

THE FUTURE OF THE ENERGY TRANSITION



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AND STRATEGY

INTRODUCTION

The energy transition is top of the agenda for many leaders in our industry. As it should be because it's a seismic event for the energy industry.

The most informed energy and clean tech leaders will also be the best placed to react; countering threats, pursuing opportunities, and dominating their market. It's not necessary to stay on top of these things, but it's a huge advantage.

I'm privileged to serve the energy sector with executive search. I speak to many senior leaders across all aspects of the sector and that gives me a rare perspective.

Sharing this perspective seems to be one of the things my clients and stakeholders' value most. So, I wanted to make this insight available to a broader audience.

I interviewed 20 senior leaders from across the energy supply chain. They shared a wide range of views and opinions on the future of the industry, but the following three key areas emerged as common themes: -

- Technologies
- Key players in the sector
- Opportunities

I've also included many anonymised comments after each section. Selecting those I felt gave a good insight into the general market view on the topic.

Lee De Souza



EXECUTIVE SUMMARY



Most striking of all was just how much the Energy Transition is occupying the thoughts of the industry. All respondents had opinions about what challenges it would bring up and who the potential winners would be.

Opinions that revealed a lot of thought had gone into them.

From their responses, it's fair to say that the industry is in a state of preparation, with forward-thinking leaders considering new avenues of opportunity.

Yet it also feels like a space where only a bold few are participating right now. Many are watching and waiting for others to find the dead ends. Planning to swoop in on the clear and genuine opportunities that remain.

Hydrogen based energy is one such area with potential but also hesitation. Contrast this to E-mobility, where the market seemed much more confident of the opportunity presented. With many car companies setting ambitious targets to become carbon-neutral soon. Even Jaguar has announced that they will only produce electric vehicles by 2025.

There's a consensus that the government needs to bring in more green legislation sooner rather than later. Many felt an even more significant component of the transition was educating consumers, so they embrace the changes they will need to make.

It also appears that organisations leading the green revolution are not traditional household names, with more joining the market all the time. Could we see a considerable shift in power from the big energy firms that have long dominated the industry?

From the conversations I had, I suspect some of the existing giants won't survive, though I also firmly believe the majority will make the most of their size advantage in time.

Finally, as you would imagine, there are plenty of opportunities out there. Yet almost all of them seem to rely on the ability to gather, analyse and make use of crucial energy data.

CONTRIBUTORS

I want to express my sincere thanks to the individuals who took the time to discuss their thoughts and views on the future of energy. Each one, in their own right, was worthy of an article all their own.

Jeff Whittingham	♦ Interim CEO at Robin Hood Energy
Mike Reynolds	♦ MD at Vattenfall Heat UK
Graeme Cooper	♦ Transport Decarbonisation Project Director at National Grid
David Brend	♦ Director Of Business Development at SSE Distributed Energy
David Peake	♦ Chief Strategy Officer at The Consultus International Group
Jo Gilbert	♦ COO at PFP Energy
Diana Raine	♦ MD at Smart Hydrogen Consulting
Mark Hampson	♦ Group Development Director at Unyte Capital
Phil Proctor	♦ Associate Director - Energy Consulting at Buro Happold Engineering
George Pitt	♦ CFO at Low Carbon Contracts Company
Ian White	♦ Commercial Director at Beond Group
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Andy Eastlake	♦ Managing Director at Zemo Partnership
Robert Hughes	♦ Interim Director and Strategic Consultant
Trevor Hutchings	♦ Director of Strategy, Communications and Public Sector at Gemserv



TECHNOLOGY

OUR VIEW

I saw a wide variety of technology referenced in the feedback I received, these quote snippets are very representative of the things I heard from many of the respondents:-

- *...increasing opportunity in hydrogenisation...*
- *...Grid scale storage...*
- *...the digitisation of energy management...*
- *...A move to digital and AI robotic automation...*
- *...investment in both CCS and modular nukes...*

It was clear that the transition is going to involve a technological shift. But what does that mean to leaders looking for an angle? Well two technology areas came across as ripe with opportunity and increasing levels of clarity on how that opportunity could be grasped.

First, we had hydrogen, which did have a mixed perspective on it. Some viewed it as gaining momentum with a hitherto unseen level of support from governments and finance houses. Whilst others saw it as being another overhyped bandwagon.

E-mobility, on the other hand, had a universal agreement on its momentum and inevitability. What was less clear was what business model would succeed. Though this was starting to come into focus as the market leaders begin to refine their approach.

HYDROGEN

HYPE OR MOMENTUM?

It's been a technology of interest for years, but respondents reported a surge in momentum. The demand for hydrogen experts, government commitment and interest from the finance community all point to a fundamental change.

Yet there was also a recognition that we are still quite a way off understanding precisely what role it would play.

The recent UK Industrial Strategy has given some clarity. Finally, looking at the technology holistically, with many of the industrial clusters discussed in the strategy referencing Hydrogen as a part of their de-carbonisation plans.

However, I think it would also be fair to say that some also took a more sceptical view about hydrogen.

It's place in the future system is by no means inevitable, especially given how much hydrogen is still reliant on carbon-based production methods.

The timescales for it to create genuinely viable business cases will be over the medium to long term. I suspect many leaders may look to options with a more predictable business case.

However, in the short term, there is a sense that small innovative firms can make a name for themselves in driving things forward. Before getting picked off by the deep pockets of the large existing energy firms.

Hydrogen has been an emerging trend for the last 20 years, but it's only been the last 2-3 years there has been real momentum in terms of technology, and the ability to support de-carbonisation.

I'm working all the hours god sends to keep up with interest!

I think a hydrogen economy is currently being over-hyped a little, as new nuclear was everyone's saviour back in 2006.

Big firms who don't just see hydrogen to protect and retain their position in the industry. They actively see it as a way to become a better company as well.



E-MOBILITY

UNSTOPPABLE OPPORTUNITY?

E-mobility has been on a steady upswing. Last year's EV sales doubled YoY in Europe, against a backdrop of 20% contraction of overall car sales.

However, many felt that the actual explosion is yet to come. As one contributor put it: "we're not sure when the surge will come, but when it does, it really will come."

Manufacturers and OEM's are leading the way, which is also clear. But the new world will create new business models and consumer needs. The most forward-looking energy firms are already partnering with manufacturers, potentially locking in the long term, vast income streams.

In exchange for direct access to customers, these energy firms will need to deliver innovative energy tariffs and flexible charging services that are driven by data and digitisation.

“-----
Someone like the "big six", struggling but want to do it themselves,
have got to form the partnerships and be prepared to earn the
right to play. -----”

“-----
Those who understand the changing dynamics and business
model innovation will be the big winners -----”

THE E-MOBILITY CHALLENGES

The three challenges ahead were clear from the conversations we had.

Infrastructure: Everyone knows it will be a challenge and many questions that arose were focused on the consumer. What about those without driveways? How do you reimburse mileage etc. Such challenges will undoubtedly see many attempted solutions and only a few winners.

Consumers: habits will need to change, but it's not insurmountable. One respondent was an avowed petrol head in central London and is now a complete convert.

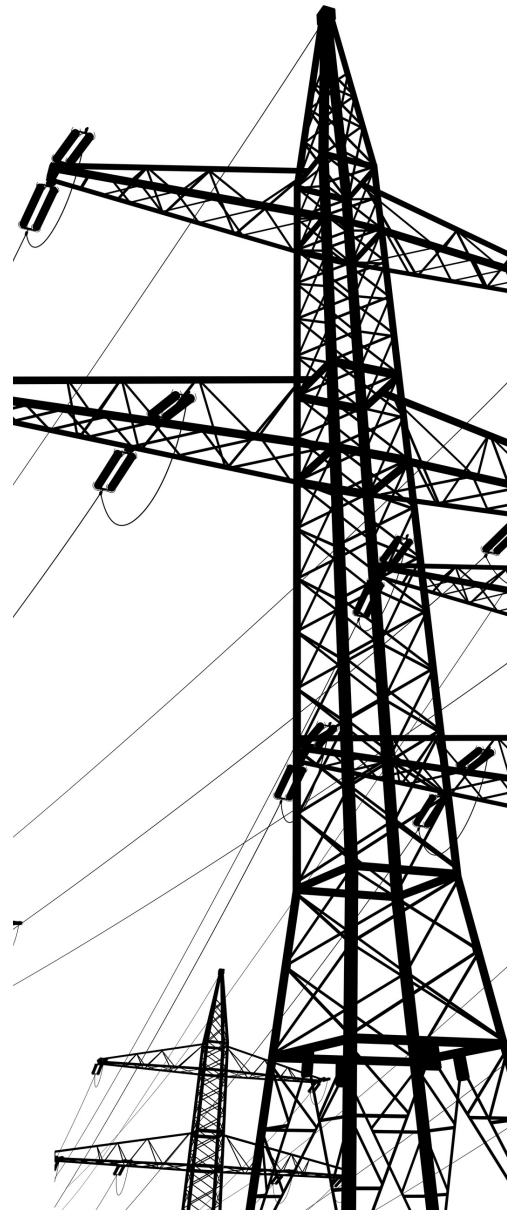
The cascade effects. Once we have a dominant E-mobility infrastructure in place, then the opportunity for vehicle to grid, smart charging and other technology erupts. Until then it's about jostling for position

The great news is that as soon as people flag issues the innovators are finding solutions. However a coordination of standards will become vital to scaling the industry. The Wild West approach can't last.

Put simply, E-mobility as a technology creates enormous opportunities for multiple aspects of the industry and the race is already underway.

“
A lot of consumers on long journeys will think "Where do I charge? I don't want to have to download different apps I just want it to be effortless and it happens."

Whoever can simplify that experience with digital solutions will win.



OTHER QUOTES

- *It depends on what sector you are considering. I see a huge short to medium opportunity in the domestic heat pump arena, I see increasing opportunity in hydrogenisation with a much longer-term maturation horizon.*
- *In the next 5-10 years, there will be large-scale investment in both CCS and modular nuclear reactors. Clearly some barriers to overcome, but we're getting there. Further growth of offshore wind of course, and then in the longer term I think hydrogen may have legs, but we've got to fully de-carbonise electricity first.*
- *The biggest opportunity must be driven by the challenges created by climate change and changing customer demand and behaviour. It comes down to the three D's - digitisation, decentralisation, and de-carbonisation. I think the supply of energy will look very different in the next 10 years.*
- *One area of EV missing is Heavy Duty Vehicles. How do we move that? Looks like big batteries don't work so have to think about on route biofuels and hydrogen.*
- *Increase in the need for data centres and with it the availability of land with sufficient and resilient critical power. This will be coupled with the need for greener power and backup power. This demand will help drive innovation and accelerate things like hydrogen and larger-scale storage on the grid.*
- *Vehicles aren't the problem, it's the whole energy system that needs to adjust. Grid intermittency, the unpredictability of power demand and supply means smart charging and vehicle to grid will be a challenge and an opportunity.*



KEY PLAYERS

CONSUMERS

Another theme that came through was the importance of specific stakeholders influencing the speed and direction of change. The most commonly mentioned weren't from industry or government, but the consumers.

Several people felt the consumer would almost be a gatekeeper to the transition. Up till now, much of the energy transition has had little impact in the home. Moving forward that will change as heating, home energy usage and transport will involve a disruptive change to their habits and homes.

The general feeling from the industry was that businesses who invest in creating a compelling and effective communication strategy aimed at the consumer market will be put into a strong market position.

This message was so strong that we now plan a Consumer Communication Strategy to be a subject we cover in a future briefing document.

“-----
Decarbonisation so far has not impacted the consumer, yet the next decade will require much more consumer engagement (think EVs, heat pumps, energy efficiency retrofit, heat pumps, hydrogen changes, new energy suppliers/ models, etc.)
-----”

POLICY MAKERS

The powers that be came up several times and two roles they had to play were called out, with most respondents believing that our leaders are falling short on both.

Policy and legislation: the transition will need to allow experimentation, new entrants, and agile technology. These are hard to implement when the regulator is out of touch, slow or resistant to change. All charges levelled against some of the existing regulators.

Reliable support: the last few decades provided a lot of stop-start support for smaller-scale efficiency and generation measures. Their removal at short notice has damaged the entrepreneur's keenness to go into such markets again. Support must remain until economies of scale could be reached was the feel of many respondents.



CORPORATES

Whilst small firms, willing and able to experiment, will drive the transition, there is a belief that existing energy giants will remain powerful. One respondent managed to capture the feeling succinctly:

“To win in the new world, I think you need deep pockets. For instance, Shell will have to spend big as their core oil and gas market reliance will reduce over this period. Energy companies will require more of a technology focus which may be new for them and instead they make technology acquisitions.”

So, who did they think will win?

“Shell is likely to remain a key player, Octopus also look to have a robust technology focus so they could be a winner and finally another company, perhaps coming from the left-field such as Tesla or Apple who develop ground-breaking technologies that change the energy supply game.”

However, many of the emerging renewable energy companies may not be household names, but they are well known in the industry; Ørsted, Iberdrola, Octopus Energy etc.

With agility, innovation and a deep understanding of clean energy baked in, these firms are now big enough also to have the scale of vision that many small firms lack.

By no means did people feel we would see a complete change at the top, but it's also clear they felt many big firms had the wrong attitude to innovation. Making it likely that some of these emerging firms will force their way in at the top.

The question is, who will they push out or takeover in the process?

OPPORTUNITIES

DATA & DIGITISATION

It's clear that the ability to manage and process data will be an important one. With a more distributed energy grid, the needs for balancing and the benefits associated with efficient or well-timed energy usage grows.

Electrons are, essentially, a commodity, meaning margins will always be driven down as low as possible if that is all a business has to offer.

Services, especially SaaS, has the potential to deliver truly innovative and unique solutions to consumer and businesses. Such services that add value will always find it easier to be rewarded much more handsomely.

Not to mention they are often much more scalable.

This perspective came through loud and clear from the people I spoke with and from a range of sectors within energy.

I believe this shift is already taking place as I see a growing need for digital-savvy executives to help firms transform their digital offering.

Naturally, delivering on many of these opportunities relies heavily on data. However, data is a weakness in many firms; either they don't have it, don't know how to analyse it or what to do with what they learn.

Such skills are not easily instilled into a business, so there is a raft of opportunity for anyone able to engineer these services.

Two quotes captured this view well:

Trends already seen in energy will accelerate; digitalisation, greater use of data, increased transparency. We'll see further investment in the drive to net zero with system flexibility, in all its forms; storage, time of use tariffs, V2G, DSR etc. Data will be a key enabler for all of this.

There are not many companies that are good at dealing with data... Everything starts and ends with data.

HOLISTIC SOLUTIONS

Integrated distributed Energy suppliers, able to offer a holistic range of solutions were consistently referred to as the future winners in a transition and post-transition energy system.

We've previously touched on this point with the talk about bundled energy and vehicle suppliers, but the feeling was that this was the tip of the iceberg.

"Those that can efficiently provide new energy systems, that provided more than the component parts, and within bankable models that can deal with the complexity and future uncertainty of a volatile and changing landscape. Whole System Thinking!"

Differentiation can often come from a unique bundling of services, a well-established economic trick for firms. Yet, as the system fragments to become more distributed, this was also viewed as driving a desire for increased integration from providers.

"I see an opportunity for Energy Co's to provide solution-based products and services that deliver value for the customer over longer periods to their customers to secure loyalty."

I foresee a growing volume of acquisition and merger as firms look to respond quickly to new market opportunities. Packaging up a suite of services to create a unique, stand out offering. It will be fascinating to see who is left and what they look like once the dust settles.

PWC has written up an excellent assessment of how different directions the energy transition takes could affect the M&A activity's nature. So far, I see it head down the disruptive and decentralised path.



OPPORTUNITIES

- *The biggest opportunity is engaging and working with customers to help assist in their energy transition. A significant number of customers will have a requirement or desire to achieve carbon zero and will need assistance and support on how best to achieve this.*
- *Those who understand the changing dynamics and business model innovation will be big winners. I think there is a huge opportunity for energy firms with the likes of Octopus, who win from charging the car, leasing the car and providing the energy.*
- *I think the constant pressure on industrial and commercial energy prices will continue, and there is likely to be less volume sold as buildings close, possibly for extended periods, and possibly increased energy account churn in the domestic sector given more people are likely to be working from home for an extended period.*
- *Post-Covid, space will be more flexible, and dense office areas will likely convert to more residential this will shift the shape of power required in these areas. I expect peak period times to change. Eventually, that may enable increased headroom and a growing need for smarter grids to mobilise this latency into other applications/areas.*
- *There are not many companies that are good at dealing with data as it is usually manual and expensive to deal with – and the client doesn't want to pay for the cost of putting it into a system. – Everything starts and ends with data; a company needs clean data to become efficient – it is a vicious circle.*





CONCLUSIONS

In the end, I've plucked just a small amount from the insight gained from the interviews I conducted. Each contributor could easily have been a featured article in their own right.

I focused on the key messages that I heard repeated across those interviews.

Most, if not all, spoke about innovation and a willingness to embrace new business models as being the difference between the winners and losers of the transition.

For some, that will mean embracing new technologies to meet existing and new needs. For others, it will mean bringing together a suite of services that already exist but packaged up so that they create clear and identifiable value to customers.

I also see before us a decade of opportunity for SME firms in this space to come to the attention of the energy giants. These giants are finally waking up to the future that inaction will hold for them.

Namely, oblivion.

Their deep pockets will see any firm with a real edge and solid customer base snapped up. Earning the owners and investors of the firms they acquire a handsome payday.

Finally, I see now that any executive wanting to enjoy a fascinating and highly rewarding career over the next 10-15 years should prioritise digitisation as a skill.

Data and digital transformation are already highly in-demand skills, and I can only see the markets need for them growing.



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ABOUT THE AUTHOR

Lee De Souza is the Founder and Managing Director of Harrison Bridge. He has seventeen years executive search and executive interim recruitment experience across several sectors up to board level, including non-executive appointments.

Lee has delivered over 200+ searches in the UK & internationally including volume projects and recruiting entire executive teams.

Harrison Bridge was founded with one mission; to help make the transition to energy net-zero happen. Locating the right leaders and putting them in the right positions so they can make that happen.

Lee supports this ambition with his services by creating a range of value-add content to help those leaders achieve that goal.

Lee takes great pride in the compliments he gets on his LinkedIn posts, even the more questionable ones. [He'd love you to connect.](#)

“Lee successfully found a new Director of Strategy and Communications for us recently at Elexon to join our Executive team. Our requirements were complicated, requiring a peculiar mix of skills, but he found a solid (and genuine) long list from which we shortlisted great candidates. What impressed me was Lee's commitment and drive, plus he challenged us to refine and prioritise our needs. Throughout he communicated fully and delivered each milestone to the agreed timeline. No hesitation in recommending him.”

MARK BYGRAVES, CEO, ELEXON