

# The Missing link

**Hartek Singh, Chairman and Managing Director, Hartek Power Pvt. Ltd,** explains how grid infrastructure is the missing link in India's solar chain.

**B**uoyed by positive response from the industry and the proactive approach adopted by various state governments,

India is now making rapid strides in the solar segment. The country's solar power generation has gone up 14 times in a span of just five years from 0.5 MW in 2011 to the present 7 GW; and as a result, the revised solar target of 100 GW by 2022, now looks distinctly achievable.

In an ideal situation, this shift to renewable energy should provide a ready answer to the power woes of a country blessed with abundant sunshine throughout the year. However, the situation in India is not so ideal because despite the increase in solar power generation, the growth of the transmission system has not been in sync.

## Ground Reality

If left unaddressed, this yawning gap could leave us with a lot of catching up to do, putting immense pressure on the existing transmission lines, eventually leading to system collapse. The fact remains that our transmission lines are not geared to receive the kind of solar power being injected into the grid. Given the high stakes in the solar sector, we cannot afford to have breakdowns.

As the first and foremost step, we should upgrade our transmission and distribution (T&D) lines. The way the

solar sector is growing, it becomes imperative for every state which has jumped on to the solar bandwagon to upgrade its T&D system accordingly. Failure to do so may create a difficult situation across the country, similar to what states like Punjab find themselves in today.

Having gone into a solar overdrive, Punjab is now well on its way to achieving an installed solar capacity of 1 GW by the end of this financial year. But the T&D system in the state has not been upgraded adequately to withstand this additional load of electricity.

While the Power Grid Corporation of India Ltd (PowerGrid) has been asked to build separate transmission lines - green energy corridor - to evacuate renewable energy, it is expected to build only inter-state transmission lines, at least in the initial stages. Within the states, it is the local governments who have to invest in capacities.

Lack of an efficient and reliable T&D infrastructure is one of the biggest obstacles in the way of realising India's solar potential. Our existing transmission capacities are grossly inadequate. Millions of kilowatt hours (kWh) of

electricity is lost due to inter-state transmission congestion.

High T&D losses make solar power generation a highly unviable proposition. Though the government, in association with NTPC and the PowerGrid, is focusing on upgrading its substations and infrastructure to reduce T&D losses, this needs to be done on a war footing.

The situation calls for urgent corrective action and we cannot afford to operate with the same network of poles and wires.

## Way Forward

The answer lies in constantly upgrading the grids and coming up with new ones to match the outflows created by new solar projects. The example of Andhra Pradesh is worth emulating here. Whenever the Andhra Pradesh government comes up with a plan to set up new solar projects, it has a parallel plan on T&D ready.

Let's enable the utilities to acquire the financial firepower to invest heavily in grid infrastructure and make large-scale green electricity purchases.

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