Energy Access Monitor

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- From no electricity to solar entrepreneur: how solar power changed Kismet Jehan's life

A grid that just not powers but integrates rural India. Around 80 mn rural households are estimated to have no access to grid power. Few months back, two liters of subsidized kerosene a month, to light a bulb and charge a mobile phone for three hours was the story of the remote village Mahalgaon of Bihar's Araria district. Kerosene was not just used to generate power but it was used as barter for people. The owner of a diesel-powered genset would sell the kerosene in the open market at higher rates, turning subsidized kerosene into a booming business in this unelectrified village.

From January 2015, a lot changed when Mahalgaon got a 30-Kw photovoltaic solar power plant, with 100 panels by the Decentralized Energy Systems India Pvt Ltd (DESI Power). These are micro grids, used for the electrification of villages not yet connected to the main transmission grid. With renewable source of power, these are considered ideal off-grid solutions in host villages, including those in Bihar, Uttar Pradesh and Madhya Pradesh. In Madhya Pradesh, 17 villages have micro grids under a programme funded by the Union government-controlled Rural Electrification Corporation (REC) and the state government. According to the managing director of DESI Power SN Sharan, its model is designed to cross-subsidise households with commercial connections; these charge households Rs 2 for two lights and a mobile charging point every day, which translates into Rs 60 a month. Commercial establishments have to pay at least Rs 250 a month for 10 units of power. Dharam Nath Yadav and Sunil Kumar Yadav are two commercial customers of DESI Power in Mahalgaon. While Dharam Nath runs a mobile repair and computer shop, Sunil is a tailor. Now, they can work for longer hours. Since January when the micro grid brought them power, they have stopped using diesel gensets.

- DESI Power runs the micro-grid and provide power to 43 commercial and establishments for the whole day and to 176 households from 6PM to 10PM
- According to an estimate by a senior REC executive, about 1,000 villages have been funded for off-grid renewable energy-based power systems since 2008. Another 600 are expected to be added to the list soon.
- The advantage of such solar power micro grids lies in the fact that these are modular and can be scaled up easily.

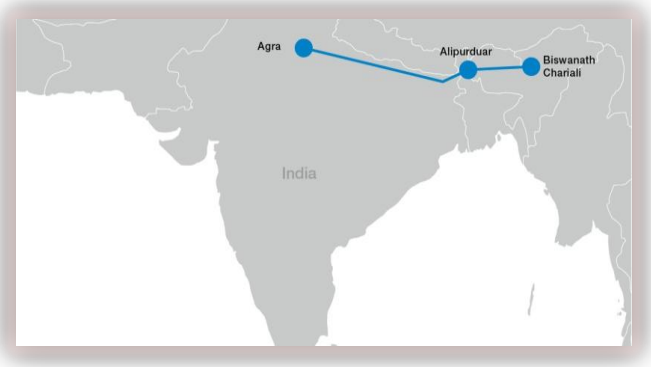
Renewed project for village electrification across Cachar. A review meeting on centrally sponsored schemes for Assam Cachar district was recently held. The main objective of the meeting was to discuss the issues related to projects regarding electrification of the district. Speaking on this issue Sushmita Dev, MP of Silchar, said that for electrification of entire Cachar district more than 45,000 poles are required, but presently the plant for pole manufacturing unit at Budhurail can manufacture only 132 poles per day.

She pointed out that a fund of

- A fund of Rs.154 crore under Rajiv Gandhi Grameen Vidyutikaran Yojana has been sanctioned for the district for electrification of 589 Census villages.
- Out of the sanctioned Rs.154 crore, Rs.149.39 crore will be utilized for electrification of villages while the remaining funds will be used for upgradation of sub-stations.
- The total number of revenue villages in the district is 1065, out of which 589 villages will be covered in the second phase of the project. The remaining will be covered under the Deen Dayal Upadhyaya Gram Jyoti Yojana.

Rs.154 crore under Rajiv Gandhi Grameen Vidyutikaran Yojana has been sanctioned for the district for electrification of 589 Census villages in the second phase of the project and that in the first phase which was launched during the UPA tenure, work in more than 800 villages were started by Power Grid Company. The works which will be under taken in the second phase will be executed by Win Power Company. Out of the sanctioned Rs.154 crore, Rs.149.39 crore will be utilized for electrification of villages while the remaining funds will be used for upgradation of sub-stations.

India's longest Power Grid transmission line to connect North-East. Finally, after many obstacles and challenges India's first High Voltage DC ± 800kV Transmission line from Biswanath Chariali (Assam) to Agra (U.P.) constructed by Power Grid Corporation of India Limited connecting the North-Eastern states is ready to exchange power from September 10. Apart from being the 1st ± 800 kV HVDC line, this line is also the longest transmission line in the country. This line will pass through many villages and habitations in the districts of Sonitpur, Udalguri, Baksa, Barpeta, Chirang & Kokrajhar.



Source: ABB Group - Automation and Power Technologies

66 Etawah villages to get solar power. Nearly 66 remote villages in Etawah, will soon be lit using solar power under Janeshwar Mishra Gramya Yojana.

New and Renewable Energy Development Authority (NEDA) has decided to provide solar-powered home electricity systems to 10 homes each of people coming from extremely poor background across 66 villages free of cost. Besides, each such village under the scheme will also be lit using eight solar street lights.

- ✓ NEDA had identified nearly 16 villages in Saifai block, besides 14 villages in Jaswantnagar block; 11 of Basrehar block; nine villages of Badhpura block; seven in Bharthana block; five villages of Takha and four of Maheva block.

Track India's Rural Electrification Efforts in Real-Time Using This App. Minister of state with independent charges for Power, Coal, New, and Renewable Energy Mr. Piyush Goyal, on 16th November launched a Grameen Vidyutikaran Android app. This app will enable people to track the progress in the field of rural electrification in India through a real-time dashboard. This app is launched by Rural Electrification Corporation Limited and will be available for Android users.

- ✓ This app also features a Milestone tab which displays the percentage achieved, against the number of days left, and also a Progress bar which shows the number of villages

- This app will be available for the Android users and for the other platforms the progress will be available in web dashboard which will be hosted by a New Delhi based company Kyrosoft.
- The dashboard will be containing the total number of un-electrified villages and their details and status of the work done (i.e. whether they have been surveyed or the work has yet to be start.

The Times of India, 27 August 2015 | The Shillong Times, 11 September 2015| ABB Group - Automation and Power Technologies | Business Standards, 20 September 2015 | The Sentinel, 22 September 2015 | NDTV Gadgets 360°, 17 November 2015

Cooking Energy Access

ONergy to deliver clean, reliable energy to 1 million in India's poorest regions. Social enterprise ONergy has joined the Business Call to Action (BCtA), a global initiative supported by the United Nations Development Programme and other international organizations that encourages companies to fight poverty through innovative business models. Their main objective is to provide solar energy to 1 million people by 2017 and reduce CO_2 emissions by as much as 100,000 tons.

ONergy's initiative also calls for the creation of 50 new Renewable Energy Centers (REC), including a network of trained rural entrepreneurs and microfinance partners who will deliver and service the company's proprietary line of solar power products in remote areas. The new centres will be situated in five states within east and northeast India. They are expected to create 100 full time jobs.

- ONergy's expansion calls for the creation of 50 new Renewable Energy Centres (REC).
- The new centres will be situated in five states within east and northeast India.
- ONergy's business model focuses on three core areas: technology, energy infrastructure and financing.

Making India free of smoky kitchens. The United Nations and its member states, including India, met in September in New York to adopt the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). There is recognition now that access to modern energy — clean cooking and electricity — has a critical impact on the quality of life. Thus, access to affordable, reliable, sustainable and modern energy is Goal 7 under the SDG framework. In India, attempts to deploy clean cooking interventions —

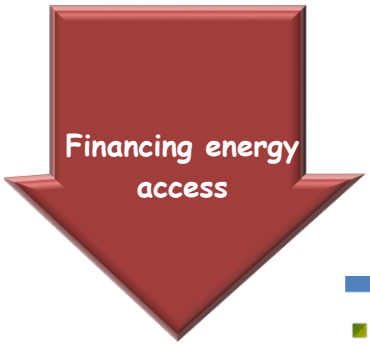
- National discourse on energy access in India mainly focuses on electricity. Prime Minister Narendra Modi said that one of Digital India's aspirations is to provide 24x7 electricity supply by 2022 to every household in the country.
- For this purpose, there are plans for new power plants, increased coal production, large renewable energy investments, and strengthening of transmission and distribution infrastructure. However, there is relative silence on the issue of clean cooking fuels.

improving the efficiency of biomass stoves or replacing biomass with cleaner fuels — have mostly failed. Between 2001 and 2011, the use of traditional cook stoves has decreased by only 11 per cent. National programmes distributed 35 million 'Improved Cook Stoves' (ICS) in the 1980s; about 1 million are in use today. The national biogas scheme saw limited success with 0.4 per cent of the current population using biogas.

- ✓ Although efforts to promote Liquefied Petroleum Gas (LPG) through subsidy schemes and increased distribution centres have resulted in 70 per cent of urban houses adopting LPG as their primary cooking fuel, only 15 per cent of rural houses have done the same.

At the current pace of deployment of clean cooking interventions, a recent study by the Center for Study of Science, Technology and Policy (CSTEP) titled 'Quality of Life for All: A Sustainable Development Framework for India's Climate Policy' shows that even in 2030, 40 per cent of the population will be biomass dependent. Of these, only 25 per cent will have access to efficient cook stoves. This implies that it is unlikely that India will meet the SDG target of universal clean cooking.

The Guardian, 17 September 2015 | The Hindu, 10 November 2015



Productive Energy Use: A Catalyzer for Rural Energy and Water Access. Pico-solar lighting and solar home systems have proved themselves as revolutionary entry-level energy access technologies for low-income rural communities. These technologies have kick-started a base-of-the-pyramid push toward energy independence, and it is critical to continue this forward momentum in order to deliver a real long-term solution for rural energy and water access. Next-generation energy access solutions must expand across multiple energy sources, enable productive usage, deliver economic independence and effectively scale, in order to provide future-proof useful energy and water to rural communities and help them truly rise out of poverty. The recently released Energy Access Tier Framework from the World Bank describes this in more detail. Innovative nano- and micro-grid technology solutions are being developed at a tremendous rate. Nevertheless, practitioners active in this space of decentralized rural electrification still face the inherent financing challenges of developing sustainable business models, satisfying non-standardized risk mitigation requirements across different funding sources and securing project financing in the void between microfinance (<$10,000) and development finance (>$5 million).

- Innovative nano and micro-grid technology solutions are being developed at a tremendous rate.
- The obvious question then is how to balance this potential trade-off in practice; or if we think out of the box, how to turn this trade-off into a win-win-win situation.
- This is where encouraging productive energy use (PEU), alongside household energy consumption, is proving itself as an ideal strategy for the community, the micro-grid developer and financiers.

These challenges can give rise to a potential trade-off situation where financiers require the project developer to demonstrate strong project cash flows and mitigate perceived risks in order to secure project financing whereas the community needs to able to afford and truly benefit from the energy and water service provided.

India: ADB to lend $200m in green energy space, partners IFMR Capital to finance MFIs. Asian Development Bank (ADB) is pouring money into India's renewable energy and microfinance sectors, both popular investible themes for venture capital and private equity players.

ADB will lend $200 million to the Indian Renewable Energy Development Agency (IREDA) to support renewable energy projects in the country. This forms the first tranche of its $500-million project with IREDA for the clean energy finance investment programme that will back wind, biomass, hydropower, solar and cogeneration technologies projects.

The total renewable energy investment programme is around $1 billion and is expected to leverage an estimated $300 million in equity and other investments from sub-project sponsors, and at least $200 million of additional debt funds, according to the release.

- ✓ ADB's loan will help the government to scale-up renewable energy infrastructure by facilitating investments in projects that will balance the objectives of growth, climate change, and energy security.
- ✓ ADB funds can be used to finance up to 50 per cent of the sub-project cost, and the first tranche loan will help IREDA debt finance around 10 or more renewable energy projects, depending on the individual project sizes.

The other developments in the space include Italy-based Enel Green Power SpA (EGP) acquiring a majority stake in Bharat Light & Power's wind and solar subsidiary BLP Energy, Pune-based Simran Wind Project Pvt Ltd, a unit of Techno Electric and Engineering Company Ltd, selling 44.45 MW wind power assets in Tamil Nadu for Rs 215 crore among others.

Triple Pundit, 14 September 2015 | Deal Street Asia, 30 October 2015

'India's smart cities aligned with UN Sustainable Development Goals'. With the announcement of around 100 smart cities in India and the government incorporating sustainability as a key component of the project, the global consulting firm Price water house Coopers (PwC) feels that the pillars of a smart sustainable city are completely aligned with the proposed UN's sustainable development goals (SDGs). The SDGs, that will define the global sustainable development agenda post-2015, area a proposed set of global development targets to be adopted by governments around the world.

Under the government's 100 smart cities programme, each selected city will receive central assistance of Rs.100 crore annually for five years, driving economic growth. PwC said that the good governance serves as a powerful inspiration for promoting reforms in policies and programmes for sustainable development. These include open and transparent opportunities for the poor and underprivileged to access information and secure their rights over land, forest and energy resources.

Business Standards, 20 September 2015

- According to the report titled as "Making cities smart and sustainable", the closer the integration of sustainability into India's '100 Smart Cities' initiative, the greater will be the linkages with the SDGs
- The pillars of a smart sustainable city are also directly or indirectly aligned with the objectives of the SDGs
- Under the government's 100 smart cities programme, each selected city will receive central assistance of Rs.100 crore annually for five years, driving economic growth.

Women and energy access

From no electricity to solar entrepreneur: how solar power changed Kismet Jehan's life. 300 million people across India have no access to electricity, but solar power is changing the situation and revolutionizing the lives of female entrepreneurs. Happiness of getting electricity for the first time in her life was clearly visible on the face of Kismat Jehan, a resident of village Katiya of Bahraich district, Uttar Pradesh.

> Her village got solar plant earlier in 2015 by one of the projects run by Rockefeller Foundation.

In "Women in the World Summit" held in New Delhi, she was invited there as a speaker to deliver her life experience before and after getting electricity at her village by solar energyand now she is community organizer and a solar power proponent in her village. To a packed audience the summit, she tried to explain what life without power is like. "Close your eyes. That is how dark our village was till last April. I have spent most of my life in a night like this," said Jehan.

Earlier, she has to go miles and pay Rs. 5 per day to get her phone charged, children in that village were unable to study in the evening, no one could get the freedom to go outside because the darkness, the clinic in that village was closed just after sundown and lot other problems were their which one can image due to inaccessibility to electricity. But the situation is much changed; she is not only receiving electricity for her village but also solar entrepreneur for her village.

The New York Times, 26 November 2015 | Catch News, 26 November 2015