



Transitioning the Electricity Sector

Next-generation wind and solar power - From cost to value

EU Energy Day

17 January, Abu Dhabi

Simon Müller
Head of Unit
System Integration of Renewables Unit

Factoring in value



← **Less useful:**
Lower value

More useful:
Higher value →



The value of electricity for the power system depends on where, when and how it is generated.

	Low value electricity	High value electricity
When	When electricity is abundant	When electricity is most needed
Where	Far away from demand	Close to demand
How	No additional system services	Provides additional services for system

Next Generation Wind and Solar Power



■ New phase of wind and solar deployment:

- Low-cost
- Technologically mature

■ Requires new policies to achieve integration:

- Focus on generation cost no longer enough
- Policies need to consider system-wide impact

■ Case studies with specific recommendations:

- Brazil, China, Indonesia, Mexico, South Africa



Key point:

Next-generation wind and solar PV need 'next-generation policies' focusing on system value and not just costs.

Increasing system value of wind and solar

Action area

Policy example



Integrated planning: wind and solar embedded in energy strategy



Denmark: integrated energy strategy



Location: siting VRE closer to existing network capacity and/or load centers



Location: new auction design for wind and PV



Technology mix: balanced mix of VRE resources can foster lasting synergies



Technology mix: Integrated Resource Plan



Optimising generation time profile: design of wind and solar PV plants



California: incentive to produce at peak times



24/7

System services: wind and sun contribute to balance system



System services: wind active on balancing market



Local integration with other resources such as demand-side response, storage



Australia: incentives for self-consumption

Thanks

simon.mueller@iea.org