International Energy Agency
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World Energy Outlook 2015

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The impact of INDCs on the energy sector

IEA Day, 3rd December 2015

Climate pledges for COP21 – the energy context

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- **Energy production and use accounts for at least two-thirds of global greenhouse gas emissions**
- **But what do the INDCs say about energy?**
  - *All cover energy-related emissions, but the role of the energy sector vis-à-vis non-energy emissions is not always clear*
  - *Around half include explicit energy-focused targets, but the nature of these targets can vary significantly*
  - *Around 40% refer to greater renewables deployment and 30% to improved energy efficiency*
- **Perhaps the most important thing…**

…the global coverage of climate pledges is impressive

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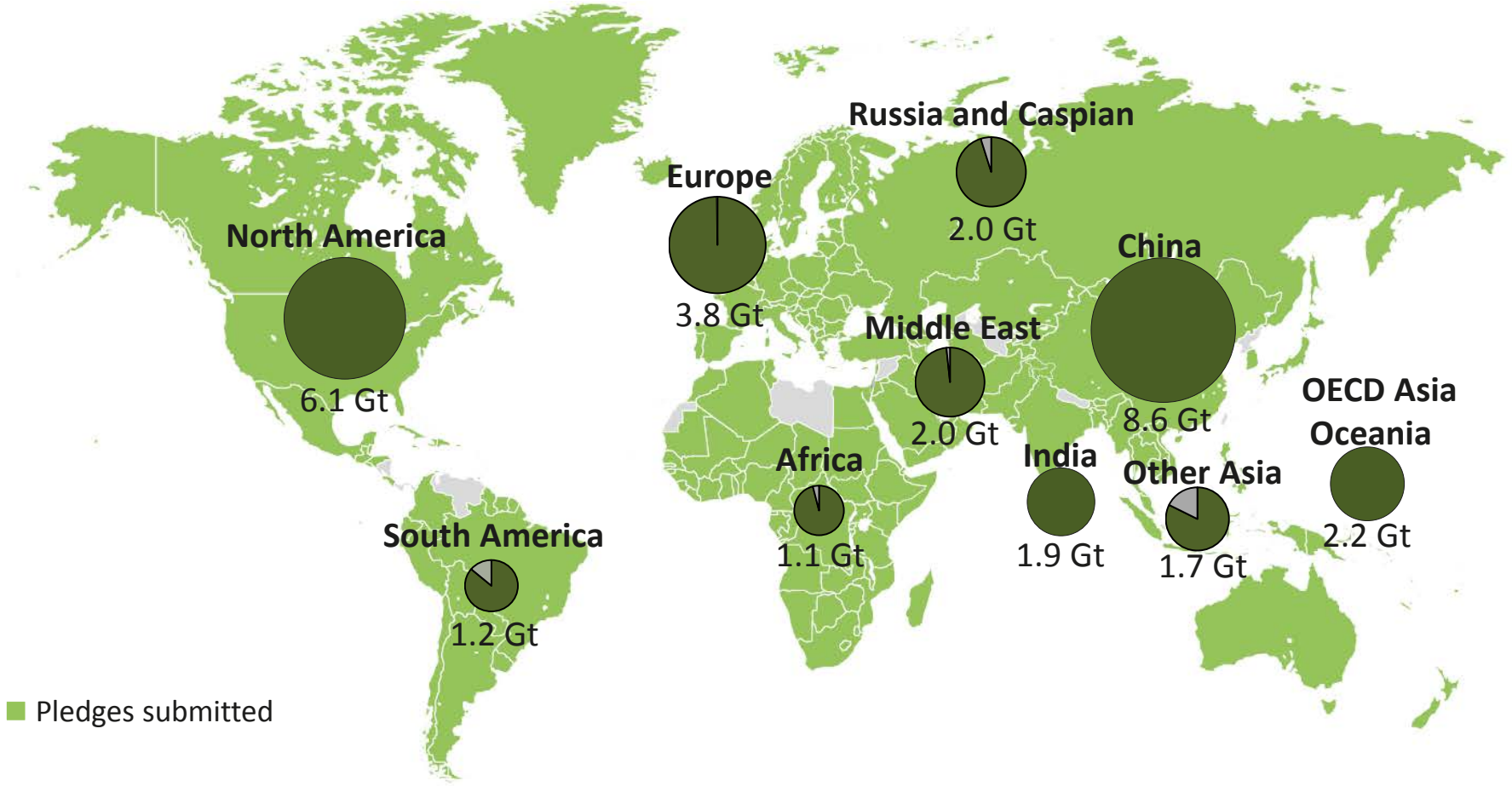

Pledges from countries that account for 95% of global energy-related GHG emissions; their full implementation would be consistent with a temperature rise of 2.7 °C

Energy sector starts to go its own way

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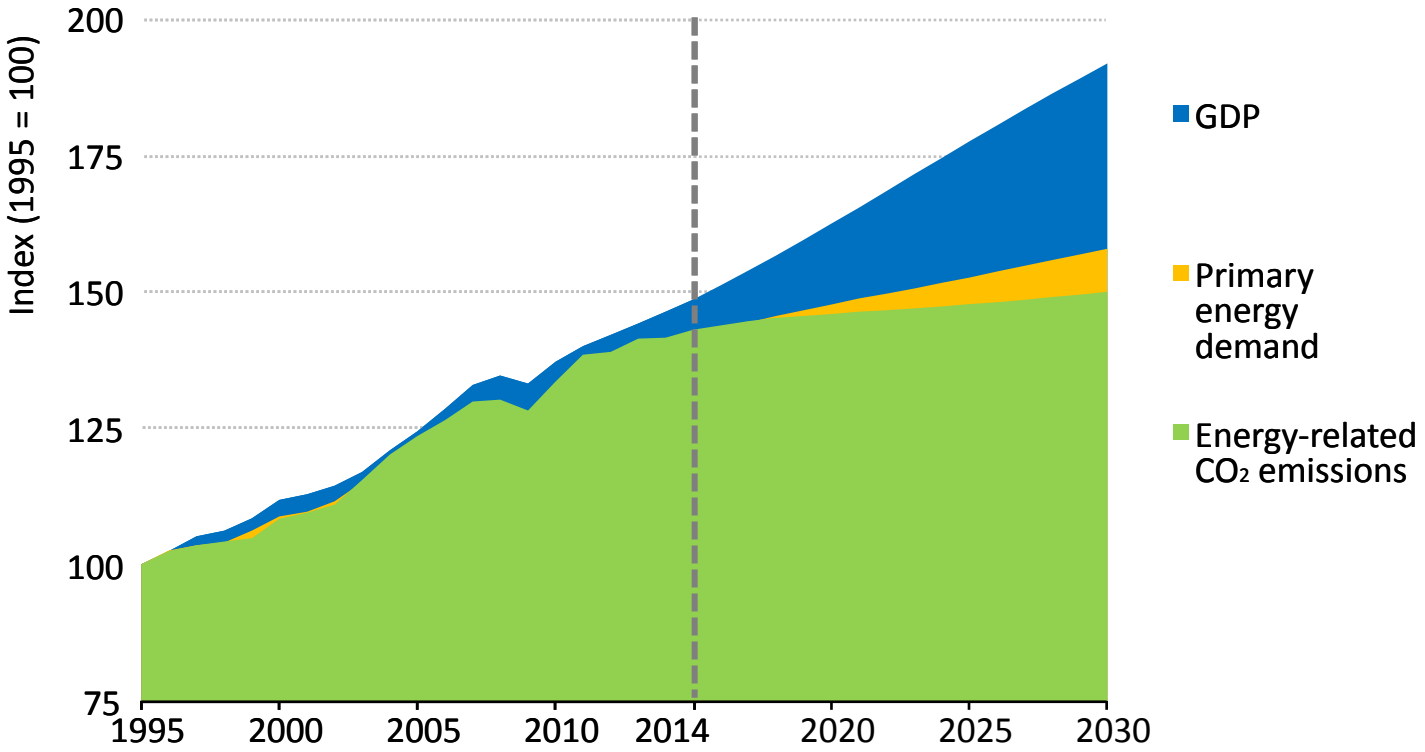
Growth in the global economy, primary energy demand and related CO_2 emissions



Growth in energy demand and emissions has tracked economic growth closely but decouples over time, with emissions growth slowing to a crawl by 2030

Largest source of emissions makes the cleanest break with the past

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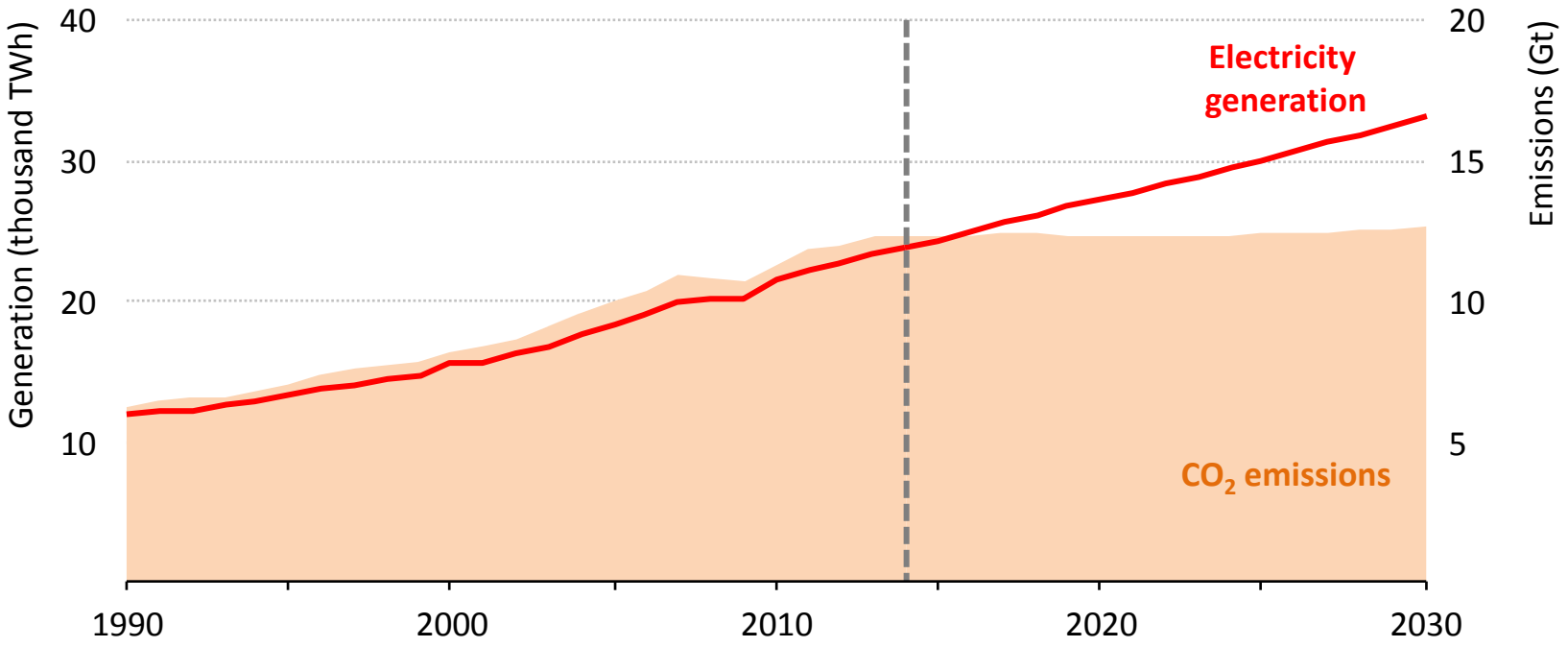
World electricity generation and related CO_2 emissions



Electricity demand grows by about 40% to 2030, but increasing share of low-carbon generation means that power sector emissions remain flat

The shift to lower carbon energy is clear

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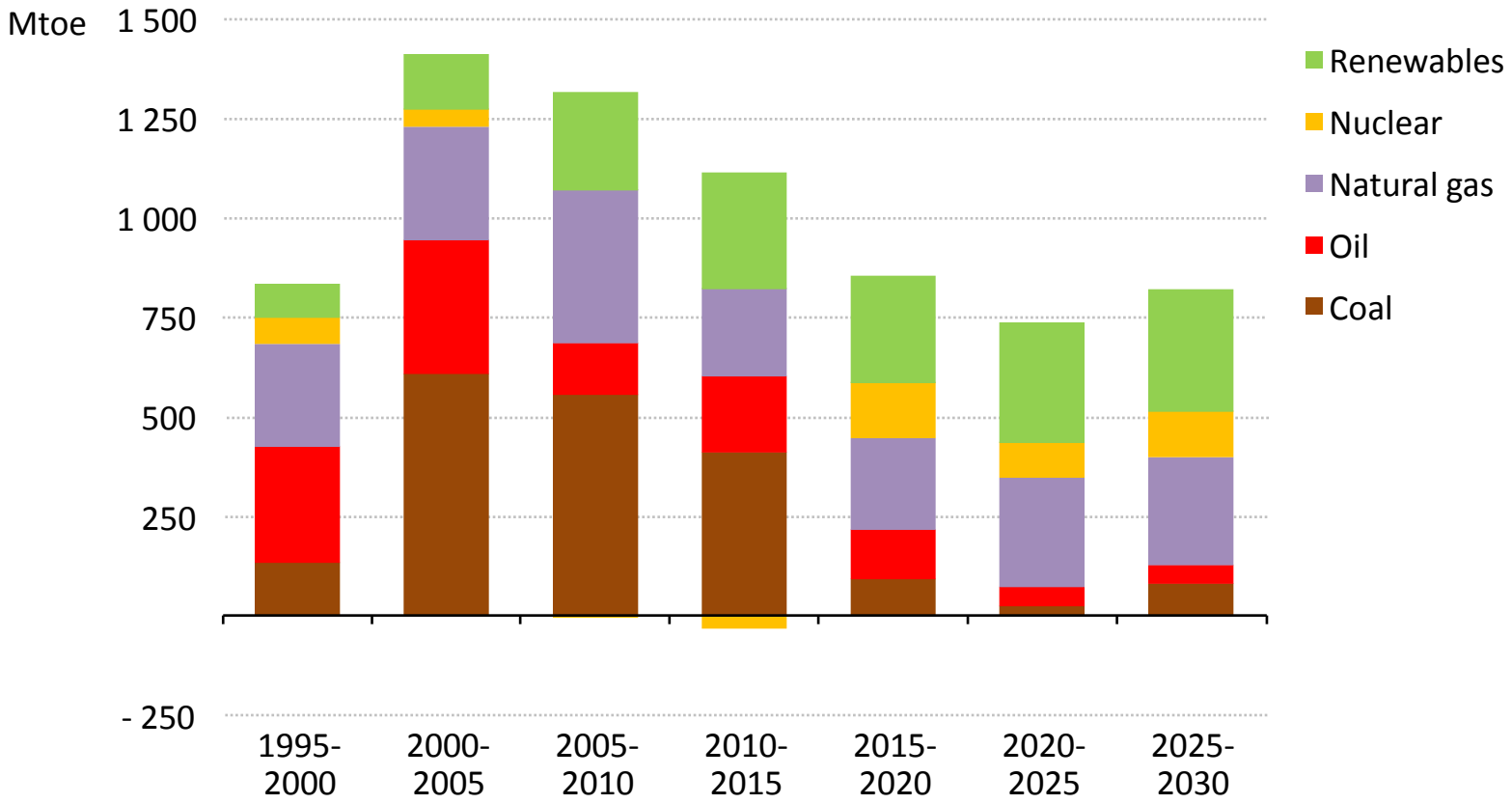
Growth in primary energy demand by fuel



One quarter of the world's total energy supply is low-carbon in 2030; natural gas is the only fossil-fuel that increases its share of the global energy mix

Emissions burden continues to move over time

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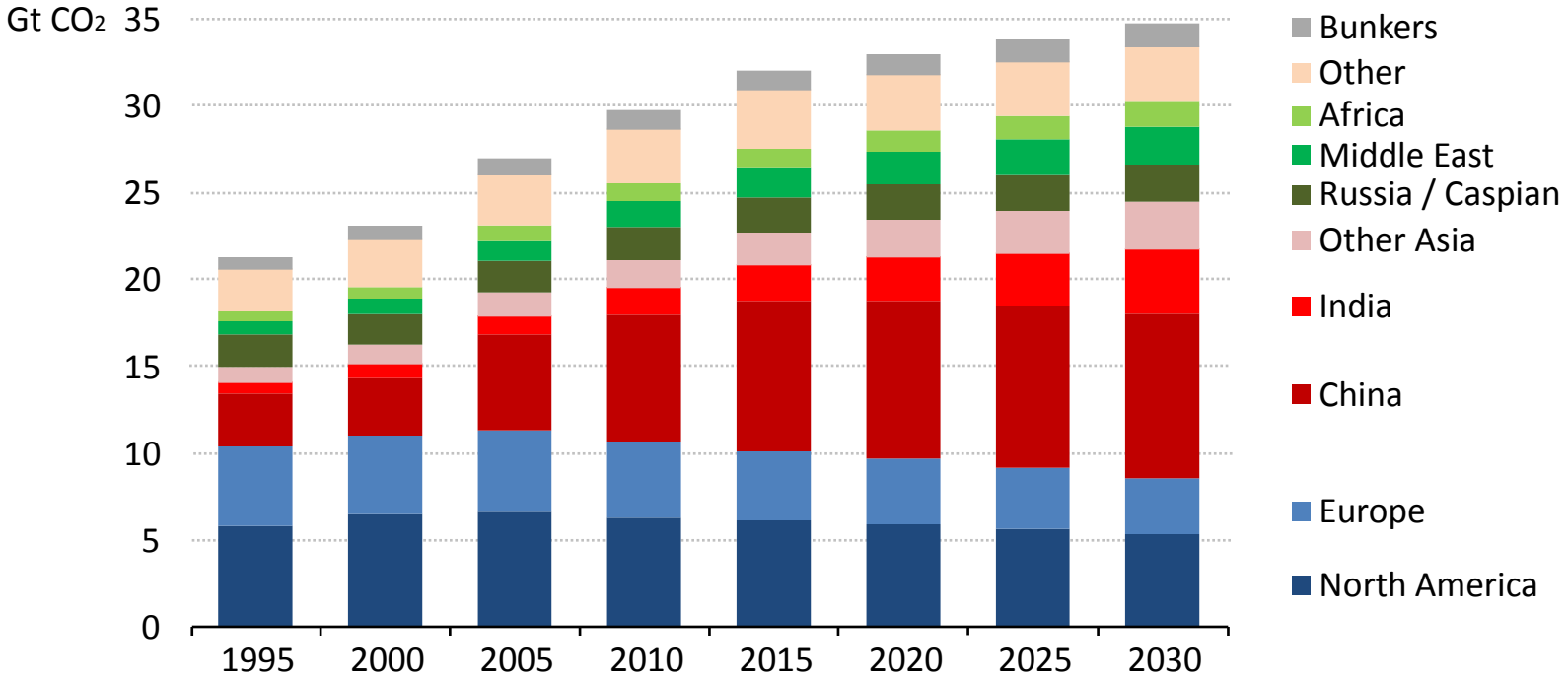
Energy-related CO_2 emissions by region



Countries accounting for more than half of global economic activity see their energy-related GHG emissions plateau or be in decline by 2030

Climate pledges need major investment

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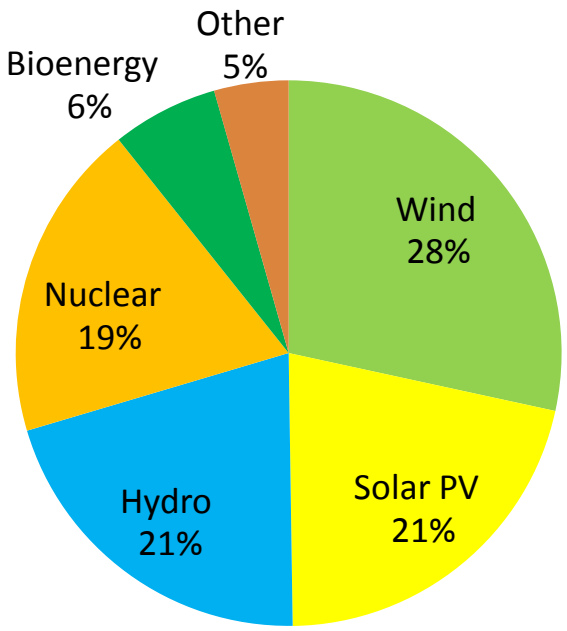
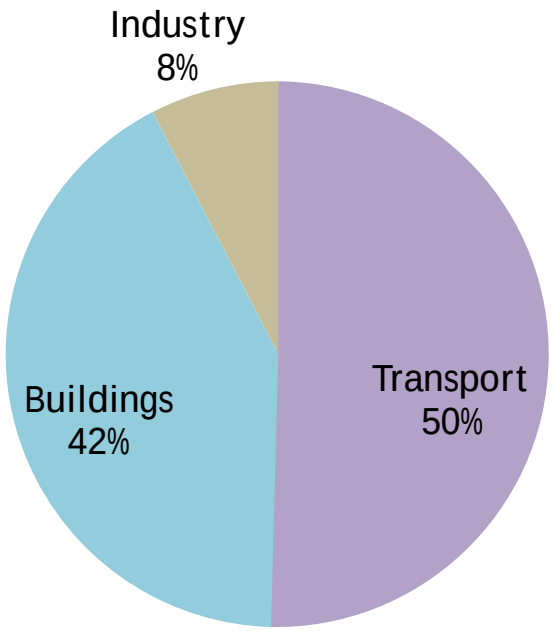
Cumulative energy investment, 2015-2030

Low-carbon power generation
$4.9 trillion



End-use energy efficiency
$5.2 trillion



Climate pledges require the energy sector to invest trillions in energy efficiency and low-carbon technologies; a major scale-up of energy RD&D is also needed

IEA Ministers issue statement on energy and climate change

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- **IEA's 29 member countries issue a collective statement stating that they:**
  - *Welcome INDCs and endorse IEA view that INDCs should be a first step upon which to build ever-increasing ambition.*
  - *Welcome the IEA's five key opportunities to reduce energy sector emissions:*
    1. ***Increasing energy efficiency in industry, buildings and transport***
    2. ***Phasing out the use of least efficient coal fired power plants***
    3. ***Increasing investment in renewables, including hydro***
    4. ***Gradual phasing out of inefficient fossil fuel subsidies***
    5. ***Reducing methane emissions from oil and gas production***
  - *Call on the IEA to: advise how to enhance the environmental sustainability of the energy sector (including the reduction of local pollution), expand tracking of the energy sector transformation and increase international collaboration.*

IEA Day: Analysis for COP21 and beyond

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10:45-12:30	**Five key actions to peak global energy emissions, led by energy efficiency and renewables**
12:45-14:15	**Accelerating energy technology innovation to make decarbonisation cheaper and easier**
14:30-16:00	**Using the Paris agreement to drive short-term actions consistent with long-term emission goals**
16:15-17:45	**Enhancing energy security by making the energy system more resilient to climate change impacts**
18:00-19:00	**Networking reception**

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