



UNSW AUSTRALIA

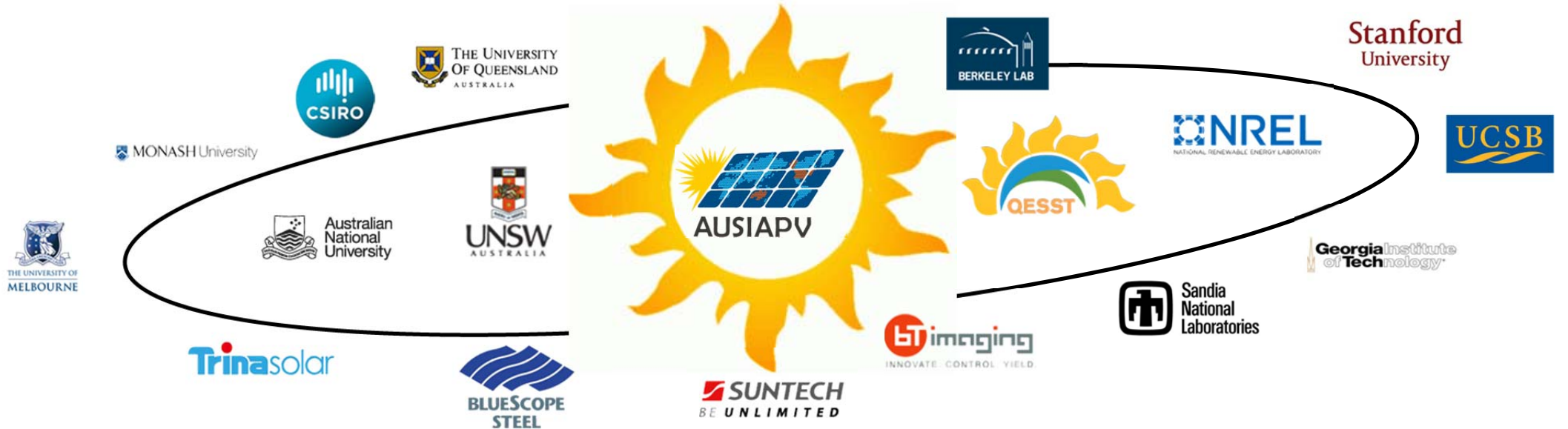
Australia-US Institute for Advanced Photovoltaics: Soft Power and Smart Power in Action

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Never Stand Still

Faculty of Engineering

School of Photovoltaic and Renewable Energy Engineering



Results of Research Investment: Increased Fitness (Fig.1) and Increased Financial Appeal (Fig. 2)

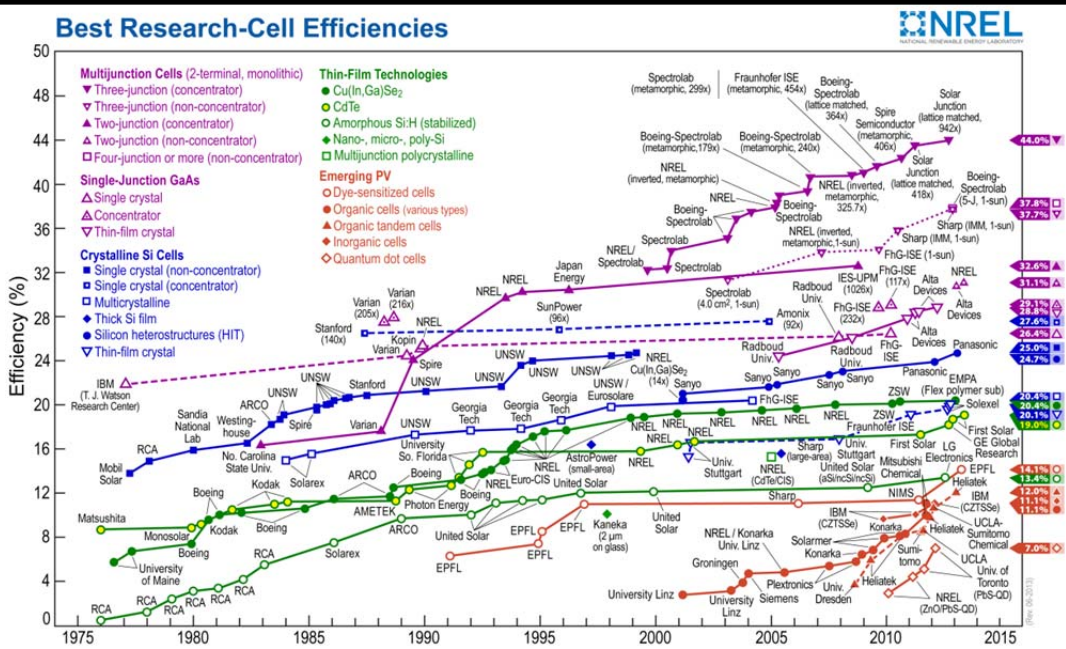


Figure 1: Best Research Cell Efficiencies [1]

[1] National Renewable Energy Laboratory, 2013

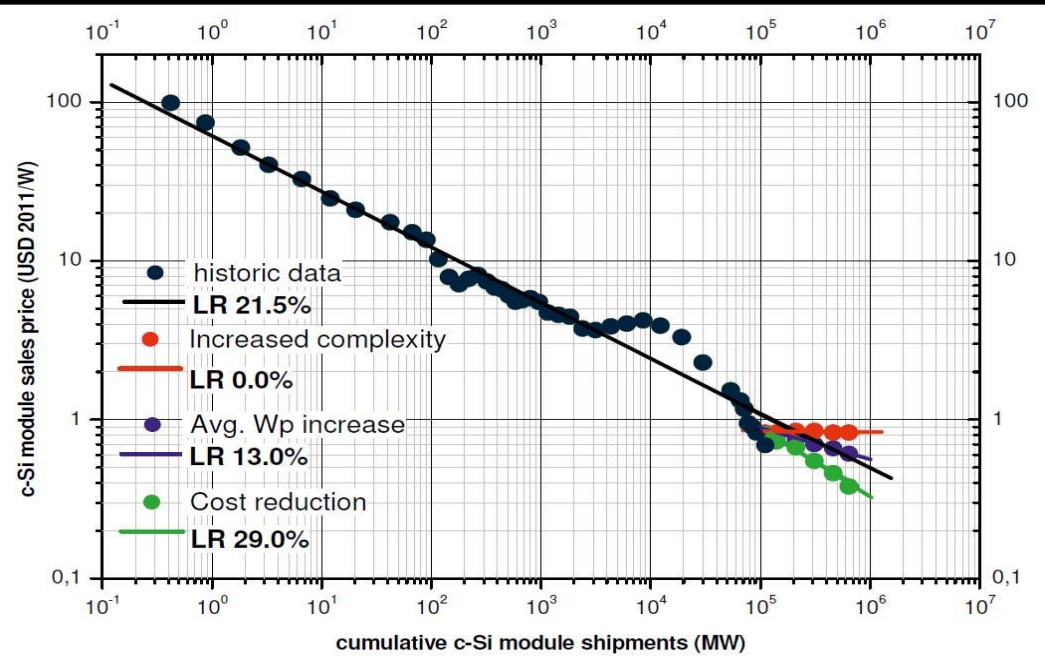


Figure 2: PV Module Price Learning Curve [2]

[2] International Technology Roadmap for Photovoltaics, 2012

Current Research: Lowering the Cost of Electricity (COE)

$$COE = \frac{F \cdot \left(\frac{\$}{m_{PV}^2} \cdot \frac{\$}{m_{BOS}^2} \right)}{\eta \cdot S}$$

- Increasing efficiency
- Reducing manufacturing cost
- Reducing balance of systems cost
- Modelling quantum mechanics
- Investigating advanced concepts
- Making the next generation of PV tech:
 - Silicon-based tandems
 - Silicon heterostructures

“This Program has been supported by the Australian Government through the Australian Renewable Energy Agency (ARENA). The Australian Government, through ARENA, is supporting Australian research and development in solar photovoltaic and solar thermal technologies to help solar power become cost competitive with other energy sources. The views expressed herein are not necessarily the views of the Australian Government, and the Australian Government does not accept responsibility for any information or advice contained herein.”