International Energy Agency

The transformation of the energy system

Input for panel discussion

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Technology Challenges and Regional Approaches for integrating Renewables and Energy Security, 27/28 May 2015

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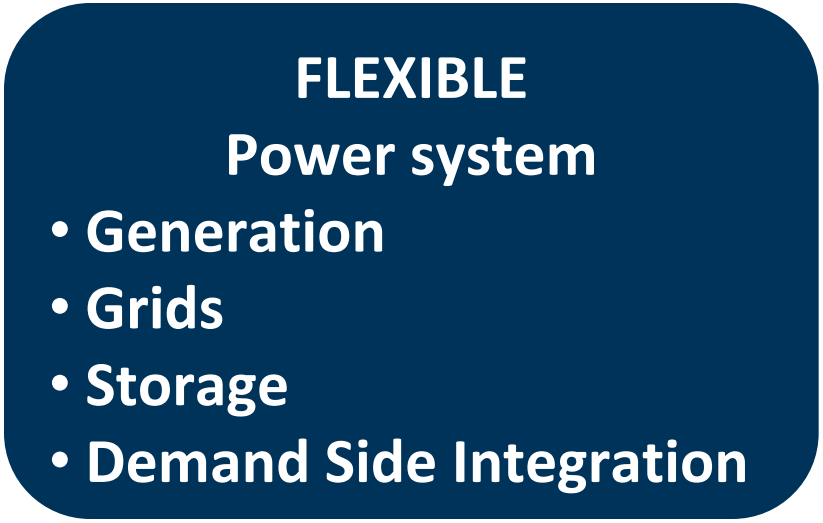
Integration vs. transformation

- **Classical view: VRE are integrated into the rest**

- **More accurate view: entire system is re-optimised**



→ **Integration is actually about transformation**

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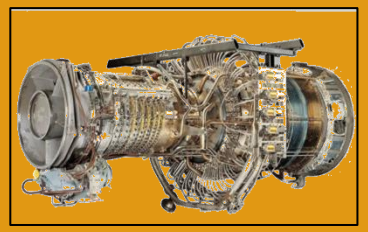
Three pillars of system transformation

Technology spread

Geographic spread

Design of power plants

System friendly VRE



Investments

Operations

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Scope of today's presentations

Optimisation of grid based system , cross sectoral integration

- Marco Nicolosi
- Hans-Martin Henning
- Brian Vad Mathiesen
- Wout de Groot

Interface between different system scales

- Mike Hogan
- Michael Kranhold

Optimisation for residential scale across sectors

- Colin Calder
- Michael Arndt

- Future mix of technologies
- Market, policy and regulatory frameworks
- Actors, institutions and arrangements

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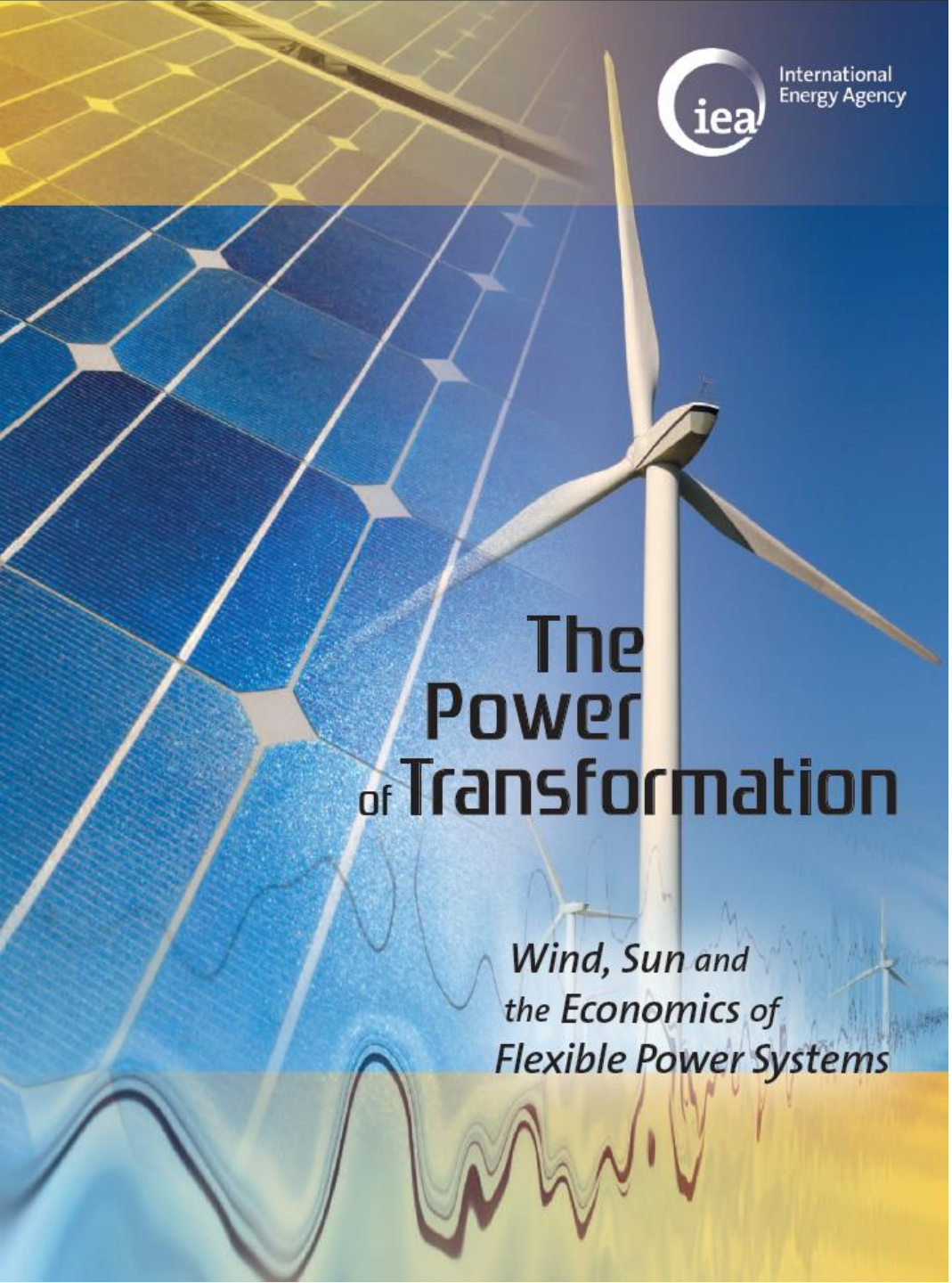

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