of timely and accurate economic data on the cost of the subsidy and potential savings (IMF 2013), the power of an antireform lobby to block or hinder reform, the availability or attractiveness of substitutes for the subsidy, the level of trust and buy-in that the government has from the population to transfer savings to more efficient social programmes (Vagliasindi 2013), the force of external macro-economic pressures to reduce government disposable income and the health of the economy and its ability to sustain subsidies. In developing states, contexts are often less favourable, and reform may pose administrative burdens for poorer governments.

## 16.4 Actors, Frames and Contexts in Fuel Subsidy Reform in Trinidad and Tobago

### 16.4.1 Actors

Following the framework just outlined, this section identifies the main actors involved in the subsidy reform debate in Trinidad and Tobago and their positions on the issue. These actors include the International Monetary Fund (IMF) (IMF 2016), the Energy Chamber – the energy and hydrocarbon industry’s trade association, which is particularly vocal on consumer subsidies (Long 2013), the environmental lobby, including academics and economists that comment on government policy, government agencies more directly involved in climate policymaking, such as the Ministry of Planning and Development and the Ministry of the Environment and Water Resources (Solaun et al. 2015; GORTT 2017a) and companies from the other member states of the Caribbean Community Common Market (Khelawan 2013; Collister 2016).

Other actors have, at times, been opposed to the removal of the transport subsidy, including some labour unions such as the National Workers Union and the Federation of Independent Trade Unions and Non-Governmental Organisations (C News 2016; NWU 2016), minibus associations (Phillip 2016) and groups representing low-income communities (Sturge 2016; Taitt 2016). The manufacturing sector comprises about 400 companies and contributes to approximately

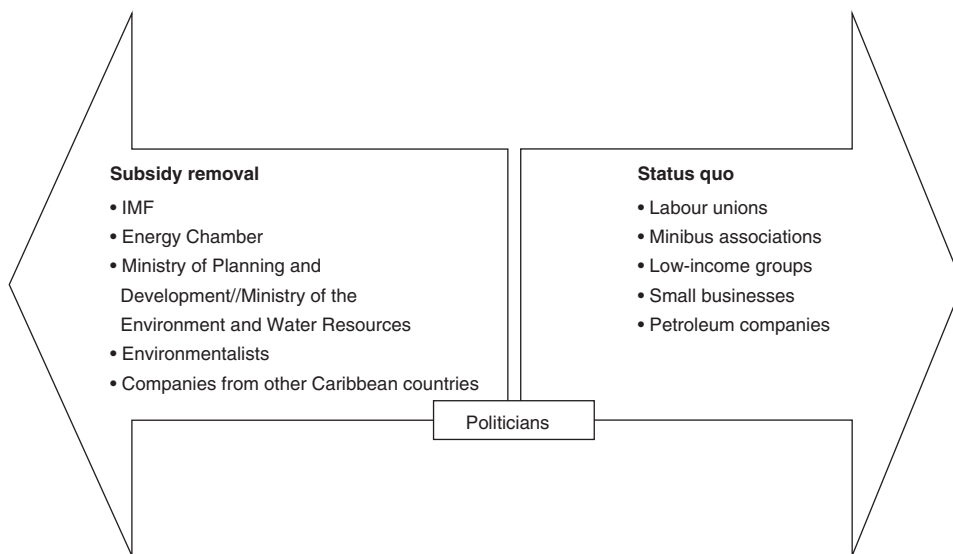


Figure 16.1 Actors in fuel subsidy reform in Trinidad and Tobago.

8 per cent of the country's gross domestic product (TTMA 2017). Small retail businesses and manufacturers and sub-national chambers of commerce – which are less able to absorb higher transport costs – argue that removing the subsidy will mean higher prices for consumers and inflationary pressure on the economy (Ali 2016). Larger manufacturers have more recently begun to argue for removal of the subsidy, citing its inefficiency, negative environmental consequences and unsustainability (referring to the drop in petroleum prices and consequent drop in government revenue from the hydrocarbons sector; Harrinanan 2015). Figure 16.1 presents the main actors in the subsidy removal debate in Trinidad and Tobago.

#### 16.4.2 Frames

In Trinidad and Tobago, economic prudence and environmental stewardship frames are used to object to the transport and electricity subsidies. Actors in favour of those subsidies use climate and energy redistributive justice frames. Those in favour of the producer subsidy (the hydrocarbons sector) also use economic prudence frames. However, there is very little evidence of public debate on producer subsidies. Low-income groups focused more on the maintenance of social transfers related to health, education and employment, which are also being contested as inefficient and in need of reduction by the IMF, the larger manufacturers and the government.



The economic prudence frame dominates the fuel subsidy debate. Estimates in parliamentary debates put subsidies for fuel, unemployment relief, electricity and water at 50 per cent of national expenditure (Imbert 2016c). The fuel subsidy may have continued as long as the government was able to finance it, but the global financial crisis of 2007–8 gave greater prominence to economic prudence frames. In a 2016 budget debate, the Minister of Finance noted that the government is taking steps to reduce expenditure on other social programmes, including spending on tertiary education (the Government Assistance for Tuition Expenses Programme) and on job creation (the Community-Based Environmental Protection and Enhancement Programme and the Unemployment Relief Programme; Imbert, 2016b, 16). Past IMF Article IV consultations – in which the IMF’s staff study the country’s economic and fiscal policy and trajectory – repeatedly called for the removal of the transport subsidy to improve the fiscal climate and to increase savings to the country’s sovereign wealth fund, which was created to encourage state savings from petroleum revenues (IMF 2016). The political response has changed over the years from being wary of the IMF’s intrusion into domestic policy (Trinidad Guardian 2013) to a commitment to a phased removal of the transport subsidy. Subsidy removal will be coupled with a new pricing mechanism for transport fuels to reduce transport costs for low-income groups (Imbert 2016b).

National debates have very recently begun to introduce data on the subsidy’s cost that confirm its inefficient design (GORTT 2012a) and the opportunity costs to taxpayers (Scobie 2017). However, the lack of data on the inefficiencies gave the climate and energy redistributive justice frames greater appeal over the years. The country has a small carbon footprint and relies on its petrochemical sector; thus, some argue that fuel, electricity and transport prices should be very affordable to the poor, to local businesses and manufacturers (Trinidad Guardian 2011; Newsday 2016) and to the population in general (Thomas 2003; NWU 2016). Successive governments have deferred subsidy reform in part because of the prominence given to these redistributive justice frames in public opinion.

Actors who support keeping the transport subsidy have used energy redistributive justice and environmental stewardship frames. Private minibus associations – the main source of public transport – objected to early attempts to remove the fuel transport subsidy because removal would reduce their small profit margins. They argued that such a move would force them to increase fares, which would hurt the low-income groups that depend upon this public transport. In 2003, for example, in response to proposals to reduce the transport subsidy, two minibus associations covering important parts of the minibus network threatened to increase transit fares or refuse to offer their services

(Thomas 2003). Labour unions representing low-wage earners have traditionally been hostile to the government's reform policy, which in their view includes austerity measures that take national wealth away from the poor. The National Workers Union, for example, argued that 'the government in an effort to keep us away from an IMF standby programme is implementing all the measures the IMF would have imposed. An IMF programme is being implemented even though no loans have been made by the IMF' (NWU 2016). It also issued a statement in 2016 objecting to fuel subsidy reform, which it views as part of a larger move by the government to reduce pro-poor programmes, such as the 'extending of [a value-added tax] on thousands of items, the increases in fuel prices, the job losses in the public sector, the reduction of social welfare programmes and the speeding up of divestment/privatisation of state enterprises' (NWU 2016). Small businesses (mainly retailers) benefit from savings in transport and electricity costs.

On the other side of the debate, companies from other Caribbean states – as well as the regional airline Leeward Islands Air Transport (LIAT, which is not based in Trinidad and Tobago) – have been critical of the unfair advantage that the transport and electricity subsidies have given to companies from Trinidad and Tobago and to the Trinidad and Tobago airline (Caribbean Airways) on the regional common market (Collister 2016). Opposition to subsidies from the regional business community has had little resonance in parliamentary debates and on reform policy (Scobie 2017).

The economic prudence frame that holds that the electricity subsidy creates an artificial sense of security and inefficiencies in production has traditionally had less resonance. Unlike transport fuels, electricity prices have not been adjusted since 2009, and the electricity subsidy received less attention in public debates. Environmental stewardship and economic prudence, however, are used in the literature around subsidy reform for transport fuels and electricity. The government's carbon emissions reduction strategy proposed introducing renewables to reduce dependence on natural gas for electricity generation, but uptake has been slow because the fuel subsidy makes traditional electricity sources more economical (Humpert and Espinosa 2016: 11). Small businesses and manufacturers used climate and energy redistributive justice frames to argue that the electricity subsidy supports the local small business sector, given electricity generation's small carbon footprint and the economic challenges and lack of economies of scale faced by small island developing state exporters. Local small businesses need government assistance to be competitive in an increasingly globalised world, to provide local jobs, to help the country's diversification away from the dwindling hydrocarbons sector and to contribute to social and economic development.

The producer subsidy is firmly entrenched, and there is little national debate on its reform – its maintenance is part of the economic prudence frame employed by the hydrocarbon companies. This demonstrates that frames are used differently by different actors in different contexts. Economic prudence frames employed in the context of producer subsidies suggest that the country should provide incentives to industry to boost output and government revenue (IMF 2016: 7). The Energy Chamber supported the removal of the transport subsidy but was silent on production subsidy reform or removal. Generally, these transfers to the industry are not framed as subsidies but rather as incentives needed to keep the hydrocarbons sector and exports as near to current levels as possible. The hydrocarbon companies argue for a fiscal regime that would reduce exploration risk and encourage foreign direct investment; producer subsidies thus should remain, in their view, especially in the context of a hydrocarbon-dependent economy in an epoch of economic downturn. Trinidad and Tobago has over 40 active production-sharing contracts and joint-venture partnerships with several energy companies, including Petro-Canada, BHP Petroleum, BG and many others (Petrotrin 2015; Ministry of Energy and Energy Affairs 2017). Large multinational and local energy actors are now negotiating production-sharing contracts with attractive investment terms for riskier investments in new oil fields (Energy Chamber 2017). When the state-owned oil company – the Petroleum Company of Trinidad and Tobago Limited (Petrotrin) – released a call for expressions of interest in March 2017 to assist with enhanced oil and gas recovery, it received responses from 29 firms in China, Canada, the United Kingdom, the United States and Trinidad and Tobago (Energy Chamber 2017).

Voices against the petroleum subsidy have been negligible in comparison, with one Member of Parliament going on record to complain that the subsidy was unfair to the state. The energy industry, he argued, generated as much as TTD 150 billion but ‘the State was only receiving [TTD] 18 to [TTD] 19 billion in revenue, something was wrong with the system because somebody else (not the State) was getting [TTD] 132 billion’ (Small 2016: 30; Taitt 2016).

Climate justice and environmental stewardship frames have been used by the government and are embedded in the country’s low-carbon development policy. The environmental stewardship-related goal is to move towards a low-carbon development pathway by removing dependence on the hydrocarbons sector. Restructuring fuel subsidies (Solaun et al. 2015) is part of the government’s 2011 National Climate Change Policy, Low Carbon Development Plan and Carbon Reduction Strategy (GORTT 2012b). Resource and capacity constraints hinder the implementation of several climate policy initiatives in small island developing states (Scobie 2016). This is true for Trinidad and Tobago, which is struggling with

the national Carbon Reduction Strategy target to reduce emissions from the power, industrial and transport sectors by 15 per cent by 2040 compared to 2000 levels – targets also included in the country’s nationally determined contribution submitted under the Paris Agreement (GORTT 2015). A recent report on renewables in Trinidad and Tobago noted that to achieve the stewardship goal, it needed to better incentivise the use of wind, solar and wave energy (Solaun et al. 2015). Table 16.2 summarises how the frames just discussed have been used by groups of actors to support positions on the reform/removal debate in Trinidad and Tobago.

### **16.4.3 Contexts**

While some actors have become more vocal in the use of economic prudence and environmental stewardship frames to advocate for subsidy removal – and although pro-subsidy advocates who appeal to climate and energy justice frames concede that fuel subsidies are not the most efficient form of pro-poor government spending – it does not follow that reform will be the next step (Scobie 2017; see also Chapter 6). Several of the contextual factors identified in the literature have made reforms more challenging and have favoured subsidy lock-in, such as the unavailability of timely and accurate economic data on the cost of the producer and consumer subsidies and potential savings, the power of the antireform lobby to influence government policy, the unavailability of appropriate substitutes for the subsidy and the low level of trust and buy-in that the government has had from the population to transfer savings to more efficient social programmes (Scobie 2017). However, other contextual factors have favoured the removal of the transport subsidy. Notably, external macroeconomic pressures (the global financial crisis of 2007 and the subsequent fall in petroleum prices) increased pressure to reduce inefficient government spending. Moreover, the dependence on the hydrocarbon sector for national income and the resulting falling government revenue reduced the state’s ability to sustain subsidies (IMF 2016).

The information deficit on subsidy costs can be seen as another contextual factor influencing the public debate. It reduced the persuasive power of economic prudence frames to lower-income groups and made energy redistributive justice arguments more appealing. Two recent developments may pave the way for a greater understanding of the true costs of the subsidy and may improve transparency. The first is a National Tripartite Advisory Council, created in March 2016 to improve transparency and promote regular consultation between the private sector, labour groups and the government. The second is the creation of an autonomous National Statistical Institute to reduce the backlogs in the state-owned Central Statistical Office. Both bodies have not

Table 16.2 *Actors and frames in fuel subsidy reform debates in Trinidad and Tobago*

Subsidy type	Frame used	Position on subsidy	Actors invoking the frame	Main argument(s)
Transport	Economic prudence	Remove	<ul style="list-style-type: none"> <li>• IMF</li> <li>• Energy Chamber</li> <li>• Ministry of Planning and Development/Ministry of the Environment and Water Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces social transfers</li> <li>• Subsidy economically unsustainable</li> <li>• Encourages economic inefficiency</li> </ul>
Producer	Economic prudence	Keep or increase	<ul style="list-style-type: none"> <li>• Hydrocarbon companies</li> </ul>	<ul style="list-style-type: none"> <li>• Foreign direct investment needed as petroleum production is falling</li> </ul>
Transport	Environmental stewardship Energy redistributive justice Climate justice	Remove	<ul style="list-style-type: none"> <li>• IMF</li> <li>• Energy Chamber</li> <li>• Ministry of Planning and Development/Ministry of the Environment and Water Resources</li> <li>• Environmentalists</li> </ul>	<ul style="list-style-type: none"> <li>• Subsidy leads to fossil fuel pollution</li> <li>• Subsidy contradicts environmental stewardship duties and National Clean Energy Policy</li> </ul>
Electricity	Environmental stewardship Economic prudence	Remove	<ul style="list-style-type: none"> <li>• IMF</li> <li>• Ministry of Planning and Development/Ministry of the Environment and Water Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Subsidy runs counter to low-carbon development pathway</li> <li>• Reduces social transfers</li> <li>• Encourages economic inefficiency</li> </ul>
Transport and electricity	Energy redistributive justice Climate justice	Keep	<ul style="list-style-type: none"> <li>• Labour unions</li> <li>• Minibus associations</li> <li>• Low-income groups</li> <li>• Small businesses</li> </ul>	<ul style="list-style-type: none"> <li>• Direct way to share hydrocarbon wealth</li> <li>• Government may not redistribute savings to other pro-poor measures</li> <li>• Cheap fuel needed for national development</li> <li>• Rights of poor to energy resources</li> <li>• The country's minimal contribution to climate change</li> </ul>

yet addressed the fuel subsidy, but they have the potential to contribute to improved data availability for policymaking.

One of the elements of subsidy reform suggested in the literature is the substitution of inefficient fuel subsidies with targeted pro-poor transfers (AlShehabi 2012). In the Trinidad and Tobago context, this raises two problems. First, there is already a generous and comprehensive set of social programmes (Imbert 2016b: 32); the social safety net includes conditional cash-transfer programmes, housing-assistance programmes, infrastructure projects in needy communities and a suite of social services in the areas of health, alimentation, education, employment and sanitation (Imbert 2016b). Second, the system of transfers has been heavily criticised for being inefficient, with the employment programmes distorting and undermining the local labour market (IMF 2016) and programmes being subject to fraud and corruption (Imbert 2016c: 14). While it is true that subsidy removal savings may be redirected to improve the quality and delivery of existing social relief programmes, this is more difficult to measure, justify and support given the existing inefficiencies in public administration and the lack of public trust in the way public funds are administered in social programmes.

## 16.5 Conclusion

Fuel subsidies have been part of the economic policy of Trinidad and Tobago for decades. The hydrocarbons sector has always benefited from investment incentives, many of which amount to producer subsidies. Since the 1970s, transport fuels have been subsidised as a way to transfer national wealth from the petroleum sector to the population, and electricity has always been generated with autochthonous natural gas priced below market prices. While producer subsidies and electricity subsidies persist, the transport subsidy was substantially reduced over the last decade. This chapter outlined a novel framework to better understand the politics of subsidy reform, focusing on actors, frames and contexts as explanatory variables. Employing this framework, the chapter sought to provide insights into the subsidy reform debates in this small island hydrocarbon-dependent state.

External actors, including companies from other Caribbean countries and the IMF (which advised the government on economic policy) – as well as internal actors such as the Energy Chamber, the government ministries charged with climate policy and environmentalists – have for different reasons opposed the subsidy. The labour unions representing low-wage earners, minibus associations that service a large part of the public transport network, small businesses and the hydrocarbons sector have been more or less vocal advocates for the maintenance of the status quo for the transport, electricity or producer subsidies.



The frames developed in this chapter helped to coalesce the perspectives or motivations of actors or groups of actors on subsidy reform, removal or maintenance. To some extent, the frames used in the Trinidad and Tobago debate mirrored the (sometimes conflicting) frames found in the fossil fuel subsidy reform literature. Subsidies run counter to good economic policy, or subsidies are needed for economic development. Subsidies allow for redistributive energy justice, or subsidies are an ineffectual tool of redistributive energy justice. Subsidies run counter to climate justice – or climate justice explains their persistence in countries with minimal emissions, and subsidies thus detract from environmental stewardship.

This chapter explained that even with the same actors and the existence of similar frames, policy changed in the last decade. The removal of transport subsidies was needed because of a changed international economic context (Imbert 2016a) – which is in keeping with the small states literature that recognises the relevance of global trends for domestic policymaking (Keohane 1969; Payne 2004). In this case, the financial crisis of 2007 was accompanied by a fall in petroleum prices and thus a fall in government revenues, which opened up space to discuss the frames that promoted subsidy reform. The government no longer had levels of income that would allow for the subsidy's continuance. Transport subsidies were largely removed, and reform of the electricity subsidy is being discussed, but the government has kept producer subsidies to promote investments that maintain or increase hydrocarbon output. Context was also relevant for the reform trajectory in other ways. While the literature recommends substituting the fossil fuel subsidy for other forms of wealth transfer, this was inappropriate in this case for two reasons: first, there was already a comprehensive social net, and second, social transfers were already badly managed, and there was little appetite to add another mechanism. Finally, the availability of data (transparency) was another relevant contextual factor. The transport subsidy – for which most information on government expenditure was available – was gradually removed. But the producer and electricity subsidies – for which information is not easily available – have not yet been removed or reduced. The case is a sobering example of how global frames are applied at local scales and of how local contexts, economic and historical realities and actors articulate these frames to shape domestic fuel subsidy policy.

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# Part V

## Synthesis and Conclusions



## Conclusions and Ways Forward

JAKOB SKOVGAARD AND HARRO VAN ASSELT

### 17.1 Introduction

During the few seconds it takes to open this page and read this sentence, fossil fuel production and consumption have been subsidised with tens of thousands of dollars. Although fossil fuel subsidies may make fuels affordable to the poor, they come at a significant cost. They strain public budgets, leaving less money for social welfare, infrastructure and other policy priorities. Consumer subsidies benefit richer people more than the poor. And by supporting fossil fuel production and use, subsidies contribute to climate change and local air pollution. This much we know. Yet, notwithstanding near-universal consensus among experts about the benefits of reforming fossil fuel subsidies, state leaders' repeated international commitments to eliminate such subsidies and valiant efforts by some countries to reform them, they continue to persist. What we can therefore observe is a significant gap between what many think ought to happen and what is happening in practice.

This book has sought to shed light on this conundrum by exploring multiple facets of the politics of fossil fuel subsidies and their reform. At the international level, we have been particularly interested in how, following the Group of 20 (G20) commitment to phase out inefficient fossil fuel subsidies, the issue has been addressed by some international institutions, but not others, and how a range of different international institutions and actors have exerted (or could exert) influence on countries to reform their subsidies. At the domestic level, we have been interested in explaining why reform has taken place in some countries and why other countries either have not succeeded in their reform attempts or have not even attempted such reform. To address these questions, this book has brought together a collection of essays that focus on different aspects and cases of the politics of fossil fuel subsidies and their reform.

The central theme uniting the various parts of this book is that advancing fossil fuel subsidy reform is not possible without a proper understanding of its political



dimensions. Only such a focus can help us understand why the concept of a fossil fuel subsidy has risen up international and domestic political agendas since the mid-2000s and how the consensus that fossil fuel subsidies should be reformed has translated into concrete action within some countries and some international institutions but not in others. All the chapters in this book underscore the added value of focusing on fossil fuel subsidies and their reform as political phenomena. While macroeconomic factors such as fossil fuel prices and reserves remain important contextual factors that can drive or hinder reform, their influence on the extent – and success – of reform depends on other prevailing political factors. The perpetual changes to fossil fuel prices influence any country, but how these price changes affect support for fossil fuels varies from government to government depending on political agency and structures.

Underpinned by theory and drawing on a variety of case studies, the chapters in this book have provided insights into the domestic and international political factors driving fossil fuel subsidies and their reform. By bringing together a diverse set of domestic and international case studies, guided by a common analytical framework, we can point to initial findings that could form the basis for further research by scholars of public policy, political science, international relations and international law. In this final chapter we discuss what the preceding chapters tell us about the factors included in our analytical framework. The first two sections that follow synthesise our findings on the politics of fossil fuel subsidies and their reform at the international and domestic levels. We then return to the core puzzle inspiring this book: given the consensus on the benefits of reform and the high-level commitments made, why do we see so little concerted action to address fossil fuel subsidies? We conclude by outlining elements of a future research agenda.

## 17.2 The International Politics of Fossil Fuel Subsidies

Regarding the international politics of fossil fuel subsidies, we first address the question of how and why international institutions and actors have started to address fossil fuel subsidies and then turn to the question of the influence of these actors and institutions at the domestic level. In both cases, we draw on the framework outlined in [Chapter 1](#).

Concerning the first question, several chapters point to the importance of *individual actors* acting as ‘norm entrepreneurs’ (Finnemore and Sikkink 1998). The chapters highlight variously the roles played by staff at international organisations such as the International Energy Agency (IEA), the International Monetary Fund, the Organisation for Economic Co-operation and Development (OECD) and the World Bank; by governments such as the Obama administration and those

comprising the Friends of Fossil Fuel Subsidy Reform and by non-governmental organisations such as the Global Subsidies Initiative (Chapters 5, 6 and 10). As Van de Graaf and Blondeel point out in Chapter 5, without the entrepreneurship of actors within the Obama administration, the emerging norm of fossil fuel subsidy reform would not have been institutionalised through the game-changing G20 commitment. Prior to this commitment, individual actors had only been successful to a rather limited degree in promoting awareness of fossil fuel subsidies. The G20 commitment created an opportunity structure for existing organisations, such as the Global Subsidies Initiative (Chapter 10), to act as norm entrepreneurs and also encouraged new organisations and coalitions to enter the stage, notably the Friends of Fossil Fuel Subsidy Reform (Chapter 9).

Second, the *constellation of member state interests* within institutions appears to have played an important role, particularly in the institutions that have so far not addressed fossil fuel subsidies. As Chapters 7 and 8 demonstrate, these institutions – particularly trade institutions and the United Nations Framework Convention on Climate Change (UNFCCC) – can have an impact on the international politics of fossil fuel subsidies through their inaction or ‘ungovernance’, as Newell and Johnstone term it (Chapter 4). Both institutions are obvious candidates to address fossil fuel subsidies: the global trade regime given its strong dispute settlement system and existing subsidies disciplines, the global climate regime given the significant impacts that fossil fuel subsidies have on greenhouse gas emissions and both regimes given their wide participation of both developed and developing countries, including major fossil fuel producers and consumers. Yet both trade institutions and the UNFCCC have only addressed the issue to a limited degree, strengthening the hand of actors opposed to fossil fuel subsidy reform. To the extent that there has been activity in these institutions, it has often been at the initiative of a handful of countries – in some cases involving, as Chapters 9 and 10 make clear, entrepreneurial activities by the Friends and the Global Subsidies Initiative. But while we see continued efforts by New Zealand and other countries to raise the issue in the World Trade Organization’s (WTO’s) Committee on Trade and Environment, we also see continued pushback from other countries, including developing country oil producers such as Saudi Arabia and Venezuela (e.g. WTO 2017). And while we see that some countries have started to include fossil fuel subsidy reform in the nationally determined contributions (NDCs) submitted under the Paris Agreement, we also see that fossil fuel production considerations remain almost completely absent in the NDCs of the world’s largest emitters (Piggot et al. 2017). Thus, while the broad membership of and the WTO and the UNFCCC may make them appealing venues for governing fossil fuel subsidies in theory, their decision-making processes – often relying on consensus – make it challenging to move forward in practice.

Third, various chapters point to the importance of ideational factors, notably the emerging international norm of fossil fuel subsidy reform (see particularly [Chapter 5](#)). This norm can be seen as a specific type of ‘anti-fossil fuel norm’ that can help to effect change through political mobilisation as well as international socialisation or peer pressure (Green [forthcoming](#)). The most important way international institutions have advanced this norm is by identifying the reform needed to counter the adverse effects of fossil fuel subsidies. However, the contestation over the interpretation of the norm, including over the definition of fossil fuel subsidies ([Chapter 2](#)), makes it more difficult to identify violations of the norm ([Chapter 5](#)). Moreover, although some international institutions help to articulate the norm, it is also notable that norms developed under existing regimes – notably those regulating trade ([Chapter 7](#)) and climate change ([Chapter 8](#)) – are hardly, if ever, used to address fossil fuel subsidies.

Finally, institutions can be induced to address fossil fuel subsidies through their interaction with other institutions. The G20 and Asia-Pacific Economic Cooperation (APEC) commitments, as well as the communiqué by the Friends of Fossil Fuel Subsidy Reform, successfully placed fossil fuel subsidy reform on the agenda of other international institutions, particularly the IEA, OECD, the Organization of the Petroleum Exporting Countries and the World Bank (see [Chapters 5](#) and [9](#)). The information-gathering activities of these organisations have facilitated, to varying degrees, the peer-review process taking place under the auspices of the G20. Efforts by the Friends of Fossil Fuel Subsidy Reform – supported by the Global Subsidies Initiative ([Chapter 10](#)) – have further raised the issue on the agenda in the United Nations climate regime and have likely encouraged some countries to take up fossil fuel subsidy reform as part of their NDCs ([Chapter 8](#)).

Regarding the influence of international actors and institutions on the domestic level, it appears limited and rather indirect when it comes to fossil fuel subsidy reform. Influence through the pathway of providing incentives has been non-existent in the cases surveyed (with the exception of Indonesia; see [Chapter 6](#)). The second pathway, coercion, has not been a common, let alone successful strategy. Nonetheless, IMF conditionalities have played a role, such as in the case of Indonesia ([Chapter 6](#)). The third pathway, ideational influences, is more difficult to gauge. Although we can observe a nascent norm of fossil fuel subsidy reform (see earlier), the concrete influence of this norm on the domestic politics of fossil fuel subsidies has been difficult to identify: the norm has been part of a trend placing fossil fuel subsidies on domestic policy agendas, but it does not appear to have been the primary driver of reform in any of the cases studied (see particularly [Chapter 6](#)). The influence of the norm is limited by its contested nature ([Chapter 5](#)), which makes it possible to call into question whether it applies to a particular

country. As a result, countries – including Australia, Saudi Arabia and the United Kingdom – can claim that they do not have any inefficient fossil fuel subsidies (Kirton et al. 2013: 62–69); as we saw in the case of South Africa (Chapter 13), this normative ambiguity also plays a role in the domestic discourse. But the lack of clarity about the contents of the norm can also affect the success of strategies by norm entrepreneurs, as Rive (Chapter 9) underscores in his discussion of the Friends of Fossil Fuel Subsidy Reform. However, when it comes to more hands-on learning about fossil fuel subsidies and how to best reform them, institutions such as the World Bank and the Global Subsidies Initiative have influenced how fossil fuel subsidy reform has been carried out at the domestic level (Chapters 6 and 10).

### 17.3 The Domestic Politics of Fossil Fuel Subsidies

The chapters analysing the politics of fossil fuel subsidies in individual country cases display a significant level of diversity. They cover countries from different regions – including Africa, Latin America and the Caribbean and South and East Asia – and include both exporters and importers of coal, gas and oil. The case studies place their emphasis on explaining fossil fuel subsidy reform – as in the cases of Egypt (Chapter 15), India (Chapter 12) and Indonesia (Chapter 11) – or the factors that uphold fossil fuel subsidies – as in the cases of Colombia (Chapter 14), South Africa (Chapter 13) and Trinidad and Tobago (Chapter 16). Two of the country cases focus on production subsidies (Colombia and South Africa); the other four focus mainly on consumption subsidies.

Several of the chapters centre on the *role of individual actors* in explaining fossil fuel subsidy reform. Some point to the involvement of high-level actors. For instance, Chapter 12 highlights the role of the Prime Minister's office and the Minister of Petroleum and Natural Gas in helping make the subsidy benefit transfer scheme in India a success, and both Chelminski (Chapter 11) and Moerenhout (Chapter 15) discuss how subsidy reforms in Indonesia and Egypt were heavily influenced by the various political leaders in power in these countries. In this context, timing has been important too. Windows of opportunity arose in the form of economic crises (Chapter 11) or 'honeymoon periods' following elections (Chapter 15), with actors making use of these windows to push for reform. Furthermore, actors have sought to frame fossil fuel subsidies and their reform in ways that resonated with wider audiences to promote their objectives. For instance, for the case of Colombia, Chapter 14 documents how coal mining companies opposed to reform sought to frame the subsidies as a key instrument to achieving the country's development goals. Likewise, in the case of Trinidad and Tobago, employing a development narrative was one way in which actors opposed to reform

(including transport companies and associations) sought to gain support for their positions. At the same time, actors in favour of reform have underscored the benefits of removing fossil fuel subsidies. For instance, in Trinidad and Tobago, government agencies and the IMF emphasised the fiscal and economic benefits of reform (Chapter 16), and in Egypt, President Sisi sought to gain support for reform by calling on sentiments of national pride (Chapter 15).

The chapters identify private and private-public actors and institutionalised economic interests – particularly extractive industries, trade associations and national oil companies (Chapters 11, 14 and 16) – as playing a key role in resisting fossil fuel subsidy reform. These companies and associations often have close ties to powerful actors within the state, such as political parties (Chapter 14) and/or the military (Chapter 15). In the case of South Africa, for example, a powerful ‘minerals-energy complex’ comprising the government, state-owned enterprises and industry makes it difficult to challenge subsidies (Chapter 13; see also Fine and Rustomjee 1996). Organised groups of actors that benefit from fossil fuel subsidies but have a less close relationship with the state – such as minibus owners in the case of Trinidad and Tobago (Chapter 16) – can also be influential in resisting reform. To gain support for reform from certain groups of actors – such as the poor or the middle class – several chapters find that strategies involving direct benefit transfers (Chapter 12) and other compensation are necessary and can help to ensure success of the reform (see also Chapters 11 and 15). This finding resonates with the existing literature on conditions for successful reform (Chapter 3; Rentschler and Bazilian 2017).

Turning to *ideational factors*, one finding is the relative absence of the norm of fossil fuel subsidy reform in domestic debates over fossil fuel subsidies. Even when present, this norm has to compete with existing development norms (Chapter 16). This absence is closely related to fossil fuel subsidies generally not being framed in environmental terms. In other words, the debate about keeping or removing fossil fuel subsidies does not commonly invoke their negative environmental impacts (e.g. by referring to their impacts on greenhouse gas emissions). Whereas the framing of fossil fuel subsidies in environmental terms has been either absent or rather unimportant (Chapter 16) in all cases studied, actors’ framing of fossil fuel subsidies as macroeconomic or fiscal liabilities has proven to be much more important for the limited reform of fossil fuel subsidies in Trinidad and Tobago (Chapter 16) as well as in India and Indonesia (Chapter 6). Importantly, framing fossil fuel subsidies and their reform in terms of their development impacts and their social and redistributive consequences has been used both to argue for reform and against it. As the chapters on Colombia (Chapter 14), South Africa (Chapter 13) and Trinidad and Tobago (Chapter 16) testify, it is possible to define fossil fuel subsidies as

crucial for national development (often drawing on relatively interventionist notions of the developmental state; see Woo-Cummings 1999). However, reforming these subsidies can also be framed as freeing up resources for developing infrastructure, as was the case with reforms in Indonesia (Chapters 6 and 11). Likewise, the very common framing of fossil fuel subsidies as a tool for poverty alleviation (Chapters 11 and 16) may be countered by framing their reform in terms of economic revival benefiting the poor and the unemployed (Chapter 15).

In addition to framing, knowledge about the existence and the effects of fossil fuel subsidies has been an important precondition for public acceptance of fossil fuel subsidies. The citizens of a country are often not aware that fossil fuels are being subsidised or of the extent of such subsidies (e.g. Chapters 13, 15 and 16). Increasing such awareness – such as through information campaigns – is key for ensuring durable reform (Chapters 3, 11 and 15). Obviously, characterising a given policy as a fossil fuel subsidy depends on the definition being used (Chapter 2), as exemplified by the public debates about whether government policies can be defined as fossil fuel subsidies in industrialised countries such as Denmark and the United Kingdom (Chapter 6).

Regarding *structural factors*, the chapters show that fossil fuel subsidies are shaped by the socio-political characteristics of the country, including the country's level of development, its fossil fuel reserves (or absence thereof), the state's governance capacity (Chapter 12) and its political system. As Moerenhout points out in Chapter 15, large-scale consumption subsidies constitute a key element of the social contract between the state and its citizens. Consequently, reforming these subsidies will be interpreted as a change to the social contract, which may make reform difficult. At the same time, a change in the social contract spurred by exogenous factors – in the case of Egypt, a revolution – can also open up a window for reform. Likewise, other changes to the socio-political and economic characteristics of a country may constitute windows of opportunity. For instance, improvements in a state's governance capacity may allow for new compensatory measures, as could be observed in India, where the new Indian personal identification number (Aadhar) allowed for direct cash transfers compensating for the costs of reform (Chapter 12). When it comes to macroeconomic factors such as global fuel prices, several chapters point out that lower oil prices made the liberalisation of fuel prices more palatable to the public (Chapters 6, 11 and 15). At the same time, high oil prices increase the economic and fiscal costs of fossil fuel subsidies, adding to the incentives for governments to reform them (Chapters 15 and 16). Finally, structural power relations often constitute lock-in dynamics that can make it more difficult to reform subsidies. As Chapters 13 and 14 suggest, structural power relations that bind powerful extractive industries closely to the state apparatus, and



political parties are an important factor in maintaining production subsidies (see also [Chapter 4](#)).

#### 17.4 Explaining the Limited Concerted Action on Fossil Fuel Subsidies

The chapters in this book do not provide us with a definitive answer regarding the core puzzle outlined in [Chapter 1](#): why is the level of concerted action on fossil fuel subsidies relatively low in spite of expert consensus on the benefits of, and high-level commitment to, reform? As should be evident from the contributions to this volume, on both the international and domestic levels, several of the most potentially relevant actors for fossil fuel subsidy reform have not addressed fossil fuel subsidy reform. Furthermore, those which address the subject (especially at the domestic level) mainly act individually rather than as part of a concerted effort. Nevertheless, on the basis of the chapters in this book, we can identify tentative explanations that operate at both levels. As outlined in the final section of this chapter, further research can help to determine their exact influence on the level of concerted action.

Some of the explanations concern the lack of concerted action at both the international and domestic levels. Others, however, focus on why a higher level of international concerted action has seemingly not affected the level of domestic concerted action. A high degree of concerted action at one level (e.g. with incentives for fossil fuel subsidy reform coming from many or all relevant international institutions) would arguably lead to more concerted action at the other level, especially if the political factors leading to concerted action at one level are also present at the other. Thus, focusing on the disconnect between the levels may help to explain the low level of concerted action both between levels and within them.

As several chapters underscore, the definition of fossil fuel subsidies is a crucial component of the politics of fossil fuel subsidies at both the international and domestic levels. Opposition to fossil fuel subsidy reform rarely takes the shape of advocating *for* fossil fuel subsidies but rather is carried out by ignoring the issue altogether or by using a definition of fossil fuel subsidies that excludes certain support measures from scrutiny ([Chapter 6](#)).<sup>1</sup> Which definition of fossil fuel subsidies is used at the international level can influence the politics of fossil fuel subsidies on the domestic level. Debate over the definition of fossil fuel subsidies (see, for example, the analysis of the debate about fossil fuel subsidies in the United

<sup>1</sup> At the international level, another strategy to oppose fossil fuel subsidy reform is questioning a forum's competence to address the issue; this strategy plays out both in the context of the WTO ([Chapter 7](#)) and the UNFCCC ([Chapter 8](#)).



States in [Chapter 2](#)) limits the precision of the norm of fossil fuel subsidy reform ([Chapter 5](#)). This does not mean, however, that there needs to be one definition of fossil fuel subsidies on which all actors agree. Aside from being unrealistic, the diversity of definitions allows various countries to come forward with what they deem to be ‘inefficient’ subsidies (as evidenced by the self-reviews of China and the United States for the G20). Moreover, as Koplrow observes in [Chapter 2](#), there are significant levels of convergence in the existing definitions used.

Second, the limited concerted action on fossil fuel subsidies can be explained in part by the continuing dominance of what Newell and Johnstone term the ‘global fossil fuel regime’ ([Chapter 4](#)). This regime operates within wider power structures at both the international and the domestic levels. According to this view, fossil fuel subsidies are locked in because they help sustain the prominence of fossil fuel producers and industries. This regime is reflected both in the global ‘ungovernance’ of energy issues and in the lack of consistent effort to address fossil fuel subsidies at the domestic level. Even if there was full agreement on what constitutes a fossil fuel subsidy and the need for reform, it would be difficult to reform subsidies without tackling the underlying reasons for the technological, institutional and behavioural lock-in of fossil fuels (Unruh 2000; Erickson et al. 2015; Seto et al. 2016; see also [Chapter 10](#)).

Turning to the disconnect between international and domestic levels, the differences in framing between the two levels is one reason why there is limited concerted action. Although many countries have used public money to support fossil fuels for decades – and have even from time to time reduced such support – the very act of framing such support as fossil fuel subsidies has opened new spaces for actors and actor coalitions opposed to these policies. However, while fossil fuel subsidies are often framed as an environmental issue at the international level (including in the G20 commitment) – due to their impacts on public health, air pollution and global warming – reform is often connected to macroeconomic and fiscal frames at the domestic level ([Chapters 6, 11 and 16](#)). At the same time, framing fossil fuel subsidies as instruments for development and poverty reduction in developing countries has been an important factor in maintaining them. This divergence in framing may make it more difficult to connect efforts and actors promoting fossil fuel subsidy reform on the two levels, as well as in different countries. The inclusion of fossil fuel subsidy reform in some of the NDCs under the UNFCCC (see [Chapter 8](#)) could be a starting point for linking the international environmental framing with domestic reforms undertaken mainly for economic reasons. But it should be kept in mind that this environmental framing may not resonate strongly with relevant actors at the domestic level. This may suggest that at the national level it is more sensible to build across-the-board coalitions with stakeholders in the health, education and other sectors, with the main argument

being that fossil fuel subsidy reform will help make public funds available for realising other policy priorities.

Second, organised actors with an interest in fossil fuel subsidies constitute a key factor in maintaining fossil fuel subsidies at the domestic level (Chapters 11, 13 and 14) but are not particularly influential at the international level. Organised special interests not only have more at stake at the domestic level, where fossil fuel subsidies are adopted or reformed, but they also have fewer possibilities to influence decision-making at the international level. At the international level, special interests seeking to reform fossil fuel subsidies have been more vocal than those seeking to maintain it – perhaps further explaining why the norm of fossil fuel subsidy reform has played a larger role at the international level than at the domestic level.

Third, the sensitivity of timing for fossil fuel subsidy reform, particularly for consumption subsidies, constitutes another possible explanation of the limited concerted action to reform fossil fuel subsidies (see especially Chapters 11 and 15). If the possibilities for successful reform depend on using a window of opportunity and carefully convincing key constituencies of the necessity and benefits of reform, it may be risky to let the timing of such reform depend solely on international commitments, especially as external pressure may alienate some constituencies. The time sensitivity and dependence on macroeconomic factors of reform, such as fuel prices, may also partly explain why some countries have undertaken reform and others have not: perhaps the timing was not right in the latter group, although agency – as highlighted in several of the country case studies – also plays an important role. Altogether, this could explain why fossil fuel subsidy reform has been rare, even if its economic and environmental benefits are clear.

## 17.5 The Road Ahead

Although this book has sought to introduce the reader to the complex politics of fossil fuel subsidies, it has perhaps raised as many questions as it has answered. Due to the ongoing political salience of fossil fuel subsidies, we believe that there is an urgent need to ensure that important policy decisions are grounded in robust research on the politics of fossil fuel subsidies. Below we outline what we consider to be major themes for future studies.

First and foremost, the provisional findings explaining the lack of concerted action in spite of expert consensus and high-level commitments on fossil fuel subsidies need to be further explored in order to deliver more definitive answers. The role of definitional contestations, the global fossil fuel regime, framing differences, domestic special interests and the timing of fossil fuel subsidy reform all

deserve to be studied in more detail, individually or – preferably – together to compare their respective influence.

Second, comparative research constitutes another fruitful avenue for further enquiry. Although comparative and large-*n* studies exist (e.g. Cheon et al. 2013; Ross et al. 2017), these analyses rarely compare the influence of a set of political factors across cases (but see Inchauste and Victor 2016). The focused comparison of different cases could uncover whether there are political factors that either promote or hinder reform that could apply across (a subset of) countries and therefore form a basis for more informed recommendations on how to carry out such reforms. The cases could be selected so as to compare cases of successful reform with cases of absent or unsuccessful reform (thus addressing the current bias towards the former group), developing and industrialised countries (addressing the bias, also present in this book, towards the former group), production and consumption subsidies, countries with stable democracies in place and countries facing political turmoil, countries with state-owned enterprises and countries without and so on. Bringing together larger samples of countries could allow for the testing of further hypotheses as to why fossil fuel subsidies are put in place, why they persist and why reform does or does not succeed, hence providing a firmer foundation for policy recommendations.

Third, although this volume has provided new insights into the under-researched issue of the international politics of fossil fuel subsidies, further work is needed, especially on the influence of international institutions on domestic subsidy reform. For instance, in the context of the international climate regime, it would be worth exploring how countries that have included fossil fuel subsidy reform in their NDCs follow up on their commitment. This would not only offer concrete insights into the extent to which this particular institution exerts influence on subsidy reform but could also help to show whether the framing of fossil fuel subsidies as an environmental problem matters at the domestic level.

Another area for research on the international politics of fossil fuel subsidies could draw more explicitly on the theories and typologies put forward in the literature on institutional interplay (e.g. Stokke 2001; Oberthür and Gehring 2006). Doing so could shed further light on the causal mechanisms through which different international organisations and forums interact with each other and foster a better understanding of the effects of such interactions. Cases of interactions could focus on the transparency of fossil fuel subsidies; for instance, they could examine whether improved transparency achieved through one institution (e.g. the G20's peer reviews or the OECD's data-collection efforts) influence action through another institution (e.g. the WTO or UNFCCC). Another case of interactions could focus on whether and how regional or club-like approaches to fossil fuel subsidies – e.g. through regional

trade agreements (Chapter 7) or through the Friends of Fossil Fuel Subsidy Reform (Chapter 9) – spur multilateral action.

Fourth, while the fossil fuel subsidy literature is rich in detail, we should not forget to place fossil fuel subsidies and their reform in a wider political, social and economic context. Thinking of fossil fuel subsidies as an example of fossil fuel incumbency that needs to be overcome to achieve a transition to a low-carbon economy, as Newell and Johnstone have proposed in Chapter 4, is one way of framing the problem – one that we believe is useful and powerful. However, fossil fuel subsidies can equally be framed as a site of broader energy politics, in which multiple goals – energy security, energy access and sustainable energy – need to be carefully balanced. And fossil fuel subsidy reform can ultimately be seen as an example of policy reform; lessons thus can be drawn from existing studies on the political economy of such reforms (e.g. Rodrik 1996), particularly on why certain kinds of reforms may be driven by international factors (Chwieroth 2007).

Fifth, one of the most challenging aspects concerning fossil fuel subsidies is the general lack of transparency surrounding them. While existing studies (e.g. Bast et al. 2015; OECD 2015; Whitley et al. 2017) – as well as the ongoing work of international and non-governmental organisations such as the OECD, IEA and Global Subsidies Initiative – have made large strides in bridging the knowledge gap, there is still a need for more empirical knowledge and data on concrete fossil fuel subsidies. Several knowledge gaps can be pointed to in particular. First, while much information has been made public on subsidies for fossil fuel consumption, the transparency of production subsidies has lagged behind – though that is slowly changing (e.g. Bast et al. 2015; Erickson et al. 2017; Gerasimchuk et al. 2017). This book's chapters on Colombia (Chapter 14) and South Africa (Chapter 13) have begun to address this gap by both compiling nationally available data on subsidies to fossil fuel producers and linking these data to the political economy of the subsidies. Such case studies can be extended to other countries that continue to provide production subsidies. Indeed, even in countries that have production subsidies in place, the focus of studies tends to be on consumption subsidies (Chapter 11). The politics of production subsidies are different from those of consumption subsidies (Victor 2009). Different actors and actor coalitions oppose reform (e.g. extraction companies in the case of production subsidies (see Chapter 14) and transport companies and parts of the middle class in the case of consumption subsidies (see Chapter 15)), different frames and discourses are employed and influences of macroeconomic factors (such as changing fossil fuel prices) point in diverging or even opposing directions. To better understand how fossil fuel subsidy reform could work in certain contexts, it is necessary to have greater clarity on how and why production subsidies – not just consumption

subsidies – are provided. Moreover, studying the politics of successful cases of production subsidy reform (e.g. Germany; see Whitley and van der Burg 2015; van der Burg 2017) could reveal how such reform could work in other countries. Second, while many studies have focused on the politics of fossil fuel subsidies in developing countries, it is equally important to understand the provision of subsidies (including their political dynamics) in industrialised countries. This ties in with the previous point, as the bulk of consumption subsidies are concentrated in developing countries in a way that production subsidies do not appear to be (with the caveat that the scope of production subsidies in developing countries is still under-explored).

Finally, future research should also focus on the relationship between the likelihood of reform for different kinds of fossil fuel subsidies and their structural characteristics, such as the type of state (e.g. developmental, market-liberal, corporatist). A plausible hypothesis for further exploration is that corporatist, and even more so developmental states, are more prone to adopt fossil fuel subsidies than market-liberal ones (see also Lockwood 2015).

To conclude, we hope that this book has helped to affirm that the issue of fossil fuel subsidies is worthy of further investigation, not just because of its political salience but also because of its intrinsic academic value. The benefits of subsidy reform are clear. What is needed now is improving our understanding to make it happen.

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