



## Energy Driving Low Carbon Local Economies

### Electricity Scenario of India – Issues and Challenges

According to the 2011 Census of India, 81 million households or close to 400 million people do not have access to electricity as their main source of lighting. Providing electricity access can, in addition to improving quality of life for millions, enable a large number of economic activities, boost agricultural and industrial productivity and nurture the growth potential of a region. The electricity access gap remains an unfinished agenda in India for several reasons, which include weak implementing capacity and/or poor governance, shortages in electricity generation and huge population. The private sector is reluctant to get involved in the rural electrification agenda due to low cost-effectiveness and uncertain returns, as most rural communities are characterised by low population density, limited capacity to pay and low per capita consumption of electricity.

India's electricity sector is predominantly coal-based. Currently, renewables form around 10% of India's total electricity production mix. The current government has demonstrated a strong intent to shift towards renewables, in particular solar energy; 100 GW of solar capacity has been planned to be installed by 2022. The market for off-grid electricity solutions is developing on both the supply and demand side, with the Ministry of New and Renewable Energy providing various incentives such as subsidies under the Jawaharlal Nehru National Solar Mission.

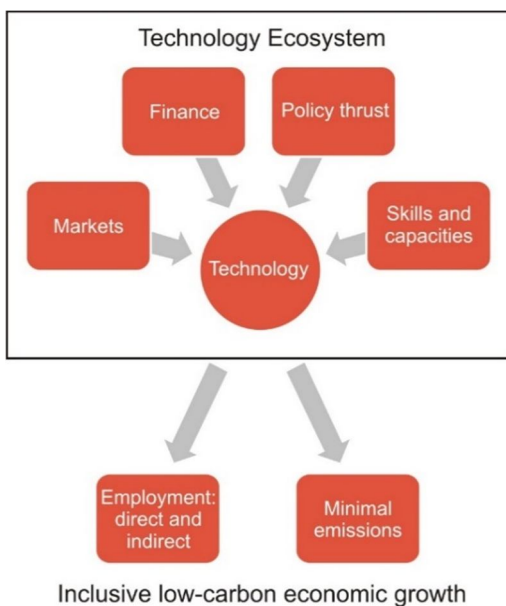
### Decentralised Low Carbon Economic Growth

The post-2015 development agenda aims for *inclusive* economic growth that *respects planetary boundaries*. The current theme views decentralised low-carbon production systems as drivers of *inclusive, low-carbon* economic growth.

Indian cities are hubs of economic growth and large sections of the rural population, particularly the rural poor, are often excluded from such development. Decentralised production systems spread the benefits of development over a larger area, allowing a greater number of people to gain access to economic opportunities than would be possible in centralised production systems. Decentralisation enables the inclusive growth that the post-2015 development agenda aims for and low-carbon production systems enable economic growth that does not transgress environmental limits.

### Transitions for Low Carbon Local Economic Growth

The low-carbon transition has to be driven by a technological revolution, which would produce, disseminate and employ green technologies for low-carbon production. The development of these technologies has to be driven by appropriate thrusts in finance, markets, policy, skills and capacities etc. Additional policy thrust would be required to enable cost-competitiveness and inclusiveness of these technologies. Technology and its drivers together form the **technology ecosystem** that would usher in local low-carbon economic growth and benefits along the triple bottom line.



The current theme explores how these technology ecosystems can be built in various sectors of the economy to enable low-carbon local development, demonstrating a decentralised renewable energy-based electricity sector as an example. Currently, the large-scale transition to a renewable energy-based economy is hampered by the under-developed, if not absent, nature of the ecosystem surrounding the technology. This is evident in the fact that financing options are plagued by high rates of interest, poor terms for debt, high fiscal deficit and insufficient budgetary allocations; the market for decentralised renewable energy companies is in its infancy; policy thrust is lacking as fossil-fuel subsidies hamper the development of alternative green options. While renewable energy technologies already exist, it is necessary to build the ecosystem around these technologies in order to transition to decentralised low-carbon energy systems.

**TARAGram Yatra 2015 – India Post 2015: Investing in Sustainability  
Energy Driving Low Carbon Local Economic Growth**

The TARAGram Yatra will show Development Alternatives' initiatives in decentralised renewable energy-based electricity. These initiatives have enabled local low-carbon economic development led by micro-enterprises. The field visit will explore the potential of decentralised renewable energy-based electricity systems to generate direct and indirect employment and provide socio-economic benefits without environmental repercussions. The round table conference will then attempt to identify and discuss the elements of the technology ecosystem that would need to be constructed in this sector as well as other sectors to bring about the transition to low-carbon local development in India.

Key questions that will be addressed during the Yatra, over the course of the field visit and the round table conference, include the following:

*Technology*

- What is the role that technology can play in creating a low-carbon local economy? Is decentralised low-carbon production financially viable?

*Inputs*

- *Finance:* What are the micro- and macro-level financial requirements for the transition? What are the sources of finance for the transition?
- *Policy:* What are the policy barriers to the transition from BAU to low-carbon technologies and how can they be overcome?
- *Markets:* Is there enough of a market pull for low-carbon local production technologies?
- *Skills and capacities:* What are the skills required for community-operated local production systems? Are people skilled enough to take advantage of employment opportunities that low-carbon local production has the potential to offer?

*Outputs*

- *Employment:* How many **net** direct/indirect jobs will be created due to the transition? How many skilled vs. unskilled/semi-skilled people are required to run these technologies?
- *Triple bottom line benefits:* What is the economic, social and environmental viability of conventional and non-conventional local production systems? Are local low-carbon production systems socially equitable?