



## Description

The North-West University (NWU) is pioneering the novel use of Europium-Tellurium-Oxide (ETO) in the production clean energy. ETO is a light-chargeable catalyst material that exhibits sustained and enhanced activity after light excitation has ended. Its unique characteristics presents an opportunity for utilisation as a new and efficient type of active material in photovoltaic (PV) cells for converting and storage of solar energy. ETO has further applications as catalyst in the chemical reaction for producing hydrogen and in fuel cells for generating electricity.

## Benefits

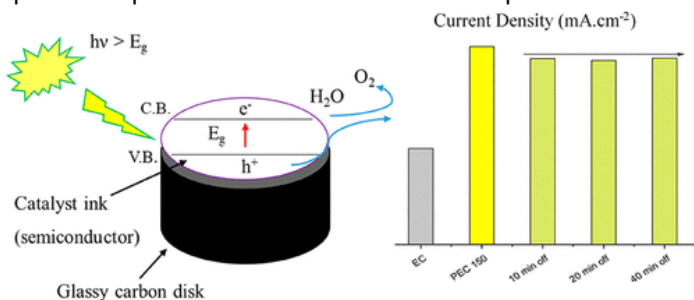
- Environmentally friendly material for clean energy solutions
- Unlike other materials of comparable use, Europium-Tellurium-Oxide retains activity after light excitation
- Enhanced activity for more efficient solar energy conversion and storage
- Potential applications in the electronics industry

## Opportunity in the Global Solar Market

World use of photovoltaics for energy supply growing rapidly. The global PV market size is expected to reach USD 333.72 billion by 2026 at a compound annual growth rate (CAGR) of 25.1%. The PV installations in the world grew by 36.8% CAGR between 2010 and 2018. Si-wafer based PV technology accounted for about 95% of the total production in 2017. There is an opportunity for introducing Europium-Tellurium-Oxide based solar cells, driven by better value proposition. The global hydrogen fuel cell market is forecast to reach USD 49.12 Billion by 2026.

## Project Status

Proof of concept has been achieved and a PCT application is under examination. We are currently seeking partnerships/investment for further development of the technology.



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