Impact of low oil prices on investment

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Oil market rebalancing

- Implied OPEC spare capacity
- World demand growth
- World supply capacity growth

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Fossil fuel consumption subsidies

Billion dollars (2012)

- Electricity
- Coal
- Natural gas
- Oil

Countries:
- Iran
- Saudi Arabia
- Russia
- India
- Venezuela
- China
- Indonesia
- Egypt
- UAE
- Iraq
- Mexico
- Algeria
- Pakistan
- Uzbekistan
- Argentina
- Kuwait
- Ukraine
- Thailand
- Malaysia
- Qatar
- Bangladesh
- Turkmenistan
- Kazakhstan
- Ecuador
- Nigeria
Global capacity growth cut to annual average 860 kb/d through 2020, down from 1.4 mb/d in 2008-14
Strong Asian demand will support global LNG trade
Oil production to 2040

Oil production growth in United States, Canada, Brazil & the Middle East

Increase to 2040: 14 mb/d

Middle East

Brazil

Canada

United States

Net decline in output from other producers
Cost effectiveness of renewable energy

Source: IRENA. Options are evaluated at a weighted average capital cost of between 7.5% and 10%.
Renewable investment costs falling

Weighted average annual renewable investment costs, historical and projected

- With scale up of deployment and learning, investment costs of most dynamic technologies (solar PV and onshore wind) continue to fall

Notes: Average unit investment costs are based on gross additions, which include capacity refurbishments that are typically lower cost than new capacity. Costs vary over time due to technology changes as well as where deployment occurs in a given year.
Cost effectiveness of renewable electricity

Long-run remuneration of recent RE projects (e.g. auctions and FITs)

- Transition to new cost competitive era for renewables where good resource and appropriate policy and regulatory framework are in place.
Cost effectiveness of renewable heating

![Graph showing cost effectiveness of renewable heating sources]

- Oil
- Electricity
- Gas
- Solar district heating (C Europe)
- Solar water and space heating
- Solar water pumped (C and N Europe)
- Solar water thermosiphon (S Europe)
- Solar water thermosiphon (China)
- Geothermal district heating
- Solid biomass commercial (100-1500kW)
- Solid biomass domestic (1-10kW)

USD/MWh<sub>th</sub>
Oil and biofuel feedstock costs