Renewable Energy +

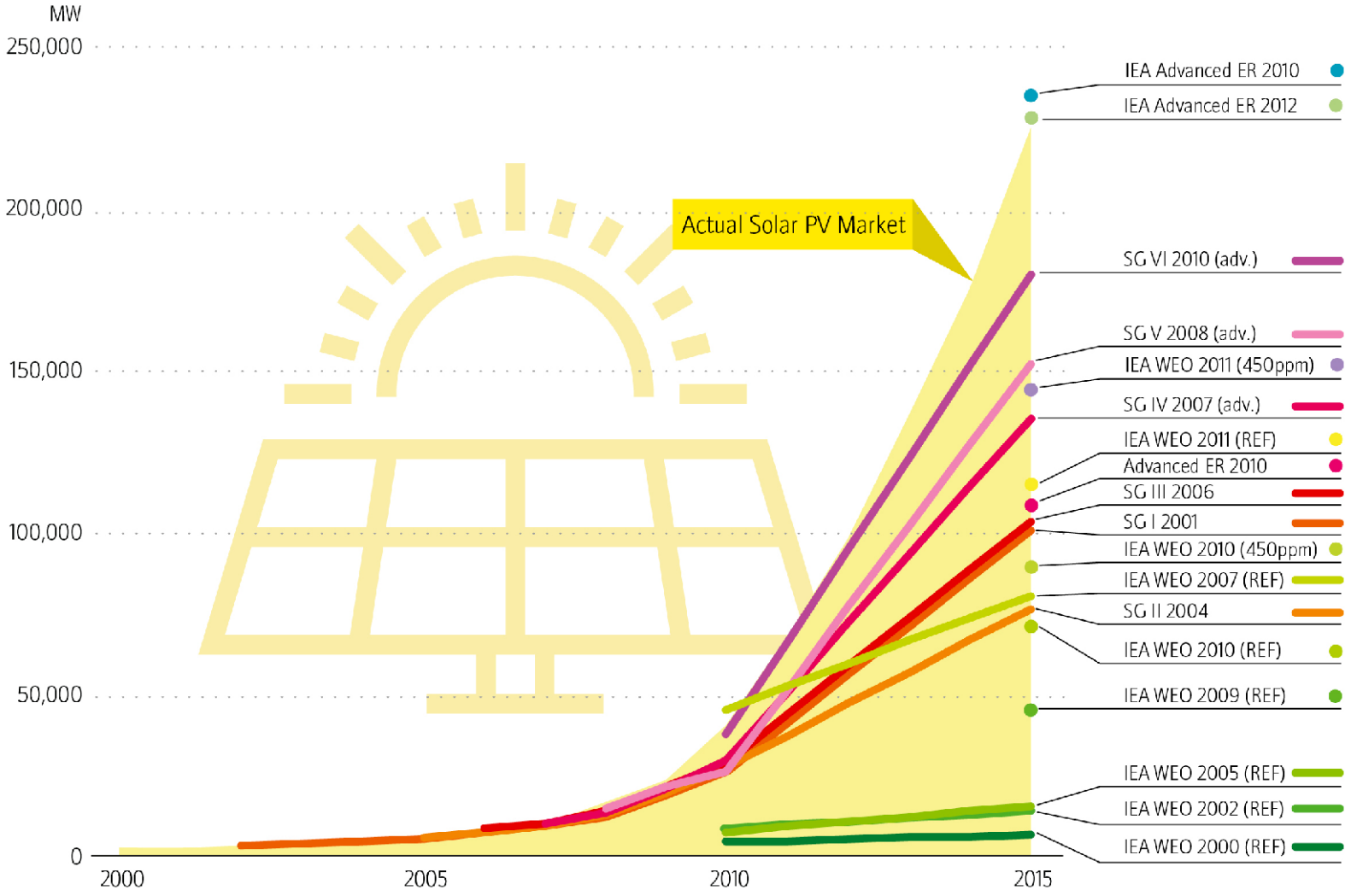
5th Arab-American Frontiers of Science, Engineering and Medicine Symposium

Asmae Khaldoun
Al Akhawayn University

Andrej Lenert
University of Michigan

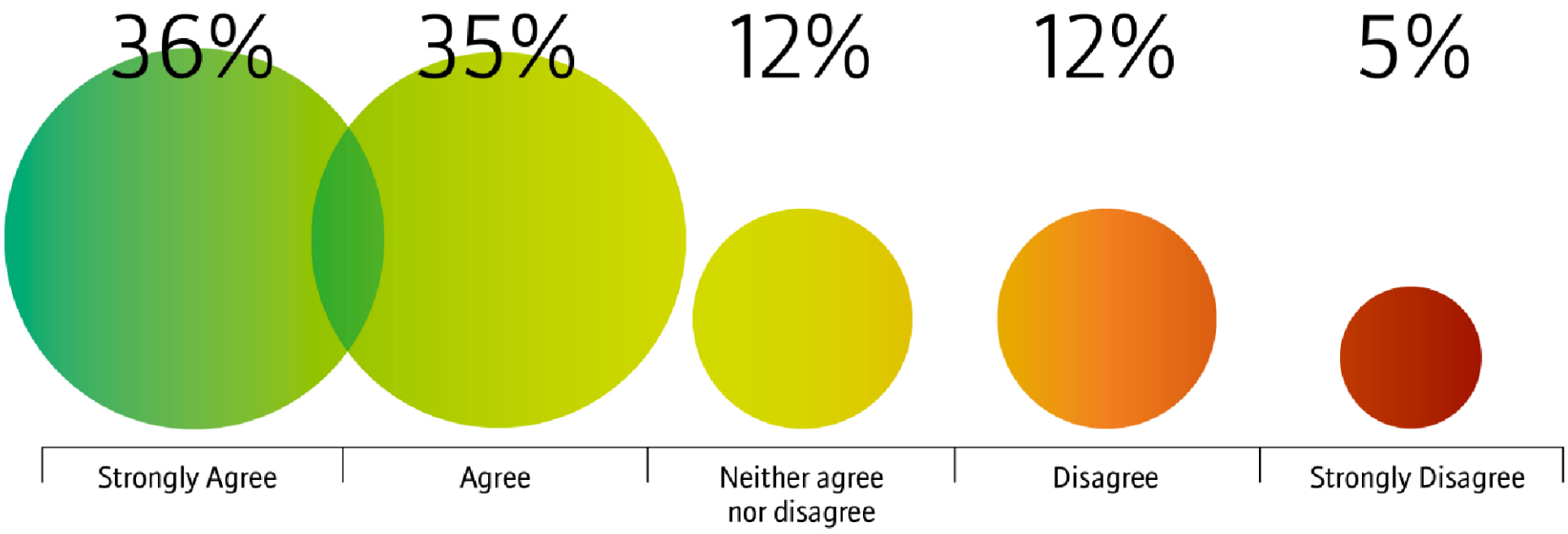

Smart cities
Water
RE+
Smart Agriculture
Health

Solar photovoltaic projections versus real market developments



(Source: REN21)

Is the transition to 100% renewables on a global level feasible and realistic?

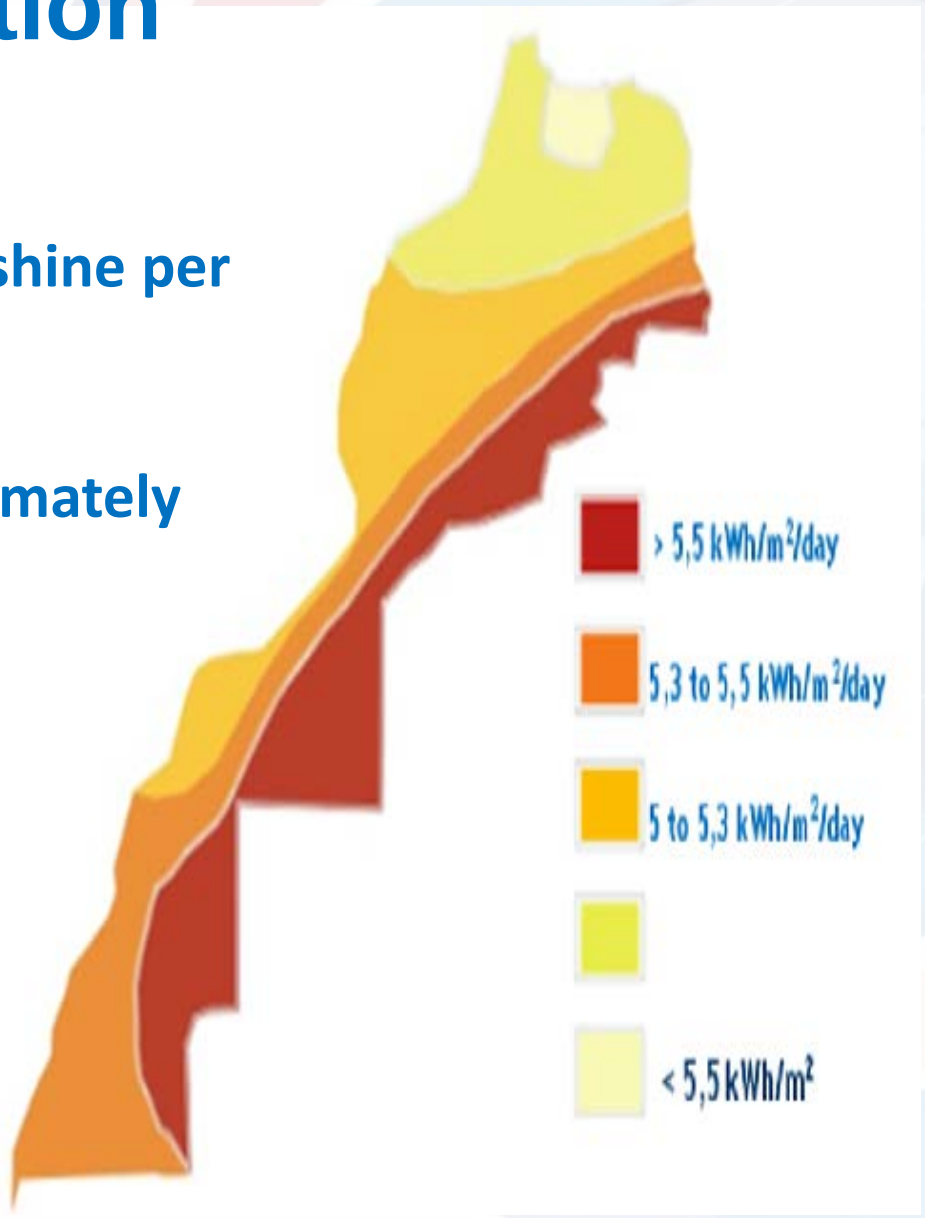


(Source: REN21)

RE

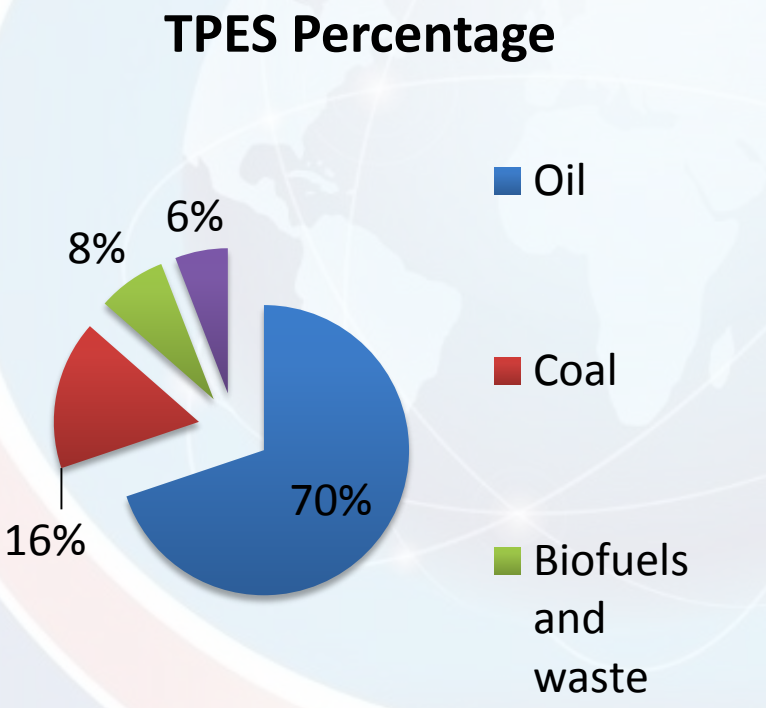
Morocco's solar energy situation

- An average of 3000 hours of sunshine per year
- A daily solar radiation of approximately 5.5 kWh/m2/day.



Morocco's Total Primary Energy Supply

- Growing rate of energy demand reached **7%/year**
- Dependence of Morocco on foreign energy
  - The import of more than **92%**
- Future projections
  - Renewable energies
    - Solar energy
    - Wind energy
    - Hydro energy
    - Bioenergy



NOOR Projects

Plant	Technology	Capacity	Surface	Storage
NOORo I	CSP Parabolic Trough	160 MW	480 ha	3 Hours
NOORo II	CSP Parabolic Trough	200 MW	680 ha	7-8 hours
NOORo III	CSP Tower	150 MW	750 ha	7-8 hours
NOORo IV	PV	50 MW	140 ha	-

Badr Ikken

Chief Executive Officer

Research Institute for Solar Energy and New Energies (IRESEN)