



A brighter future in Uttar Pradesh thanks to solar home lighting systems

DuPont™ Solamet® photovoltaic metallization pastes help maximize the power output of solar panels, illuminating new opportunities for families and villages.



DuPont™ Solamet® metallization pastes help to maximize power output for solar panels used for home lighting systems



Project provides light to approximately 400,000 rural households



Systems can save typical households about 20,530 rupees (\$325 USD) per year on kerosene



Allows for extended business hours and more time for school work and chores

SUMMARY

In rural India, 300 million villagers live without access to electricity, depending instead on kerosene lamps for light. This use of kerosene exposes them to health and safety hazards, including toxic fumes and risk of fire. Affordable and reliable solar-generated lighting systems have helped nearly 400,000 households in Uttar Pradesh, India, to enjoy safer and cleaner power. A key collaboration between DuPont and India's largest solar panel manufacturer is helping make these systems more efficient, and increasingly more accessible.

“The impact for families and villages living without electricity goes well beyond the safety and practical concerns of burning fuels within a home.”

Challenge

The challenge was to provide a safer, more efficient, reliable and cost-effective alternative to kerosene lamps for home lighting in areas like Uttar Pradesh, a state in northern India, where the electricity supply is unreliable or nonexistent.

Solution

The collaboration between DuPont and India’s leading solar panel manufacturer has resulted in a solar-powered source of inexpensive, reliable lighting, tailored to the needs of rural households. The solar home lighting systems consist of a solar panel, a battery, a charge controller, and a DC luminaire. These stand-alone systems provide basic lighting at the most affordable price point, without requiring a connection to a power grid. These systems are cleaner and safer, and their usage is cheaper than kerosene.

Reliability and efficiency are key to the performance of the stand-alone solar units, and for the peace of mind of the villagers. Solamet® metallization pastes from DuPont help ensure that the panels are as energy-efficient as possible, providing households with a maximum return on their investment.

DuPont Photovoltaic Solutions is committed to continuous innovation, research and development to consistently increase the power output, durability and longevity of solar panels. Solamet® photovoltaic metallization pastes have been successfully used for more than 30 years to increase the conversion efficiency of solar cells, significantly boosting the power output of solar panels. Solar cell efficiency has nearly doubled over the last 12 years due to continuous advances in Solamet® paste technology. Recent advances in Solamet® pastes also create significant cost savings for manufacturers, because without sacrificing efficiency, less material is required for each solar cell.

By specifying Solamet® pastes for the panels used in the project in Uttar Pradesh, the solar panel manufacturer helps ensure the highest levels of performance and longevity for the solar panels that are at the heart of the new lighting systems.

Results

The solar home lighting systems have transformed the homes and lives of many of the villagers of Uttar Pradesh, who previously had to deal with an inconsistent energy supply on a daily basis. To date, the project has provided light to approximately 400,000 households, offering a safer, more efficient, reliable and affordable lighting source that extends the day and opens up new opportunities for families and businesses.

For the government of India, the project in Uttar Pradesh also supports the national push for more green energy, with the national goal of doubling the country’s existing renewable energy capacity to 55,000 megawatts (MW) in total by 2017.

PROJECT LOCATION

Uttar Pradesh, India



PROJECT DETAILS

Project	Solar Home Lighting Systems
Monetary savings	\$325 per household annually
Homes powered	400,000
Material specified	DuPont™ Solamet® metallization paste

To learn more about DuPont Photovoltaic Solutions, visit photovoltaics.dupont.com