



The Road to a Green Recovery

HOW WILL WE DELIVER A NET ZERO CARBON ECONOMY?



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INTRODUCTION



For sustainability professionals and environmental activists, the past decade has seen, arguably, the most dramatic shift in acknowledgment of our planet's climate crisis to date. So much so, that over 1,700 jurisdictions across 30 countries have declared a climate emergency in the last year. As we endeavour to respond and to combat the effects of climate change, the conversation no longer revolves around whether or not we *should* transition towards a net zero carbon economy, but rather *how* we are going to do so.

In July 2020, the G10 and China announced the largest economic stimulus package in human history, committing upwards of \$15trillion dollars in an attempt to advance the war on climate change and to alleviate the devastating economic aftermath of the current health crisis. With that, we're observing the emergence of a low carbon economy through a new, growth-oriented lens that aims to create jobs and spark economic recovery in line with the funds promised.

Blackrock, with \$7trillion in investment, have claimed they will avoid investments in companies that present a high sustainability-related risk, while 631 institutional investors with over \$37 trillion in assets are calling for government leaders to accelerate efforts to tackle the global climate crisis, combined with the Green Bond Market passing \$1trillion in issued bonds in September 2020.

Experience tells us that for every dollar spent now, we can foresee either a cost or a saving in the future. How we choose to respond is up to us. As a collective, setting this multi-faceted, environmentally charged recovery in motion will require a plan that is both implementable and scalable across a comprehensive range of industries and societal bodies to ensure that we don't lock in carbon that cannot be unlocked in the medium to long - term.

Nick Daniel

Head of Energy & Climate Change

This paper discusses the outcomes from a trio of cross-industry, solutions-focused interviews that looked to determine the resources and workforce skill sets that will be required to effectively deliver a green recovery by closing existing gaps and determining how best to overcome them in the current health crisis and beyond.

Key Discussion Points:

1. What are the major challenges preventing us from achieving a successful net zero transition?
2. What role does the financial services industry have to play in the strategic deployment of green recovery capital?
3. What solutions will we need to overcome the complexities of the transition itself?
4. What job roles are being created to implement these solutions and what skill sets will be required to drive the change that is needed?

With Expert Views From:



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“Trying to deliver a transition of an entire economy from an energy system that took decades to deploy within a drastically shorter timeframe is a layer of the equation we haven’t encountered on this scale before.”

1. What are the major challenges preventing us from achieving a successful net zero transition?



“At Engie Impact, we have chosen to focus on three main gaps which we have coined as the Capital Gap, the Capacity Gap and the Capability Gap. We consider these to be three areas that we cannot only address as an organisation but can actually help to change. Ultimately, this boils down to the complexities associated with deploying green recovery funds, equipping people with the skill sets required to deliver the change needed and ensuring that the right tools are available to address these issues head on and enable organisations to change.”



“At Drax, we’re confident that solar and wind are the way forward which will account for the majority of our energy source for 85% of the grid. The challenge sits with the remaining 15% when the wind doesn’t blow and the sun doesn’t shine. Additionally, there is a complexity associated with adapting Carbon Capture Storage (CCS) for use in other sectors that need to capture their carbon, like steel and cement. For that, we need solid policies and frameworks to emerge, but we also need to establish who will accept liability for it.”



“Around 40% of UK carbon emissions are attributable to the built environment sector, and virtually none of our homes or buildings are yet net zero carbon. Looking just at homes, this means we will need to retrofit some 29 million homes over the next 30 years. Yet we also know that there is a significant policy gap in this sector, which urgently needs addressing if we’re to meet our medium-term targets.”



In keeping with these overarching themes, the following high-level challenges emerged throughout each interview we conducted:

TIME

Trying to deliver a transition of an entire economy from an energy system that took decades to deploy within a drastically shorter timeframe is a layer of the equation we haven't encountered on this scale before.

ADAPTING NATIONAL GRIDS

Implementing new generation assets is intermittent and difficult which will pose a drastic strain on national grids across the globe as they attempt to account for the required changes.

STRANDED ASSETS

A significant number of carbon-intensive processes and technologies will no longer be able to earn an economic return prior to the end of their economic life as we transition to a low-carbon future.

DIVERSITY OF EXPERIENCE

It is good that we're talking about building better equipped communities and avoiding fuel poverty but at a top level, we don't reflect the makeup of the communities we're advocating for.

DECARBONISATION OF HEAT & HEAVY INDUSTRIES

Transitioning heavy industries doesn't simply require site-specific changes but a grander analysis and transformation of the value chains that underpin them.

COLLECTIVE ACTION

There is a danger in thinking we can move one organisation or one industry at a time. Energy is complex and inter-connected. If we are going to succeed, we must shift as one.

SPECIES DEPLETION

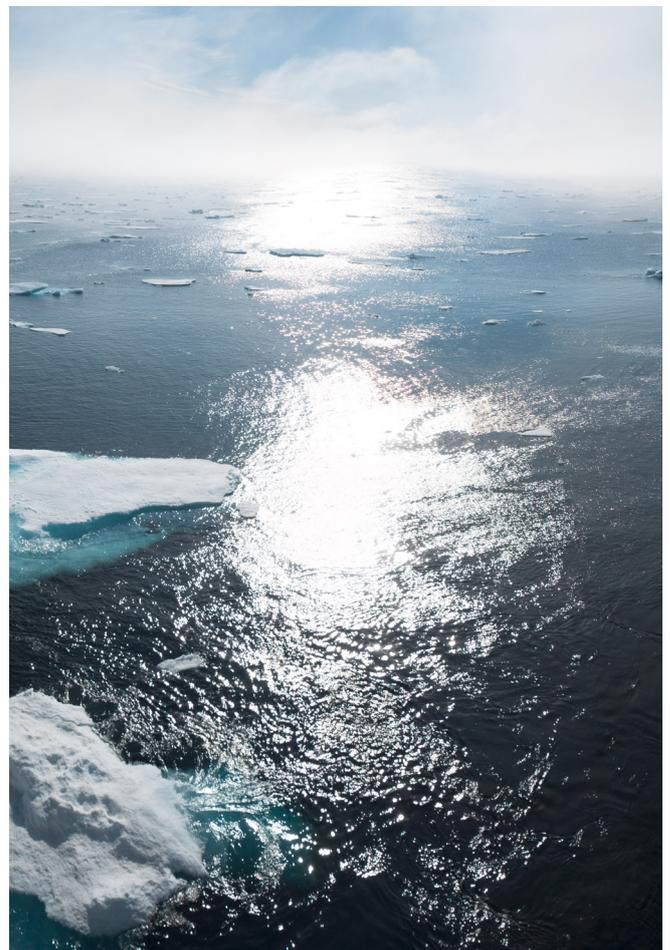
Once you pass a critical point associated with the mass extinction of the earth's species, you're in uncharted territory with feedback loops and trigger mechanisms resulting in an irreversible tipping point.

POLICY

At present, there is a lack of reliable policy available to adequately respond to the urgency and size of the climate crisis. Without concrete frameworks to guide our decision-making, we're exposing ourselves to further setbacks by not acting in consideration of the full risk profile.

SOCIAL AFFORDABILITY

The social cost associated with a net zero carbon transition is a double-edged sword. On the one hand, can we afford to deploy this scale of capital and if so, what are we really borrowing? On the other, can we afford not to? What social costs will we incur by way of missing our targets?





“Two of the strongest agents of change in this movement are regulators and financiers, without the buy-in of whom, organisations cannot successfully operate.”

2. What role does the financial services industry have to play in the strategic deployment of green recovery capital?

As with most social constructs, there is no one-size-fits-all approach to successfully delivering multi-level systems changes. If we are to progress towards a greener future, a combination of forces will have to come together to effect sustainable transformation in the industries, corporations and behaviours that are no longer advancing our efforts.

Two of the strongest agents of change in this movement are regulators and financiers, without the buy-in and working capital of whom, organisations cannot successfully operate. As and when standards are elevated around disclosure and transparency, businesses will have no choice but to assimilate if they wish to survive the transition to a net zero, or potentially even net positive, carbon economy.





“The financial services will play a pivotal role in reaching a net zero carbon transition and, as Mark Carney UN Special Envoy on Climate Finance recently put it this represents the greatest economic transformation of all time - so we need every single financial decision to take climate change into account.”

The speed with which green finance is growing right now suggests that at some point soon green finance will simply be finance. And the Chancellor’s recent announcement that most major firms will be required to disclose their climate related financial risks by 2025 will be a game-changer in providing consistent robust data and evidence that financial institutions require to play their own role in driving the zero carbon transition.”



“We can clearly see the role of the financial services as a demand generator for change. At present, sustainability is not something that is baked into business practice but in order to get it to a point where it is, organisations have to behave differently than they have behaved in the past.”

“There is something Newtonian about it in that an object at rest will remain at rest unless an external force acts on it. I think that is also true of companies. Unless central banks and investors push corporates towards a sustainable transformation, they’re unlikely to get there on their own.”



“The Taskforce on Climate Related Financial Disclosures (TCFD) has been brilliant in getting the conversation around climate change into the boardroom and for the first time, we’re seeing sustainability leaders becoming central to most investment funds. The success of their heightened scrutiny will now depend upon the development of consistent policy frameworks and scenario modelling that will enable us to move from disclosure to action.”

“While the emergence of and demand for green bonds is a strong start, defining what will be considered good use of capital will determine how we can adequately and accurately evaluate the delivery of initiatives geared towards a net positive future and avoid simply ‘ticking boxes.’”



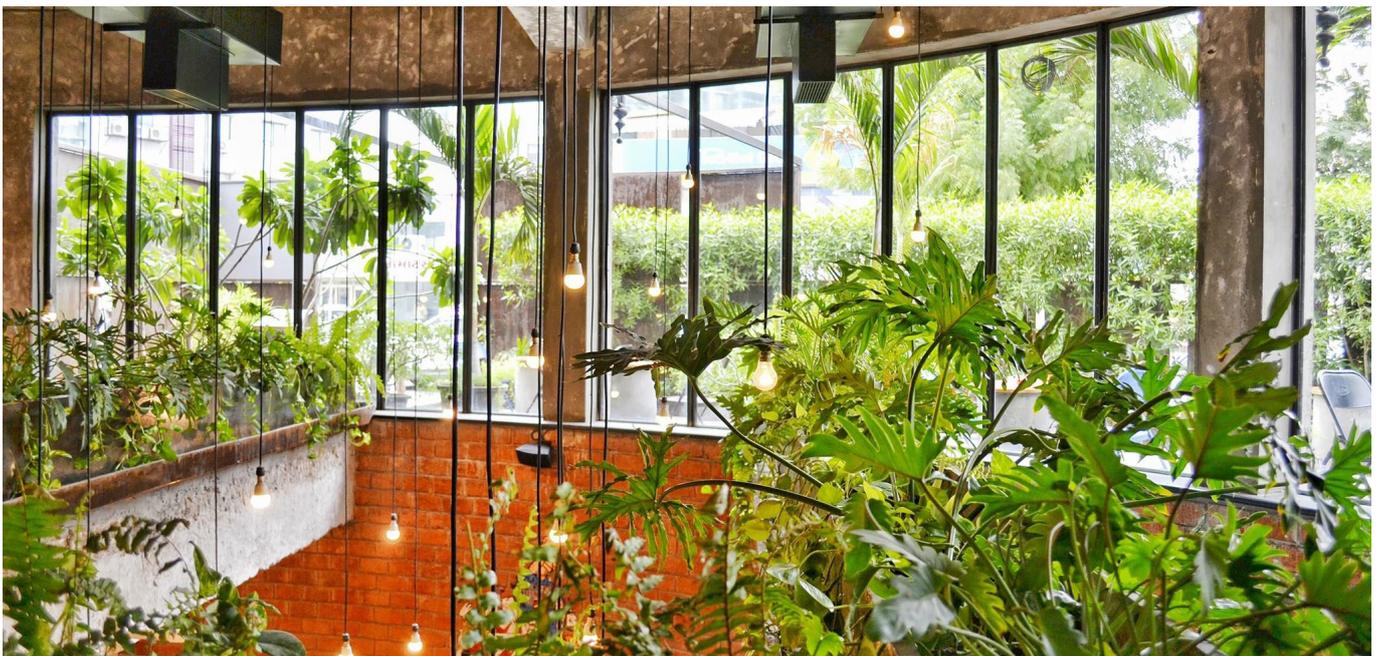
3. What solutions will we need to overcome the complexities of the transition itself?

There is a common misconception that drastic barriers exist in terms of technological solutions available to meet a net zero carbon transition. On the contrary, in many industries, the right technological solutions exist and they now need to be deployed. In order to meet the scale and the urgency of our roadmap to net zero, we need to make use of what we do have, implement strategies around the complexities associated with deploying it and address what remains.



“If you look at basic jobs, like insulating homes, you can see the need for a massive expansion. With about 29 million homes across the UK, there’s a substantial amount of work to be done on that front. Then, you could look at electrical retrofitting in domestic settings to bring in things like solar panels and smart grid technology. These changes will require a renewable energy future with relatively limited sources of baseload power that will demand a different, smarter energy system.”

“That is a mere glimpse into the complexity of these interrelated processes and you can clearly see how these gaps span the entire spectrum of skill sets. Think about going all around the economy from the technical, advanced knowledge jobs like developing smart grid infrastructure, right through to someone on the ground who will come into your house and install cavity wall insulation.”





Our conversations also unveiled three high potential areas for consideration when casting our vision wider:

1. *Nature-based Solutions*
2. *Hydrogen Economy*
3. *People Solutions*

NATURE-BASED SOLUTIONS

There is a prominent debate in the energy and sustainability spheres as to whether or not offsetting should be used as a way to minimise the carbon footprint of an individual, an industry or an organisation.

Our research indicates that energy and sustainability professionals are in agreement on the fact that offsetting is a crucial piece of this puzzle but is not an absolute.

Decarbonising the economy will require the restoration of biodiverse, natural ecosystems as opposed to planting new, mono-culture forests. It will also rely on dispensing the notion that technology needs to be created and produced on mass scales. David Attenborough summarised this well, stating that we need to rediscover our relationship with nature and if we take care of nature, nature will take care of us.

Utilising the natural tools available to us will lessen our lasting impact on the planet and afford us time we would otherwise spend developing new technologies to address age-old issues.



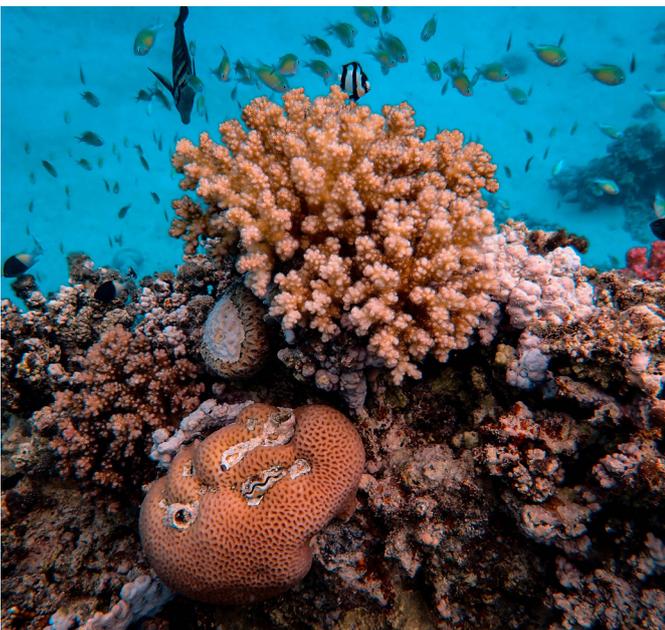
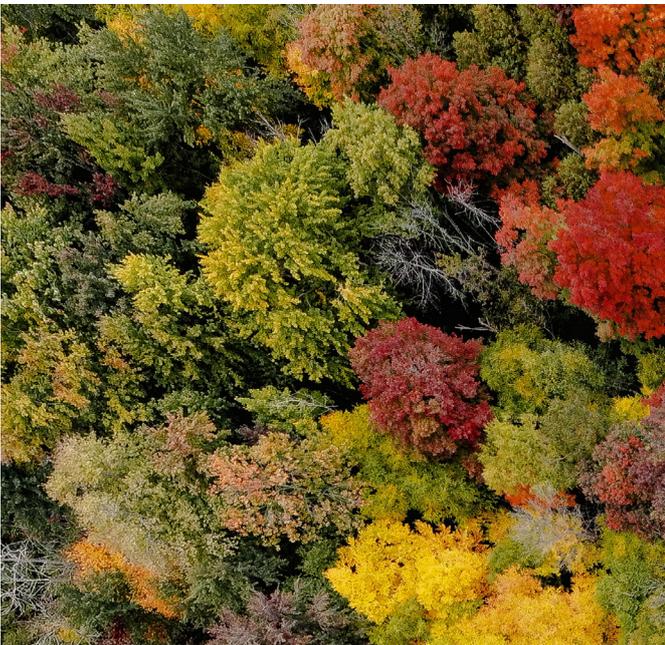
“I see technology as a conduit in a net zero carbon transition but not necessarily a solution. In many industries, the technology that we need exists but what is missing is its mass deployment. We need to think less about what we can develop and more about what is around us. After all, nature is an amazing piece of technology in itself.”

“Why do we need big machines to suck carbon out of the air when we have trees? We need to stop looking at ourselves as apart from nature and more as a part of nature.”



“I see the emergence of a mosaic of solutions that must come together. For starters, we need to capitalise on CO2 removal. If we look at major emitters like aviation and agriculture, we aren’t ever going to reduce those industries down entirely, so we need to strike a balance between reduction and offsetting.”

“Soil science cannot be ignored. If you take the UK landmass as a whole, for instance, 80% of the carbon is stored underground and the other 20% is stored in the trees. That’s a massive amount of potential sitting quite literally, right beneath our feet!”





HYDROGEN ECONOMY

With global energy companies like BP sharing their new ambitions to be a very different kind of energy company in ten years' time, it is clear that the hydrogen economy will be a key part of this transition. BP are aiming for hydrogen to become a 10% share of core markets and it offers a promising path to decarbonisation. The main barrier to achieving this is the storage and transportation of hydrogen, which will require major infrastructure and construction upgrades. Without these major upgrades in the clean hydrogen industry, it will remain tiny with very high costs.



“At Drax, we see hydrogen as a key driver of the change needed and for that reason, we’ll need to produce it in much larger, more sustainable quantities to move towards a more hydrogen-fuelled economy.”

If the price of hydrogen can be reduced, as we are seeing with the creation of hydrogen from wind and solar power, it offers a promising solution to decarbonise most fossil fuel dependent sectors of the economy, such as steel, heavy-duty vehicles, shipping and cement.



“For some industries, like transport, it is much easier to transition than high temperature, heavy industries. Enabling a hydrogen economy will allow us to take great strides towards net positive by addressing issues associated with heating, power, transportation and more. For instance, by pushing fossil fuel cars off the agenda and replacing them with Electric Vehicles (EVs), we can shift our focus towards new technologies or the development of those that exist and address more significant climate challenges.”

BloombergNEF predicts that over the next decade, the hydrogen economy could be responsible for cutting up to 35% of global greenhouse gas emissions from the fossil fuel industry. The energy ecosystem needs to go beyond electricity and have a carbon-free fuel alternative, which is the role that cost-effective hydrogen can play.



PEOPLE SOLUTIONS

Beyond the need to upskill individuals to meet the demands of newly created jobs at an individual, team and leadership level, people pose as a strong ally in the fight against climate change. By demanding change at a consumer level and bridging education and knowledge gaps on a professional scale, making better people decisions will enable partnerships and cross-industry collaboration that will combat silos and move society forward as one.

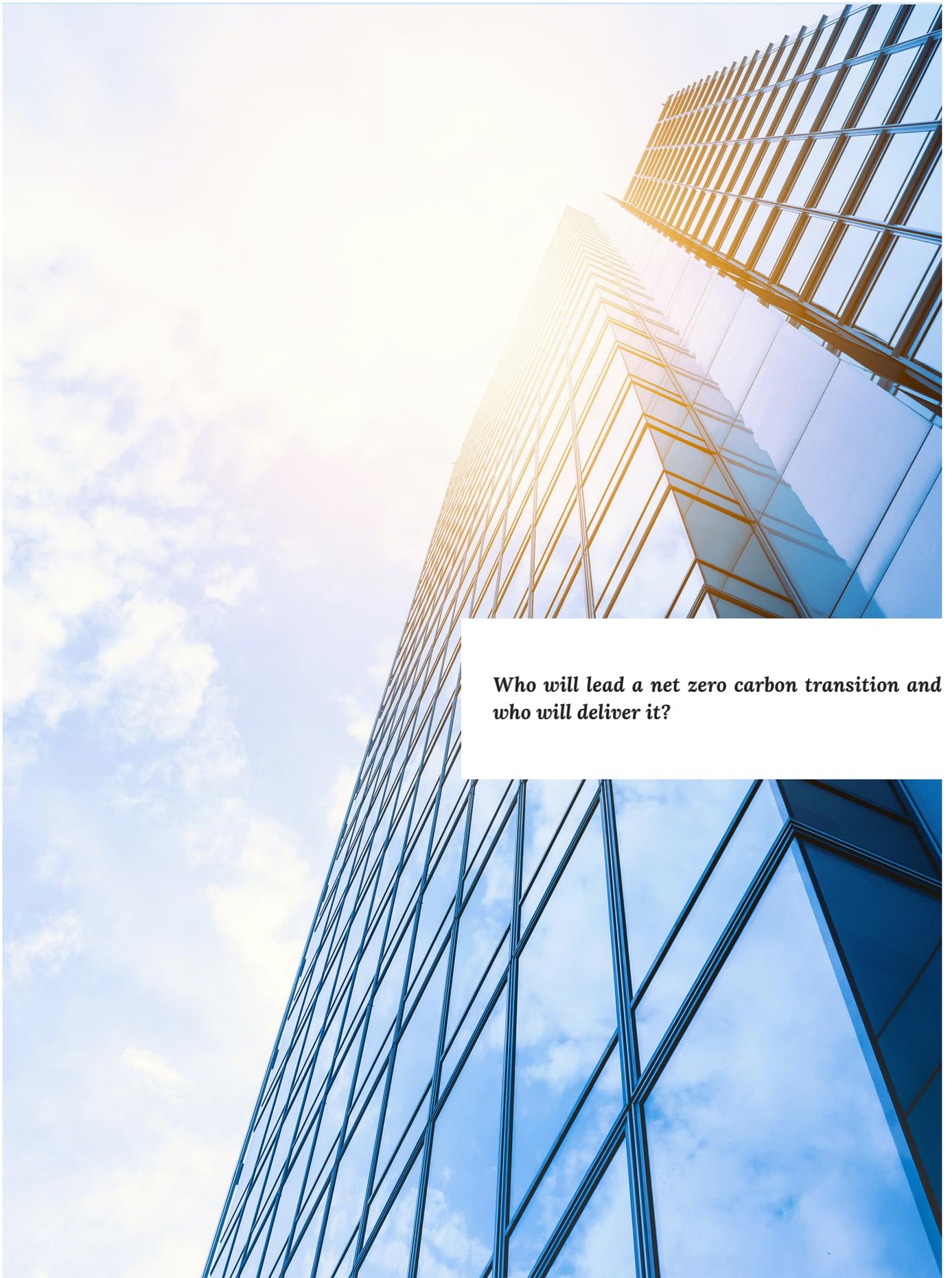


“At UKGBC, we think that there is incredible merit in tomorrow’s leaders. As an organisation, on our board, we have at least two future leaders at any given time to inspire a diversity of views and to give a voice to the younger generation that invokes a sense of urgency, and sometimes even anger, that enables us to make more bold, difficult decisions.”



“The rise of the purpose-driven professional will spark the rise of purpose-driven companies which is exciting. The government has taken a ‘clustering approach’ to CCS whereby they partner industries together to cover the transportation and logistics incurred with storage transfer which is uncovering unexpected alliances. Expanding these sorts of partnerships wider might help to achieve a greater impact that acknowledges the knock-on effect that certain industries have on each other.

“Beyond this, grounding people in purpose allows organisations to consider their actions in greater depth. If it doesn’t fit a greater purpose, why are you doing it?”



Who will lead a net zero carbon transition and who will deliver it?

4. What job roles are being created to implement these solutions and what skill sets will be required to drive the change that is needed?

Central to the newly committed economic stimulus package is the emergence of an estimated 200,000 jobs. What remains less clear, however, is where exactly these jobs lie and who will fill them. To focus this topic, we geared our conversation towards two overarching considerations: who will lead a net zero carbon transition and who will deliver it.

Unanimously, it was agreed that enhancing green growth will require both the re-skilling and greening of the knowledge base of professionals who already work in the energy space, as well as onboarding professionals from other industries to diversify the skill sets available and help drive the profession forward. We then discussed what this could mean for professionals on the ground and professionals leading from the boardroom.



Skill sets on the Ground



“Inevitably, you would have to do a mixture of upskilling existing professionals and finding others from related industries since the number of people that will be needed will far exceed the capacity in the current workforce.”

“Almost certainly, some jobs will disappear as new roles emerge. If you look at individuals working in oil and gas, for instance, they’re likely to find themselves underutilised but their skill sets should be largely transferable given that they understand energy, infrastructure and managing long-term, complex projects. Other transfers may not be as clear cut and will create skill gaps which will require retraining and fresh perspectives.”

Suggested Technical Skill sets Required:

- **Electrical Engineering**
- **Sales Engineering**
- **Forestry & Natural Resource Management**
- **Biodiversity & Biophysics**
- **Energy Efficiency & Insulation**
- **Retrofitting**
- **Sustainable Finance & ESG**



Leadership from Above

While the battle may not yet be won, sustainability professionals and environmental activists have achieved a great deal of success in building momentum behind the climate crisis. Now that consumers and overarching government bodies are bought in, professionals with an entrepreneurial mindset are in high demand. Finding people who cannot only think outside the box but drive a strategy from inception to implementation in a measured timeframe will prove invaluable to a green recovery.



“Finding someone who can create a roadmap and influence a board to embed a sustainability strategy at an operational level is an emerging but critical skill set. More importantly, those skills don’t necessarily require a niche energy background if there are technical teams mobilised around the finer details. It’s about asking the right questions but also about being comfortable working with ambiguity around a subject you’re not used to.”



“We need quite different mindsets and approaches to leadership from a multitude of different backgrounds with behaviours in place that will enable them to drive change like courage, empathy and inclusivity. Because of that, the leadership requirements within any sector will be much more fluid across different professions, focusing more on the mindset and attitude that those leaders bring rather than their technical, detailed knowledge.”

Suggested Leadership Skill sets Required:

- **Courage**
- **Strategy Development & Implementation**
- **Entrepreneurship & Influencing**
- **Adaptability & Flexibility**



CONCLUSION

As the proverbial clock ticks in the race against climate change, we no longer have the luxury of planning to meet targets within years or decades. The reality is that the next six months could very well set the precedent for the extent to which we're able to achieve the Paris Agreement. If scientists are correct in predicting that the worst effects of climate change can be reversed by 2030, then it is now or never.

We have the technology; we have the commitment from governments, corporates and consumers; we have the financial backing; we have a wealth of human resources that can be allocated towards a green recovery. Now we must start to act and deploy real life, on-the-ground solutions, at a faster pace and catch the net zero wave now as there may well not be another opportunity.

While it is evident that responding to the current health emergency is of utmost importance, these efforts will inevitably be met by catastrophic repercussions if we do not immediately link them to another emergency: the climate emergency. We have an opportunity to catch the net zero wave now and if we all do, we can overcome the climate emergency together.



We asked each of our contributors, if they could give a single bit of advice to corporate leaders and sustainability professionals, what would they say:



“Think big and go as fast as possible because the greatest challenge is in this next 18-24 months in terms of repositioning ourselves entirely toward net zero. We are in danger of thinking we can achieve this incrementally, so this is the time to be brave, agile and flexible. This crisis has clearly demonstrated that we need to be able to lead in moments of complete uncertainty and volatility because we really have no idea what’s coming next.

Look at the horizon, not just what’s right in front of you. Stay on course as best as you can with purpose and softer skills.”

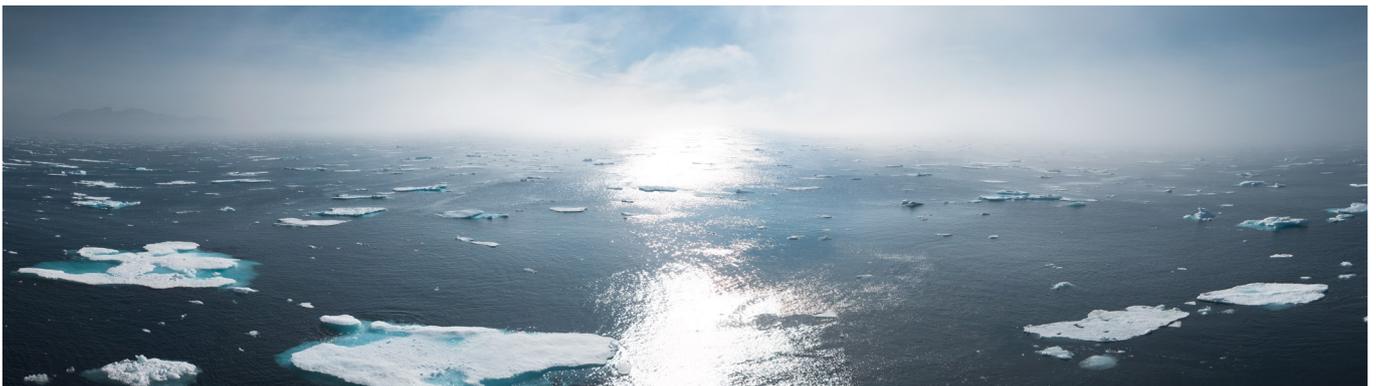


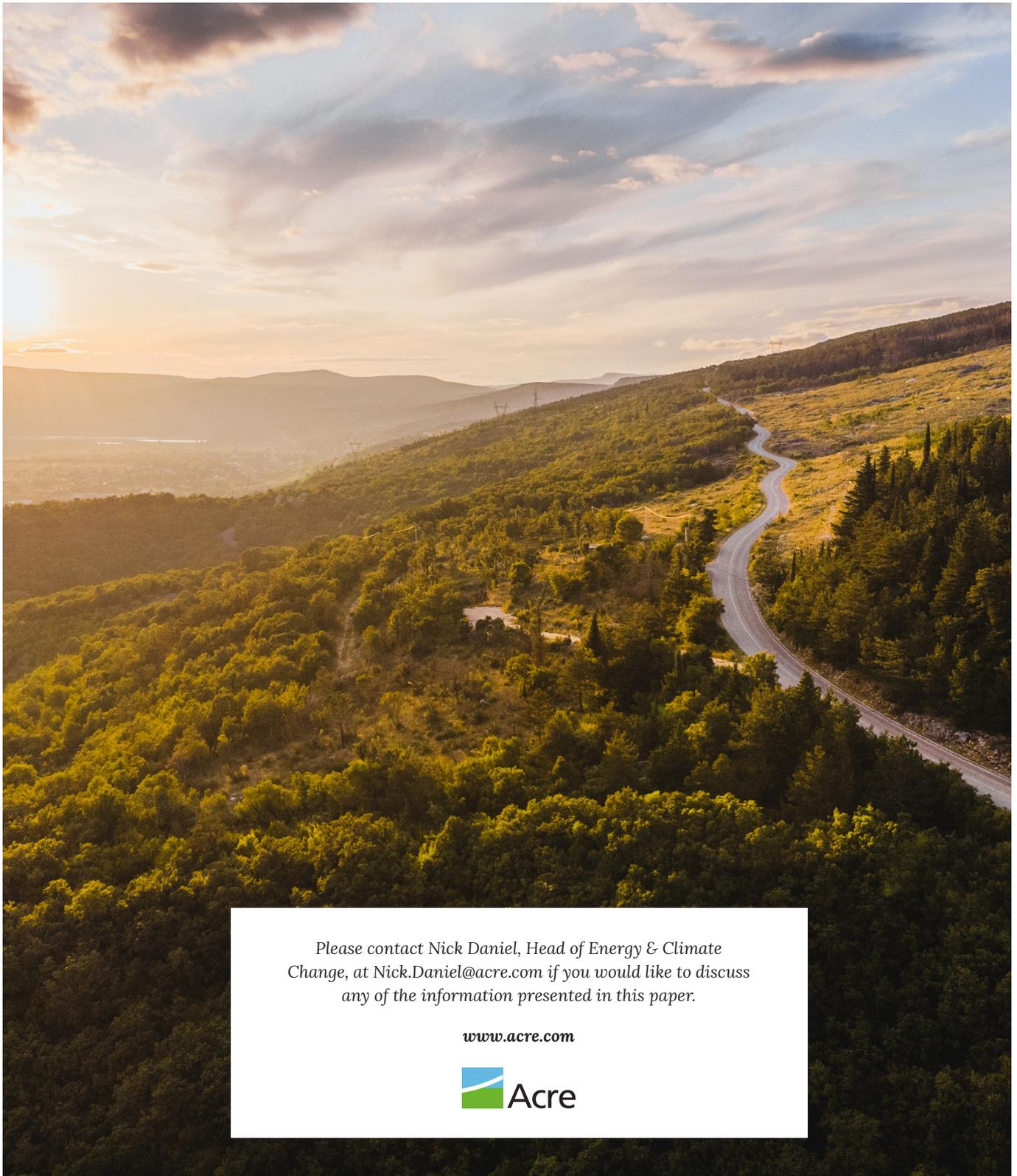
“Be bold, brave and ambitious. We’ve been sitting on our surfboards waiting for a wave to come for ages and it’s headed towards us now. I think we just have to get on the board and paddle like hell, because if we catch it and we catch it properly, we will deliver amazing things. If we miss it, we might not get another one. Now’s the time to be to be more focused on seizing opportunities rather than worrying about what will happen if we don’t.”



“There’s an opportunity here with a real risk associated with inaction. It is not a ‘nice to have’, it’s an essential because climate change is here and it’s happening. Put your governance right at the top. Go and work for a company with a good CEO who’s committed to this and has seen the light. Do your part. There’s an opportunity here to really drive this forward and we need to take advantage of that. Some are saying COVID has squandered the momentum on this whereas others are saying it has done a great job to highlight the reality of this crisis and trigger action.

“Governments are listening. People are listening. Climate change professionals are getting a seat at the table. Let’s speak up.”





Please contact Nick Daniel, Head of Energy & Climate Change, at Nick.Daniel@acre.com if you would like to discuss any of the information presented in this paper.

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ABOUT ACRE

The market leader in energy, sustainability, executive search and safety recruitment for over 15 years, Acre has built a community of talented, dedicated professionals who create social and environmental value daily, while promoting good business.

We work with world-leading corporates and consultancies, non-profits and NGOs, deploying our extensive network to place impactful people, develop leading-edge teams and provide valuable business intelligence.