

## **Significance of Solar Feeders - Maharashtra Model**

### **What is the issue?**

\n\n

Maharashtra has implemented Solar feeders scheme to provide a reliable supply of electricity.

\n\n

### **What is the status of electricity usability for agriculture?**

\n\n

\n

- Agriculture is a major consumer of electricity, accounting for one-fourth or one-third of consumption in many States.

\n

- Since the 1970s, agriculture in many States has been receiving electricity at either low tariffs or for free.

\n

- Access to groundwater depends on reliable and affordable electricity supply.

\n

- Two-thirds of the total irrigated area in India uses groundwater pumping, powered by more than two crore electric and 75 lakh diesel pumps.

\n

\n\n

### **What are the issues with provision of electricity for agriculture?**

\n\n

\n

- In India much of the electricity supply for agriculture is un-metered.

\n

- Due to the lower tariff and poor revenue collection, agricultural sales are often seen as a major reason for the financial losses of distribution companies (discoms).

\n

- Part of this loss is then recovered through higher tariffs for other

consumers like industry and commercial (called cross-subsidy), and the remaining through direct subsidy from the State governments. Because it is seen as a loss-making sector, agriculture often gets poor quality supply leading to problems such as frequent pump burn-outs and power failures.

\n

- Restoring supply takes a lot of time and so does getting new connections.

\n

- Further, the supply is unreliable and often available during late nights.

\n

- Electricity demand for agriculture is expected to double in the next 10 years and as the average cost of supply keeps increasing, the problem of agriculture subsidies will become worse.

\n

\n\n

### **What is Maharashtra's solar feeder scheme all about?**

\n\n

\n

- A solar agriculture feeder is essentially a 1-10 MW community scale solar PV power plant, which is interconnected to the 33/11 kV sub-station.

\n

- Maharashtra's solar agriculture feeder program will provide low cost electricity from solar, at Rs. 2.75-3/unit and at a fixed price contract for 25 years.

\n

- Under the scheme A 1 MW solar plant can support around 350, 5 hp pumps and requires around 5 acres of land to set up.

\n

- The plant can be set up in few months and there is no change at the farmer's end.

\n

- Pumps need not be changed and farmers do not have to take responsibility of installation and operation.

\n

- All the pumps connected to the separated agriculture feeder will be given reliable day-time electricity for 8-10 hours between 8 am and 6 pm.

\n

- When solar generation is low, maybe due to cloud cover, balance electricity can be drawn from the discoms.

\n

- Alternatively, when pumping demand is low, maybe during rains, excess solar electricity will flow back to the discom.

- \n
- Project developers are selected through a competitive-bidding process and the entire electricity would be bought by the discom through a 25-year contract.
  - The discom would continue to distribute the electricity to farmers on concerned feeders.
  - By this the state will exponentially increase its solar procurement to fulfil the national objective of increasing the use of solar power.
  - The Centre has also proposed a similar scheme at the national level, namely, KUSUM, with a 10,000 MW target.
- \n

\n\n

### **How the innovative scheme will address existing problems?**

\n\n

- \n
- The scheme will provide reliable, adequate day-time electricity supply to farmers at reasonable tariff, leading to a gradual increase in the mutual trust between the discoms and the farmer.
  - The scheme will ensure day-time reliable power for the farmers and it requires no capital subsidy from the government.
  - Additionally, no new large transmission lines are needed, which has become a bottleneck for various large scale wind and solar power tenders.
  - Deployment is possible under the existing regulatory framework, and the generation also qualifies for Solar RPO of the participating discom.
  - This approach can also provide distributed jobs to local youth in construction, operation and maintenance of the plant.
  - While the cost of supplying power from the State discom is about Rs. 5/unit and rising each year, the price for solar power is about Rs. 3/unit, fixed for 25 years.
  - This saving of about Rs. 2/unit translates to an annual saving of Rs. 10,000/five hp pump. For a typical feeder with 500 pumps, this would save Rs. 4.5 crore (in net present value terms) over 20 years.

\n

\n\n

\n\n

**Source: Business Line**

\n

