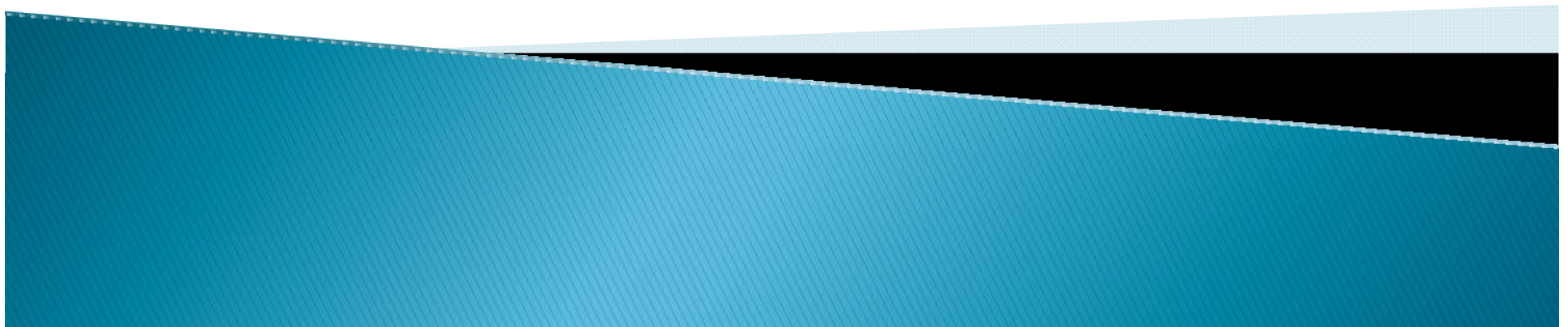


New and Renewable Energy Technologies Priorities: Singapore

37th APEC EGNRET meeting



Solar energy



1. Singapore has a small land area of 710.2km², with no hydro or geothermal energy resources.
 2. Wind is also excluded as an option: Singapore's average wind speeds of 2m/s are too low for the economical use of large wind turbines.
 3. Wave, tidal and ocean thermal have limited application as much of our sea space is used for ports, anchorage and shipping lanes.
- **Technology** has been a key enabler for the uptake of solar energy in Singapore

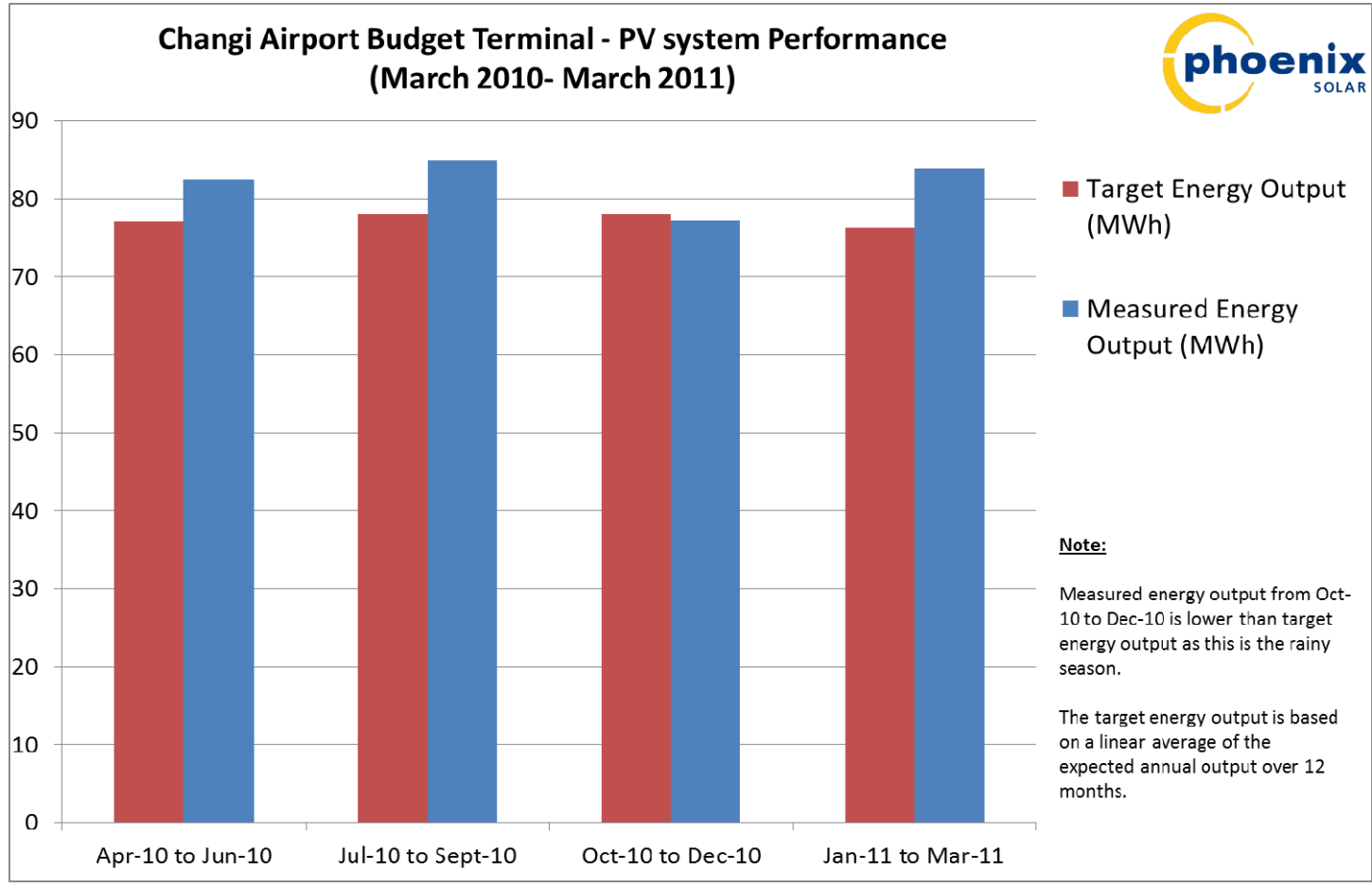
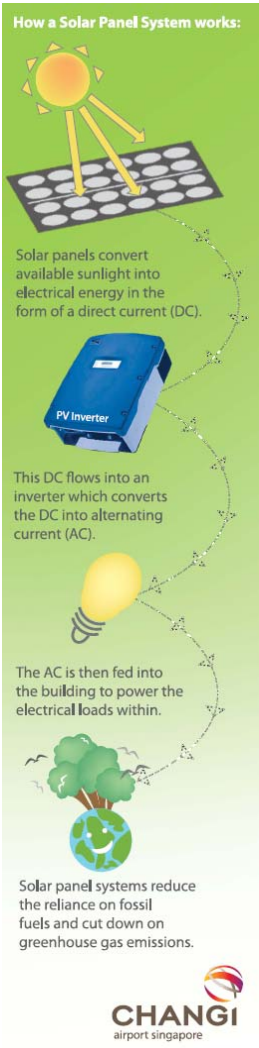
Commercial application



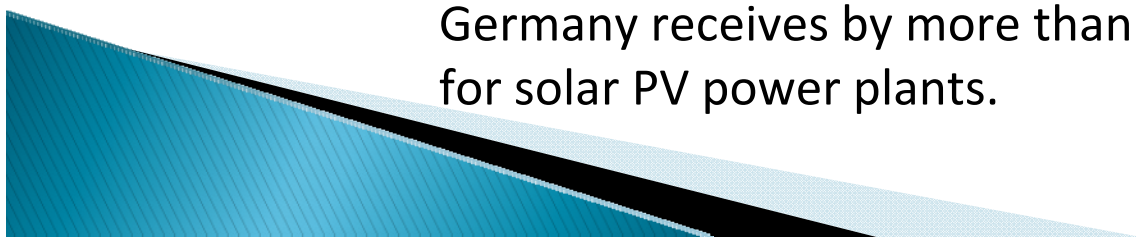
Solar PV System at Changi Airport, Budget Terminal



- ▶ Installation of a 250 kWp on-grid solar photovoltaic (PV) system to generate clean and sustainable renewable energy to supplement the terminal's main power supply and reduce electricity costs.
- ▶ *First commercial application of the First Solar Inc's PV modules* in Singapore*
- ▶ Reduces energy consumption by over 300, 000kWh per year, which is 3% of Budget Terminal's yearly energy requirement.
- ▶ This translates to approximately more than 156, 000kg of CO₂ emission savings per year.

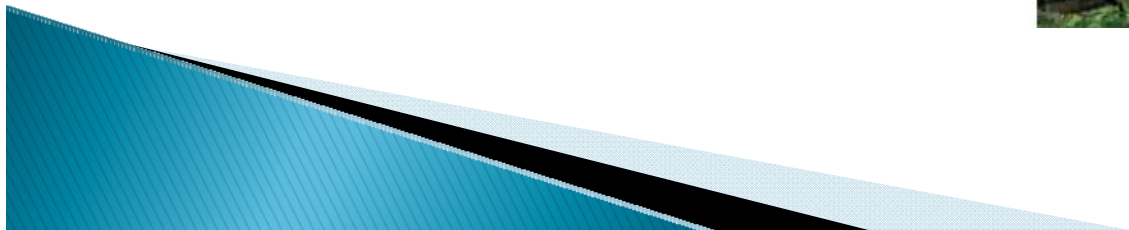


- ▶ Singapore receives around 1,625 kWh/m² of solar radiation each year. This exceeds the 1,000kW/m² of annual sunshine that Germany receives by more than 50%, currently the largest market for solar PV power plants.



Residential application: Punggol Eco-Town

- Singapore's first eco-friendly public housing development (500 blocks)
- Design Principle: *Harness nature wherever possible*
- Test-bed of innovative techs, eg
 - solar energy systems
 - smart grids
 - green building technologies
 - water recycling
 - clean transportation



Thank you

