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ENERGY RESEARCH

Press Release

INCREASED CLIMATE ACTION NOW SEES GLOBAL EMISSIONS PEAKING AROUND 2030, BUT THIS IS STILL A FAR CRY FROM WHAT IS NEEDED TO LIMIT GLOBAL WARMING TO 2 DEGREES

- Net Zero pledges have now been made by countries responsible for 67% of global emissions
- As a result of climate action, oil demand is now expected to peak around 2030, whilst coal use is expected to decline more quickly as more countries shift their power systems away from coal towards renewables and gas
- The economic recovery from COVID is now expected to be faster than previously expected, putting upwards pressure on energy demand, particularly gas. Total energy demand is expected to grow 25% by 2050, whilst the global economy almost doubles in size over the same period

Aurora Energy Research, Europe's largest energy market analytics provider, has just announced the results of its 2021 Global Energy Markets report, which tracks developments in the global energy transition and their impacts on commodity markets. Key factors influencing the outlook include the predicted economic recovery from COVID lockdowns, and increased climate action and ambitions.

Rebound from COVID faster than expected

Economic activity is expected to rebound in 2021 following COVID lockdowns. During 2021 the global economy is expected to grow 5.5% (in real terms), with the UK and the US predicted to see 5.1% and 4.5% economic growth respectively. The economic bounceback is now expected to be more rapid than previously thought due to more optimism over the vaccine rollout.

Looking to the long term, the global economy is expected to near double in real terms between 2021 and 2050, mainly driven by rapid economic growth of emerging economies where GDP will grow threefold with rising median wealth and population. This economic growth leads to global primary energy demand rising by one-quarter over the next thirty years, with economic growth putting upwards pressure on gas demand in particular.

However, the share of fossil fuels in primary energy demand declines by 15 percentage points, to 71% by 2050, as renewable energy production picks up. Coal demand has almost returned to pre-pandemic levels – sooner than anticipated – and is now set to peak by the mid-2030s, before falling again as a result of climate policies.

Climate ambitions are ramping up ahead of COP26

As the world's nations prepare for the COP26 summit this November, there is a clear onus to demonstrate a tangible path to Net Zero – in line with Paris Agreement pledges. This year, countries have been requested to submit ambitious Nationally Determined Contributions with clear long-term strategies to net zero as early as possible ahead of the event. These will inform strategies to advance the goals of the event working together to deliver a step change in commitments, strengthening flexibility to meet impacts and enhancing collaboration.

Countries representing 67% of global carbon emissions have now set Net Zero targets, and these pledges are key in steering a significant change in the direction of worldwide energy consumption.

As a result of accelerating climate action over the past year, Aurora's energy market modelling now shows **global emissions peaking around 2030** before declining to 2050. The previous outlook saw emissions plateauing to 2050 with no discernible decline.

Key influencers in this change include the change in US presidency, which has led to the United States significantly shifting its stance on climate, mapping out a US$1.7 tn clean energy plan and expressing the need for a global effort to achieve Net Zero. The European Commission's European Climate Law, unveiled last year, legislates firmly for its political commitment to climate neutrality by 2050 creating the 'world's first climate neutral continent'. More recently, the UK has confirmed its commitment to cut emissions by 78% by 2035 in its recent sixth Carbon Budget, on the road to Net Zero by 2050.

Yet despite the rhetoric and increased ambition, there is a gap between long term targets and actual policies on the ground; and is it notable that 33% of today's global emissions are still not covered by Net Zero pledges. Aurora's Central scenario, which reflects current and stated energy policies, shows a peak in emissions in 2030 and then a slow decline – with emissions growing to 2050 in India, Africa and the Middle East, offset by declines in Europe, the US and China. This pathway is consistent with around 2.7 – 3.0 degrees of global warming. Emissions would need to fall 68% further in 2050 to be on track to stay within the 2 degrees Paris agreement target.

Gas demand remains strong, whilst climate ambitions bite into oil and coal demand

The combination of faster than expected economic recovery from COVID and tighter emissions policies have significant and varied impacts across global energy markets and commodity demand.

Aurora analysis shows that global gas demand will remain robust, spurred on by economic growth combined with climate action as many countries switch their power systems from coal towards renewables and gas. Gas demand is predicted to rise steadily by 39% in the period to 2050 – led by Asia which, due to its switch away from coal, accounts for 60% of the increase. Western Europe's gas demand is expected to shrink by one quarter by 2050, but the analysis shows that its indigenous gas production falls even faster – meaning that Europe's markets will become more exposed to global markets as it relies more on imports. By 2030, over 90% of European gas demand will be met by imports, predominantly from LNG and Russia.

In oil, the increasing electrification of advanced economies leads to a decline in demand, which serves to partly offset increased oil demand for fossil fuels in Africa and India, again due to population growth, but also to increased energy-intensive manufacturing. Global oil demand is predicted to peak around 2030 before a slow decline to 2050. As transport fuels start to shift towards electrification, hydrogen and other new fuels, US oil demand is forecast to fall 36% to 2050 and China's oil demand for transport also falls.

Aurora has downgraded its view of coal demand and coal prices in the period to 2050 because of stricter climate policies. China sees its coal demand nearly halve by 2050, driven by national policies as part of its 'Blue Sky Defence War' and Net Zero ambitions. This helps China to decouple its carbon emissions from economic growth by 2030. By contrast, India's coal demand is expected to rise quickly over the next 15 years, increasing by 37% to support its rising population and rapid economic growth. This is despite India's targets to reduce emissions intensity by 35% from 2005 to 2030. However, falling coal demand in China more than offsets the growth in India, with global coal demand expected to fall by one-quarter by 2050.

Richard Howard, Research Director at Aurora Energy Research commented:

> "With the build-up to COP26 and the change in US presidency, the last year has seen a significant ratcheting up of action on climate. The list of countries which have set Net Zero targets continues to grow - now covering 67% of global emissions – and more countries have carbon pricing in place.
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> Yet there is still a huge gap between stated climate policies and what is required to deliver the Paris Agreement target to limit global warming to less than 2 degrees. Based on current and stated policies, we expect global greenhouse gas emissions to peak around 2030, with oil demand also peaking around the same time due to faster growth in electric vehicles. Whilst 2020 saw a significant decline in global emissions as a result of COVID lockdowns, we have already seen a bounce-back in economic activity, energy use and emissions.
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> Our latest global energy outlook shows a significant improvement in the trajectory for global emissions, but climate actions taken to date are still far from what is needed to limit global warming to 2 degrees. Key focus points for the COP26 summit later this year will be to put in place financial support to enable developing nations to limit their emissions; take more significant and earlier actions to limit global coal use; and progress solutions to address emissions in 'hard to abate' sectors such as industry, and heating and cooling."

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ABOUT AURORA

From its Oxford academic roots, **Aurora Energy Research** has grown to become the largest dedicated power market analytics company in Europe, providing data-driven intelligence for strategic decisions in the global energy transformation. We are a diverse team of more than 170 experts with vast energy, financial and consulting backgrounds, covering power, hydrogen, carbon and fossil commodities. We are active in Europe, Australia and the US, working with world-leading organisations to provide comprehensive market intelligence, bespoke analytic and advisory services, and cutting-edge software.

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