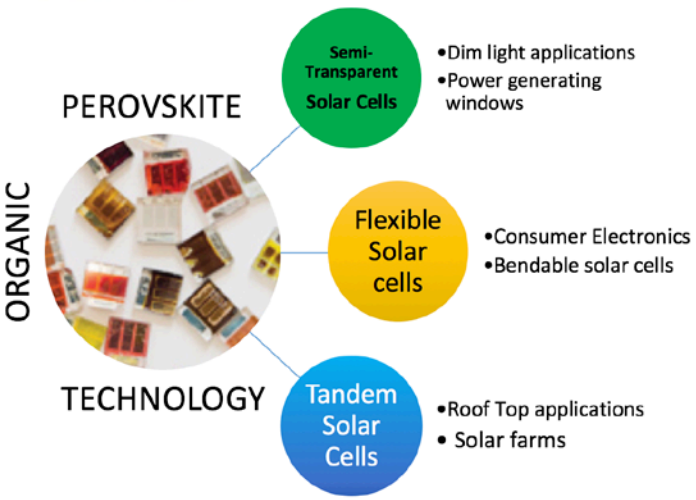
UNSW SYDNEY | Australia's Global University

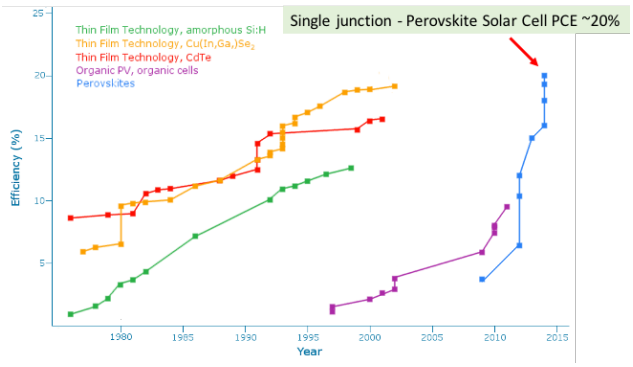
School of Photovoltaic and Renewable Energy Engineering

Perovskite and Organic Solar Cells
Low Cost Photovoltaic Technology

Innovative Projects

Aimed at Transforming Laboratory Research to Commercial Applications





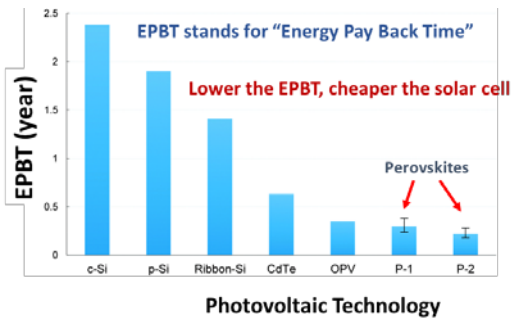
Perovskite solar cell technology is the most rapidly developed solar technology ever – from 3% (2009) to 20% (2015). Promising prospect of reaching PCE >25 % in single junction and PCE >30% in tandem junction.

ORGANIC-PEROVSKITE TANDEM SOLAR CELLS

The tandem solar cell project is currently supported by Future Solar Technologies Pty. Ltd. (http://www.futuresolar.com/en) in partnership with UNSW and UNSW Innovations (NSi).

The solar panel yearly market reached $24.2 billion in 2014, a new study highlights significant growth in the solar energy panels industry, forecasting incredible growth from 2015 to 2021 - estimating a value of $180.7 billion by 2021. Source: "Solar Panels Market Size, Share and Research Report From 2015 To 2021," performed by WinterGreen Research

How Long Does it Take for PV modules To Produce the Energy Used in fabricating it?



Energy payback time for seven PV modules. P-1 and P-2 represents Perovskite module with different material systems. The estimations are based on rooftop-mounted installation, Southern European insolation, 1.70 × 10^3 kW h m^{-2} per year, and a performance ratio of 0.750. Source: Jian et al. Energy Environ. Sci., 2015, 8, 1953-1968

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