

PV Costs

Global Trends & Island Contexts

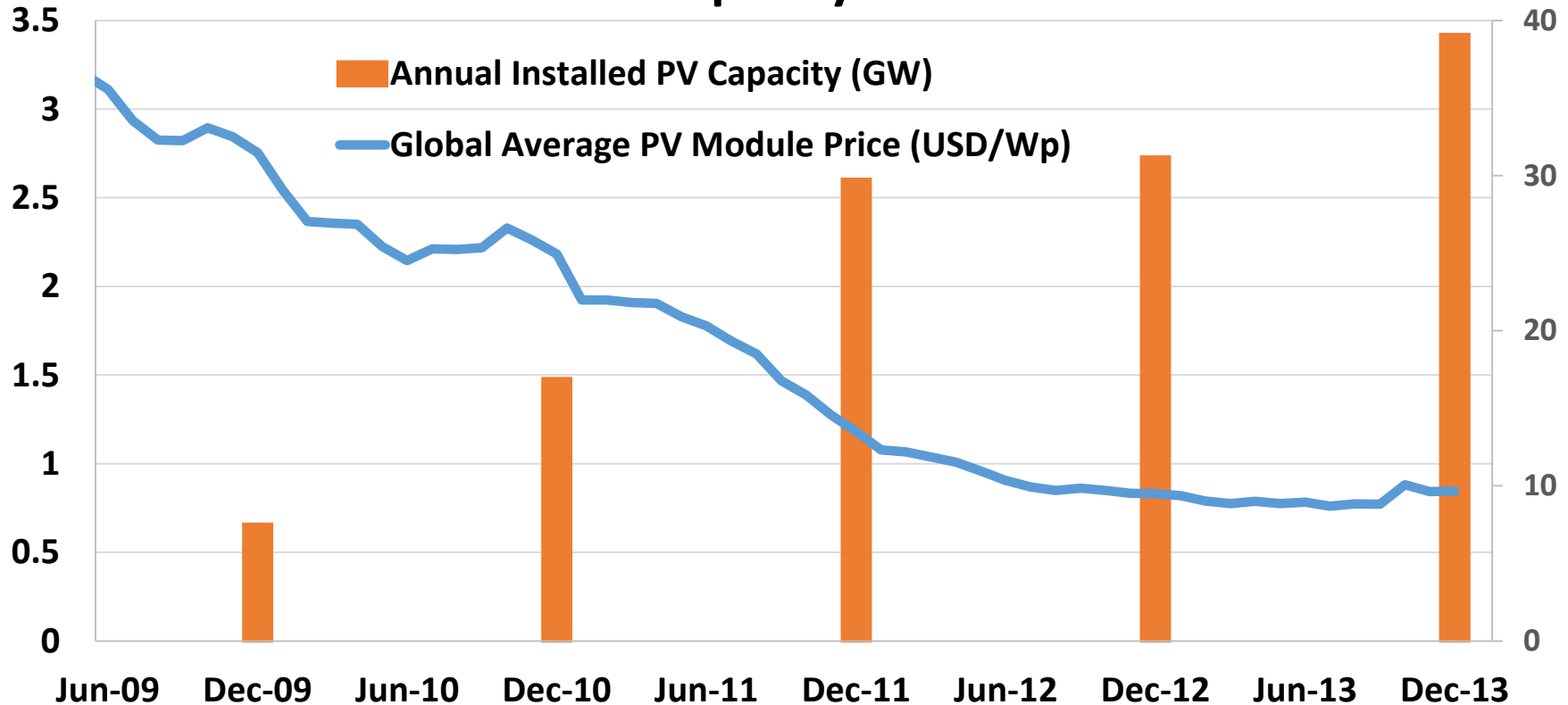


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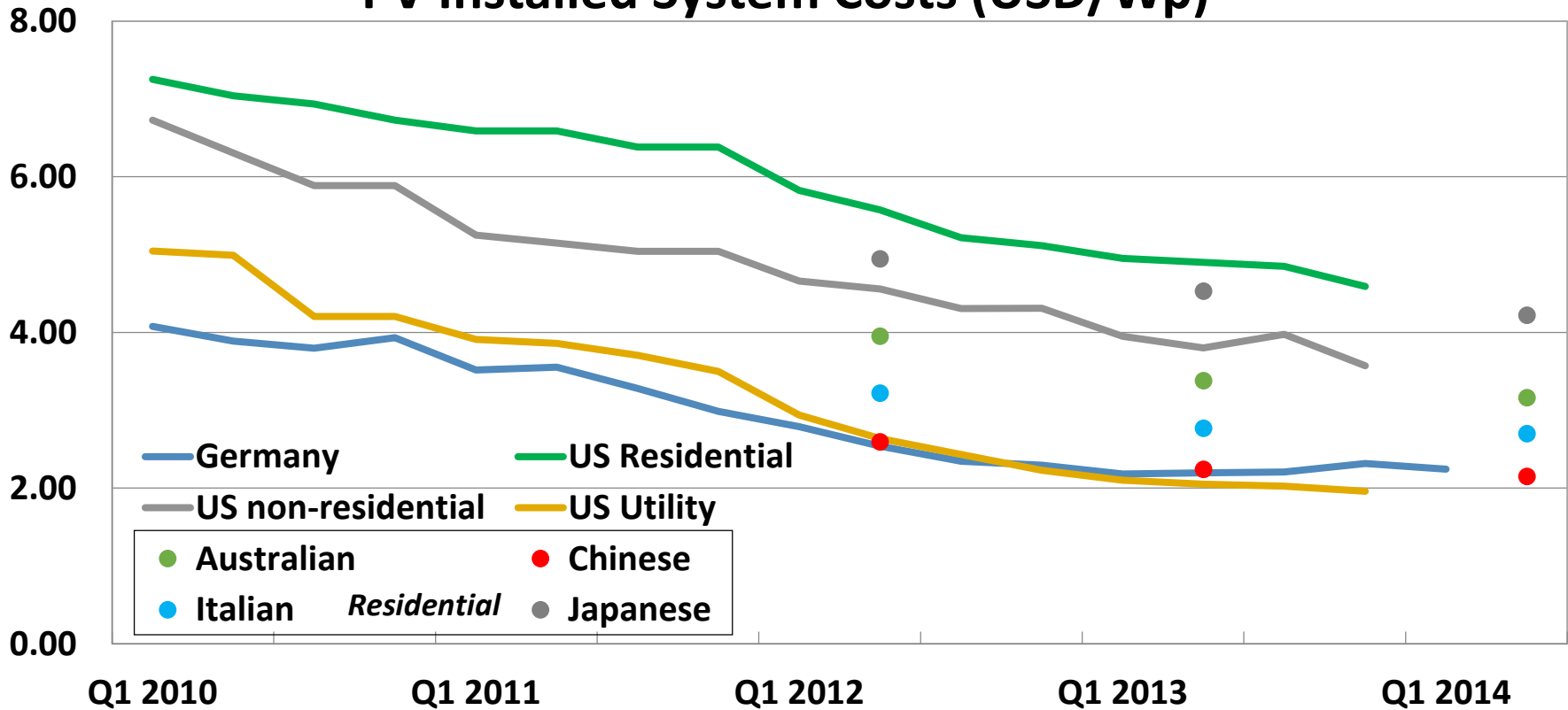
- PV reduces energy bills for island hotels & resorts
- Grid connected tourism facilities:
 - 100% offset of utility costs possible
- Remote off-grid hotels & resorts:
 - ~80-90% offset of diesel consumption possible
- Green marketing opportunity
 - Improved environment: minimizing air & water pollution

Global Installed Capacity & PV Module Prices



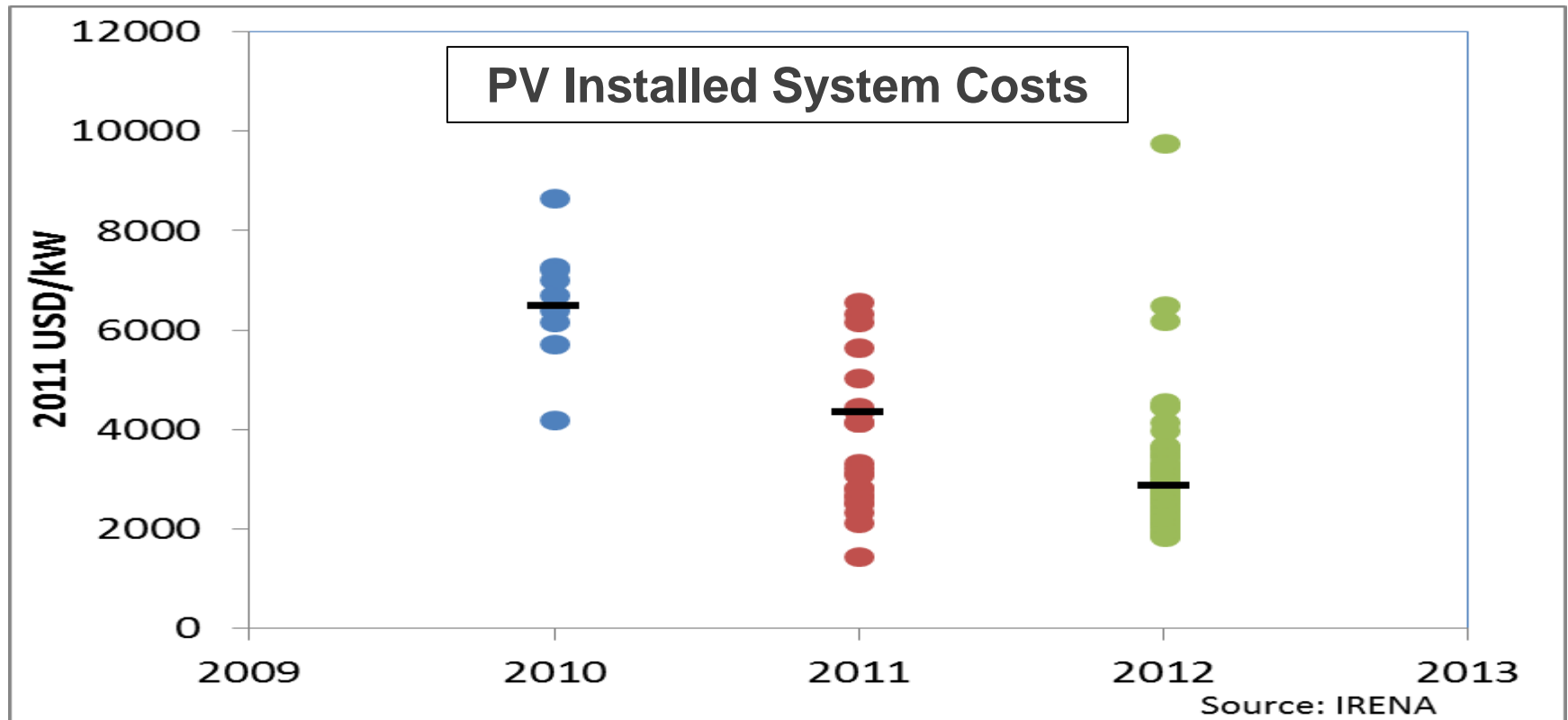
- *Mature technology*: **140 GW** installed capacity
- Current module price **below 1.00 USD/Wp**

PV Installed System Costs (USD/Wp)



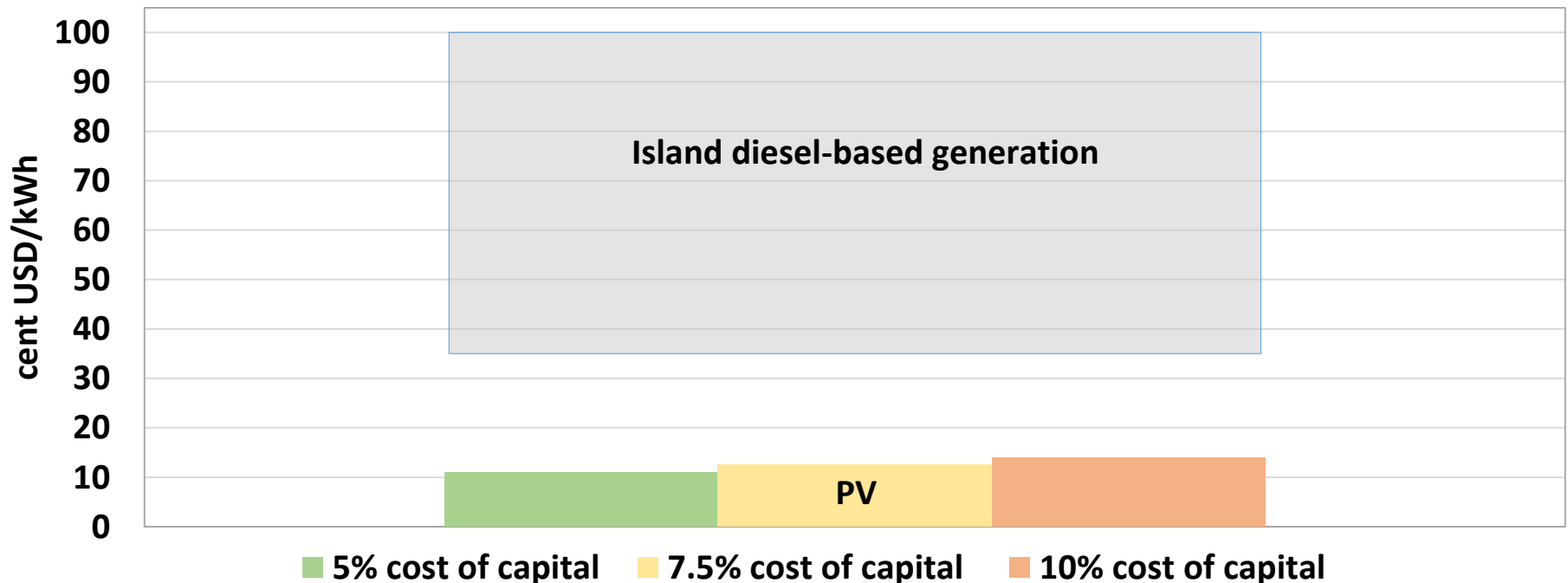
- Falling module prices are driving down PV system costs
- Installed system costs: **2.00 to 4.25 USD/Wp**

Non-OECD Context



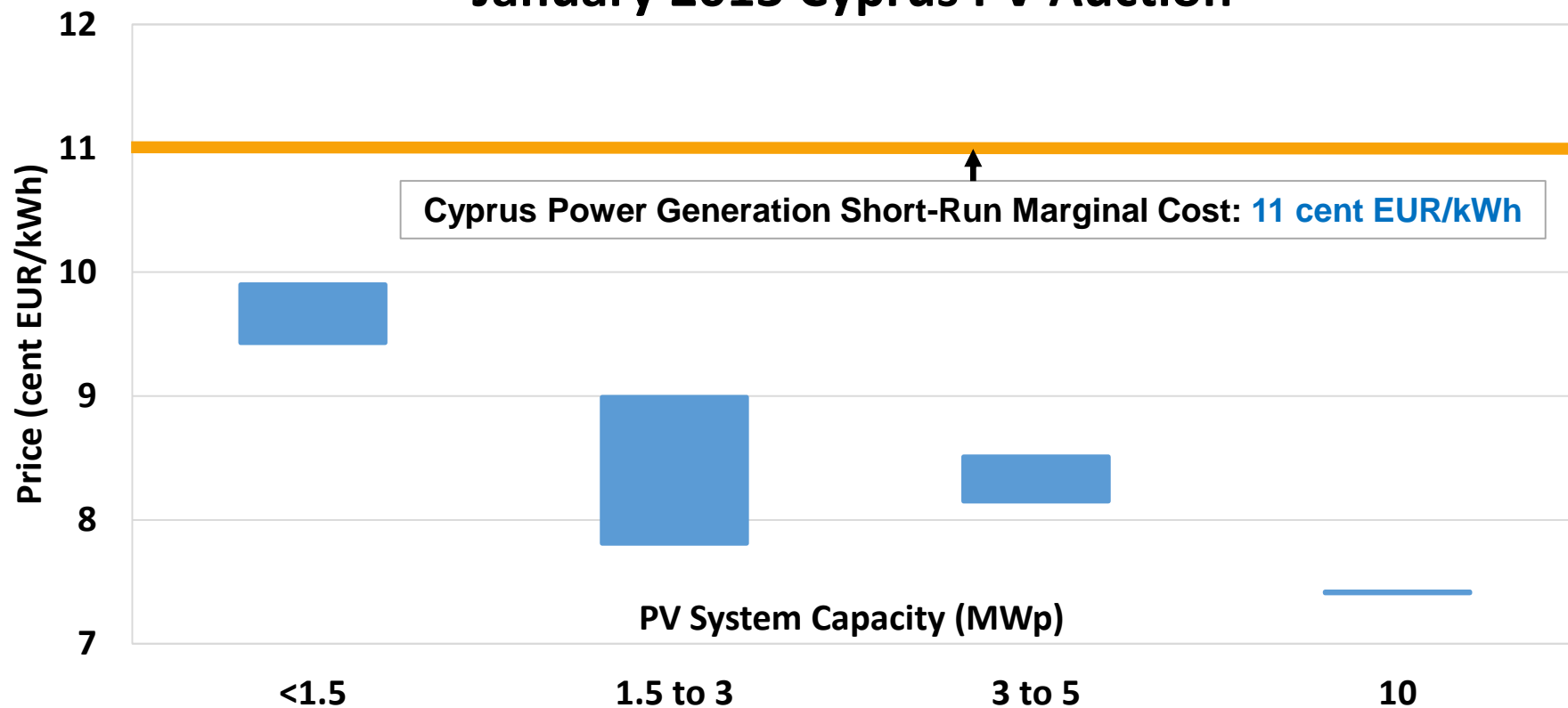
- Non-OECD PV system costs following global trends
- Current prices: **1.75 to 4.25 USD/Wp**

Levelized Cost of Electricity (LCOE): PV vs. Diesel



- Low PV LCOE creates savings opportunity on islands
- Significant savings also for off-grid resorts & hotels

January 2013 Cyprus PV Auction



- PV costs w/out subsidies: **7.5 to 10 cent EUR/kWh**
- Cyprus electricity tariff: **22 cent EUR/kWh**

- Grid connection allows simple low cost PV system
 - Sunshine: PV directly offsets electricity consumption
 - No sunshine: Grid supplies electricity as normal
 - No energy storage required
- Net metering policy: excess generation sold back to grid
 - Net metering: PV can offset 100%
 - No net metering: PV still offsets 20-30%

- Simple off-grid system directly offset fuel consumption
 - PV generation limited by diesel generator performance
- Off-grid high PV share required energy storage
 - Sunshine: PV offsets fuel consumption & stores energy
 - No sunshine: Energy storage supplies electricity
 - Advanced control system ensures reliable power supply
 - Energy storage costs limit PV share to ~ 80-90%

- Achieving PV savings requires **comprehensive planning**
 - Energy efficiency measures
 - Solar resource assessment
 - Analysis of grid or onsite generation
 - Analysis of hotel / resort demand
 - System design minimizing LCOE
 - Competitive international bidding process

- Global trends driving down PV costs on islands
- PV competitive on islands:
 - High diesel-based generation costs
- Achieving low PV system costs requires:
 - Comprehensive system planning
 - Competitive international bids
- Significant saving potential for island hotels & resorts

Thank You



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