The role of electricity in transforming the global energy system

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A transformation is needed... and we to have the tools to develop a strategy and be proactive.
Harnessing electricity’s potential

Global energy demand

Increasing electricity consumption and share of overall energy usage— for ALL forward-looking scenarios
Electricity dominates the energy system

The 2DS pathway disconnects primary energy used in generation from emissions
Electricity generation: a share reversal

- **Generation today:**
  - Fossil fuels: 68%
  - Renewables: 20%

- **Generation 2DS 2050:**
  - Renewables: 65%
  - Fossil fuels: 20%
Stable and Dynamic Systems

Stable Power Systems
• Slow demand growth*
• Little general investment needed short term

Dynamic Power Systems
• Dynamic demand growth*
• Large general investment needed short term

* Compound annual average growth rate 2012-20, slow <2%, dynamic ≥2%; region average used where country data unavailable
Going in the wrong direction globally

Unabated coal use in electricity generation is incompatible with 2DS objectives
Despite major efforts, fossil fuel subsidies remain a big problem.

Fossil fuel subsidies decreased to $548 billion in 2013, $25 billion down from 2012. Still, they were almost five times the value of subsidies to renewable energy.
The 21st century electricity system

A sustainable electricity system is a smarter, multidirectional and integrated energy system that requires long-term planning for services delivery.
Thank you