

A large array of blue solar panels is installed in a high-altitude, mountainous region. The panels are mounted on a metal frame and are tilted towards the sun. In the background, there are steep, rocky mountains with a reddish-brown hue. A tall, thin metal pole stands in the middle ground. The foreground shows a dirt path and some sparse vegetation.

Advanced Photovoltaic Materials to Enable Electrification of Remote Corners of Ladakh

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In the harshest of climatic conditions like those of Ladakh, our advanced range of photovoltaic materials have increased the efficiency and lifetime of solar panels. This enables affordable remote electrification by bringing down the per unit cost of solar energy generated.



Benefit

The collaboration between DuPont and Moser Baer resulted in many benefits for all the stakeholders involved:

- Electricity availability in hitherto unconnected areas
- Extended system lifetime
- Lower degradation, resulting in maximum power produced over the system lifetime
- Cost efficient solution
- Lower dependence on fossil fuels
- Highly modular and scalable solution

We invite you to join us in our effort to achieve zero power shortages by collaborating with us to build a secure energy future for India.

Issue

Ladakh is one of the most isolated areas in India. It is at a high altitude and has an extremely cold climate. Many villages in Ladakh do not have access to grid electricity due to their remoteness, and it is very costly to take grid lines to these areas. Decentralized power is the solution for these areas, but it is difficult and costly to transport diesel because it can be ecologically harmful, while other clean energy sources are either not available or difficult to harness.

Challenge

To establish a sustainable energy source in the remote and highly adverse terrain of Ladakh. This power source was required to not only perform in the harsh climate, but also to reliably last for many years and work at a high efficiency to supply maximum power at a competitive price.

Solution

DuPont collaborates closely with Moser Baer, and supplies materials for photovoltaic (solar) cells and panels. Moser Baer worked with DuPont to install solar farms in remote locations of Ladakh. They manufactured and installed 500 kilowatts of solar panels using DuPont materials in several villages in Ladakh. These modules are now powering up 350 houses with sustainable power supplied at a lower cost than running diesel based generators.

The reliability offered by DuPont™ Tedlar® polyvinyl fluoride film-based backsheets has enabled the system to perform with minimum degradation by protecting it from UV rays, helping to ensure the expected 25 year system lifetime of the installed modules by withstanding the severe climate.

The DuPont™ Solamet® photovoltaic metallization paste used by Moser Baer provides high efficiency to the solar cells, reducing the number of panels required to produce the same amount of power.

The panels installed are designed to provide decades of clean energy to these houses. This solution is easily scalable, and can be used to provide a reliable off-grid energy solution all across India.

