

Arcadis energy transition report: radical transformation of energy sector needed to reach net zero in time to prevent major global warming threshold

September 15, 2021



Arcadis has published a new research report called “*Supercharging Net Zero*”, which uses economic modelling to examine how the international energy sector can lead the way to achieving net zero greenhouse emissions. The report confirms that, if the global energy sector fails to rapidly decarbonise and increase its generation capacity, the world will lose the race to net zero.

Strong and sustained reductions in CO₂-emissions and other greenhouse gases are key to limiting climate change, as was confirmed in the report by the Intergovernmental Panel on Climate Change (IPCC) launched in August. Human actions still have the potential to determine the future course of climate. Arcadis believes the energy sector has the key role to play in catalysing the change. That is why, today, it released *Supercharging Net Zero*.

This new report comes at a crucial time, with the UN COP26 summit in Glasgow little more than six weeks

away. It uses economic modelling to simulate the conditions necessary for the global energy sector to rapidly shift from fossil fuels to renewable power generation. It focuses on how ten key geographical markets would need to contribute to a global energy transition, drawing out takeaways that can support in guiding the transition to renewable energy and decarbonise with a heightened sense of urgency. “The energy sector holds the key that can unlock the solutions we need to tackle climate change”, the report says. It confirms that now is the time to act.

Supercharging Net Zero addresses important implications of transitioning to a net zero world in time to contain global warming to within 1.5 degrees. All countries in this report would need to halve energy sector emissions by 2029, most of them within the next four years. Theoretically, the UK – along with Australia and Brazil – is currently best positioned to lead the way.

At the same time, the global energy sector would need to dramatically expand its electricity generation capacity to meet growing demand. Approximately €6 trillion of investments – 7% of global GDP today – are needed to realise this, for example in renewable energy technology and grid expansion. The world needs to invest more – and faster – than it is currently. All these investments would lead to net benefits to society and the economy. If done right, the energy transition could bring down the cost of electricity and free up billions of euros in disposable income. By 2050, people could be saving as much as €200 a year in real terms.

Tim Cooper, UK Client Development Director for Water, Energy and Environment at Arcadis, said: “For the world to reach net-zero, we need a huge increase in investment in both renewable energy technologies, such as solar, onshore and offshore wind, and hydro power, as well as negative emissions technologies like carbon capture and storage.

“€6 trillion globally is a massive number and will require funding on a scale that neither corporations nor governments can achieve by themselves. But by bringing in blended public and private financing, and innovative new technologies, it’s not impossible – and those who invest early are likely to see the greatest benefits. By 2050, the commercial value of zero-carbon energy sales could be as much as €4.1 trillion – €8 billion of which could sit within the UK.”

Alexis Haass, Chief Sustainability Officer at Arcadis said: “With the world’s eyes on Glasgow this November, it’s time for an accelerated energy transition. Creating a net zero energy sector is essential because this will allow the rest of the economy to decarbonise.

“This is how we can bend the curve of the climate crisis back toward a 1.5 degree world. We think *Supercharging Net Zero* illustrates the magnitude of the challenge that we are facing. At the same time, it demonstrates where opportunities lie. We hope this report helps to shape the discussion around the energy transition and that it creates a sense of urgency with key stakeholders in politics and in the energy sector.”

About the study

Supercharging Net Zero investigates how the global energy sector – with a spotlight on ten key markets – would need to transition over the short, medium and long term to limit global warming to 1.5 degrees Celsius. The study utilises a dynamic, computer-based macroeconomic model of the world’s economic and

energy systems (the E3ME model), highlighting data from ten markets (Australia, Belgium, Brazil, China, France, Germany, India, the Netherlands, the UK and the US) to illustrate how – and when – the global energy sector must transition. The figures in this report are not a prediction of what will happen; they are the result of a simulation which indicates what the energy sector would need to do to help the wider economy achieve net zero.

For more information about *Supercharging Net Zero* and the report download, please visit: <https://www.arcadis.com/energytransition>