

Accelerating the UK's energy transition

Reducing UK emissions by more than half within the next decade to align with net zero targets is a formidable challenge, requiring a comprehensive transformation of our energy system. Drawing on insights from a recent survey, we explore strategies to expedite the UK's energy transition.

With the Financial Times, Deloitte recently ran two surveys to investigate the current barriers to the UK's net zero journey out to 2050.

One targeted energy and energy infrastructure providers and included oil, gas, renewables and electricity generation, transport and technologies. The second targeted large, non-domestic (business) energy consumers.

In total, we surveyed 203 people (one per company) who have a decarbonisation remit in their jobs. Of these, 103 represented energy providers and 100 were from business consumers. Half came from large companies (with more than 5,000 employees). Around 14% of respondents were C-suite, while the rest directly reported into the C-suite.

The results

There were four key themes that came out strongly:

Green skills. This is an area where companies can take a strong leadership role and work with peers, government and educational institutions to ensure the UK has the right skills in the right volumes in the right places.

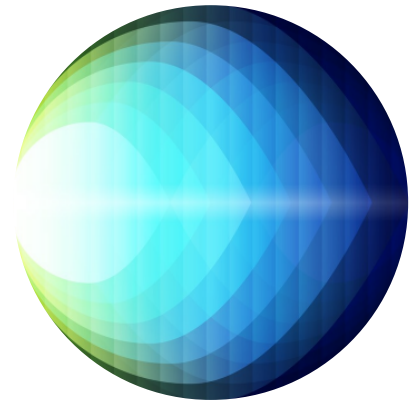
Policy. Companies want a stable, clear, well-communicated sectoral policy, and now that we have a new government, we need to bring this into immediate focus.

Supply chain. We need to think about net zero supply chains more strategically. What do we need, where are the gaps, how do we fill those gaps? What does the net zero supply chain look like? Is it different from what we have in various sectors today? What behavioural change do we need and how do we achieve it? What does it mean from policy, skills and raw materials perspectives?

Energy independence. Evolving energy independence and demand for low-carbon technologies and fuels is crucial. Companies tell us the business case to invest in these is not there yet, so we need to think about how we scale demand. Is it innovation? Is it digitalisation? Is it carbon prices? Is it a combination of these and if so, what does that look like? And we need to think carefully about how we turn sustainability from an immediate cost to the business, to an investment in long-term growth.

How do we accelerate investment in energy infrastructure and low-carbon technology?

- Grow GREEN SKILLS** Non-technical skills, better coordination of government incentives and supporting workforce transfer from other sectors to net zero
- Progress POLICY mechanisms** A stable, clear, well-communicated sectoral policy, focused funding, executing planning reforms and driving energy efficiency
- Strengthen SUPPLY CHAIN** Government intervention in specific supply chain segments and new ways of working
- Evolve ENERGY INDEPENDENCE & DEMAND for low carbon technology** Demand development for low carbon fuels and technologies to support decarbonisation plans
- CONFIDENCE in delivering net zero** High confidence in the 2035 and 2050 targets, but less so in technologies and factors necessary to reach them



In collaboration with Chapter Zero



Based on a hybrid discussion on 9 July 2024

Host: **Merlyn Gregory**, Sustainability and Climate Strategy Partner, Deloitte

Speaker: **Netti Farkas-Mills**, Energy, Resources & Industrials Insight Lead, Deloitte

Speaker: **Maria Tjader**, Head of Government Affairs UK&I, Schneider Electric

Speaker: **Ryan Miller**, Managing Director, Energy and Infrastructure, KKR

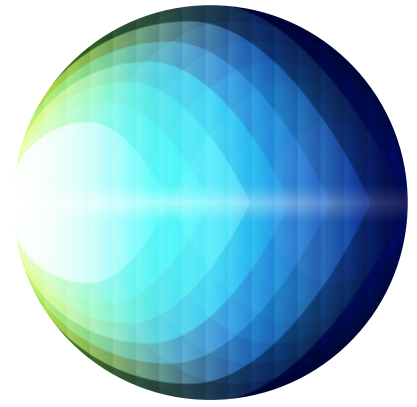
Speaker: **Ulf Nahrath**, Vice President of UK Energy Transition Infrastructure, Shell UK

“Reaching net zero is a collective responsibility and we need all stakeholders in the energy transition to participate.”

Netti Farkas-Mills

To discuss the findings of the survey in more detail and how they impact your organisation, get in touch with **Netti Farkas-Mills**.





Thoughts from the Academy panel...

We discuss policy and regulation, investment and incentives, supply and demand dynamics, the net zero workforce, and the role of technology and innovation.

■ How do we stimulate demand for low-carbon fuels?

Ulf: The pricing mechanism is key. If the high-carbon option is much cheaper than the low-carbon alternative, customers will make an economic decision.

■ Could we be better at connecting supply and demand?

Ulf: It came out of the survey that infrastructure investments are very important, particularly for future technologies like hydrogen and carbon capture and storage, because the demand centres are not necessarily where the production places are. We need pipeline infrastructure to bring energy to the demand centres.

■ Is the carbon price helping or hindering the energy transition?

Ryan: It helps a lot. Having a carbon price that supports new technologies is critical. The more certainty we have on the carbon price, the more we can provide an attractive cost of funding to the companies we work with.

Maria: Carbon pricing is important but enabling businesses and industry to self-generate and use low-carbon and alternative fuels will be more and more important, especially for the highest emitting sectors.

■ What is the role of investors and what is stopping them from doing more?

Ryan: We are long-term investors. We support companies in their growth,

and have a full toolkit they are able to leverage. For example, we have teams that focus on public affairs who entrench themselves in the companies to help them understand what policy tools and funding sources are out there. We also have a capital market business that works with all our companies to make sure we find the best cost of funding and the best tools that governments have to make projects work. So, when we approach investments, we try to bring different capabilities to our companies while also helping them connect with businesses in different parts of the world, for example on technology.

■ What do businesses need from policymakers to stimulate investment?

Maria: Stability. In the past couple of years, we have had many different Ministers and the overarching policy towards net zero and the energy transition has changed. We need a long-term approach. We are really looking forward to is the industrial strategy, which is critical. Reviewing the funding landscape is going to be important. It is not just about finding more money

because we know that will be difficult, it is looking at what does and does not work and engaging with businesses to understand where funding schemes can be optimised.

■ What is the role of Shell as an energy super major and investor?

Ulf: We are a significant investor in the energy system in the UK and globally. We plan to invest between \$10 billion and \$15 billion between 2023 and 2025 in low-carbon energy solutions globally and, according to our global energy transition strategy, are committed to achieving net zero by 2050. We have to balance the energy needs of today, which includes oil and gas, with investments in tomorrow's low-carbon energy needs. We do invest heavily in most themes related to our business and we are also a major global investor in wind, solar and biogas. Long-term policy stability is very important for us, as it is for any investor in long-term infrastructure.

■ That level of investment is absolutely monumental. Can you elaborate?

Ulf: Key themes include low-carbon fuels building on our portfolio in areas such as Nature Energy, a biogas producer we purchased in 2022, carbon capture and storage, where we have technology that can filter out up to 98+% of the CO₂ in the flue gas, and solar, wind and blue and green

“AI has multiple roles. It is bit like a Swiss army knife, it can work in many tasks and applications” Ulf Nahrath

hydrogen. Electrification and providing EV charging infrastructure for motorists are also core to our business. The numbers are big, but discipline and focus are essential to make sure these technologies are sustainable.

■ **What technologies and trends are you are excited about?**

Ryan: We are raising a global climate fund and are investing in a number of these themes. Our first investment from this was in a company called Zenobē, which is the leading fleet electrification platform for the UK bus network, with ambitions to be in the US and Australia as well. Last week, we announced a joint venture platform with IGNIS in Spain to develop both hydrogen and ammonia, and we are interested in other areas like carbon capture too.

Maria: For Schneider Electric, it is digital technologies. There is a real need, if we look at the policy landscape, for the government to have a clear approach to digitalisation of the energy system as well as industries and buildings. There are a lot of technologies that can be deployed now that look at how to make the energy system and electricity more flexible. We need to do that at the same time as we develop the technologies of the future, like hydrogen and carbon capture, usage and storage. We use AI because it can predict and optimise processes, such as in hydrogen and wind, which is going to be increasingly important.

■ **How do you see AI's role in the energy transition?**

Ulf: AI has multiple roles. It can improve customer service in our call centres, analyse big data sets for oil and gas exploration, and help us to be more efficient in a lot of business

“I would love to find a better education framework where we could pivot more of our existing workforce.” Ryan Miller

administration tasks, from marketing to strategy to engineering. It could also play a big role in the energy transition by improving the efficiency of how we use energy. A factor to consider is the power demand increase driven by large language models and data centres.

■ **Do you have a role to play in making sure the power supply is there to support growth in things like Gen AI?**

Ryan: We have invested in a company developing data centres here in the UK and, of course, we are big investors in power. There is a bit of work to connect the dots and to be smart about that, but there is definitely a role for us to play.

■ **To what extent are green skills a blocker?**

Maria: It is definitely a blocker and is one of our priorities in our engagement with the government. Green and digital skills have to go together. Schneider Electric has an ambitious apprenticeships scheme, we provide training for employees in both factories and offices, and work with local colleges.

Ulf: We are supporting the creation of energy transition skills hubs in Scotland and Wales and have established a UK Skill Transition Fund. This initiative aims to help 15,000 people find jobs related to the energy transition by 2035.

Ryan: In areas like residential heating and the potential adoption of heat pumps, there is always that

conversation of do we have the right people to scale this kind of platform?

■ **What should be the policy for the incoming government?**

Ryan: Some of the themes we have talked about are extremely important. Having the right people in the right place with the right skills to drive what we are trying to do will be one of the biggest considerations. Clarity on policy and carbon pricing is extremely important and so are capital costs. A lot of these projects are more daunting for some investment firms as there are very large capital requirements on technologies that do not have tonnes of precedents.

Ulf: With infrastructure investments you need to look five to 20 years into the future to make a decision. It is very basic economic analysis and there are a lot of risks in a lot of these investments.

Maria: I would add planning reform and industrial and commercial building decarbonisation. I would also say accelerating the digital transformation of the energy system, industry and buildings. Digital technologies will also play a really important role in demand-side responses and flexibility, which will become increasingly important as the UK energy system decarbonises.

■ **On a scale of one to 10, how confident are you that we will hit net zero by 2050?**

Ulf: I am confident, but to get there the world will need a lot of innovation to make things cheaper and less risky. A lot of the technologies are there but a lot more needs to be innovated.

Maria: I am an eight. I am quite optimistic.

Ryan: I am very confident we will make it a lot of progress. It would be a high number.

“Over the past couple of years, the overarching policy towards the net zero energy transition has changed. There are a lot of row-backs and that is damaging to businesses.” Maria Tjader