

# Net Zero Review

The BEIS Secretary of State has commissioned an independent review of the government's approach to delivering its net zero target, to ensure we are delivering net zero in a way that is pro-business and pro-growth. The review will report at the end of 2022.

As part of the review, the Chair, Chris Skidmore MP, will consult widely with a diverse range of stakeholders, including investors, industry, and experts in different fields, through a series of roundtables and direct meetings. This is being supplemented with a call for evidence, giving the general public, businesses and other organisations a chance to share their views on the whole economy transition, maximising net zero growth opportunities, the challenges to address in this review and the future of net zero. Barton Willmore now Stantec and Stantec submitted a response to the call for evidence. The response draws on extensive experience of planning, designing, assessing and delivering development that will help to decarbonise our economy with social, economic and environmental benefits. Net zero is fundamentally pro-growth. Please get in touch if you would like to discuss any aspect of our response.



**Rhiannon Smith**

(Sustainability Associate)

[Rhiannon.smith@bartonwillmore.co.uk](mailto:Rhiannon.smith@bartonwillmore.co.uk)



**Lucy Wood**

(Director - Climate Solutions Leader UK&I)

[lucy.wood@bartonwillmore.co.uk](mailto:lucy.wood@bartonwillmore.co.uk)



**Adrian Johnson**

(Executive Technical Director,  
Net Zero & Sustainability, UK&I)

[Adrian.Johnson@stantec.com](mailto:Adrian.Johnson@stantec.com)



## Overarching questions

### 1. How does net zero enable us to meet our economic growth target of 2.5% a year?

- The net zero transition is vital for economic growth; it is the principal growth opportunity for the built environment. Anything other than a strong focus on achieving the transition is likely to lead to economic cost.
- The relationship between economic growth and the UK achieving net zero is already established in the HM Treasury Green Book in the form of the BEIS Carbon Values and supporting evidence – e.g. Carbon values literature review ([publishing.service.gov.uk](http://publishing.service.gov.uk)).
- Supporting a green transition will both help invigorate existing economic activity and fuel whole new industries, and the 6th Carbon Budget shows how strongly it should lead to new skilled jobs.
- Support for the net zero transition in the built environment will make an essential contribution to solving the cost-of-living crisis in the medium term.
- It is vital that the UK, together with all nation states, fulfil their commitments to net zero; without net zero there is a significant risk of increased socio-economic harm resulting from more extreme weather events and downstream impacts including power outages and supply chain issues.
- The UK's Net Zero target and the Government's 10 Point Plan for a Green Industrial Revolution have already directly led to the delivery of innovative large-scale development.
- Not addressing climate change will lead to widespread economic problems in the medium to long term. The increased frequency and intensity of flooding, heatwaves, and other extreme weather events will lead to significant costs of adaptation, a well-documented example are the UK winter floods in 2013-14, (which

resulted from heavy rainfall which is made more likely by climate change) cost the economy £450 million in insured losses alone. Source: Schaller, N. et al. (2016) Human influence on climate in the 2014 southern England winter floods and their impacts. *Nature Climate Change*, 6(6), p.627.

- Whilst progress is being made, research undertaken by the Institution of Civil Engineers in conjunction with the National Infrastructure Commission shows that more than 60% of civil engineers do not feel climate change is prioritised sufficiently in infrastructure design and delivery (Climate change is overlooked in infrastructure projects, civil engineers warn | Institution of Civil Engineers (ICE)).

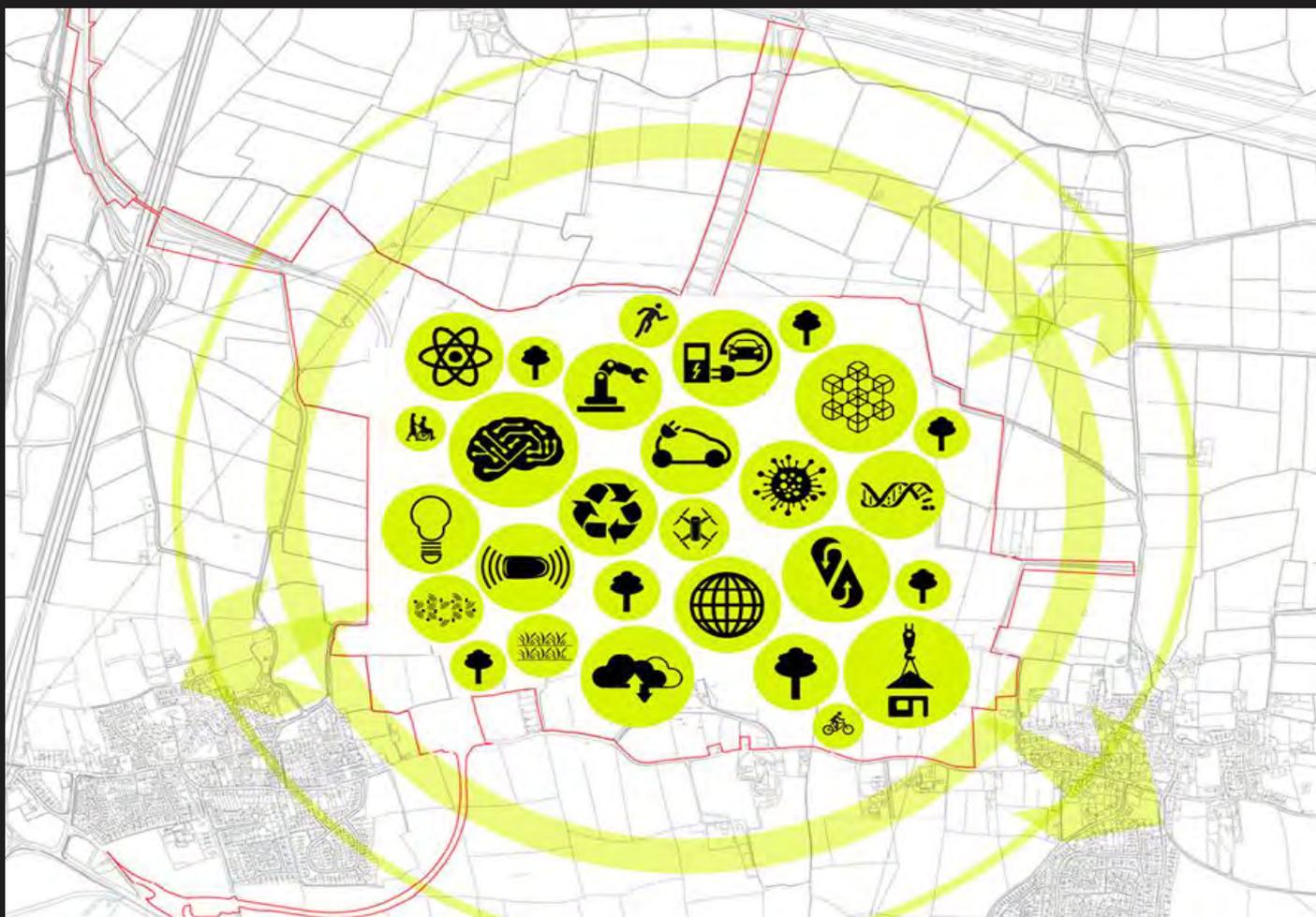
#### Case Study – Gravity – Gravity Development Bridgwater ([stantec.com](http://stantec.com))

The transformation of a redundant, contaminated former ordnance site into a 21st century innovation campus.

The developer Salamanca Group, through This is Gravity Ltd, has set a goal to deliver a state-of-the-art smart campus. An enterprise zone, Gravity can host international investors to advance a new era of large giga-scale advanced manufacturing, providing more than 7,500 jobs. The mission is clean and inclusive growth – specifically, to achieve decent work in conjunction with climate action. Inspired and shaped by the UN SDG's Gravity is a unique opportunity to transform a brownfield industrial site and reshape it to be fit for the future.

With consent now in place for 1.1million square metres, Gravity can now host one of the recommended gigafactory's heralded by the Faraday Institute as being necessary for the transition to net zero carbon economy in the UK.

The UK Government has a key role to play in ensuring the UK is attractive as a destination for international investment in a global market place, to secure



transformational opportunities. Enterprise zones such as Gravity do need to offer financial incentives to prospective occupiers to achieve this. The freeport initiative was a missed opportunity by government to align major transport and trade hubs to strategic scale enterprise zones that together could have made a significant economic difference to UK trade and economic development prospects. The development of similar style investment zones as another tool, could provide the answer. Gravity could attract an enterprise zone financial incentive package or be a pilot investment zone.

Either way big picture thinking must align with economic strategy, finance, and delivery routes if clean growth is going to be realised on the ground, creating opportunities for business and communities.

With planning consent through a Local Development Order, site remediation completed, together with a new access road to the motorway network, the site is now in a ready state for implementation of clean growth. This brownfield site has been through the existing planning and environmental regulations, with statutory consultees forming part of the delivery group. This approach aligns with the government's agenda around productivity, industrial strategy and clean growth as well as the levelling up agenda.

The site was once a thriving employment hub with a strong community spirit. Gravity will rekindle this ethos through the development of a place that is continually evolving, catering for tomorrow's workforce whilst protecting the climate and environment. Gravity is the UK's first commercial smart campus which supports companies making a difference socially, economically, and environmentally.

Working collaboratively with Salamanca Group, and Sedgemoor District Council, a successful case was made to secure growth deal funding from the Heart of the South West local enterprise partnership (HOTSW LEP) to support the access (link) road to enable scheme delivery.

In 2022, the Local Development Order (LDO) that we established for Gravity was adopted by Sedgemoor District Council, which will be at the heart of the UK's 4th Industrial Revolution. The clean and inclusive growth strategy (CIGS) was based on a comprehensive review of the UN SDGs, establishing priority themes to guide the planning strategy. The CIGS established 50 social and environmental positive measures for consideration in the design and implementation of the project. This early definition of social and environmental success enabled the LDO to respond to Government's 10 Point Plan for a Green Industrial Revolution.

## **2. What challenges and obstacles have you identified to decarbonisation?**

- The net zero challenge demands connected, systems level responses. There is need for government and its agencies to take a stronger role in bringing together asset owners, regulators, the third sector, citizens and the supply chain together to enable connected solutions.
- We need a consistent understanding and definition of Net Zero that communicates the reality of emissions in different sectors of the UK economy and what needs to be done. Industry has been generating its own guidance documents, recommendations and targets that are already widely adopted. For example, a UK Net Zero carbon buildings standard is in development led by BBP, BRE, the Carbon Trust, CIBSE, IStructE, LETI, RIBA, RICS, and UKGBC. PAS 2080 (2016) is currently being revised to help all organisations in the value chain – owners, managers, their supply chains and wider stakeholders – involved in the creation, modification, operation and maintenance of infrastructure and buildings - to drive down carbon emissions through a whole life systems approach. Support from the government will help to ensure a level playing field and wider uptake of these important initiatives.
- On a local level, across many LPA's climate action plans are not quantified, leading to uncertainty in how to set and achieve net zero targets, and investment potentially being spent on less effective actions.
- There is not enough political representation for decarbonising industries and misinformation can act against net zero goals. An example is the exaggerated concern raised by the former prime minister Liz Truss over the land space required for planned solar farms, which even after planned growth is expected to occupy only 0.3% of UK land area - Factcheck: Is solar power a 'threat' to UK farmland? - Carbon Brief.

## **3. What opportunities are there for new/ amended measures to stimulate or facilitate the transition to net zero in a way that is pro-growth and/or pro-business?**

- A net zero transition is fundamentally pro-growth. We need policy levers that encourage more collaborative and timely decision making that will lead to more robust governance and risk awareness and mitigation in companies, and the ability to grow more sustainably over the long term.
- Whilst new measures are important, it is important to prioritise existing measures that are immediately cost-saving (e.g. retrofit building insulation) now. The savings from these will help enable the growth and investment needed to support the longer-term, novel but potentially more complex measures later.
- The built environment industry is already engaged in supporting the government in achieving net zero, and there are many potential opportunities in this sector for green skills and training to boost the economy, in areas such as retrofit and renewal, reducing embodied carbon of materials and processes, nature-based solutions, and renewable energy transitions.
- Professionals working in the built environment already have many of the tools and knowledge to support a rapid net zero transition. The industry is working on Net Zero Carbon standards towards this effect, for example the Part Z initiative which makes recommendations for limiting embodied carbon emissions - <https://part-z.uk/>

#### **4. What more could government do to support businesses, consumers and other actors to decarbonise?**

- Investment in the UK's infrastructure, including energy, water and transport, is urgently needed, to improve performance, reliability and efficiency, as well as to address decarbonisation. The government has a unique opportunity to encourage and adopt long-term, systems approaches to direct this investment to deliver lowest whole life carbon solutions, which are also more resilient for the long term.
- Financial incentives for businesses to decarbonise would accelerate the transition. Examples include farming and rewilding projects that support carbon sequestration, retrofitting incentives, and increased availability in financial investment for net zero and sustainable businesses.
- The government should do more to enhance the policies within its Net Zero Strategy, ensuring they cover all aspects of UK infrastructure and their interactions with the wider economy. Innovation and creativity are greatly helped by having clarity not only on objectives, but also on the pathways through transition to reach the targets set.
- Investors need strong, targeted and consistent policies that provides certainty and drives innovation and entrepreneurship in sectors where more decarbonisation effort is required, and to provide consumers with consistency of message to facilitate a behavioural shift. Data released by the International Monetary Fund (IMF) shows that climate policies that are only partially credible could double the cost of transitioning to renewables by 2030. Source: Chapter 3 of the October 2022 World Economic Outlook, "Near-term Macroeconomic Impact of Decarbonization Policies." The authors of the chapter are Mehdi Benatiya Andaloussi, Benjamin Carton (co-lead), Christopher Evans, Florence Jaumotte, Dirk Muir, Jean-Marc Natal (co-lead), Augustus J. Panton, and Simon Voigts.

#### **5. Where and in what areas of policy focus could net zero be achieved in a more economically efficient manner?**

- Decarbonising existing buildings with fully considered retrofit action plans will help to reduce energy bills and their inflationary pressure and to reduce fuel poverty.
- Investment in renewable energy would allow technology to become financially viable in more cases.
- There is opportunity to focus both on areas where saving carbon (e.g. energy and resource use) will immediately save money, and to maximise wider benefits from low carbon decision-making, including social benefits like improvements in health, air quality, etc. as well as environmental benefits from improvements in water quality, increased natural capital and biodiversity.
- Wherever possible, we need to remove politics from adversely influencing essential actions by experienced practitioners engaged in decarbonising the economy.

#### **6. How should we balance our priorities to maintaining energy security with our commitments to delivering net zero by 2050?**

- We need faster investment in renewable energy including hydro, solar, and both on and offshore wind farms. Supporting rather than preventing these developments would improve energy security. Increased investment and incentives could be provided in developing technologies such as hydrogen, tidal, and energy storage.
- Energy security and net zero are concepts that go hand in hand rather than working against each other.

## **7. What export opportunities does the transition to net zero present for the UK economy or UK businesses?**

- Decarbonising existing buildings and halving heating costs with proven technologies and UK manpower, will generate some £80b cost savings in grid infrastructure peak capacity and enable us to move towards greater energy self-sufficiency. This releases more UK generated renewables to earn valuable export revenue, instead of a cost burden on UK households and businesses.
- Decarbonising buildings is a solution we already know how to do, with existing technology and mature supply chains in place. Moving rapidly to decarbonise the built environment would make time for other industries to transition as innovations and opportunities develop, ensuring there is capacity to support change as needed.
- Increased provision and standardisation of EV charging points would expedite EV vehicle uptake, supporting the net zero transition. EVs furthermore have the potential to boost the UK economy by £24bn according to the Advanced Propulsion Centre (APC) <https://www.apcuk.co.uk/opportunities-for-you/strategic-uk-opportunities-in-passenger-car-electrification/>
- With our strength in high tech industries and world class universities, there is an opportunity to drive innovation and entrepreneurialism. Developing new technologies and methods for decarbonising infrastructure and buildings that can be exported globally, with benefit to the UK economy.

## **Questions for businesses**

### **8. What growth benefits/opportunities have you had, or do you envisage having, from the net zero transition?**

- Many of Stantec's clients are working on net zero strategies and implementations. Helping them achieve net zero carbon emissions is a core part of our strategy and the services we provide. We will amplify Stantec's net zero influence by directly applying learnings from Stantec's net zero journey to the success of our clients' net zero ambitions.

### **9. What barriers do you face in decarbonising your business and its operations?**

- Our key emissions reduction goals include consolidating our offices into energy-efficient spaces, reducing business travel and employees commuting, greening our vehicle fleet and engaging our supply chain and employees to reduce consumption of purchased goods.
- Engaging our supply chain and employees to reduce consumption of purchased goods could be considered the most challenging as it is an area with limited company control and influence, but this is being approached by developing behaviour-based management programs to reduce consumption of resources within our operations.

### **10. Looking at the international market in your sector, what green opportunities seem to be nascent or growing?**

- Battery technology – demonstrated by significant lead times in the UK for domestic batteries such as the Tesla power wall. "Demand for batteries is skyrocketing in tandem with demand for EVs. Annual revenue from battery cell production and related activities could reach \$410 Bn by 2030." - <https://www.mckinsey.com/featured-insights/sustainable-inclusive-growth/sustainable-and-inclusive-growth-a-weekly-briefing?stcr=5687ACF0CCE24B13A1E39981B4A6EA09&cid=other-eml-alt-mip-mck&hlkid=72ab7d8c2f2f448580ccbe05d23daadc&hctky=13894532&hdpid=adf42164-e1f5-42db-9abd-ceda4a01932b>

- Energy from Waste demand is growing as it has potential to combine the benefits of providing low-carbon energy source and reducing landfill. When considering the positive impact of avoiding methane generation in landfill it is possible that energy from waste could provide a carbon negative energy solution.
- “According to the latest research study, the demand of global Waste To Energy market size & share was approximately USD 39.8 Bn in 2021. The market is expected to grow above a CAGR of 5.3% and is anticipated to reach over USD 52.5 Billion by 2028.” - By 2028, Demand for Global Waste To Energy Market Size to (globenewswire.com)
- Sustainable mass transport is growing in demand for both new settlements and existing communities. With the increase in hybrid and home working encouraging people to live further from their places of work, there is a risk of an increase in commuting miles taken by private car unless low carbon transport infrastructure investment is made.

## **11. What challenges has the net zero transition presented to your business?**

- A challenge our business has faced has been defining the scope of our Net Zero targets. The SBTi Net Zero Corporate Standard—released on October 28, 2021, in conjunction with COP26—provided the world’s first official science-based certification for corporate net zero claims. For a professional service firm, this SBTi definition includes a requirement to reduce emissions by 90% and allows only 10% of final emissions to be neutralized by carbon credits. While Stantec is still evaluating the standard to see if it becomes the de facto net zero definition, we have added an action phase to our net zero journey that includes significant emission reductions beyond our existing science-based targets. We are still in the process of defining these new long-term emissions reduction targets and have already begun planning for even more emissions reductions to get us as close to zero emissions as possible.

## **12. What impacts have changing consumer choices/demand had on your business?**

- There is significant public interest in and demand for more rapid progress towards Net Zero in the UK, which has led to more interest and engagement in the consultation of new developments, and new technologies.
- Consumers know that the built environment is a significant contributor to the UK’s greenhouse gas emissions.
- The opinion of our employees and consumers is that the risk of not doing enough is far greater than that of doing ‘too much’.
- An insight report by Sovereign Housing (<https://www.sovereign.org.uk/about-us/research/retrofit-for-the-future>) showed that customers living in Sovereign homes were strongly against having to temporarily move home in order to allow retrofit even if it led to a significantly improved home. This highlights the need to ensure that all new homes are fit for the net zero transition and adaptable to the demands of future climate change to ensure residents future health.

## **13. What impacts have decarbonisation/net zero measures had on your business?**

- It has influenced our decision in office locations, fleet management and corporate travel behaviours in line with our carbon emissions reductions target.
- Increased demand for sustainable design and engineering services has led to the development of a Stantec global climate action leadership team to help clients adapt to and mitigate climate change impacts. This has included the creation of senior leadership roles within the UK and Ireland.



#### **14. What more could be done to support your business and/or sector to decarbonise?**

- The built environment industry is keen to support the government in achieving net zero, and there are potential opportunities for green skills and training to boost the economy, in areas such as retrofit and renewable energy transitions.
- Investment in the UK's infrastructure, both energy and transport, is urgently needed, to improve its reliability and efficiency, as well as to address decarbonisation. Low carbon solutions are more robust for the long term.
- Adopt PAS2080 as the standard framework for whole life carbon reduction across infrastructure and buildings project and programmes.

#### **15. Do you foresee a role for your business within an expanded UK supply of heat pumps, energy efficiency, electric vehicles, hydrogen economy or clean power?**

- The expansion of these technologies would lead to growth in the services we provide to our built environment clients, particularly those investing in clean power, green transport and the development of solar farms and wind farms.
- We are also seeing opportunities to assist clients in other sectors, for example the water industry, to contribute to the production and use of hydrogen as part of the emerging circular economy.

### **Case study - Socio-economic - North Falls Offshore Wind Farm**

Greater Gabbard is a 504MW wind farm located in the southern North Sea, 20 kilometres from the East Anglia coast. Greater Gabbard represents a £1.5 billion investment and created hundreds of jobs during construction as well as 100 long-term new roles at its newly built operations and maintenance base in Lowestoft. It was officially opened in 2013.

When Greater Gabbard was built it was the UK's largest offshore wind farm, in the deepest waters and farthest from shore, so the supply chain was embryonic. It was able to utilise the vast experience of Lowestoft-based oil and gas firms and introduce multiple new suppliers into the offshore wind industry.

Local firm Windcat Workboats, provider of crew transfer vessels (CTVs) to transport technicians to and from the site is just one local success story. The industry has matured significantly since that time but continues to welcome new players, particularly from related sectors keen to transition into offshore wind.

Of the 100 new recruits to the Greater Gabbard operations base, 95% were from the local area and since inception, more than 10 local apprentices have graduated from the wind farm's apprentice training scheme as wind turbine and balance-of-plant technicians. The wind farm has also offered junior engineer roles in disciplines including electrical engineering, SCADA engineering and control & instrumentation. Ex-fishermen have been employed on CTVs as part of the drive to find locally skilled people to fill requirements for roles.



## 16. For clean power industry: what barriers to entry have you found in deploying new plant and technologies?

- The greatest barrier is presented by uncertainty – in both the policy environment and the energy market.
- The creation of a stable policy environment with consistently framed targets over a long term is vital to support business investment and growth, even when the implementation of those targets is in stages. Certainty about the ultimate goals and the rate of progress needed allows business and individuals to plan, to be sure about how to mitigate the risk of ‘stranded assets’ and to develop a considered and confident investment strategy.
- Innovation and creativity are greatly helped by having clarity about the country’s objectives and a well-defined pathway through the transitions needed to reach the targets we have set.
- It is important that permitting approaches (e.g. emissions to air, land or water) are not so overly risk-averse they stifle efforts to deploy low carbon technologies.

## 17. How many green jobs do you estimate will be created in your sector by 2030?

- According to the Construction Industry Training Board (CITB), improving the building fabric energy efficiency of every building in the country in need of retrofit will require 12,000 workers to be trained every year for about the next four years, before the need to ramp up annual recruitment by up to 30,000 workers between years 2025 and 2030. This implies an increased

trained workforce of up to 230,000 by the end of the decade, and a resulting need to urgently prioritise new recruitment and retraining. - <https://www.citb.co.uk/about-citb/construction-industry-research-reports/search-our-construction-industry-research-reports/building-skills-for-net-zero/>

- The Green Jobs Taskforce report states that “Training on modern methods of construction for retrofit and especially new build will be required to ensure that all new homes built meet the Future Home Standard to avoid the need for retrofitting in the future. Specific low carbon training is required across all roles, with a focus on systems design and implementation, inter-trade issues, and competence and quality. This includes every part of the construction supply chain - from planners, architects, engineers, construction workers, supervisors and auditors, to occupiers” - [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1001940/green-jobs-taskforce-report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1001940/green-jobs-taskforce-report.pdf)
- The IMF’s World Economic Outlook report (October 2020) studies the job multipliers of energy generation technology and concludes that “expanding low-carbon sectors, such as renewable energy, retrofitting of buildings, electric car production, and the services sector, are typically more labor intensive than the shrinking high-carbon sectors (such as fossil fuel energy, transportation, heavy manufacturing)—both in the short and long term—and can create many jobs” - World Economic Outlook, October 2020: A Long and Difficult Ascent (imf.org) (Chapter 3: Mitigating Climate Change).

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Barton Willmore, now Stantec  
The Blade,  
Abbey Square,  
Reading  
Berkshire  
RG1 3BE

T: 0118 943 0000  
F: 0118 943 0001  
E: info@bartonwillmore.co.uk

Desk Top Publishing and Graphic Design  
by Barton Willmore Graphic Communication

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