

WEI 2016 – FACT SHEET

- Energy investment in the global economy totalled **USD 1 830 billion** in 2015, down 8% from the previous year, mostly because of cuts in upstream oil and gas spending as well as declining costs across the energy sector. Energy supply spending was at its lowest level since 2010.
- Fossil fuels (including supply and power generation) still account for **55%** of 2015 global energy investment, but the share declined from **61%** in 2014. The share of renewables increased from 16% to 17%, networks from 12% to 14% and efficiency investments met 12% of the total in 2015, up from 10% in 2014.
- China's investment in energy supply amounted to **USD 315 billion** in 2015, once again bypassing the United States as the world's largest energy investor, as it continued to invest in its power sector. In the United States, energy supply spending fell to about **USD 280 billion**, because of declining investments in oil and gas exploration.
- The upstream oil and gas sector remained the biggest energy investment category in 2015, with spending of **USD 583 billion**. Spending fell by 25% in 2015, and a further 24% drop is estimated for 2016, the first two-year drop in 30 years. But fast-declining costs accounted for about two-thirds of the over \$300 billion drop in investment between 2014 and 2016. Upstream spending is seen to remain stable or decline slightly in 2017. Three years of decline in a row have never before happened.
- With lower exploration costs, the Middle East and Russia represent the most resilient regions. The share of national oil companies reached 44% of global upstream investment, an all-time high, while North American shale and other high-development costs areas such as offshore have seen the biggest reductions. Still, North America remains the largest investor in 2016, although at **USD 138 billion**, its upstream investments are less than half of those in 2014.
- Electricity generation spending reached **USD 420 billion**, with renewables accounting for the about 70% of the total, or **USD 288 billion**. Gas generation investment plummeted by 40% to USD 31 billion, while coal investment rose by nearly a quarter to USD 78 billion, largely due to China. The vast majority of electricity investments occurred under business models of fully regulated revenues or mechanisms (e.g. power purchase agreements) to manage revenue risk. Only 5% of power generation investment was based solely on competitive wholesale market pricing.
- Spending on all renewable energy sources, including biofuels for transport and solar thermal heat installations, totalled **USD 313 billion**, as part of a broad reorientation in investment toward low-carbon energy sources. Between 2011 and 2015, renewable power capacity spending was relatively flat, but investment yielded 40% greater capacity additions and generates a third more power thanks to better and cheaper wind and solar technology and deployment in markets with better resources.
- China was the largest destination of renewables-based power capacity investment, reaching more than **USD 90 billion** or over 60% of its total investment in generation in 2015. For the first time, Chinese investment in wind overtook hydropower. China is also the world's largest investor in solar thermal heating installations (USD 15 billion). In 2015, China invested nearly **USD 45 billion** in fossil fuel power generation, mostly coal, and brought 52 GW of coal capacity online. China accounted for most of the new nuclear construction starts in 2015 and was also the biggest spender on energy efficient passenger vehicles.
- Renewable power investment in the European Union reached **USD 55 billion**, or over 85 percent of Europe's generation investments, with wind accounting for over one half. In the United States, renewable electricity investment, at near **USD 40 billion**, comprised almost 90% of generation investment. Renewables spending also remained robust in Japan, Brazil and India in 2015.

- Electricity networks investment grew to over **USD 260 billion** in 2015, a 14% increase from 2014. Some 55% of spending on transmission and distribution was to meet new demand, 35% to upgrade ageing assets and 10% to integrate variable renewables. At USD 1 billion, grid-scale battery investment was ten times higher than in 2010 and was 10% of electricity storage investment, with the rest mostly from pumped hydro storage. China, the United States, the European Union and India were the largest investors in networks.
- Nuclear capacity additions, at over 10 GW, reached their highest level in over two decades, representing investment of **USD 21 billion**. China comprised most of this and most of the nearly 70 GW in construction globally.
- Energy efficiency investment reached **USD 221 billion**, representing 12% of total spending last year and an increase of 6% from the previous year. In the United States, the largest transportation fuel market, lower oil prices slowed the trend towards more fuel-efficient vehicles but new vehicles were nonetheless more efficient on average in 2015 than 2014. Similarly, in the United States, electric vehicle sales declined in 2014 but globally they reached the record level of 550 000, and continue growing in 2016, led by China and Europe.
- Efficiency is mitigating the impacts of rises in electricity prices in many countries, keeping overall bills down. For example, in countries like Germany and the UK where we have seen retail electricity prices increase by up to 50% since 2005, the price of lighting has not risen due to the deployment of efficient bulbs. Energy efficiency investment in the building sector, including appliances and lighting, was **USD 118 billion**.
- Investment in LNG liquefaction terminals peaked in the past two years with annual spending around **USD 35 billion**, thanks to conversion and completion of liquefaction plants in Australia and the United States. In 2016, LNG investments see spending plunge by 30% and in the absence of new final investment decisions, falling further in the coming years. Investment in coal supply reached **USD 68 billion**, its lowest level in more than a decade, following a decline in coal consumption in China and the United States.
- Power generation capacity coming online in 2015 would have a 420 kgCO₂/MWh average carbon intensity under normal operating patterns, a significant improvement from the 530 kgCO₂/MWh of the existing fleet, but still far from the 100 kgCO₂/MWh needed from operating plants in 2040 for the 2°C climate stabilisation target. The 2015 average carbon intensity of new power generation capacity did not beat the lowest level reached in 2014, largely due to more coal-fired capacity coming on line (mostly in China), offsetting the additional renewables.