

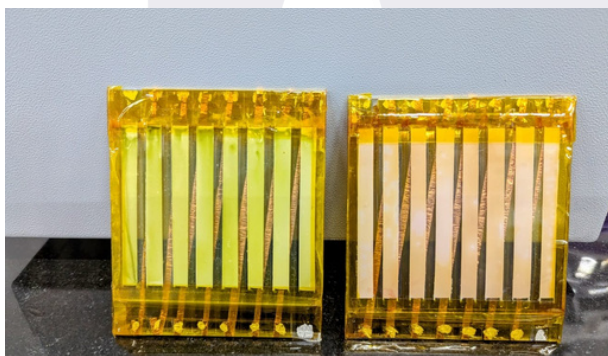
PAVAKAH Energy Private Limited

Sector: Cleantech & Advanced Sustainable Materials

**KID: 20250203**

The transition to clean energy sources has become critical in the face of increasing carbon emissions and the rising cost of fossil fuels. Among the many options, solar energy has emerged as a key pillar of sustainable power generation. However, traditional silicon-based solar panels present significant limitations—they are bulky, expensive to install, and contribute to environmental challenges during decommissioning. With global solar panel waste expected to reach 70 GW annually by 2026, the lack of recycling technologies threatens to undermine the very sustainability goals solar energy aims to achieve.

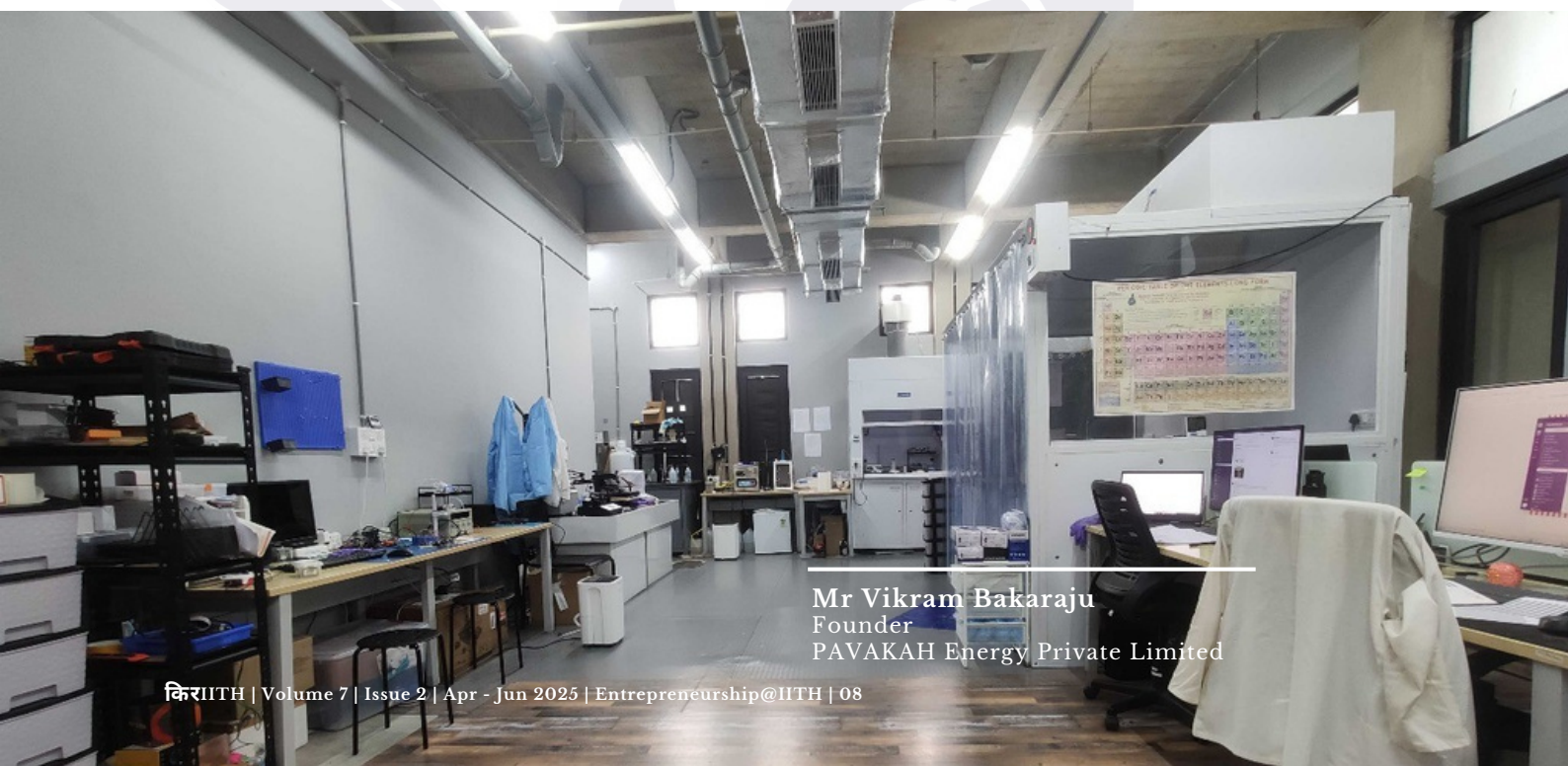
In response to this multifaceted challenge, Pavakah Energy Pvt Ltd, based in Sangareddy, Telangana, has introduced a disruptive approach to solar power generation. The company has developed bulk-heterojunction thin-film solar cells that can be applied like paint to almost any surface—walls, rooftops, or infrastructure. This technology, also referred to as nano-colloidal photovoltaic paint, marks a significant departure from conventional panel systems. It reduces installation complexity, lowers capital expenditure, and offers a recyclable alternative to conventional solar infrastructure.



The innovation lies not only in the method of energy generation but also in its sustainability. Unlike traditional panels, which are difficult to recycle and contribute to growing electronic waste, Pavakah's solar paint is designed with end-of-life recyclability in mind—making it a promising component of the circular economy in renewable energy.

The potential applications of this technology extend beyond rooftops to agrivoltaics, infrastructure, and even rural electrification in regions where traditional solar panels are impractical. Pavakah Energy's innovation can redefine how solar energy is produced and integrated—offering a lightweight, customizable, and low-impact solution for global energy needs.

By addressing both energy generation and end-of-life waste, Pavakah Energy is not only powering the present but also protecting the planet's future. Their work stands as a beacon of innovation at the intersection of energy, environment, and sustainability.



Mr Vikram Bakaraju
Founder
PAVAKAH Energy Private Limited