

Q&A report

Topic

Mini-Grids and the Arrival of the Main Grid: Lessons from Cambodia, Sri Lanka, and Indonesia

#	Question	Answer(s)
1	Hi. Can anyone please recommend a reliable and affordable "smart grid" technology which will help balance a 20kW micro hydro mini-grid supply by controlling who gets access to the supply during different times of the day?	live answered
2	What are the real and key challenges for clean energy investment in Africa? Specifically in rural Africa?	live answered
3	Could you pls define exactly what you mean by the main grid and a Mini-Grids? Your optic seems to suggest that electricity networks will continue to be managed top-down, whereas this changes to bottom-up. Production will be decentral, no matter what grid connection.	live answered
4	If a minigrid is the result of a concession granted by government, what type of clause could be inserted in the concession contract to accomodate the arrival of the national grid? Should concessions have a "safe period" in which government commits to no arrival of the national grid?	live answered
5	Nepal government amended the Community Rural Electrification Project with previously 80/20 to 90/10 community have to only contribute 10% of the total project cost	this is an update rather than a question
6	But in Bangladesh Rural Electric Cooperatives mainly supply Grid connected electricity to house holds, commercial, Industrial etc Consumers. No mini grids. Recently some solar based irrigation are coming up (but its sustainability is yet to be tested) as almost all Consumers are Grid connected . It is cheap around 10 cents (US). In Bangladesh land is a problem. So large sacle Solar Plants are going very slow.	I understand there are a few mini grids (see: https://www.dhakatribune.com/bangladesh/power-energy/2018/03/24/solar-powered-mini-grid).
7	Bangladesh has 80 Rural electric Utilities. Government controlled	thanks for the update!
8	I am missing the option whereby the Minigrid operator continue to operate the gistribution grid (SPD) but on behalf of the national utility and is paid for its service. Assets and customers are owned by the utility after interconnection and compensation.	live answered
9	But with SPDs the interruptions in Grid area is supposed to be more because of Right of Way and other problems.	live answered
10	Is it correct to assume that every mini-grid that is abandoned constitutes a loss to the original developer?	live answered
11	From your experience and from the technical point of view, Renewable Energy Mini Grid interconnection with the main grid work the same as Diesel or they are more challenging?	live answered
12	In the cases of co-existence in electricity distribution, who decides which household sticks to the mini-grid or the main utility grid?	It's up to the household. A lot of households choose to have both the main grid and the mini grid, especially if the main grid is unreliable.
13	Do the utility companies carry out any awareness campaigns/workshops to offer the rural mini grids about their options to ease the transition?	live answered
14	How clean is the grid electricity vs the mini grids (even though it might be cheaper) and how does the national grid prioritize and handle the volatility of increasing the % of renewable energy ?	live answered
15	In the event of co-existence of both grids, how do you make sure a household is not connected to both distributors?	live answered

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16	What kind of software solutions are emerging in rural areas for energy management and which ones are helpful in creating quality supply? Does the government publish a list of the best practices and vendors?	Some brands of energy management systems (EMS) we're seeing in mini grids are: DeepSea, YT ZNB, Smart Gen, Teksan, Studer. For best practices in mini grids, I would suggest reaching out to your country's REA, and to offices of the World Bank (particularly the ESMAP Global Facility on Mini Grids), GIZ, and DFID.
17	In some of the countries, Chris spoke of hundres of SPDs. What happens to those assets when the grid arrive. I understand the containerizing approach.	live answered
18	Thanks for the webinar! The link http://tiny.cc/MG_interconnect doesn't seem to work. Where can we find that guidebook for minigrids of <200kW?	We will share the link in our follow up email
19	Do we have more analysis of mini grids getting abandoned? like whether it is due to prohibitive cost of repairs after break down, limitation on operational competence and more.	live answered
20	In regards to buy out options: Do you have any experience for willing buyer/willing seller buy out modells for Mini-grid assets?	live answered. Willing-buyer willing seller is unlikely to arrive at compensation that mini grid developers will view as fair since utilities generally have litte interest in owning used mini grid assets. Rather, we have to look at the compensation as a last resort insurance that covers the case that the main grid arrives in areas that all parties in good faith believed was not going to be electrified in a long time.
21	Please share with us the continuum from village to government levels, and how best to improve policy?	I would suggest researching countries that have developed mini-grid friendly policy and regulatory frameworks. Current good examples in Africa are Nigeria and perhaps Tanzania (was stronger 5 years ago), Rwanda (emerging).
22	What is the evolving role of storage technology in rural minigrids, especially flywheels and geographically specific storage tech?	live answered
23	What is the scope of solar mini grids?	live answered
24	Should the Grid ever be prohibited from accessing a population center, even if there exist an SPP or SPD?	I don't think that the grid should be prohibited from entering an area unless there are strong ecological reasons (for example, the area is in the middle of a protected forest). Residents have the right to the option people want the most. But if the grid arrives early there should be options (SPD, SPP, compensation, co-existence) available to the mini grid developer.
25	What is the battery technology that is most widely used in mini-grids? Are there new battery chemistries that are being adopted?	live answered
26	In Tanzania, The law governing power generation, management and distribution gives monopoly power to the national power company to distribute power, is this kind of law viable in terms of proficiency and cost effectiveness and can be recommended to other geographic areas?	live answered
27	In regards to buy out of Mini-grid-Assets: Do you have experience of willing buyer / willing seller situations to buy out assets of the Mini-grid?	live answered