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OIL PRICE PLUNGE AND CLEAN ENERGY – THE REAL IMPACT

The 45% fall in oil prices is being portrayed as a big blow to clean energy deployment. In fact, its impact will vary by sector and region, but will be modest in major electricity markets where renewables compete with gas and coal, and benefit from stable policy support

London and New York, 22 December – The collapse in world oil prices in the second half of 2014 will have only a moderate impact on the fast-developing low-carbon transition in the world electricity system, according to research firm Bloomberg New Energy Finance.

The past five years have seen an average of \$266bn per annum invested in clean energy worldwide. The majority of this has gone into renewable electricity generating capacity, which does not compete directly with oil. Wind and solar have been exhibiting very rapid growth, even as subsidies and support have in general become less generous, and that has been driven mainly by dramatic improvements to their cost-competitiveness, as well as by the removal of barriers such as grid bottlenecks.

The slump in the Brent crude price per barrel from \$112.36 on 30 June to \$61.60 on 22 December will nevertheless have an impact in various sectors and regions:

- If lower oil prices last, they are likely to slow the growth of the electric vehicle market, to some extent. Earlier Bloomberg New Energy Finance analysis showed that, with gasoline at \$2.09 per gallon, EV penetration in the US could reach 6% of the light-duty vehicle fleet by 2020, whereas with gasoline at \$3.34, the EV share could be 9%. The share is less than 1% now.
- In a number of oil-producing nations and many low-income developing countries, a significant proportion of electricity is produced by diesel generators and oil-burning power plants. With oil at \$100/barrel, the replacement of these generators or their hybridisation with renewables was just beginning to take off. While diesel and oil-based power is still uneconomic at \$60/barrel, the pressure to switch is reduced. There could be a question mark over Saudi Arabia's plan, announced in 2012, to invest \$109bn in 41GW of solar power by 2032. Saudi Arabia burns up to 900,000 barrels of oil per day to generate over 50% of its electricity.
- In the US, paradoxically, a lower oil price could nudge gas prices higher: shale oil production often produces associated gas; fewer rigs fracking for oil would have the effect of marginally reducing supplies of natural gas. Oil at \$60/barrel could mean a natural gas price as much as \$0.90/MMBtu higher than if oil was at \$100/barrel, according to Bloomberg New Energy Finance research. With wind and even solar power increasingly competitive with coal and natural gas without subsidies,

with many utilities needing to meet renewable portfolio standards, and with new EPA rules forcing coal plant retirements, the impact of lower oil prices on renewable energy in the US is expected to be insignificant.

- In Europe, natural gas prices are often indexed to oil, so a lower oil price will tend to push down the gas price, although the relationship is complex: spot gas prices in Europe started their fall several months earlier in 2014 than Brent crude. In any case, renewable energy roll-out in Europe is generally driven by specific targets and policy initiatives, so cheaper gas, combined with a carbon price that has increased 44% so far in 2014, is likely to reverse the recent surge in coal-fired generation. In the UK, for instance, DECC's Energy Trends, published last week, show coal-fired production down by 11.5TWh in Q3 2014 over the same quarter in 2013, a reduction of 43%, with gas gaining 8.0TWh and renewables 2.6TWh.
- Lower oil prices will challenge the biofuels sector, which competes directly with oil as a transport fuel. However, in the US there is a volumetric mandate that ethanol must make up 10% of gasoline, so that underpins demand at current levels. In Brazil, ethanol has been competing against subsidised gasoline that sells at the pump for the equivalent of \$65 per barrel, so the impact on ethanol from the oil price fall so far is likely to be small.

Ultimately, the impact of lower oil prices will depend on whether they are sustained. Some analysts expect a rapid recovery to \$100/barrel oil, because this is the price required in order to justify ongoing exploration for new resources, but there are grounds for thinking that lower prices may persist. Bloomberg New Energy Finance research shows that at \$75/barrel, as many as 19 US shale regions would be unprofitable. However, existing wells would not be shut as long as they cover their variable cost, which is much lower, often at around \$20 to \$30/barrel. Thus production is removed only as well output declines, which would take 1-2 years in the absence of new fracking activity in those regions.

Perhaps of greater significance, however, is the growing understanding that this year's slump in oil prices is more of a demand shock than a supply shock, driven by China's slowdown and reduced US dependence on imported oil.

Michael Liebreich, chairman of the advisory board at Bloomberg New Energy Finance, said: "The orthodox view of unlimited oil demand growth simply does not hold in a world of super-efficient engines, electric vehicles, desperate air pollution problems, and action on climate. The US economy has grown by 8.9% since 2007, while demand for finished petroleum products has dropped by 10.5%. Improvements in gas mileage and reductions in miles driven per person have had more impact on cutting US oil imports than unconventional production.

"The story should not be how falling oil prices will impact the shift to clean energy, it should be how the shift to clean energy is impacting the oil price."

Angus McCrone, senior analyst at Bloomberg New Energy Finance, said: "There is one other twist to the oil price effect. Cheaper crude should be a pick-me-up for consumer confidence and economic growth in oil-importing regions such as Europe, India, Japan and China. This could, in turn, push up power demand, reduce political angst about energy bills, and increase the scope for further investment in clean energy."

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