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Six of the best: accelerating the energy transition

From urging companies to fire up consumers about energy, to more efforts to open up data, strong messages emerged in the virtual think-tank convened by Utility Week with Microsoft and Accenture on accelerating the transition to net zero. Denise Chevin chaired.

Key points

- ▶ The industry is not short on big ideas to transition to net zero – but is being held back by poor execution and delivery.
- ▶ The UK needs a clear strategy on heat decarbonisation without delay.
- ▶ Sharing data is at the heart of a successful transition to deliver more localised flexibility on to the system, and this could be fostered by geographical trials of data sharing and open platforms, such as local authority areas and industrial clusters.
- ▶ A concerted campaign is needed to educate consumers on the important role smart meters have within a low carbon energy system.
- ▶ Organisations should not wait for government and regulators to do something – companies should look to collaborate to find successful solutions and remove uncertainty for others.
- ▶ Customers need to be fired up to engage with electricity and buy in to the flexibility agenda.

On 16 June 2020, the UK came to the end of a 67-day, 22-hour, 55-minute coal-free run, which saw the grid go more than two months without using any coal-fired power – for the first time since the Industrial Revolution.

As this remarkable achievement demonstrates, the UK can boast considerable success in transitioning the grid to a low carbon future. Without a doubt, the industry is on an urgent mission.

By 2025 National Grid ESO is committed to be able to operate a zero-carbon electricity system. The electricity system will go on to play a critical role in the decarbonisation of transportation and heating as we get to net zero by 2050. Both goals will require radical new approaches, solutions, and skill sets.

It was against this backdrop that a number of experts from across the energy spectrum came together for a virtual discussion convened by *Utility Week* and its partners Microsoft and Accenture to focus on how energy companies can rise to the challenge.

The conversation was far ranging, exploring issues such as how digital innovation and data can be harnessed to accelerate the pace of decarbonisation, and whether we have the tools, policies and skills in place to move away from centrally generated and distributed power to a digitally managed system with multi-stakeholders and two-way power flows.

Here are six key takeaways.

1. Think big, act fast

The government's 10-point plan for a Green Industrial Revolution, published in November last year, certainly provided a rousing call for the industry to rally behind. It contained pledges to quadruple offshore wind capacity, power a whole town on hydrogen and an end to the sale of fossil-fuel powered vehicles, all within nine years' time. How-

ever, there are concerns that ambition and delivery mechanisms are not sufficiently aligned.

So, the opening gambit we asked our guests to consider was this: are we thinking big enough to get to net zero?

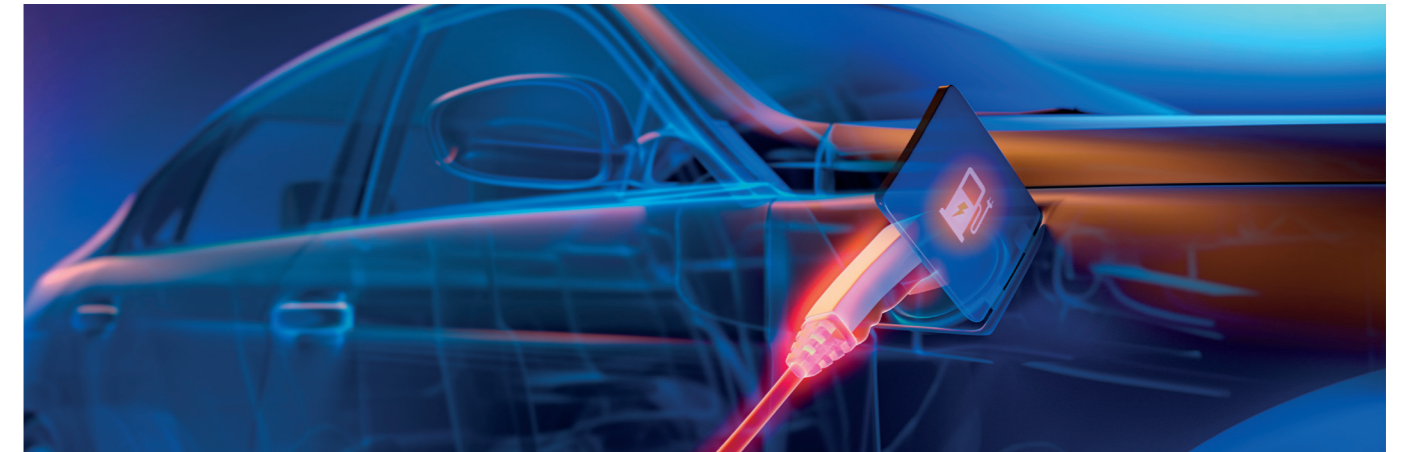
Setting the context, Rina Ladva, head of manufacturing, energy, utilities and life sciences at Microsoft UK, remarked: "It's great to see the UK government continue to make bolder pledges around this. And some of the progress that's been made over the last 24 months, it's been very good.

"But one of the things we're focusing on is how we can accelerate that, particularly with digital at the heart of it. We're continuing to evolve digital platforms and partnerships, but there's still quite a fragmented approach in terms of how the ecosystem comes together, how we think about the circular economy around this, and how we accelerate progress."

It was announced in February that Microsoft was teaming up with Accenture to help speed up the UK's low-carbon transition. The companies, in conjunction with their joint venture partner Avande, will work together to help utilities transform the energy system and lower the cost of decarbonising the supply and demand of electricity in the UK, underpinned by open data, artificial intelligence (AI) and a digital workforce

Toby Siddall, lead for Accenture's Resources business in the UK and Ireland, also raised the speed issue: "One thing about net zero that really matters is when we get there. Yes, we may be thinking big enough, but not enough are acting fast enough? We need to pick up our run rate over the next 3-5 years on both supply and demand transformation if we are going to achieve the goals that really matter."

Because of the magnitude of the challenge the answer to this question from participants



around the table was mixed – but with the caveat that exciting things are under way.

"We are thinking big, but it's not grounded in plans that are executable in many areas at the moment. I like to have a roadmap that can be followed, and I do not see the road at the moment," said one participant.

2. Make a decision on heat

"Heat" was the word on everyone's lips as the next big milestone that needed to be reached and the need to crack how it would be decarbonised.

The long-awaited strategy for how we decarbonise heat in buildings, which accounts for around 40 per cent of UK emissions, is expected at any moment. But how much of this will be replaced with electrical means, like heat pumps, and how big a role replacing natural gas with hydrogen can play, is still unclear. Not knowing what horse will be backed leaves huge uncertainty across much of the energy sector.

"We don't need to solve heat 2050 today, but we need to decide what the next 10 years look like. Let's get on with that," observed one expert.

3. Open up data

Participants lamented that there was not a central repository of energy data in the same way that there is for financial services. They questioned whether there was genuinely a culture to share data and put it on open platforms.

An example cited of how open data could benefit the sector was in the industrial clusters, or in local authority regions. Microsoft and Accenture are actively supporting a number of industrial clusters on open data initiatives.

"If we are able to take a certain region, or area, and think about applying these con-

cepts, like the open data platform, micro-grid, two-way power flow, electrification of heat, rooftop solar, etc, and look at some trailblazers, and think about how we can apply that at scale, then I think that would provide good evidence that these distributed energy resources actually can be optimised and work as an integrated ecosystem.

"Because even a country the size of the UK is too big to be able to apply some of these concepts at scale. So let's prove it somewhere, so that we can then take it and replicate it elsewhere," said one guest.

Participants pointed out that trials were ongoing across different market segments, but it was too early to know which ones will emerge as solutions.

4. Step up smart meters

A missing piece of the jigsaw in the switch to a smart distributed grid is smart meters – getting smart meters rolled out was seen as a critical to the successful energy transition. Said one participant: "If we get back to a more determined approach to get the smart meters in, there's then a much simpler conversation with the data management centres. And off the back of that, what exists now is this massive demand-side response, and the opportunity that exists from those meters.

"That is the critical building block by which we can be much better informed on everything we do from here on in."

A strong theme was the need to win over consumers and give them visibility in how the data collected with smart meters could be used to support the sustainability agenda.

5. Lead not follow

A more controversial thread of the debate was whether the pace of change could be quickened by forgoing pilots and going straight into collaborating on data. There was some enthusiasm for taking this approach:

"We haven't got time to trial everything. Trialling has got a place, but when you need to move quickly, you need to make some leaps," said one. But if that were to happen it would also need to be acknowledged that not everything would be successful.

Our regulatory expert in the group pointed out that Ofgem had been encouraging networks to think bolder with funding for innovative business cases – and that would continue. "I personally don't think that anyone should be sitting around waiting for government to say what they think is a good idea. I think it's every single company's duty to look at how they can make data more open. And if they're not doing that, I think they should be called out for not doing that."

6. Cook a turkey on a car

Throughout the discussion there was much emphasis on the need to engage the consumer as key to successful transition and lack of it was hampering progress. Others were in total agreement and pointed to the need for more diverse skills in the sector and the need to think differently.

"We also need those outside the energy sector to care about energy and understand what is good behaviour and what isn't, and be incentivised in the right way."

Asked how more consumers could be inspired to become engaged, one participant cited the need to fire up their imagination. He explained how his organisation was looking for participation in a trial and struggling to recruit with its partners. "But then I put out a post/blog with the headline 'I cooked my Christmas turkey on my car'. Following that, it was amazing how many people we recruited! Because for Christmas Day, my car powered my whole house. People really engaged with it."

Denise Chevin, intelligence editor