Commercial Assessment of the Cost, Performance and Marketability of PV Technologies

Industry and academic experience in commercial assessment of photovoltaic technologies from a combined cost, performance and market perspective.

Competitive advantage

- Cost and uncertainty model that can be applied to a wide range of low- to medium-technology readiness level (TRL) technologies, unlike conventional approaches that are most applicable to high TRL technologies
- Iterative analysis method that identifies and then focuses on the key uncertainties and allows assessment to be completed with a minimum of time and effort
- Methodology has been developed so that it can be used by researchers without access to highly detailed cost input data

Impact

- Results can be used by researchers to engage positively with industry
- Analysis can be used to guide research directions into the most promising avenues for future commercialisation
- Analysis outcomes can be used to set technical and cost-related research targets

More Information

Dr Nathan Chang

School of Photovoltaic and Renewable Energy Engineering

E: n.chang@unsw.edu.au

UNSW Knowledge Exchange

knowledge.exchange@unsw.edu.au

www.capabilities.unsw.edu.au

+61 (2) 9385 5008

Successful applications

- Analysis of low TRL perovskite photovoltaics – single junction cells on glass and flexible substrates as well as in tandem structures with silicon
- Using analysis to identify the cost and performance drivers of more mature photovoltaic c-Si technologies – laser doped selective emitter, advanced hydrogenation, silicon heterojunction cell on p-type wafers
- Technoeconomic analysis of PV module recycling methods and their outlook

Capabilities and facilities

- Validated techno-economic analysis methodology with track-record of application to PV technologies
- Established online database tools to enable wide collaboration with Australian and international institutes

Our partners

- National Renewable Energy Labs (NREL), USA
- CSIRO