

Summary - Mumbai One for All Consultation – February 16 2017

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Purpose: i) To raise awareness about One for All and how One for All can best advance energy access in India ii) How can faith engagement help scale up energy access? iii) To understand the policy and financial barriers and opportunities to scale investments in energy access in India.

Key takeaways

- Finance for energy access is very challenging in India. Since decentralized renewable energy (DRE) projects are usually financed with equity and debt, equity financing remains crucial for start-ups through soft loans, grants from foundations and other impact investors. Mobilisation of debt for more mature enterprises seeking to grow is also vital.
- The importance of collaboration, inclusion and catalysing partnerships between faiths, NGOs, foundations, and investors globally and in India - all working to achieve energy access.
- Provide a platform for more entrepreneurial exchange to inform larger audiences about the work that's happening in India, globally and what India needs to scale.
- The importance of connecting energy access to women, health, education, relief, etc. in rural and remote areas.
- Further, support in-country efforts to attract/leverage local philanthropic capital.
- Improve the coordination between development finance institutions (DFIs) and investors for mutual benefit.

Some of the key points discussed at the Mumbai One for All Consultation are summarised below.

1. Context

- Approx. 300 million people lack access to electricity in India – some areas with the worst access are Uttar Pradesh and Bihar - millions more across India live with unstable power and suffer chronic blackouts.
- The lion's share of installed capacity is grid-connected and off-grid power constitutes a small share. While, DRE solutions are available in India and can be quickly deployed, more work needs to be done in learning from past lessons, educating people on the benefits of DRE in rural areas, creating rural distribution centres, finding the right price/ affordability, and understanding the end-users needs in rural areas.
- Burden of energy poverty disproportionately felt by woman in India and many women in rural areas are not economically empowered, nor educated on the advantages of DRE. Woman can play a transformational role in energy access and there needs to be more education and training targeted at woman. A gender-based lens needs be more fully recognized and the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) are developing a national road map - "Women's Entrepreneurship for Sustainable Energy".

2. Community of Practice

- With thanks to the following speaker: Ajaita Shah, CEO, Frontier Markets, Ankit Mathur, Co-founder, Greenway Appliances and Adritha Subbiah, State Coordinator, Women's Entrepreneurship for

Sustainable Energy, UN Women and for audience participation.

What gaps in the field should be addressed, what risks should be avoided, what are the opportunities?

- Overall there is a tendency to not talk about why projects fail, so it's harder to garner lessons learned and avoid mistakes of the past.
- Over 300 entities work in the energy access space in India – including entrepreneurs, private enterprises, non-governmental organisations (NGOs) - working with solar lanterns, solar home systems, mini-grids, pico and micro grids. All play an important role, but there is complexity in coordinating and engaging with so many different types of organisations.
- While, coordination and collaboration is key, there is also a lack of incentives for social entrepreneurs to share lessons learned.
- Bringing products and services to people in rural areas demands innovation and engaging with villagers on design and use.
- Focus must be on end-user affordability and there is a need to understand better income spending patterns in rural areas.
- To have a significant impact, it is important to deliver products to within 1 mile of the end consumer (last-mile distribution) and to provide service centres located near distribution areas as maintenance of equipment is problematic in rural areas. More rural service centres are needed to not only fix products swiftly, but to educate customers on advantages, better use, and maintenance.
- A common metric of measuring impact is needed. Need to work with in-country efforts to establish simple, effective, and standardized metrics that remove this burden from an individual enterprise level and are reflected at a sectoral level.
- Important to continue to innovate on what can work on low wattage.
- In many rural villagers, there is a mixed perception of solar - various reasons for this from i) a lack of education ii) government subsidies iii) cheap and poor quality products that have flooded the market in the past. Low quality products have been ruining the image of solar, people have been referring to it as failed technology because their experience is linked to product failure. There is a need to build relationships with customers and be accountable - this is key in winning rural villagers' trust.
- Cooking stoves - between 600- 800 million people in India continue to use firewood, dung cakes, charcoal etc. Men are reluctant to pay for higher priced cleaner stoves, as they are not the one's doing the cooking and do not understand the negative health impacts of using cheaper cooking stoves.
- Often a mismatch in understanding in what funders and investors think is happening on the ground and the reality.
- Tendency in the past for funders to choose one or two projects and ignore others.

3. Faith. How can faith engagement help scale up energy access?

- With thanks to the following speakers: Ruchi Jain, the International Inter-Faith Solar Alliance, Chaitanya.D Sangawar, Coordinator, Solar Electrification Department, Sri Sri Rural Development Program Trust, Akmal Shareef, Director, Islamic Energy Access Initiatives, Islamic Relief-India, Golo Joachim Pilz, Director, World Renewal Spiritual Trust and Brahma Kumaris, Nimai Lila Das, Chief Sustainability Officer, Govardan Eco-Village.
- In India and other countries across the world, temples, churches and mosques can be found in nearly every village in rural areas – there is great potential to work with the faith sector on DRE, as they have the access in remote areas.
- In 2016, 2000 spiritual leaders signed a solar declaration. The Minister of RE is working with faith groups to propagate renewable energy in ashrams across India including designing a renewable energy policy and a subsidy for solar panels in ashrams in India.
- The faith community also has large numbers of people that go to their facilities that can benefit from renewable energy. Example, Brahma Kumaris and its sister organisation the World Renewal Spiritual Trust (WRST) have the largest solar thermal-powered kitchen in India in its Mount Abu ashram that is used to prepare warm meals for up to 25,000 visitors. Their solar thermal power plant India One, has

770 parabolic reflectors at 60 square metres each and an innovative storage system to provide guests at the ashram in Mount Abu with round-the-clock electricity, warm water and energy for cooking. The International Climate Initiative (IKI) of the German Federal Environment Ministry (BMUB) is supporting the construction of India One through COMSOLAR.

- Some faith organisations are training energy engineers. Example, the Sri Sri Rural Development Program has trained more than 1000 youth (out of a pool of 20,000 youth) as solar engineers as part of their 'Light a Home' programme and more than 18,000 homes have been lit up. They also have 98 battery charging stations, installed 9 micro-grids and there are 114 new entrepreneurs earning approx. RS 6000 / month
- Behaviour change will come from a holistic approach, linked to spiritual ecology, the Govardan Eco-Village (GEV) focuses on how to live in harmony with the environment, developing a 'spiritual ecology' to bring about tangible, positive changes within ourselves – and how we interact with the planet.
- Islamic Relief India are developing The Islamic Climate Change Declaration Toolkit to equip individuals and groups with ideas on how to use the Islamic Climate Change Declaration to mobilise for change and will provide a platform for them to deliver climate justice in their local communities. The call for the just transition to a world powered by 100 per cent renewable energy where those vulnerable to climate impacts will increasingly be heard in mosques and Muslim communities, as well as by other faith groups.

4. What are the main policy and financial barriers to greater financial investments in energy access at scale – internationally and in India?

- With thanks to the following speakers: Aniket Shah, Program Leader, Financing for Sustainable Development Initiative, Sustainable Development Solutions Network, Hari Natarajan, CEO, The Clean Energy Access Network, Paul Needham, Co-founder, Simpa Networks and Sreyamsa Bairiganjan, India Program Manager, ARC Finance.

Policy Barriers

- India's National Determined Contribution (NDC) is ambitious - 40 percent non-fossil-based power capacity by 2030, which would result in at least 200 GW of new renewable power capacity by 2030. This includes plans for miles of new grid infrastructure upgrade, solar and micro-grids for rural villages. However, while top-down policy while ambitious, regional, and rural implementation is very slow - this is a big challenge.
- There is a lack of transparency on when and where the grid is being extended which hampers funding for DRE.
- Several government agencies are promoting DRE in India. The Ministry of Power (MoP), through its Decentralised Distributed Generation (DDG) Policy, and the Ministry of New and Renewable Energy (MNRE), through its various schemes such as the Village Energy Security Programme (VESP) and Remote Village Electrification (RVE) Programme, play a central role in remote rural electrification. In 2016, the Power Tariff Policy was amended to regulate tariffs to provide to remote unconnected villages through micro grids with provision for purchase of power into the grid as and when the grid reaches there.
- Needs to be more of a focus that DRE is an important aspect of national energy access plans, and that DRE is complementary to grid extension, not counter to.

Global Financial Context

- In 2015, total global investment in the energy sector was approximately \$1.8 trillion, of which roughly \$350 billion was in renewable energy. The total investment in energy access solutions (in 2013, latest available data) was approximately \$13 billion, or less than 1% of global investment in the energy sector and less than 5% of total investments in renewable energy.
- There is no single financing solution to this challenge. For an investor, an investment in the "energy access" sector can mean many different things. First, it could mean an investment in equity or debt. Second, it could mean an investment in a large energy/infrastructure business (General Electric, ENI,

Total) that is involved in energy access development, or a small-scale de-centralized solar/wind/hydro power provider. Third, it could mean an investment in a Small/Medium Sized Enterprise (SME) that is supporting the energy access investment (i.e. a bank, local business). Fourth, it could mean an early stage technology investment (similar to venture capital) or an investment in already-proven technology. Each one of these choices will mean a different set of risk/reward characteristics and liquidity profile for the investor. Given the needs and complexity of the energy access financing environment, important to develop a sharp and strategic investment strategy to have maximum impact.

Financial Context in India

- Finance for energy access is very challenging in India. Since DRE projects are usually financed with equity and debt, equity financing remains crucial for start-ups through soft loans, grants from foundations and other impact investors. Mobilisation of debt for more mature enterprises seeking to grow is also vital.
- There is need to mitigate risk perception of traditional lenders like banks and MFIs and create a separate portfolio for energy lending and community asset creation. The Reserve Bank of India's (RBI's), however is making some 'Last Mile First' DRE loans.
- Financial community do not communicate amongst one another on energy access – a sense of community is missing and there is a need for coordination and information sharing.
- A need for more innovative financing and support the development of the local funding ecosystems.

5. How can One for All advance energy access in India?

- With thanks to input from participants and thanks to Hari Natarajan, Ajaita Shah, and Paul Needham for their additional input.

Partnership, Collaboration, and Inclusion

- The importance of catalysing partnerships between faiths, NGOs, foundations, and investors globally and in India - all working to achieve energy access.
- The need to ensure that efforts are inclusive and not duplicating other efforts and the collective result adds significant value over and above the efforts of the individual members of the collective.
- The creation of a new and important links with faith and foundation networks in India and globally. Messaging/Awareness Creation - Use the power of the reach within Interfaith organizations that are part of the One for All Campaign to create greater awareness/buy-in for DRE solutions.
- The importance of collaboration to enable and facilitate interactions between global investors and local practitioners.
- Emphasis on the One for All campaign in Indian context as a vehicle or tool for bringing synergies for a focused approach on solutions delivery.
- Conduct more workshops to bring together various sectors for engaging in collaboration - i.e.: religious groups and energy entrepreneurs.
- Provide a platform for more entrepreneurial exchange to inform larger audiences about the work that's happening in India and what we need to scale.

Health women and education

- The importance of connecting energy access to women, health, education, relief, etc. in rural and remote areas. Outline the livelihood benefits of a reliable and cost effective energy access programme to these groups.

Finance

- Help connect funding to social endeavours in India targeting energy access at scale
- Provide risk capital in form of grants to catalyse lending for clean energy from domestic banks. Funder provides capital that is placed with bank as first lost guarantee, de-risking it for the bank, so they are willing to lend to customers directly. The grant funds can be effectively recycled as customers pay down their loans, the funds are made available to finance more systems. We have a specific example of how a grant from USAID-DIV has been used in this way, and that helped us execute a partnership with a domestic private sector bank, RBL.

- Provide risk capital in form of equity or sub debt to SPV that purchases solar lease contracts from SaaS companies who acquire and service customers. Specifically, we could implement this rather quickly since we already have (over many years) nurtured relationships with some lenders that would participate, but they need the transactions to be de-risked.
- Sign rural Solar PPA (power purchase agreements) with SaaS companies. Funders agree to pay for clean energy delivered to target population, third-party verified. Effectively the funder is paying for metered electricity that is delivered to target customers. They will not be paying the full price, but will be effectively cost-sharing with the end-users. This can help the sector build a track-record of payment histories from customers, demonstrating over hundreds of thousands of customers the track records. Simpa Networks have a concept note on this which has been shared with the US State Department.
- Agree to purchase carbon emissions reductions, based on verified delivery of energy to target pop. Sign multiyear, large scale contracts, which are bankable. Scale 5-10 year, \$10m per year, as example that could move the needle.
- Work with in-country efforts/initiatives to create more effective mechanisms for channelling financing (through non-government sources) global climate/energy access funds towards the efforts on the ground; this includes a mix of grants, low cost (single digit) debt (use of philanthropic capital to cover hedging costs, etc.) and equity.
- Further support /structures to be explored to make available collateral free debt with longer tenures (considering the rural infrastructure like nature of the investment).
- Further, support in-country efforts to attract/leverage local philanthropic capital.
- Improve the coordination between DFIs and investors for mutual benefit.

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