

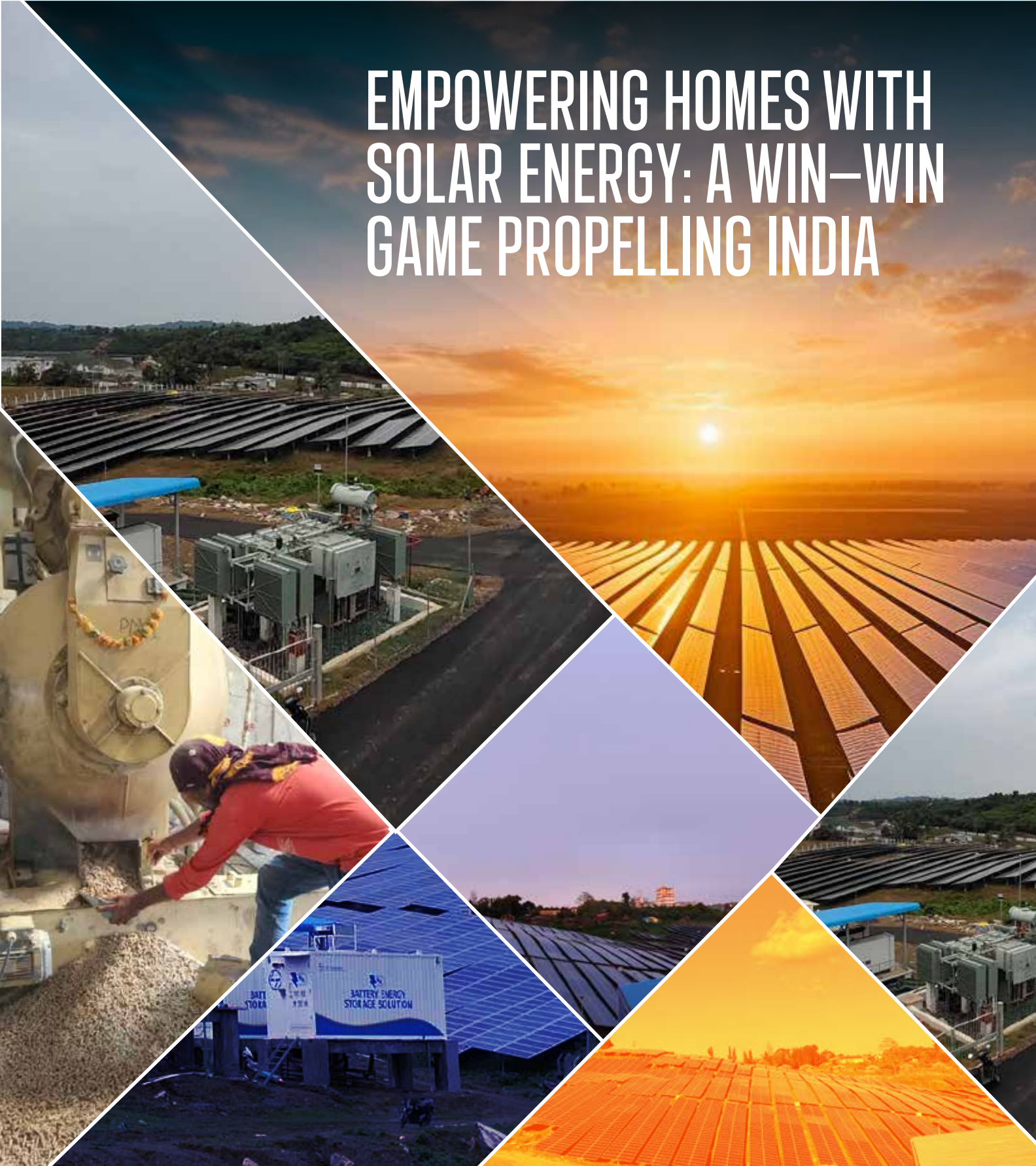


नवीन एवं
नवीकरणीय ऊर्जा मंत्रालय
MINISTRY OF
NEW AND
RENEWABLE ENERGY

सत्यमेव जयते

Renewable Energy Akshay Urja

EMPOWERING HOMES WITH SOLAR ENERGY: A WIN-WIN GAME PROPELLING INDIA



Give your house the gift of free electricity and solar power

Be a part of **PM Surya Ghar Muft Bijli Yojana**

“

The scheme will lead to more income,
lesser power bills and employment
generation for people.

– Narendra Modi, Prime Minister ”



₹75000 crore scheme for 1 crore houses

KEY FEATURES OF THE SCHEME

Up to 300 units of
electricity per month

Up to ₹78000
subsidy

Loan at lower
interest rates

Easy enrollment
process



pmsuryaghar.gov.in
Login or scan QR code for registration



Revolutionizing Clean Cooking: the Role of Copper in Solar-powered Induction Cookstoves

Mayur Karmarkar highlights that copper plays a crucial role in solar induction cookstoves, enhancing clean cooking technologies with its superior properties and energy efficiency. By promoting the widespread adoption of these cookstoves, the government can transform cooking practices, benefiting millions and fostering a greener future. As India embraces sustainability, leveraging copper in clean cooking will be key to achieving health and environmental goals.

Despite significant advancements in technology, about 2.6 billion people globally still lack access to clean cooking solutions. This shortfall not only has substantial environmental and economic consequences but also leads to approximately 4 million premature deaths each year. In India alone, approximately 840 million people depend on inefficient stoves and biomass as their primary cooking fuel, either partially or entirely.

To mitigate these health risks and support environmental goals, the government is envisaging adoption of electric solar-powered induction cookstoves. Prime Minister Modi has proposed a clean cooking movement, which would integrate solar rooftops and battery storage, creating a decentralized system for clean cooking. The initiative seeks to equip 250 million (25 crore) households with the ability to generate and store their own solar power, which can then be used for clean cooking and recharging electric vehicles. By driving demand for batteries, it will also help reduce battery costs. Further to achieving these objectives, there is a need to adopt a comprehensive promotion program for solar induction cookstoves.

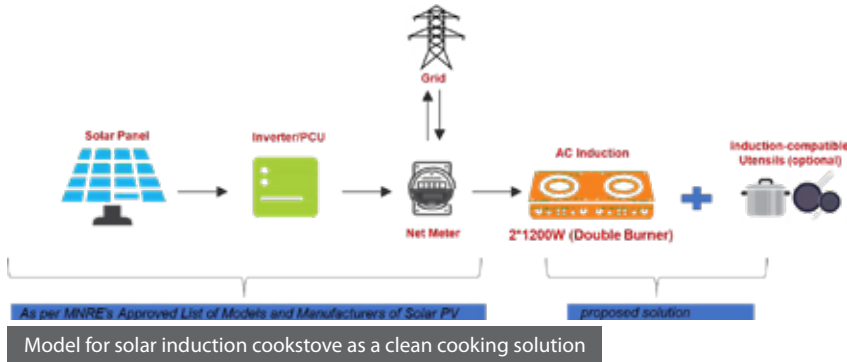


Solar Rooftop: powering homes and kitchens

A key component that enhances the performance of solar induction cookstoves is copper, known for its exceptional conductive and thermal properties. Copper's outstanding electrical conductivity is fundamental to the efficient operation of solar induction cookstoves. The process begins with solar panels converting sunlight into electrical energy, which must then be efficiently transferred to the induction cooktop. Copper, with its low electrical resistance, ensures that

this transfer occurs with minimal energy loss, which is crucial for maximizing the use of solar power, especially in off-grid or rural areas where energy conservation is essential.

In addition to its conductive properties, copper is also known for its durability. Components made from copper tend to have a long lifespan, which is crucial for the reliability of solar induction cookstoves. This is particularly important in rural or remote areas where access to maintenance and repair services may be



limited. The durability of copper ensures that the cookstoves remain operational for longer periods, providing consistent performance and reducing the need for frequent replacements. Furthermore, the induction technology used in these cookstoves relies heavily on copper coils, which generate electromagnetic fields to induce heat directly in the cookware. Copper's high conductivity allows it to create strong electromagnetic fields, resulting in faster and more uniform heating compared to other materials.

The integration of solar energy with induction cookstoves presents a transformative opportunity for India. The government's rooftop solar scheme aims to harness solar power, providing free electricity to low-income households. Combining this scheme

with the National Efficient Cooking Programme (NECP) and advanced battery solutions can significantly enhance the adoption of clean cooking technologies and ensure India's long-term energy security. This integration supports India's sustainability objectives by fostering environmentally safe practices and reducing reliance on polluting fuels, thus significantly lowering carbon footprints. Furthermore, a promotion programme for solar cookstoves can complement these schemes by ensuring widespread adoption of these efficient cookstoves, ensuring a seamless transition to clean cooking methods.

To realize the vision of clean and healthy cooking, improving battery storage capabilities and promoting sustainable supply chains are essential. Investments in research and development for better

battery technologies and incentivizing battery recycling can reduce environmental impacts and ensure sustainable energy access. Moreover, ensuring safe and efficient electrical infrastructure for harnessing solar energy is also important. The usage of copper in these systems minimizes the risk of electrical failures and fires, aligning with safety standards and promoting long-term sustainability.

Copper's essential role in solar induction cookstoves has proved its importance in advancing clean cooking technologies. Its superior properties and energy-efficient nature makes it an indispensable material in the development of these cookstoves. By implementing a robust programme to ensure the widespread adoption of solar-powered induction cookstoves across the nation, the government can revolutionize cooking practices, positively impacting millions of lives and contributing to a greener, more sustainable future. As India moves towards more sustainable practices, leveraging copper's benefits in clean cooking technologies will be pivotal in achieving environmental and health goals. ●

Mayur Karmarkar
 Managing Director,
 International Copper Association, India



Induction cooking: Fast, efficient, and safe



Solar-powered cooking: clean and efficient