Tracking Clean Energy Progress

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The political will to make meaningful progress at a global scale has yet to be demonstrated
Tracking short-term actions for long-term goals

All technologies are needed to transform the global energy system

End-use fuel and electricity efficiency 38%
CCS 14%
End-use fuel switching 9%
Renewables 30%
Power generation efficiency and fuel switching 2%
Reaching the goal is cost-effective

USD 44 trillion additional cost of decarbonising the energy system is offset by over USD 115 trillion in fuel savings
Not on track

- Renewable power
  - Nuclear power
  - Gas-fired power
  - Coal-fired power
  - Carbon capture and storage

- Industry
  - Transport
  - Biofuels
  - Electric and Hybrid electric vehicles
  - Buildings

- Smart grids
  - Co-generation and district heating and cooling
Emerging economies step up clean energy ambition, but momentum stalls in OECD countries
...but coal use is also rising

Unabated coal use in electricity generation is incompatible with 2DS objectives
Efficiency and the need to curb energy demand in buildings...

Despite a recent contraction in the building industry in several countries — energy consumption continues to rise
Energy intensity is falling, but increased production has offset efficiency improvements.
... And mobility

Fuel economy solutions on ICEs can deliver the largest fuel savings in the short term.
Harnessing Electricity’s Potential

Global Electricity demand

2011 66EJ
- Electricity: 17%
- Other: 83%

2050 6DS 150EJ
- Electricity: 23%
- Other: 77%

2050 2DS 119EJ
- Electricity: 26%
- Other: 74%

Increasing electricity consumption and share of overall energy usage demands our attention – for ALL forward-looking scenarios
A sustainable electricity system is a smarter, multidirectional and integrated energy system that requires long-term planning for services delivery.