

## **The Importance of Incorporating Energy Access and Climate Change Mitigation to India's INDC**

### **India's Intended Nationally Determined Contribution**

On 1 October 2015, India submitted its Intended Nationally Determined Contribution ([INDC](#)), including the following targets to be achieved by the year 2030:

- To lower the emissions intensity of GDP by 33% to 35% by 2030 below 2005 levels
- Increase the share of non-fossil based power generation capacity to 40% of installed electric power capacity
- Create additional (cumulative) carbon sink of 2.5–3 GtCO<sub>2</sub>e through additional forest and tree cover

Approximately 1.3 billion people in the world live without access to energy, with 250m-300m people residing in India alone. Energy services are critical to raising productivity, creating opportunities at the household level for income generation, and contributing to improved health and education. India has more poor people than anywhere else in the world: 230m living on \$1.90 a day or less—the World Bank's definition of extreme poverty.

India's Intended Nationally Determined Contribution document has only succeeded in listing out all the different initiatives under government departments where a component of energy intervention or reduction of carbon footprint is included. In the process the focus is predominantly on urban and well-connected regions, while the opportunity to reflect on how the 68.80% of the Indian populace who reside in rural and remote areas can get access to clean energy and how can their development can be reconciled with emission reductions is missing. The document has not gone the extra mile to develop a comprehensive strategy that aligns with broader goals of inclusive development and poverty alleviation. There is a need for a paradigm shift in the lense with which India approaches reduction of carbon emission and adoption of clean energy forms.

Government planners think that, with economic growth of 8-9%, India's total emissions of carbon dioxide would more than triple by 2030, from 1.7 billion tonnes in 2010 to 5.3 billion tonnes. India's population with 1.3 billion people the per-head emissions would increase from 1.6 tonnes to 3.6 tonnes per year. And that assumes a fair amount of energy savings. If India were to use the same amount of energy per unit of GDP in 2030 as it does now, then emissions would top 6 billion tonnes by 2030. India is on the way to becoming the biggest contributor to increases in greenhouse gases within 15 years — India is currently at a crossroads and has the potential to change it's trajectory to a low carbon future with congruent economic and environmental goals.

More than 60% of India's agriculture is rain-fed, making the country highly dependent on groundwater. Most Himalayan glaciers have been retreating over the past century, sending less water to rivers that feed hundreds of millions of people downstream. A quarter of Indians live near coasts that are vulnerable to sea-level rises. Mumbai has the world's largest population exposed to coastal flooding, with large parts of the city built on reclaimed land, below the high-tide mark. Rapid and unplanned urbanization further increases the risks of sea water intrusion. Additionally, Thirteen of the world's 20 most-polluted cities are in the subcontinent. Smoke from cooking with wood or dung in Indian homes may be responsible for 500,000 early

deaths a year, mostly of women and children. ([World Bank](#)) Recent policy rhetoric towards cities has been shaped by their increasing economic importance without adequately considering environmental factors, for example the “100 smart cities” plan to improve urban design and infrastructure. There is a need to stop looking at cities as ‘engines of growth’ but rather look at cities as ‘engines of inclusive development’ especially in light of the aforementioned climate change risks and threats India is under. While the INDC alludes to inter-linked initiatives in health, urban planning, skills and so on, it will be critical to ensure that the Clean Energy aspects of Climate change mitigation are approached from a “**Cross Sectoral Perspective**”. Energy poverty and unreliable access are gripping issues affecting the availability and quality of basic health facilities, education, water and sanitation, livelihood development, housing etc. Ensuring that Government programmes such as the Indira Awaas Yojana (low cost housing), National Rural Livelihood Mission, Health Mission are creating plans for convergence to ensure the energy needs for their own deliverables are met through a low-carbon pathway.

## **ENERGY SECURITY, ENERGY EFFICIENCY AND GREEN JOBS**

Currently India spends about half of its foreign-exchange earnings on fuel imports. Despite being the world’s third-largest coal producer, India imports a fifth of its coal, and imports four-fifths of its oil due to its ever growing demands. Additionally, the cumulative effect of 1.3 billion people using kerosene and other biofuels for lighting contributes heavily to global carbon emissions. Although it is important to recognize that on a per capita basis, these people remain at the bottom of the spectrum of CO2 emitters (IFC and World Bank, 2010).

India has the potential to improve energy security by investing in decentralized energy solution which help create green jobs in the process, typically more than from generating power through burning fossil fuels.

The LED push, under the Domestic Efficient Lighting Programme, was launched in Maharashtra, Rajasthan, Delhi, Uttar Pradesh and [Himachal Pradesh](#). Nearly two crore LED bulbs have been distributed in these states and the project's ambition to reduce power consumption, increase domestic savings and trim carbon emission is already seeing results. A staggering 68 lakh kilowatts of energy is saved every day. This includes a cut in 645 megawatts of power during peak hours, a 5,520-tonne drop in daily carbon emission and domestic savings of Rs 2.71 crore every day. ([Economic Times](#))

Poverty reduction is linked to **livelihood development** which in turn relies on energy for product development and value addition. Rural India is replete with communities who need customized decentralized renewable technologies (**DRE**) that are compatible, accessible and affordable and result in increased household incomes. Improvements in energy efficiency of technologies for small, rural livelihoods- weaving, flour mills, water pumps, tailoring, refrigeration- combined with DRE solutions could address the power shortage issues of a large set of livelihoods whose energy needs are on the rise and critical for their productivity. The country needs jobs, 10m-12m young Indians entering the labour market each year. This requires a thought shift in India’s approach towards integrated renewable energy policies, placing equal importance on strengthening the “**Ecosystem Factors**” such as credit, technology and capacity linkages that enable entrepreneurial potential to generate livelihoods.

In conclusion, there is an urgent need to incorporate decentralized renewable energy solutions into the government's development policies across all sectors of energy, infrastructure, health and education. By focusing on fostering ecosystem development for livelihood generation and greater standard of living, it would be possible for India to set an example in the adoption of low carbon pathways towards the twin goals of development and climate change adaptation. This would, therefore, provide an opportunity to substantially increase current commitments.

**Or**

In conclusion, there is an urgent need to incorporate decentralized renewable energy solutions into the government's policies from a cross sectorial approach keeping in mind ecosystem development. This could help demonstrate that low carbon development is in the best economic and environmental interest of India and the world.