Policy towards ensuring that all rural homes in countries like India can get affordable power, especially the bottom section

CPR south 2017 Policy brief

Problem:

Most low-income homes in many emerging markets get poor quality grid-power, with no power or power outage for large fraction of the day. At same time, most of them cannot afford the cost of power, even with some subsidy.

Approach:

The approach notes that most of the nations classified today as Emerging Markets, do not have much oil and gas [3]. They have coal, which is known to be polluting, or have renewables. Most such nations have significant solar incidence. This can be leveraged, especially as prices of solar panels fall rapidly and is less than that of conventional grid-power today [4]. Decentralized roof-top solar photovoltaic (PV) can become the most affordable solution, irrespective of whether grid is present or not. The affordability can be enhanced if it draws power from the grid, only when power is available at the lowest cost. This would require a communication link between electric utilities and homes. In fact, savings from such demand response system may pay for the communication expenses for low-income homes. Communication embedded to the systems also enables monitoring of roof-top solar system, while helping in optimal usage of power [5].

Policy suggestions:

1. Enable Innovative technologies through right incentives so as to overcome the situation.
2. Set up monitoring to ensure that power is indeed provided 24 x7
3. Enable the economics to work so that lowest-income is able to afford power in due course.
4. Enable providing of power for income generation.

Time has come for communications to play a role in empowering lower-income and rural people of the world who have been hitherto left behind. Communication and internet of things need to be leveraged to provide education, energy, water, health and employment. This paper has focused on how communications, coupled with decentralised solar deployment can be leveraged to ensure affordable 24 x 7 electricity to each of these homes. Use of energy required for cooking has not been discussed here. In next few years, one would be able to innovate and come up with affordable solutions for cooking using electricity, with electricity being provided by solar-DC solutions assisted by communications. At the same time, there monitoring of the health of these systems will play a significant role in ensuring that power is indeed provided 24 x7. In a very similar manner, one should be able to use communications to provide affordable and green power for irrigation and rural industries. Everywhere communications would play a major role taking us closer to the original promise.