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India: Developing World's Voice on Climate Issues

The Conference on climate change in Paris in December 2015 demonstrated what an uphill road it is for all nations to 'come together and save the world'. India, the fourth-largest contributor to worldwide carbon emissions, has not only emerged as a key player but also as a voice for developing nations. The world will be watching as it balances its vision of a greener world with its vision of higher economic growth. Much as the conference projected the urgent imperative of corrective action, it also demonstrated the difficulty of achieving collective action that could lead to a durable and effective solution.

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Introduction

The 21st yearly session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC, 1992) or COP21 was held from 30 November to 12 December 2015 in Paris. Representatives from 196 nations attended it, and an international climate agreement, known as the Paris Agreement, was released on the final day of the conference with the consent of all the attending parties. COP20, which was held in

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Lima last year, provided the guiding text for finalising the Paris Agreement. Some of the prominent goals included limiting global temperature rise to 2 degree Celsius and binding all parties to make ‘nationally determined contributions’ (NDCs) that would guide the implementation of measures to reach the domestic goals. Every party would also have to submit renewed NDCs every five years showing progress and indicating future measures. Modified from COP15 (in Copenhagen), it was agreed that a US\$ 100 billion a year support would be mobilised by the developed countries to be channelled to the developing countries to shift to cleaner fuels. Also agreed to, for the first time, was the principle of encouraging voluntary contributions from the developing countries themselves. This agreement would have to be signed between 22 April 2016 and 21 April 2017, and would become legally binding if done so by at least 55 countries which represent 55% of global greenhouse gas emissions. They would have to incorporate it into their legal system through ratification, adoption or other such processes.

The world, as we know, is going through rapid changes due to global warming. Every year so far in this decade has been hotter than every year before 1998.² And higher temperatures are only the tip of the iceberg (metaphorically); rising seas, changing landscapes, threat to species, more heat-related diseases, increased threat of flood, drought and fire along with stronger storms, are other aspects. These are already causing huge human and economic losses. The cause is of course man-made, emission of greenhouse gases (GHGs) beyond what the earth can take in; 46 million metric tons (of carbon dioxide equivalent) of GHG were released into the atmosphere in 2014.

The top GHG emitters in 2012 were China (24%), United States of America (6%) and European Union (9%) and India (6%).³ Coincidentally, the biggest GHG emitters in the world are also the biggest producers and consumers of coal. The relationship between the two comes from the fact that coal is the largest contributor to carbon emissions (~50%) in the world and as can be seen from Figure 1, 76% of GHGs consist of carbon emissions.

² ‘Hot and bothered’, *The Economist*. Available at: <http://www.economist.com/news/special-report/21678951-not-much-has-come-efforts-prevent-climate-change-so-far-mankind-will-have-get>

³ Mark Kinver, ‘COP21: What does the Paris climate agreement mean for me?’ BBC News, 14 December 2015. Available at: <http://www.bbc.com/news/science-environment-35092127>

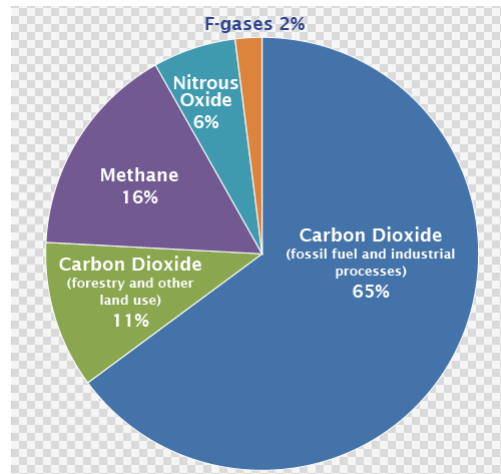


Figure 1: Global Greenhouse gas emissions (2014)

Source: Intergovernmental Panel on Climate Change (IPCC, 2014)

According to International Energy Agency (IEA) 2012, China was the largest coal-producer in the world (3549 million tonnes), followed by the United States (935 million tonnes) and India (595 million tonnes), and the order of consumption follows the same pattern.

Table 1: Main coal consuming countries in 2012

Rank	Country	Consumption (in million tonnes)	Share of total (%)
1	China	3881	50.7
2	United States	805	12
3	India	791	8.5
4	Japan	316	3.4
5	Russia	233	2.4
6	South Africa	187	2.3

Source: International Energy Agency, 2013

Hence, great emphasis was placed on the commitments of some of the biggest coal consumers of the world; China, the United States and India. While the United States and

China made landmark agreements to cap their respective GHG emissions⁴, India has stayed away from any binding agreements. However, during India's Prime Minister Narendra Modi's visit to the two countries, the US and China, India signed MoUs on energy security and clean energy as well as issued joint statements on strategic cooperation on the subject of climate change.

The Challenge facing India

India is a country of 1.25 billion people, growing at a rate of 1.2%. However, India is also the most energy-deprived economy in the world, with more than 300 million people lacking access to electricity and 700 million people lacking modern energy services. For many, who do have access to electricity, blackouts are an everyday fact of life. Energy shortages cause losses of up to US\$ 65 billion annually. On the other hand, while grappling with energy issues, it should be noted that India's Gross Domestic Product (GDP) per capita (adjusted for purchasing power parity) is currently similar to that of Congo, Nigeria, and Vietnam.⁵ Hence, its huge industrial and domestic energy needs call for the use of the cheapest and most abundant source of energy; coal. India's energy consumption in 2012 was 870 TWh. Of this, 609 TWh was from coal (70%), 10% from hydro and oil & gas, 5% from renewables and nuclear. The use of coal contributes roughly 1.5% to the GDP and creates job opportunities for millions of people.

India's energy demand has quadrupled since 1980, and with the 5th largest coal reserves in the world, India's coal production and consumption will only increase in the future to meet that rising demand. And where domestic production falls short, India has imported, mainly from Indonesia. Import of thermal coal by India grew from 12 million tonnes in 2004 to 142 million tonnes in 2013 (IEA). India's coal consumption is projected to overtake that of the United States by 2020.

If we look at recent economic history, most of the world's poverty reduction between 1981 and 2008 happened in China, and this was the result of a high rate of GDP growth. According

⁴ China agreed to peak emissions by 2030 and cap annual coal consumption through 2020 and has already begun upgrading existing coal plants, the US committed to reducing GHG emissions (2005 levels) by 26% by 2025.

⁵ Rishabh Srivastava, "Making green economic growth a reality in India", *The Broadline*. Available at: <http://thebroadline.com/making-green-economic-growth-a-reality-in-india.html>

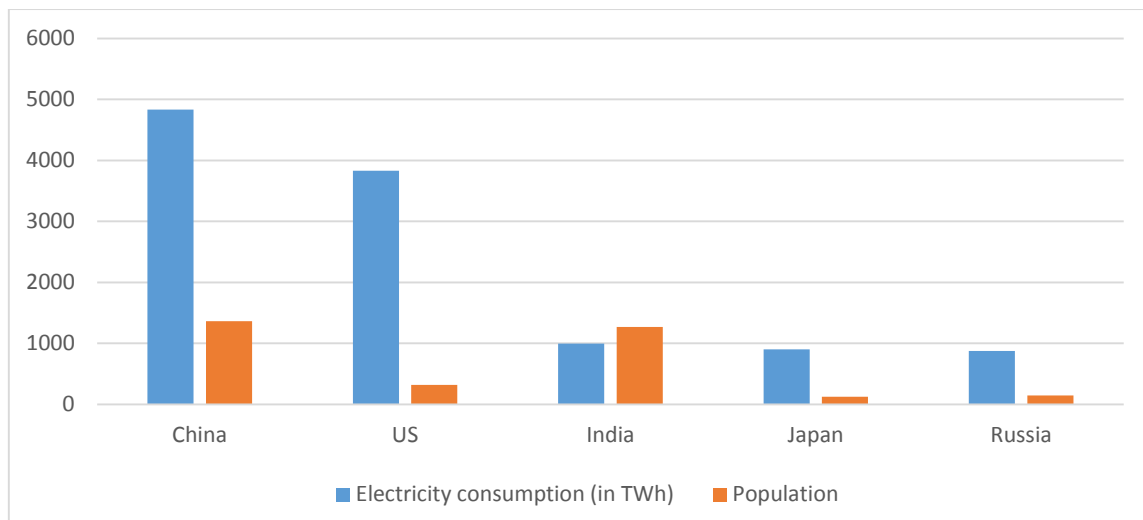
to an estimate, 80% of the growth was fuelled by coal.⁶ The number of people living below the poverty line decreased from 84% (1981) to 5% (2014); electrification played a big role in poverty alleviation, and annual coal consumption in China increased roughly by 400%. India aspires to replicate what it has seen its neighbour accomplish.

‘Climate Justice’

Given India’s huge emissions and the continued reliance on coal for producing energy – there is an on-going Magadh project in Jharkhand, which could prove to be the largest coal mine in Asia – it was no surprise that India was criticised by the west as a ‘challenge’ at the Paris conference.. However, let’s take a closer look at how justified that claim is. India’s per-capita carbon emissions were 1.7 metric tonnes in 2010, compared to the global average of 5, and its historical cumulative emission is below 3%. Also, according to the IEA, India’s per-capita energy consumption was 0.58 (toe/capita), compared to the world average of 1.8. The low per-capita energy consumption level shows that India’s energy demand still has a long way to reach saturation, and with a growing economy, it will inevitably rise. Hence, at this point, India feels pressured to cut down on its emissions which would clearly come in the way of the nation’s development, as evident from the preceding section. Figure 2 shows the most recent data on energy consumption of some nations with respect to their populations.

Figure 2: Energy consumption and population (in millions) of top 5 energy consuming countries (2015)

⁶ World Energy Council report, 2013. Available at: https://www.worldenergy.org/wp-content/uploads/2013/10/WER_2013_1_Coal.pdf



Source: Enerdata and World Bank

A point to note from the Figure is that, though the world average of per-capita energy consumption is 1.8 (toe/capita), it is highly varied. The US stands at 7.2 (toe/capita), the OECD countries at 4.58 while Africa at 0.67. Iceland, a country of about 300,000 people in 2010 topped the list at 16.8 toe/capita. It is as much a responsibility of developing nations to not repeat history with careless carbon emissions in the name of development; however, it is also the responsibility of the developed nations to choose sensibly between necessities and luxuries in order to cut down emissions.

For a long time, developing countries have felt they are being ‘bullied’ and should not be paying the price for what the developed nations have done in the past. At the COP21, Mr Modi’s stance was reflective of that view. He delivered a message on ‘climate justice’ and urged the advanced nations, which have a larger carbon footprint, to take the lead in addressing the climate change issue. While China had sided with this view, demanding more action from the West in COP15 six years ago, it has changed that stance recently. This could come from a variety of reasons: criticism of being a ‘free rider’, a desire to be counted among the rich nations but left free not to make any initiative to solve world’s big problems, or a slowing economy which is being seen as a consequence of the developed-country norms of economic maturation, requiring lesser use of coal. Now, India, under Mr Modi, is being seen as the champion of the rights of the global poor.

However, all is not lost in the race to protect India's national rights. Mr Modi is well-known for promoting renewable energy within the country. Though not willing to bow to foreign pressure, there is a huge domestic initiative to shift to cleaner energy sources. He is aware that India with a 7,500 km of coastline and 1,300 islands is highly susceptible to global warming. It was under his leadership as Gujarat's Chief Minister, that Asia's largest solar park was built in Charanka. At the COP21, he declared a significant expansion of renewable energy sources in India. Currently at 33 GW of power through renewable sources, he pledged to increase it to 175 GW by 2022. In its Intended Nationally Determined Contributions (INDC) from COP20, India pledged to cut emissions-intensity per unit of GDP from 33 to 35 percent by 2030. However, for doing so, it is estimated that the shift from on-going projects in non-renewable energy towards renewable energy would require US\$ 200 billion from 2015 to 2030. For this, Mr Modi hopes that the US\$ 100-billion a year assistance from the rich to poor nations by 2020 could be expedited. India would also increase its forest cover to absorb an additional 2.5 to 3 billion tonnes of carbon emissions.

There are other aspects, where India can improve. In 2012, of the 1020 TWh of power that was generated, only 85% was available for use due to transmission and onsite losses. Resources should be pooled to minimise this loss; it can be as low as 2%, as in various other countries like Greece, Singapore etc. It also needs to upgrade the existing coal plants, like China is doing, which would help in lowering carbon emissions, and also close those power plants that are too outdated.

The Road Ahead

Even the most optimistic observers feel that the goal of limiting global temperature increase to 2 degree Celsius is a mammoth task that can only be achieved if climate change is at the heart of every nation's decision-making process. The NDCs must be ambitious, with enough human and financial investments dedicated to advancing cleaner energy. There is still no global price on carbon, no sanctions on countries that cannot fulfil the goals set up in their NDCs, and the financial support from the developed to the developing countries is highly vague as no system has been set up.

However, it is the positive small steps that would go a long way in making a huge impact. The International Solar Alliance of over 100 nations was launched by India at the COP21. Mostly comprising Latin American and African countries, the US, China and France are also part of the Alliance. The group would share solar technology and innovations, and invest in expanding solar power across the emerging markets. A Deutsche Bank report has estimated that, by 2030, solar energy would be the biggest single component of electricity supply in the world. Companies such as Enel, HSBC France and Tata Steel are also involved in this project. India pledged a US\$ 30 million contribution to the initiative along with building the headquarters in New Delhi.

China has already started upgrading its coal plants and shutting inefficient ones reducing their year-on-year emissions for the first time this year. Dubai aims to make solar panels mandatory for all rooftop buildings by 2030, to generate 25% clean energy by 2030 and increase it to 75% by 2050. The World's wealthiest investors, Bill Gates and Mark Zuckerberg, have launched Breakthrough Energy Coalition which would be an investment platform for clean energy projects.

Analysts have said that, though the achievements at the COP21 are far less than what the world needs, it is far more than what the world reasonably expected a year or two ago.⁷ It was felt that, for the first time, nations, at such a large scale, came together to regard the issue of climate change to be as grave as global terrorism or waning global economy. Now, the world needs to ensure that the will and enthusiasm continue in order to achieve the goals that are laid out.

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⁷ Martin Wolf, "The Paris climate change summit is one small step for humankind", 15 December 2015, *Financial Times*. Available at: <http://www.ft.com/intl/cms/s/0/e51d6880-a262-11e5-8d70-42b68cfae6e4.html#axzz3uRnQAljs>