EFFICIENCY-ENHANCING FILM THAT HELPS SOLAR PANELS CAPTURE MORE SUNLIGHT

Boosts panel output by up to 10% by converting underutilised UV light into electricity without altering existing panels.

Problem / Market Need

Solar panels cannot fully utilise certain portions of the sunlight, limiting their overall energy conversion efficiency. This reduces power output and cost-effectiveness, slowing adoption of solar energy across residential, commercial, and utility sectors that need affordable, reliable renewable energy solutions.

Description of Solution / Technology

The technology uses a clear polymer film embedded with luminescent compounds that absorb high-energy UV light and re-emit it as blue light, which solar cells can convert more efficiently into electricity. This film works with all types of solar panels and can be applied to existing installations without requiring changes to manufacturing processes. The compounds are biofriendly, locally sourced, and produced sustainably, reducing costs and environmental impact.

Key Benefits / Advantages

- Increases solar panel energy output by up to 10%
- Compatible with all existing solar panel types and designs
- Easily applied to new and existing panels without costly modifications.
- Uses ecofriendly, locally sourced materials.
- Supports broader adoption of solar power through lower energy costs.

Applications / Relevant Industries

- Residential, commercial and industrial solar installations: Increase efficiency of large-scale systems (retrofit and new).
- Utility-scale solar projects: Improve energy yield and reduce costs per kWh.
- Solar panel manufacturing: Integration into new panels for added value.

Stage of Development

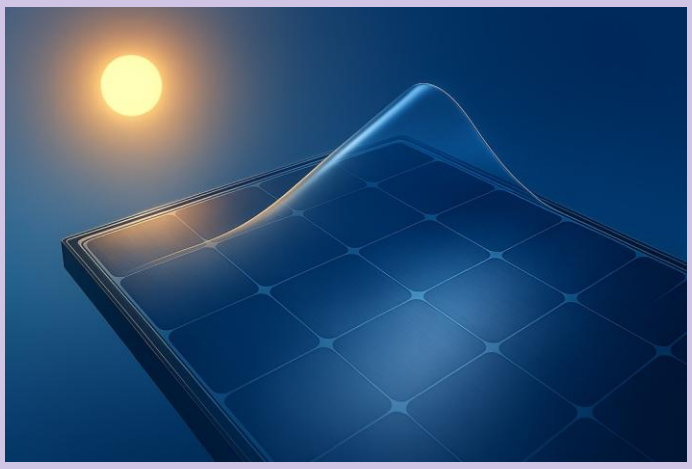
Currently at proof-of-concept (TRL 4), with laboratory testing confirming up to 10% efficiency gain. Work is ongoing to scale production, optimise performance, and prepare market-ready prototypes for further validation.

Intellectual Property Status

Patents pending in South Africa, China, Europe, and the USA. These patents provide strong protection, commercial advantage, safeguard future market opportunities, and establish a foundation for licensing, partnerships, and global commercialisation.

Opportunity

The technology is available for collaborative development, IP licensing, and strategic funding: **Technology development** partners to scale prototypes, optimise performance, and validate real-world efficiency gains. **Licensees** to commercialise the technology through IP agreements, expanding market reach and adoption. **Funders** and investors to support production scale-up, pilot deployments, and market entry.



For enquiries contact:

Technology Transfer and Innovation Support (TTIS)
Dr Mesuli Mbanjwa
Senior Manager: Commercialisation
Email: mesuli.mbanjwa@nwu.ac.za; TechTransfer@nwu.ac.za; **Tel:** +27 18 299 4902

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