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India Should Defend the Essence and Spirit of the Paris Agreement: Arunabha Ghosh

Bonn (6 November 2017) – “The Paris Agreement ensured that climate leadership became diffused and distributed globally, with each country determining its own climate action plan. This so-called “bottom up” architecture was politically salient but climatically inadequate. It was a capstone for years of negotiations, but a mere stepping-stone towards (what was expected) would be more aggressive action in the coming years. India is likely to suffer significantly from a warming climate. With the U.S. announcement to withdraw from the Agreement, India’s primary objective at COP23 should be to retain and defend the essence and spirit of the Paris Agreement, namely global collective action against climate change,” said Dr Arunabha Ghosh, CEO, CEEW, on the opening day of the COP23 climate change summit being held in Bonn.

The mood in Bonn will be tested as countries weigh up the likelihood or difficulty of meeting the Paris Agreement’s goals. Dr Ghosh added, “Despite the Paris Agreement and other measures, big and small, the response to climate change for the world as a whole is inadequate. Even if all Nationally Determined Contributions were implemented in full, the world is still on track for at least 3°C of warming. Even a 2°C rise in temperatures will have severe implications for precipitation, heat stress, agricultural losses, and more extreme weather events. The risks increase in a non-linear way when temperatures rise by 3⁰-4⁰°C, which is the likely scenario, given the current stock of commitments. We must acknowledge that global collective efforts will fall short of what is needed.”

“India is a climate leader,” said Dr Ghosh. Unlike developed countries, it has set disproportionately aggressive targets for climate action, compatible with a 2⁰°C scenario. It offers one of the world’s largest markets for renewable energy. Transparent auctions have ensured that solar tariffs in India are among the lowest in the world. It has distributed more than 270 million LED lightbulbs through an innovative government procurement programme. Similar strategies are now being adopted to drive prices down for other energy efficient appliances and electric vehicles. India will create a workforce of 330,000 in the solar and wind energy sectors. It is also creating a robust investment climate, with a nascent green bonds market, and attempts to de-risk investments in clean energy for institutional investors.

Discussing India’s goals at COP23, Dr Ghosh further said, “COP23 is an important milestone towards putting together the rulebook of the Paris Agreement and India will be one of the most important actors. It already has and must reiterate not only its own commitment to the

Paris Agreement but also continue to demand greater action by the largest historical polluters. Secondly, India will have to ensure that the design of the enhanced transparency mechanism retains sufficient flexibility for developing countries to build the capacity for more frequent and detailed reporting and review. Thirdly, India must demand more action and innovation in the means of support that has been promised and consistently under-delivered for developing countries. Fourthly, India must showcase not only its domestic actions but also its international leadership on climate action, for example, through its efforts in promoting and building the International Solar Alliance.”

Figure 1: Compatibility of NDCs in accordance with the long-term temperature goal

NDC - Emission Commitment	Country Group	Country/ Countries	Emissions (% share, 2015)
1.5 degree compatible	Annex I		0.0%
	Non-Annex I	Morocco	0.2%
2.0 degree compatible	Annex I		0.0%
	Non-Annex I	Costa Rica, Ethiopia, India, Philippines, The Gambia	7.4%
Insufficient	Annex I	Australia, Canada, European Union, New Zealand, Norway, Switzerland	13.1%
	Non-Annex I	Brazil, Indonesia, Kazakhstan, Mexico, Peru, United Arab Emirates	5.7%
Highly insufficient	Annex I	Japan	3.6%
	Non-Annex I	Argentina, China, Singapore, South Africa, South Korea	34.1%
Critically insufficient	Annex I	Russian Federation, Turkey, Ukraine, United States of America	21.5%
	Non-Annex I	Chile, Saudi Arabia	1.7%

Source: CEEW Analysis (2017) based on

a) Climate Action Tracker (2017), available at: <http://climateactiontracker.org/>; accessed 05 October 2017

b) EU-JRC, EDGAR: CO₂ time series 1990-2015 per region/country, available at: <http://edgar.jrc.ec.europa.eu/overview.php?v=CO2ts1990-2015>; accessed 05 October 2017

Note: The emission estimates are not verified by the authors and/or CEEW. They are directly taken from the mentioned source for reference purposes only.

Developed Countries Mostly Responsible for the Emissions Gap

A lesser-known fact is that a major portion of that shortfall comes from the developed country Parties, which are also largely responsible for historical emissions. Recent research finds that the collective impact of NDCs from countries representing ~80% of global emissions reflects a high level of insufficiency in achieving the 2-degree and 1.5-degree targets. Out of these countries, ~38% of emissions come from Annex I countries, with a majority of share falling in the critically insufficient zone. Interestingly, none of the Annex I Parties' NDC was found to be compatible with 2-degree or 1.5-degree targets. CEEW analysis finds that only non-Annex I Parties had NDC goals compatible with a low-carbon trajectory consistent with the Paris Agreement (Figure 1).

Shrinking Global Carbon Space for Developing Countries

A target of limiting average surface temperature rise to 2°C, above pre-industrial levels, creates a carbon budget for the planet: 1000 Gt-CO₂ (from 2011 to 2100 for a 66% probability of staying within 2°C). With their commitments to the UNFCCC, between 2011 and 2030, China, the European Union and the United States would have together cornered at least 38% of the world's total permissible emissions up to 2100.

The Paris Agreement aims for “well below” 2°C with some clamouring for 1.5°C. CEEW researchers finds that if the world indeed set itself such a target, then the carbon budget would shrink to just 400 Gt-CO₂. And by 2030 these three regions would consume 95% of the entire world's nearly century-long carbon budget. The budget would shrink further with the U.S. withdrawal from the Agreement and its planned suspension of many of its low-carbon policies.

Countries need to start thinking right now about allocating carbon space based on principles of historical responsibility and economic capabilities. India, with its ambitious renewable energy goals, has already committed to higher mitigation than its fair share, in effect freeing up carbon space for other developing countries.

Link to CEEW study ‘Intended Nationally Determined Contributions and Global Carbon Space’: <http://bit.ly/1jCm8E>

Tapping Every Ray of the Sun: India's Ambitious Renewable Energy Goals

In early 2015, the Indian government announced that by 2022 it would install 100,000 MW of solar, 60,000 MW of wind, 10,000 MW of biomass-based electricity capacity, and 5,000

MW of small hydropower. India is trying to do in less than a decade what took Germany more than two decades to achieve.

Key highlights

- **USD 100 billion** Amount of debt required to reach 100 GW solar target
- **57% CAGR** required to meet 100 GW solar target, installed capacity needs to double every 18 months
- **USD 18 billion** required to meet the solar targets for FY 2017-18
- **1%** of barren and uncultivated land in India would be sufficient for 80 GW of grid connected projects

Link to CEEW's recent factsheet 'New Winds in India's Wind Power Regime':
<http://bit.ly/2yxB7Wp>

Future of Clean Energy Jobs in India

For the past three years, CEEW and the Natural Resources Defense Council have annually surveyed India's solar and wind project developers, and now manufacturers, to collect accurate, market-based information on jobs created, workforce employed, and the skills required to achieve India's renewable energy goals. Their recent joint study estimates India's clean energy goals have the potential to put 34,600 people to work in wind power, 58,600 in utility solar and 238,000 in rooftop solar jobs over the next five years. Solar jobs will be well distributed across India with the states of Maharashtra and Uttar Pradesh leading in job creation. Wind jobs, are likely to be concentrated in a few states that have high wind potential, as has been the case with wind capacity.

Key highlights

- **330,000** new workers to join India's clean energy workforce by 2022
- **45,000** people could be additionally employed by a strong domestic solar module manufacturing industry
- **80%** of total employment will be during the construction phase
- **7 times more** jobs to be created by the rooftop solar segment as compared to ground-mounted utility scale solar
- **25,000** additional people will be employed by India's clean energy sector in 2017-18

Link to CEEW – NRDC study 'Greening India's Workforce: Gearing up for Expansion of Solar and Wind Power in India': <http://bit.ly/2rMyBsd>

Deconstructing India's Record Low Solar Bid

CEEW analysed India's lowest solar bid, recorded in May 2017 at the Bhadla solar park in Rajasthan, with the winning bids as low as INR 2.44 (3.76 US cents) and INR 2.45 per unit.

Key highlights

- **66%** of the INR 2.44/kWh tariff is the cost of finance, according to CEEW analysis
- **INR 35 million/MW** total capital cost of the Bhadla solar park
- **INR 17 million/MW** total capital cost comprises panels/modules; realised cost could be as low as INR 13 million/ MW
- **14%** Expected return on equity. Investors accepting lower returns as solar PV market matures rapidly
- **9%** Cost of domestic debt reduced as a result of banks lowering their interest rates due to demonetisation, lowering of risks in the sector, and increased banker confidence

Link to CEEW factsheet 'Deconstructing India's Record Low Solar Bid':
<http://bit.ly/2hgCotT>

Link to CEEW study 'Anatomy of a Solar Tariff: Understanding the Decline in Solar Bids Globally': <http://bit.ly/2iyIyln>

International Solar Alliance

India's big offering to the world of clean energy, the International Solar Alliance (ISA), was jointly announced by Prime Minister Narendra Modi and French President François Hollande at COP21 in 2015. Since then, the total count of ISA signatories has increased to 43, with 14 countries having ratified the ISA Framework Agreement thus far. Upon ratification by 15 countries, the ISA will become a treaty-based intergovernmental international organisation aimed at creating a buyers' market for solar deployment. The ISA has already launched work programmes on affordable finance at scale, and scaling solar applications in agriculture. Other programmes being planned including those on rooftop solar, distributed generation in rural areas, and on electric mobility. India will host the first ISA Summit on 8 December 2017. Seventeen signatories of the ISA Framework Agreement have also commissioned a task force to develop the design of a Common Risk Mitigation Mechanism, to hedge against specific risks: currency fluctuations and inconvertibility, credibility of off-taker, and political risks.

Building the Paris Agreement Rulebook: Enhanced Transparency Framework

In the lead up to 2018 (COP24), Parties are contemplating the various provisions of transparency under Article 13, collectively referred to as the modalities, procedures & guidelines (MPG) of transparency. There is a call for increased transparency of actions and support, of reporting and review and a multilateral consideration process and corresponding flexibilities to developing country Parties with respect to their capabilities.

Developing countries such as India should open greater space for non-Party stakeholders, who could bridge the challenges of building national capacity, monitoring both emissions and financial flows, evaluating inter-country initiatives, and contributing to overall assessments of the effectiveness of global collective action. Such an approach could build trust and confidence, and the countries with the most to gain or lose from a transparency mechanism would have set the agenda.

Below is a brief overview of the diverse views of various Parties on the MPG of an enhanced transparency regime.

Country	MPG	Enhancement	Flexibility	Other Key Aspect
China	Differentiated	Provisions on how any support is new and additional; Quantified progress report of NDC for developed and qualified for developing country.	Optional Manner (Not specifically defined)	Minimum transparency requirement for developing countries
USA	Common	Inclusion of improvement plans in reporting guidelines for developing country	Decision Tree Analysis	Considers different improvement rates for Parties
Brazil, Argentina & Uruguay	Partially Common	Reporting and review of "ex post" & "ex ante" information on support provided; Also, access to information in common tabular format during review process.	Opt-in & Opt-out across MPGs	Agreed full cost basis transition for developing countries
European Union	Common	Defined possible reporting and review guidelines. Guidelines to consider planned improvement over time.	Defined in relation to specific individual provisions	Dynamic System of continuous improvement
AILAC Group of Countries	Partially Common	Reporting on support received by developing countries should be enhanced, including its use, impact and estimated results, especially in the context of NDCs	Reflect in elements of MPG	Peer review process, Specific focus on Adaptation flexibility
Like-minded Developing	Differentiated	NDCs reporting in BR/BUR; Reporting of indicative quantitative and qualitative information of projected levels of public financial	Differentiation forms the basis of flexibility	Agreed full cost basis for reporting provisions for developing country, Transition period for

Countries		resources to be provided; Establishment of process to identify support needs, and measurement and review of amounts effectively received by developing country for purposes of implementation of their NDCs.		existing to enhanced transparency arrangement.
Australia	Common	Inclusion of improvement plans in reporting guidelines for developing countries	Rationale for choice of flexibility	National Adaptations Plans for communicating adaptation needs and actions
India	Differentiated	-	Differentiation forms the basis of flexibility	Agreed full cost basis for reporting provisions for developing country, CBDR

Source: CEEW Compilation, May 2017

Link to the CEEW study ‘Enhanced Transparency Framework in the Paris Agreement’: <http://bit.ly/2r9x2jQ>

Link to CEEW study ‘Shaping the Global Stocktake Process under the Paris Agreement’ CEEW Issue Brief: <http://bit.ly/2xzGMJy>

Link to paper ‘Shining the Light on Climate Action: The Role of Non-Party Institutions’: <http://bit.ly/2AmYmjp>

About CEEW

The Council on Energy, Environment and Water (CEEW) is one of South Asia’s leading not-for-profit policy research institutions. CEEW uses data, integrated analysis, and outreach to explain – and change – the use, reuse, and misuse of resources. CEEW addresses pressing global challenges through an integrated and internationally focused approach. It prides itself on the independence of its high-quality research, develops partnerships with public and private institutions, and engages with wider public.

In 2017, CEEW has once again been featured extensively across nine categories in the ‘2016 Global Go To Think Tank Index Report’, including being ranked as South Asia’s top think tank (14th globally) with an annual operating budget of less than US\$5 Million for the fourth year running. In 2016, CEEW was also ranked 2nd in India, 4th outside Europe and North America, and 20th globally out of 240 think tanks as per the ICCG Climate Think Tank’s standardised rankings. In 2013 and 2014, CEEW was rated as India’s top climate change think-tank as per the ICCG standardised rankings. Visit us at <http://ceew.in/> and follow us on Twitter @CEEWIndia