



Seeking Coherence in Complexity? :
The Governance of Energy by Trade and Investment Institutions

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Abstract

Trade in energy products and services and investments in the energy sector are central to energy security. Despite the rhetoric of energy independence, the world's leading economies inhabit a complex world of energy flows and institutions that seek to govern them. This paper asks: how *is* energy governed by international trade and investment institutions and agreements; and how *would* it be governed by these institutions depending on alternative governance preferences? Drawing on recent developments, it outlines three sets of tensions – between emerging multipolarity and existing regimes, between states and markets, and a structural imperative between energy and climate – that are shaping the context for energy governance. The paper then analyses, from the perspective of energy exporters, importers and firms, how the landscape of multilateral, plurilateral and regional agreements manages these challenges. The current institutional configuration reveals partially overlapping memberships, incoherent rules governing state-driven policies and market-led interventions, and inconsistent rules between energy and environmental concerns. In pursuit of coherence in this complex milieu, the paper ends by outlining a schematic framework for institutional design. The design choices depend on countries' preferences for greater or lesser consistency in rules and on more integrated versus fragmented governance across institutions.

(197 words)

Keywords: Asia, Energy, Energy Charter Treaty, GATS, GATT, governance, NAFTA, trade, WTO

Policy implications:

- Given the pressures of energy security, climate change and trade liberalisation, energy trade and investment cannot be governed through a single institution or regime
- In order to govern the complex structure of energy trade-related institutions, policymakers need to make two sets of decisions: making rules more or less consistent across regimes; and adopting more integrated or more fragmented institutional designs
- A realistic outcome is fragmented governance with more consistent rules: policymakers should aim to liberalise trade in environmental goods and services at the WTO; a climate agreement can offer signals for more low-carbon investments in the energy sector; and Asian institutions (ASEAN+6; APEC) can promote technology cooperation in the region responsible for the most increase in energy demand
- The status quo – fragmented institutions and inconsistent rules – will most likely add to tensions in energy trade: more disputes on state-subsidised clean tech investments; increased competition to secure exclusive access to oil, gas, coal and other minerals; and threats of unilaterally imposed environment-related trade barriers.

I. Introduction

When a major economy spends billions of dollars to subsidise its domestic clean energy technology industries, is it a trade barrier or a contribution to the global fight against climate change? If a country depends on electricity transmitted from across its borders, what guarantee does it have that power will be supplied without interruption? Are there international mechanisms by which oil consuming and oil producing nations balance each other's demands for secure supplies and stable demand? If one country's polluting energy sources adversely affect the earth's climate, can another country take unilateral steps to penalise the former? Such questions are of concern to both national policymakers as well as international organisations. But rules governing trade and investment in energy goods and services do not have answers to all of the above. How the rules are interpreted or new ones created will determine whether states adopt unilateral measures or choose to work through international mechanisms to secure energy supplies. This paper asks: how *is* energy governed by international trade and investment institutions and agreements; and how *would* it be governed by these institutions depending on alternative governance preferences?

Trade and investments in energy products and services are central to energy security. But energy security has acquired new meaning in recent years. The concern over securing predictable access to energy resources dates back at least to the early part of the 20th century (Desta 2003, p. 544). Now, despite the rhetoric of energy independence, the world's leading economies inhabit a complex world of energy flows and institutions that seek to govern them. The situation is complicated by rising demand for energy in the developing world. The resulting multipolarity means that existing arrangements for energy trade and investment need not necessarily adapt to the demands of emerging powers. Meanwhile, global oil and gas markets have become increasingly decentralised, which means that no one player can fully control energy flows. Yet, some of the largest energy companies are state-owned, raising questions about the relative influence of markets and states. Furthermore, climate change has made it imperative to develop cleaner energy, whether through more efficient use of fossil fuel sources or by increasing investments in renewable energy.

Who governs energy trade and investment and how – and why does it matter? Even as the global energy market faces new demand sources, supply constraints, financial volatility and environmental pressures, the governance of energy at the international level remains fragmented across various regimes and institutions. Among such regimes, trade and investment treaties vary in the extent to which they lay down clear rules to secure supplies and maintain market stability. These agreements are multilateral, regional and bilateral in nature. Some are focused on clarifying rights and obligations for countries. Others have firms also in mind. The parties involved could be both energy producers and consumers. At times they have overlapping

membership; in other cases, many key players inhabit separate, exclusive clubs. In the absence of clear rules, regional and sub-regional initiatives offer an alternative route for pursuing multiple energy-related objectives.

Seen from the perspective of an individual country, any notion of ‘governing’ energy trade could imply restraints on its freedom of manoeuvre in securing energy supplies. Seen from the perspective of the energy trading system, an ungoverned energy market would have serious ramifications. Energy security, in other words, has become less a notion that countries can pursue independently and more a function of the interaction of sovereign states, private firms, financial markets, and regional and global institutions. If this interaction works well, then there is the potential to reconcile competing demands on energy resources, environmental sustainability and maintaining free trade and investment. If not, it could destabilise bilateral relations between states and even have geopolitical consequences.

The paper is not about energy governance as a whole. Its purpose, as part of this volume on global energy governance, is to focus on the array of multilateral, regional and plurilateral institutions that govern energy trade and investment. Nor does the paper offer a theory of the conditions under which countries choose different institutions. Instead, by critically examining existing arrangements, the paper offers a lens to understand both their deficiencies with regard to new challenges to energy trade as well as potential avenues for governance reform. Section II identifies three tensions that have particular salience for trade and investment regimes: multipolarity versus existing regimes (whether existing arrangements can accommodate new energy actors); states versus markets (as alternative responses to growing energy demand); and energy versus climate (as dual imperatives in a carbon-constrained world). Section III identifies the interests of different actors and key principles and governance functions that trade/investment institutions are expected to fulfil. It analyses how these arrangements manage to respond or not to the emerging tensions. Section IV, then, raises three questions for mitigating the tensions in future: the role of multilateralism; the role of Asia; and alternative designs for increasing coherence among institutions. The choices ultimately depend on policymakers’ preferences for more or less integrated agreements with more or less consistency in rules. Section V concludes.

II. Why governing energy trade is not only about trade

The primary aim of trade and investment agreements is to make sure that markets remain open, that parties to the agreements do not discriminate against each other, and that disputes are resolved with the consistent application of rules. When it comes to energy, however, institutions like the World Trade Organization (WTO) face many other pressures and demands. Further, when the same issue area is governed by multiple institutions incoherence in rules is a likely

outcome. This section illustrates new challenges to the structure of energy trade, thanks to the pressures of energy demand, climate change and the search for effective institutions.

Growing demand from emerging economies has put pressure on supplies of oil and gas. During 2000-07, 85 per cent of the increase in demand for oil was in emerging markets. Global energy use is expected to increase almost 50 per cent from 2006-2030 and even in 2030, oil is expected to provide up to 30 per cent of the world's energy. From now until 2030 China and India is expected to account for 43 per cent and 19 per cent, respectively, of the growth in global oil demand (IEA, 2008, p. 77). **Table 1** shows how the composition of energy exporter and importers has changed over time.

[Table 1 about here]

The diversification of demand and volatility in oil prices increase concerns about energy security and make a potential race to lock-in future oil supplies more likely. One response has been the nationalisation of oil and gas reserves with state-owned companies now controlling more than 80 per cent of the world's oil reserves. Fifteen of the 20 largest oil companies are now state-owned (Yergin, 2009). Some argue that the decentralisation and liberalisation of the global energy market make it difficult for any one country to determine the pattern of energy flows (Goldthau and Witte, 2009, p. 382). But it is unclear how old and new players in the global energy market might interact when competition for reserves increases. Varying risk thresholds and standards of information disclosure for state-owned companies add to uncertainty and distrust among countries.

The main challenge for trade in traditional fossil fuel-based energy products is to maintain predictable supplies (for importers) and stable demand (for exporters). For renewable energy sources, other trade-related challenges have emerged. Recent news reports have highlighted the role of state support in China's rapid strides in the clean energy sector. Heavily subsidised land and billions of dollars of low interest loans from state agencies have helped to make China internationally competitive in wind and solar energy (Bradsher, 2010b). Some firms export nearly all of their production, such as solar panels (subsidised wind turbine makers are also gearing for exports), benefiting in turn from consumer subsidies in target markets like Germany or the United States. US trade unions claim these are unfair export subsidies and the US Trade Representative is investigating. China claims that all governments offer subsidies to clean technology sectors (Bradsher, 2010a; Chan and Bradsher, 2010). Whether such cases escalate to WTO disputes or not, tensions over a race for clean technology are likely to remain.

Alongside concerns about state-subsidised exports of finished products, there is also growing anxiety about restrictions on the trade of raw materials needed in the energy sector. In 2010 China curbed the export of rare earths, elements that are used in high-tech equipment including

clean energy products; in the first half of 2011 China cut export quotas again by 35 per cent. Speculation over the reasons for such curbs varies. But, accounting for about 95 per cent of global supply, China's export restrictions triggered panic in industrialised countries (global prices for rare earths rose fourfold in 2010 and doubled again by April 2011). Again, questions were raised whether existing rules were sufficient to adequately regulate or prohibit measures that threatened energy industries in other countries (Bacchus 2011).

Another recent development threatening energy trade and investment is the use of punitive measures on environmental grounds. They are intended, first, as punishment (as was used under the Montreal Protocol) against countries not agreeing to curb greenhouse gas emissions (Zhang, 2008, p. 5); and, secondly, to reduce 'leakage' or the shift of economic activity to countries with less stringent environmental regulations (Reinaud, 2009, p. 6). The fear is that, if factories move and jobs are lost, pressures from domestic industry would undermine commitments under any rules-based climate regime (Frankel, 2008, p. 10).

Evidence on leakage is mixed and rich countries have adopted measures to negate competitive threats (McKibbin and Wilcoxon, 2008; Houser et al, 2008; World Bank 2007, p. 11). But there are growing calls (in Australia, the European Union, Japan and the United States) for trade rules that can 'level the playing field'. Policy options include: border adjustment taxes; import barriers (requiring importers to buy emission permits); carbon equalisation taxes (on the carbon content of goods); trade sanctions (imposed against non-members to encourage participation in a global regime); subsidies (to offset competition from imports); and sectoral agreements (based on globally agreed product standards for energy-intensive sectors) (Frankel, 2008, pp. 12-13; Charnovitz, 2003). So far developed countries have not explicitly introduced climate-related measures. But the United States and the European Union are keeping options open.¹ And Japan has proposed setting global benchmarks for the best-available technologies in energy-intensive sectors (ICTSD, 2008, p. 3).

Three tensions

The examples above pose real policy challenges for national decision-makers and for international bodies (intergovernmental organisations as well as industry groups) because they reveal contradicting impulses in the priorities that govern trade and investment in energy. Of course, priorities vary according to actors' interests but they extend beyond energy trade and investment (see Section III). Thus, energy importers (including new demanders) want predictable and uninterrupted supplies and exporters want stable demand. But there are additional questions of economic competitiveness, access to technologies and access to raw materials, while also ensuring environmental sustainability. This array of demands imposed on a complex milieu of institutions and rules reveals at least three sets of tensions.

The first tension is between multipolarity and existing regimes. With shifts in energy demand, an increasingly multipolar world will also have to find appropriate forums for cooperation and coordination on energy trade and investment policy. Since these forums might not be hierarchical, there is need for a degree of centralisation of governance because neither market forces nor bilateral deals are sufficient to address demands from different actors (Lesage et al., 2010). But in the energy sector, multipolarity does not automatically translate into multilateral governance arrangements. The WTO, with 153 members, is only one among several options. Regional institutions offer alternative logics for cooperation. Some work on proximity of source and demand: the North American Free Trade Agreement (NAFTA) is the only regional agreement where all parties are energy producers and one is a major consumer as well. Others focus on a comprehensive approach, including securing supply, protecting investments and facilitating energy transit (Energy Charter Treaty, or ECT). Still others derive from broader regional interests, such as the Association of South East Asian Nations (ASEAN) and the Economic Community of West African States (ECOWAS).

Furthermore, plurilateral agreements among small groups of countries also exist among energy suppliers, namely the Organization of Petroleum Exporting Countries (OPEC). Major consumers in the Asia-Pacific region have formed the Asia-Pacific Economic Cooperation (APEC) Energy Working Group. Now there are new calls for bringing together major suppliers *and* users under an Energy Stability Board to coordinate emergency actions and give voice to emerging economies (Victor and Yueh, 2010, pp. 71-72). Although small groups have their benefits for efficient decision-making (Davis, 2009), they need to maintain open membership to gain legitimacy (Ghosh, 2010). This is particularly the case when existing regional or plurilateral regimes do not include new energy actors, in turn undermining their effectiveness. Moreover, with so many arrangements, it is unclear which forums countries will choose and how contradictions in rules will be resolved.²

The second tension is between markets and states. The nature of energy markets has changed since the oil shocks of the 1970s. The 'fungibility' of crude oil has increased. About 50 per cent (or 40 million barrels per day) is now traded openly (Goldthau and Witte, 2009, p. 376). Oil is now a physical commodity *and* a financial asset: daily trade in crude oil futures could be as much as 30 times the daily consumption of physical barrels of oil. Growth in Liquefied Natural Gas is feeding the development of spot markets for gas. While transactions on such a scale increase the efficiency of the energy market, energy is also subjected to increased risks of volatility (Yergin, 2009). Energy security is of paramount concern to governments. The decentralisation of energy markets combined with rising demand in emerging economies begs the question whether countries will rely on markets to secure access to energy sources or whether state agencies will assume greater control.

The third tension is between energy and the environment. Globally, some 1.6 billion persons live without electricity. Even in China and India, more than half the population relies on traditional biomass for cooking (UNDP, 2007, pp. 43-45). Fossil fuel-based energy sources (not only oil and gas but also coal) will remain a major part of the energy mix for the medium term. Today's rich countries carry the burden of responsibility for the climate crisis (in 2004 the average American emitted 17 times more CO₂ than the average Indian) (UNDP, 2007, pp. 310-312). But non-OECD countries will account for almost the entire increase in energy-related CO₂ emissions from now until 2030 with more than three-quarters of this increase expected to originate in China, India and the Middle East (IEA, 2009). If confronting climate change requires some actions on the part of large, developing countries, then access to technology and finance will matter (Ghosh and Watkins, 2009). China and India already have the highest and fifth highest installed renewable energy generation capacity, respectively (REN21, 2009). Thus, on one hand, these economies have to balance their priorities on energy access and climate change and, on the other, there are questions about how trade rules would govern energy subsidies in rich and emerging economies.

It is evident from the above that energy governance in trade and investment regimes is not simply a question of opening markets for energy-related products and services. There are multiple competing imperatives: growing and diversifying demand; support for new energy technologies; alternative forums for making rules and adjudicating disputes. Each imperative poses its own set of governance challenges. We next examine how far existing arrangements manage to reconcile these tensions.

III. How trade and investment regimes govern energy

This section outlines the rules that govern energy in multilateral and regional trade and investment regimes and investigates how consistent they are across regimes. Consistency of rules matters when countries are members of more than one regime. Inconsistent or contradictory rules undermine regimes. This is because a country would adhere to rules favourable to it in one regime while ignoring those that are unfavourable in others. If all member states (or at least those critical to energy trade and investment) acted similarly, then the system governing energy trade and investment would progressively weaken.

Aiming for consistency in rules may not be a sufficient response to the three tensions noted above. However, unlike consistency, it is more difficult to establish a benchmark for resolving the tensions. We ask whether the existing landscape of regimes exacerbates or mitigates the tensions. Thus, is the growing multipolarity in the world addressed by a combination of multilateral and regional/plurilateral institutions? Or do new energy demanders remain excluded from the regimes? Again, are existing rules sufficient to ensure stable energy supplies and prices,

or do the signs indicate that countries are seeking to establish more state control over energy trade and investment? To what extent do energy regimes incorporate environmental provisions?

The section begins by outlining the interests of different actors and the demands they place on regimes. By explicitly outlining interests, we can evaluate to what extent rules and governance arrangements respond to these interests across regimes and assess their consistency. Further, viewed from the perspective of different actors, we are also able to analyse how the regimes respond to the tensions that underlie energy trade and investment.

Which actors and what principles for energy governance?

Energy products, energy services and energy-related investment activities are often treated separately in trade and investment treaties. For *exporters* of energy products the main concern is ensuring ‘demand security’ (Victor and Yueh, 2010). Market access is assured when agreements offer most favoured nation (MFN) status and national treatment (of foreign suppliers). Additionally, exporters also want more transparency about energy policies in major importing countries (Hoyos, 2010). For services, market access applies to production technologies and activities, distribution of energy products, and transportation infrastructure. Energy exporters need guarantees for using services inherent in the production and transportation of their goods. On investment, exporting countries want to reduce barriers to foreign investment and protect investments from expropriation.

Energy *importing countries* want security of supply. They wish to regulate quantitative restrictions or export duties that limit energy supplies. For energy services, importing countries want access to new technologies, such as on exploration, refining and smart grids. They also worry about ownership of pipelines and other transmission networks, without access to which supplies are threatened. Importers also favour transparency and predictability in suppliers’ policies.

Although trade negotiations occur between state representatives, the traditional dominance of large energy firms and, more recently, the emergence of state-owned firms, means that the preferences of firms must be treated separately. *Energy firms* want national and international laws to guarantee their investments, uphold contracts and reduce threats of nationalisation and expropriation. The regulation of anti-competitive practices is particularly important with regards to subsidies in the host country. For services firms, access to network infrastructure is crucial, especially if a host country firm owns both the infrastructure and has a stake in the retail business. Finally, firms have an interest in protecting intellectual property over energy-related technology.

The interests of exporters, importers and firms need not be fulfilled by a single global institution. When different regimes exist, energy governance requires clarity on at least four functions. First, membership of different regimes may or may not overlap (and the same country can be a member of two or more regimes). How does this affect the coherence of these institutions? Secondly, regimes serve as forums for negotiations and rule-making. Which principles and the interests of which actors do different regimes promote? If rules conflict, what implications do they have for energy governance? Thirdly, regimes monitor and review members' actions to increase transparency and trust. Do energy-related regimes have the capacity to undertake such activities or do they rely on other mechanisms? Fourthly, trade/investment regimes help settle disputes and enforce judgments. What models of dispute settlement have member states and firms chosen for energy governance? The relationship between different actors, their preferred principles and various governance functions is summarised in **table 2**.³ Next, we analyse how the existing array of trade/investment regimes satisfies the interests of various actors and confronts the tensions that energy governance faces.

[Table 2 about here]

Multipolarity – resulting in partially overlapping memberships

A world with multiple poles of energy suppliers, energy demanders and emerging economies has direct implications for coherence between different international organisations. The countries that are members of the multilateral trade regime do not always overlap with those that are part of producers' cartels. Petroleum, for instance, is not explicitly excluded from the purview of rules under the General Agreement on Tariffs and Trade (GATT) (UNCTAD, 2000, pp. 1-2). Yet, energy governance in the multilateral regime is more driven by principles than explicit rules. Historically, at least, there was no interest in opening markets for petroleum products and GATT schedules barely contained tariff reduction commitments in the petroleum sector (Desta, 2003, pp. 531-32; Bialos, 1989). GATT's focus was increasing market access for exports, not increasing access to (energy) imports.

The virtual exclusion of energy-related issues was also because countries with export interests in energy products have not been members of the multilateral trade system for much of its existence (**table 3**).⁴ OPEC members either set prices (during 1973-85) or restricted supplies (since 1985) with relative impunity (Mabro, 1992, p. 16).

[Table 3 about here]

The situation has changed partially. Most OPEC countries are now WTO members as well. Export restrictions by OPEC-cum-WTO members could constitute a GATT violation but no WTO dispute has arisen to date.⁵ That might also change with three developments: the recent

accession of Saudi Arabia to the WTO; the ongoing accession negotiations for Algeria, Iran, Iraq, Libya and, most importantly, Russia (the second largest oil producer); and the outcome of Doha Round negotiations on energy services and environmental goods and services. With leading energy exporters joining the WTO, their export restrictive practices will get more attention.

If the WTO's and OPEC's approaches seem inconsistent so far, other instances suggest relatively more coherence. The ECT originally intended to support the transition of former Soviet Republics and to secure energy access for Western Europe (Wälde, 1996; Desta, 2003, p. 539; Goldthau and Witte, 2009, p. 380). It has now grown into a plurilateral agreement to include non-EU and non-European countries. It has also strived to maintain consistency with WTO principles, expecting parties to become WTO members and be governed by its rules.⁶ (Table 4 shows the overlap between EU, ECT and WTO membership.) Similarly, NAFTA built upon the Canada-United States Free Trade Agreement (CUSFTA) framework, a means to secure energy supplies for one party and access to the world's biggest energy market for the others (Shih, 2008; Stickley, 1990).

[Table 4 about here]

Nevertheless, the existing arrangements do not adequately address growing multipolarity. There have been few signs of cooperation between existing powers in the energy sector and emerging economies. China and India were invited to the International Energy Agency's (IEA) 'Committee Week' in 2007 but remain observers. The IEA remains a subsidiary body of the OECD, a developed countries' club, making it difficult to bring emerging economies formally into its fold. Meanwhile, competing pressures of energy demand, climate change and trade barriers are discussed in different forums, at the IEA, the UN Framework Convention on Climate Change (UNFCCC) or in the WTO, thus creating what scholars have called a complex of partially overlapping but not hierarchically ordered regimes (Alter and Meunier, 2009; Raustiala and Victor, 2004; Keohane and Victor, 2011). If these contradictions remain unresolved, emerging economies will seek alternative venues to secure energy supplies. Dissatisfaction with the rules or legitimacy of one regime, or lack of power therein, means that some states or NGOs may adopt a strategy of 'regime shifting', seeking new venues to develop new norms and rules (Helfer, 2004).

States and markets – incoherent rules

The rules governing energy trade and investment in different regimes also illustrate tensions between the state-dominated versus market-led paradigms. The multilateral trade regime and the actors seeking to influence the world energy market are, at least in principle, at opposite ends of the spectrum. The WTO protects competition in world markets and abhors discriminatory

practices. By contrast, institutions like OPEC are concerned with state-directed production quotas, seeking to manipulate or at least influence world energy prices by the decisions of a small group of countries (Desta, 2003, p. 523).

Even if major energy exporters were members of the WTO, its rules give sufficient leeway for them to restrict supplies. Quantitative restrictions on exports are prohibited under GATT 1994 but export duties are not. Further, exemptions are allowed for critical shortages of essential products (Article XI:2(a)), conservation of exhaustible natural resources (Article XX(g)), availability of essential supplies to a domestic processing industry (Article XX(i)), and acquisition or distribution of products in short supply (Article XX(j)). Energy exporters can use any of these provisions to restrict supplies and maintain minimum prices. Moreover, trade in other natural resources (like the rare earths case) could also exploit the loopholes. Thus, traditional and new energy sectors remain vulnerable to export restrictions.

Countries with a core interest in securing energy supplies have, therefore, sought recourse in other agreements. The ECT prohibits export duties (Article 29(4)) and extends the provision even to non-WTO members of the ECT (Article 29(6)). CUSFTA (Article 903) and, subsequently, NAFTA (Article 604) prohibited taxes and duties on energy exports unless similar charges were applied on domestic consumption as well. Non-duty export restrictions are also more stringently regulated than GATT (Article 605, NAFTA; Article 904, CUSFTA), and NAFTA prohibits maximum import and export prices (Article 603(2), NAFTA; Article 902, CUSFTA). Exceptions are also strictly regulated in NAFTA whereby reductions in energy exports should be accompanied by a proportionate reduction in domestic consumption. (the share of exports in total energy supply, for instance, cannot be lower than prior to the agreement).

For energy exporters, too, regional agreements offer more explicit guarantees. In principle, imports and exports of energy products and services should be governed by non-discriminatory provisions under GATT (like MFN and national treatment of foreign traders and investors). A global energy market and dependence on energy trade for revenue make it difficult to offer preferential treatment: MFN is a 'self-enforcing rule' in energy trade.⁷ But national treatment is undermined thanks to the presence of large, state-owned energy companies. In many countries state trading corporations facilitate energy trade, driven in part by political and national security interests. They are permitted under WTO rules but with no guidance on how to regulate their behaviour. By contrast, both the ECT (Article 10(5)) and the ECOWAS Protocol (Article 10(4)) offer non-discriminatory treatment to foreign entities with minimum exceptions.

A third aspect of energy trade that is not covered adequately by the WTO refers to cross-border energy and electricity supply. The global energy services industry is largely not covered by the General Agreement on Trade in Services (GATS) (Zarrilli, 2003). Few members have undertaken commitments (only 18 for energy services and 12 on pipeline transportation) (WTO 2010, p. 194).

Furthermore, electricity is neither treated as a commodity under GATT nor listed as a service under GATS, thus getting no guaranteed protection for cross-border supply. And cases of high transit fees for network infrastructure have not reached the WTO because they have involved non-members and there are few provisions to govern state-owned network companies (Selivanova, 2007).

Once again, regional devices are used. The ECT extends MFN and national treatment to energy services and to regulate energy transport monopolies (Articles 10(6), 10(1)). It even demands that governments facilitate the building of new pipelines and transmission lines (Article 7(3)). And the European Commission helps by organising consultations between national regulators, transmission system operators, gas and electricity traders, network users and consumers (Wälde and Gunst, 2002, pp. 200-201).

On the positive side, some energy importers and exporters have found surety of rules in regional/plurilateral agreements. But if key countries remain outside regional agreements, they might rely more on state-led energy policies rather than a rules-based energy trading system. The absence of China and India from the IEA or the ECT or of Russia from the ECT illustrate that the interests of new energy demanders and major suppliers are, for now, not addressed in existing regimes. Since the rules at the multilateral level are not well developed, it becomes difficult to find consistency between multilateral and regional regimes. Even if agreements like the ECT promote the WTO as the ultimate forum for energy governance, in practice it will be difficult to shift away from the specificity in regional deals to ambiguities in multilateral regimes.

Energy and climate – inconsistent rules

Similarly, the energy-climate tension has not been resolved by the multilateral trade regime. Most international investment agreements do not have any explicit provisions to protect the environment. The WTO's toolbox is insufficient to price energy with a view to sustainability (Lamy, 2007). And developing countries reject any trade-environment linkage in the WTO, fearing 'green tariffs', private environmental standards and other trade barriers against their exports on environmental grounds (Ghosh, 2009). Moreover, they have found that despite applying low tariffs against environmental goods and services (Jha, 2008), their exports of energy-related goods face trade barriers abroad.⁸ They also worry about intellectual property rules that raise costs for environment-friendly energy technologies. But it is not just developing countries that oppose border measures on energy trade. The World Energy Council, a group representing 93 countries and industry organisations, argued recently that 'environmental concerns...should be addressed through means other than the use of trade measures' (World Energy Council, 2009, p. 5).

While debates continue at the multilateral level, regional agreements have established some links between energy, trade and the environment. NAFTA (Article 1114(1)) allows states to take measures to ensure that investments are 'sensitive to environmental concerns'. It also introduced a side agreement, the North American Agreement on Environmental Cooperation, which lets private actors monitor other member states and initiate legal proceedings (Raustiala, 2003-2004).

Both the ECT and the ECOWAS Protocol, while recognising state sovereignty over energy resources, expect parties to minimise harmful environmental impacts of energy-related activities (Articles 18(1) and 19(1)). The responsibility for the cost of pollution lies explicitly with the polluter. Additionally, in 1994 the ECT introduced an associated Protocol on Energy Efficiency and Related Environmental Aspects (PEEREA), which lets a country hosting foreign investors and traders apply environmental conditions on grounds of 'necessity'. It can do so to protect its environment even if there is uncertainty about the future (say, with regard to the impacts of climate change).

How will the inconsistencies in rules at regional and multilateral levels be resolved especially when the major energy demanders are now based in Asia, outside of the scope of these regional arrangements? This is also the reason why the case of subsidies to clean technology sectors in China is so contentious. From a climate regime perspective, it signals China's effort to promote a low carbon economy (although some might argue that the subsidies are for export promotion rather than greater consumption of clean energy technologies at home). From a trade perspective, such subsidies are considered discriminatory. Will rules under the climate regime supersede WTO rules? If environment-related border measures are used, it is unclear which dispute resolution mechanisms different actors will choose.

From the analysis above, several points may be concluded. First, major energy importers and exporters have traditionally participated in different regimes. Secondly, where they did come together (multilaterally at the WTO or regionally via the ECT), problems remain either because the rules are not clearly defined to protect the interests of energy importers or key suppliers have left the regime. Thirdly, new energy importers in Asia are not formally party to existing regional regimes. The multilateral trading system does not guarantee security of supply, one reason why state-owned companies are seeking energy sources abroad. Thus, fourthly, neither growing multipolarity in energy demand nor the tension between state-led and market-oriented approaches is addressed by existing regimes. Fifthly, investments by private energy firms are protected under regional/plurilateral treaties but energy services and access to network infrastructure are minimally covered at the multilateral level, once again undermining a rules-based system for energy markets. Sixthly, there are no consistent rules across regimes on the incorporation of environmental provisions. Rules in regional treaties avoid discrimination between domestic and foreign firms. However, multilateral negotiations on border adjustment measures or on subsidies for clean technology development occur in numerous forums and remain inconclusive.

IV. Three questions for governing energy trade in future

The landscape of multilateral and regional agreements fails to manage the tensions developing in global energy governance. Moreover, it does little to clarify how trade and investment in energy will be governed in future. Given the unresolved tensions, at least three big questions remain: what role will multilateralism play in governing states and markets; how might Asian countries react to the existing gaps in governance; and what options for institutional design could countries consider?

Whither multilateralism?

The multilateral system is challenged on several fronts. But two are prominent. One is that countries will ‘forum shop’, choosing energy governing arrangements that deliver direct benefits, rather than rely on grand bargains in trade negotiations of which energy is only one part. That said, forum shopping need not deliver expected benefits if regimes do not overlap. For instance, with Russia not ratifying the ECT, the resulting ambiguity reduced the predictability of energy flows into Europe (Doeh, 2006). In October 2009 Russia formally withdrew from the ECT, further undermining the treaty.

Another challenge, to state the obvious, is that countries will not give up sovereignty on energy easily. This can result in deliberate ambiguities and exceptions in rules. WTO members have largely agreed that sovereign ownership over natural resources should not be questioned and that governments have rights to regulate energy to ensure security of supply. Regional arrangements also include exceptions. For instance, the construction of international and interprovincial pipelines remained out of CUSFTA’s scope (McDougall, 1991) and Mexico’s sovereignty concerns were respected under NAFTA and it could retain state control over energy resources (English, 1993; Hufbauer and Schott, 2005).

Taken together, these two challenges place an important burden on the multilateral system for monitoring, interpreting and adjudicating policies and disputes. No single institution has the wherewithal to perform all functions effectively.

Take monitoring for instance. The IEA has become a reliable source of information. In addition, the Joint Oil Data Initiative (JODI) has been a multi-agency effort (since 2002) to increase transparency between energy producers and consumers and reduce financial speculation (Florini and Sovacool, 2009). Since 1998 the ECT has also monitored whether its members’ policies are consistent with WTO principles (Energy Charter Secretariat, 2003, pp. ix-x).

But peer review procedures are not laid out in detail in the regional agreements and, to the extent they occur (in the ECT or ECOWAS Protocol), trade with non-members remains outside their scope. Instead, the WTO's Trade Policy Review Mechanism or the Transparency Mechanism for Regional Trade Agreements might be more appropriate venues. Since the WTO's membership is much larger, review procedures can, in principle, highlight inconsistencies in policies and practices (Ghosh, 2010; Ghosh, 2011).

Adjudication and enforcement are even more complicated since disputants may include both states and private actors. Parties have a range of institutional options to choose from. The ECT and ECOWAS Energy Protocol offer both inter-state dispute resolution and investor-state arbitration. Under NAFTA's Chapter 11, arbitrations take place under the World Bank's International Centre for the Settlement of Investment Disputes (ICSID), the ICSID's Additional Facility Rules, or the rules of the United Nations Commission for International Trade Law. Investors can also seek remedies in domestic courts or via bi-national panels. There are also cultural differences between organisations. OPEC relies on collective self-interest, good faith and political peer pressure while the WTO has a much more formal process of notification, policy reviews and dispute settlement.

But many of the more contentious questions might not find any appropriate forum for mediation. Under ECT, competition and environment-related disputes are subject to only non-binding consultations. Further, judgments in recent investor-state arbitrations have been mixed. While some have allowed host states to discriminate between climate-friendly and unfriendly investments, there is no 'doctrine of precedent' to unequivocally permit discriminatory measures (Marshall and Murphy, 2009, pp. 23-25, 33-34, 37). Current dispute procedures at the regional or multilateral levels do not offer much clarity, neither for parties interested in unhindered energy trade and investment nor for those in favour of more stringent environmental standards.

How will Asia behave?

Regional energy governance dictated European integration via the European Coal and Steel Community and the Euratom Treaty. Since the 1980s the EU and the United States have again pursued regional agreements to secure energy. As new energy demanders and causes of a growing multipolarity, what will emerging economies in Asia do?

Regional initiatives are already underway in the Asia-Pacific region. ASEAN countries first established the Council on Petroleum in 1976, then a Petroleum Security Agreement in 1986, the latter being a binding treaty to deal with oil shortfalls cooperatively. Energy security imperatives also drove ASEAN to interconnect power grids. Since the 1990s, energy efficiency and lowering the environmental impact of energy consumption have also become ASEAN goals. A Plan of Action on Energy Cooperation was adopted in 1995; since 1999 an ASEAN Centre for Energy has played a coordinating role for: a Trans-ASEAN Gas Pipeline (eight cross-border pipelines have been built); a Trans-ASEAN Power Grid (four interconnections exist and seven more are

planned for 2020); a Forum on Coal; energy efficiency and conservation activities; and renewable energy (Nicolas, 2009, pp. 18-27).

Another regional forum is the APEC Energy Working Group (EWG), launched in 1990 to facilitate energy trade and investment among APEC countries. The EWG meets twice a year and has representatives from government, research institutions and the private sector. Since 2001 APEC has also pursued an Energy Security Initiative (ESI) to deal with both temporary energy disruptions and longer-term energy challenges. ESI's short-term measures include increasing transparency, real-time information and maritime security. Longer-term approaches focus on energy infrastructure, energy efficiency and cleaner energy technologies. In addition, an Energy Security Forum has been organised under the ASEAN+3 format with China, Japan and Korea to formalise consultations and response measures for dealing with petroleum shortages. The priority areas for Asian energy cooperation include energy security, oil stockpiles, studying the Asian oil market, natural gas use, and renewable energy. By 2007 the Cebu Declaration on East Asian Energy Security also included Australia, India and New Zealand and focused on energy efficiency.

These initiatives apart, major economies are also relying on bilateral arrangements. China has concluded bilateral agreements to secure resources in several African countries. Its proposed free trade agreement with the Gulf Cooperation Council is another example. Japan uses Economic Partnership Agreements with energy exporters like Brunei and Indonesia. There are special chapters on energy, which cover transparency and non-discrimination clauses. But many remain simply declaratory statements.

Regional initiatives, both formal agreements and more informal consultations, suggest that major energy consuming economies have already sought alternative forums to govern energy. But their focus has been largely on energy security. Some recent initiatives pay lip service to environmental sustainability – and the results are mixed.⁹ Domestic energy governance might appear on the agenda to improve transparency but other objectives such as reducing energy poverty and geopolitical stability do not really figure within the scope of existing multilateral or regional trade/investment agreements. On the whole, sovereignty reigns supreme. How emerging powers behave will depend on their priorities for energy governance, whether consistency of rules, predictability of supply, or clarity in linkages between trade, energy and environment concerns.

What regimes for which priorities?

This analysis suggests that the most important question for the future is what governance arrangement will integrate energy, environment and trade to the satisfaction of different actors? One option is to modify legal provisions in energy-specific agreements to give governments

more flexibility to adopt climate-friendly regulations. Such modifications could include explicit references to sustainability, applying national treatment only in 'like circumstances' (entities with different environmental impacts are treated differently), and no pre-establishment rights (host states can impose conditions before allowing investments) (Marshall and Murphy, 2009).

Efforts are also needed to reduce the incoherence of rules between regional arrangements and the multilateral trade regime. Thus, the WTO could consider: stronger provisions against export restrictions; clarifying the legality of maximum export prices for quantitative restrictions; and creating explicit rules for energy transit. The liberalisation of energy services would also have to follow eventually. GATS rules on financial services will also become important for the energy sector, especially with growing domestic and international trade in the carbon and renewable energy markets. Environmental provisions are unlikely until a global climate deal is agreed and, even then, there will be strong opposition from member states. So, the WTO will have to strengthen its monitoring and dispute resolution devices to reduce the risk of misuse of environment-related trade barriers.

But it is unlikely that mere treaty modifications can address bigger institutional design questions. As Biermann et al. (2009) argue, governance architectures (systems of public and private institutions, principles, norms, regulations, decision-making procedures and organisations active in a given issue area) can confront degrees of fragmentation. When fragmentation is high the overall performance of the architecture can suffer. For our purposes of governance of energy trade and investment, the choice of institutions will depend on the balance that countries are willing to strike on two basic dimensions. The first is the choice between integrating various concerns (energy, environment and trade) within a single institution versus addressing them through separate institutions and regimes. The second is the choice between having conflicting rules versus seeking consistency across several regimes.

Figure 1 offers a schematic representation of these choices. Along the horizontal axis is a continuum from more conflicting to more consistent rules. Along the vertical axis is a continuum from more integrated to more fragmented governance.

Quadrant I (conflicting rules and fragmented governance) best describes the current situation with the WTO and the OPEC following different principles for governing energy. This situation is further complicated by the fact that Russia is not a member of either. The state versus markets tension is, therefore, unresolved here.

Quadrant II (conflicting rules and integrated governance) is the ECT's situation. Although it has sought to integrate energy and environment concerns, Russia's absence undermines the rules. Similarly, China and India's absence from the IEA makes its rules less relevant to a changing energy landscape. As currently configured, this institutional design fails to address multipolarity

and the role of new energy demanders. The energy versus climate tension remains problematic because multilateral regimes on these issues continue to have conflicting rules.

Quadrant III (consistent rules and integrated governance) is best illustrated by the sequential negotiations on the CUSFTA and the NAFTA. The latter borrowed many of the former's rules and principles while partially bringing Mexico into the fold (thanks to the exceptions Mexico continued to enjoy). In future, if Russia joins the WTO or rejoins and ratifies the ECT, this structure could help to resolve the state versus markets tension at the multilateral or plurilateral levels, respectively. However, such an outcome would only secure energy supplies for consumers and ensure price stability for exporters in the European market. As yet, there is no multilateral institution that can integrate the demands of emerging economies or create more consistent rules on energy and environment.

Quadrant IV (consistent rules and fragmented governance) is perhaps the more likely scenario. Emerging energy demanders will continue to negotiate bilateral, regional or plurilateral agreements to secure supplies. At the same time, success in negotiating rules for trade in environmental goods and services at the WTO can make multilateral rules more consistent and less ambiguous. Other institutions can fulfil functional roles like improved monitoring through the IEA or JODI, clear regulatory signals from the UNFCCC for low-carbon investments and trade, and technology cooperation and emergency measures under Asian forums (ASEAN+6; APEC). This structure recognises that sovereign states will pursue different institutional routes, so the objective is to coordinate the rules and work these alternative institutions. Multipolarity and energy/environment stresses can be better addressed, but countries will continue balancing state-led and market-led routes rather than fully committing to supranational governance.

Since they are simplistic abstractions, moving from quadrants I and II towards III and IV will require changes in existing institutions, negotiation of new rules and neater division of functional arrangements between alternative regimes. Already, more than 25 intergovernmental organisations have observer status in the WTO's Committee on Trade and Environment and, in turn, the WTO has observer status in the United Nations Environment Programme's Governing Council. These are simply initial steps towards achieving more coherence between different regimes. As the WTO's latest World Trade Report states, 'Few today consider that the WTO is a closed regime impermeable to other international rules...' (WTO, 2010, p. 192). Determining the limits of permeability and exclusivity will remain a challenge for global energy governance.

[Figure 1 about here]

V. Conclusion

Energy governance is being pulled in different directions. The energy market is becoming more decentralised (and global). At the same time, large, state-owned behemoths are trying to re-establish influence over energy flows, thus creating a tension between state control and market-led mechanisms. Secondly, alongside existing large consumers, emerging powers are seeking security of supply. The resulting multipolarity creates a tension between existing multilateral and plurilateral or regional approaches. The more countries inhabit exclusive blocs, the less is the coherence between their rules and functions. Thirdly, climate change has introduced another tension between the pursuit of energy security, on one hand, and environmental sustainability on the other. It is putting pressure on producers and consumers to develop cleaner energy sources, while raising potential trade disputes over border measures or subsidies to clean technology industries. How well has the governance of energy trade and investment managed these conflicts?

Not very well so far – and greater challenges lie ahead. This paper highlighted the concerns and preferences of energy exporters, energy importers and firms to analyse several trade and investment institutions, including the WTO (GATT and GATS), the CUSFTA, NAFTA, the Energy Charter Treaty and the ECOWAS Energy Protocol. The analysis revealed problematic patterns. Countries have chosen to participate in multiple regimes thus creating partially overlapping membership. The rules applicable in these institutions often conflict or are inconsistent with principles applied elsewhere. Moreover, emerging powers, especially in the Asia-Pacific region have already undertaken initiatives at a sub-regional and pan-regional level to focus largely on energy security. While they continue to participate in multilateral institutions, their preferred forums for governing energy trade and investment seem to lie elsewhere. And while some regional agreements have tried to integrate environmental provisions, they are strongly contested at multilateral fora.

For governing energy trade and investment in future, the choice will depend on what countries and firms prioritise: more or less consistency in rules; and more fragmented governance or greater integration. The paper illustrates how existing regimes and future institutional developments can fit into such a framework. None is an ideal situation and sacrifices some objective for the sake of others. However, careful assessments of the strengths of each institution could offer clues for how they could perform different governance roles (from rule making to monitoring and enforcement) and complement each other. Seeking coherence in complexity is no easy task, but any success toward such an end can vastly improve energy governance on the whole.

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Figure 1: Cohering energy, environment and trade via different regimes

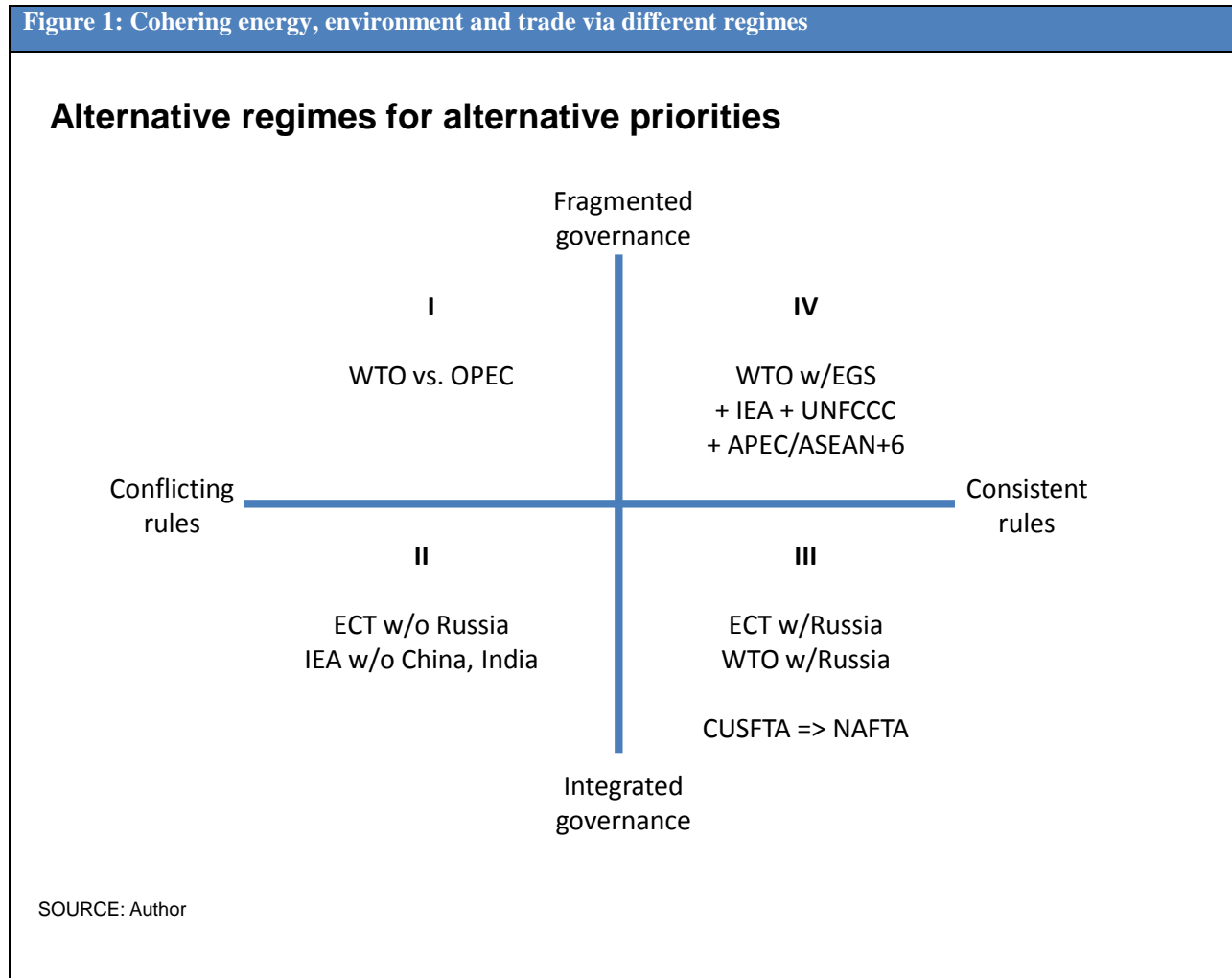


Table 1: Key actors in global energy trade					
	1965-1973	1974-1981	1982-1990	1991-2002	2003-2010
Energy importers	United States Japan France Germany United Kingdom	United States Japan France Germany Italy	United States Japan France Germany Italy	United States Japan France Germany Italy	United States Japan China France Germany
Energy exporters	Venezuela Iran Saudi Arabia Kuwait USSR	Saudi Arabia Iran USSR Kuwait Venezuela	Saudi Arabia USSR Venezuela Iraq Iran	Saudi Arabia Russia Venezuela Iran Norway	Saudi Arabia Russia Iran Norway UAE

Source: BP, Statistical Review of World Energy, via Colgan, Keohane and Van de Graaf (Forthcoming)

Table 2: Actors, principles & functions for energy governance			
Functions	Energy exporters	Energy importers	Firms
Agenda & membership	Market access	Energy security	Investment protection
	Price manipulation	Stable prices	Joint cross-border energy projects
	Exclusive clubs of suppliers	Overlapping membership of producers and consumers	
Negotiations & rules	<i>Products</i> Market access – demand security	Security of supply – export duties; quantitative restrictions	Non-discrimination Subsidies Protection of IPRs
	<i>Services</i> Market access	Access to technology Ownership of infrastructure	Third party access
	<i>Investments</i> Barriers to entry Security of investment		Honouring contracts Expropriation
Monitoring & review	Transparency of policies	Transparency of policies	Role of non-state actors
	Review of implementation	Review of implementation	
Dispute settlement & enforcement	Inter-state disputes	Inter-state disputes	Investor-state disputes
	Options for binational panels	Alternative forums & legal systems	
	Links to environmental provisions	Using national laws to curb cartels	

Source: Author

Table 3: Major energy producers have not always been part of the trading system		
Country	OPEC membership date	GATT/WTO accession date
Algeria	1969	-
Angola	2007	1994
Ecuador	1973*	1996
Gabon	1975-1994	1963
Indonesia	1962^	1950
Iran	1960	-
Iraq	1960	-
Kuwait	1960	1963
Libya	1962	-
Nigeria	1971	1960
Qatar	1961	1994
Russia	Not an OPEC member	-
Saudi Arabia	1960	2005
United Arab Emirates	1967	1994
Venezuela	1960	1990

* Suspended membership December 1992 to October 2007
^ Suspended membership from January 2009
- WTO accession negotiations underway
Source: Author's analysis

Table 4: ECT membership has broadened beyond the EU and Europe			
Country	EU member	ECT member	WTO member
Albania		•	•
Armenia		•	•
Australia*		•	•
Austria	•	•	•
Azerbaijan		•	
Belarus*		•	
Belgium	•	•	•
Bosnia & Herzegovina		•	
Bulgaria	•	•	•
Croatia		•	•
Cyprus	•	•	•
Czech Republic	•	•	•
Denmark	•	•	•
Estonia	•	•	•
European Communities	•	•	•
Finland	•	•	•
France	•	•	•
Georgia		•	•
Germany	•	•	•
Greece	•	•	•
Hungary	•	•	•
Iceland*		•	•
Ireland	•	•	•
Italy	•	•	•
Japan		•	•
Latvia	•	•	•
Liechtenstein		•	•
Lithuania	•	•	•
Luxembourg	•	•	•
Macedonia		•	•
Malta	•	•	•
Moldova		•	•
Mongolia		•	•
Netherlands	•	•	•
Norway*		•	•
Poland	•	•	•
Portugal	•	•	•
Romania	•	•	•
Russian Federation*		•	
Slovakia	•	•	•
Slovenia	•	•	•
Spain	•	•	•
Sweden	•	•	•
Tajikistan		•	
Turkey		•	•
Turkmenistan		•	
Ukraine		•	•
United Kingdom	•	•	•
Uzbekistan		•	

* Ratification pending

Observer states: Afghanistan, Algeria, Bahrain, Canada, China, Egypt, Indonesia, Iran, Jordan, Korea, Kuwait, Morocco, Nigeria, Oman, Pakistan, Palestinian National Authority, Qatar, Saudi Arabia, Serbia, Tunisia, United Arab Emirates, United States of America, Venezuela

Source: Author's analysis

¹ Kirk, 2009; ICTSD, 2009; Pew Center on Global Climate Change, 2009; van Asselt and Brewer, 2010; European Commission 2008, paragraph 20.

² Colgan, Keohane and Van de Graaf (Forthcoming) explore institutional innovation from the perspective of energy exporters and importers. But their work does not cover trade and investment institutions, which include other issues on their agendas; change in these institutions might be harder to predict than in purely energy-related organisations.

³ These functions are similar to those outlined in recent literature. Abbott and Snidal, 2009. For energy governance see Goldthau and Witte, 2009.

⁴ None of the five founding members of OPEC (Iran, Iraq, Kuwait, Saudi Arabia and Venezuela) were members of GATT in 1960. The membership of OPEC has grown but four countries (Algeria, Iran, Iraq, and Libya) still remain outside the WTO system.

⁵ Mexico and Norway have also used export restrictions without challenge.

⁶ Article 4 states that if two Contracting Parties are also members of the GATT, then the ECT cannot 'derogate...from the provisions of the GATT and Related Instruments...'

⁷ Botchway, 2001, pp. 4, 8; Pierros, 1999; Sodupe and Benito, 2001; MacDougall 1994.

⁸ Brazil's dispute against a ban on ethanol exports to the United States, or China facing anti-dumping duties against energy-saving light bulbs in the European Union for several years are cases in point.

⁹ See Stern, 2007, for NAFTA and Carrapatoso, 2008 for agreements in the Asia-Pacific region.

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