



# Mobilising pension capital for net zero

A policy blueprint for the UK

IFM Investors 

in collaboration with









**IFM Investors** was founded by Australian pension funds. It is one of the world's largest infrastructure managers, working with governments as a partner in critical infrastructure build, renewal and management. From Manchester, Stansted and East Midlands airports to the M6 toll road, Anglian Water, communications services provider Arqiva, and renewable energy assets in Scotland and Northern Ireland, it invests on behalf of millions of working people in infrastructure that serves society's long-term needs. IFM also lends to UK businesses across the energy, transport, social services and affordable housing sectors, and in November 2023 was proud to sign a Memorandum of Understanding (MoU) with the Department of Business and Trade (DBT), announcing its intention to invest £10 billion in the UK by 2027. IFM is a founding member of the UK government's British Infrastructure Council.

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## Acknowledgements

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## About the project partners

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**Border to Coast Pensions Partnership** was launched in 2018 and is wholly owned by 11 Local Government Pension Scheme (LGPS) Funds, with £64 billion of investments and more than 1.1 million members. Its purpose is to make a difference for the LGPS and it does this by providing cost-effective, innovative and responsible investment opportunities that deliver returns over the long term. Based in Leeds, it provides a full range of investment services, including a £16 billion Private Markets programme which has over £5 billion committed to infrastructure and £2.6 billion committed to 'Climate Opportunities', which is delivering investment to support the journey to net zero. Border to Coast is also a founding member of the UK Government's British Infrastructure Council.

**LGPS Central** is owned equally by eight Partner Funds (Cheshire Pension Fund, Derbyshire Pension Fund, Leicestershire Pension Fund, Nottinghamshire Pension Fund, Shropshire Pension Fund, Staffordshire Pension Fund, West Midlands Pension Fund, and Worcestershire Pension Fund), which have £61 billion in collective assets, and is dedicated to the management of local government pension assets. LGPS Central's objective is to use the combined buying power of its Partner Funds to reduce costs, improve investment returns and widen the range of available asset classes for investment – all for the benefit of local government pensioners, employees and employers.

**Nest** was set up to ensure every UK employer could offer a workplace pension to their employees. Since then, it has grown to become the UK's largest workplace pension scheme with 13 million members. By the end of the decade, Nest is expected to have around £100 billion assets under management. Nest wants to deliver the best retirement income for its members and has in place an award-winning investment strategy with one of the most diversified defined contribution portfolios in the UK. It continues to expand its investable universe, including into private markets which have typically been out of reach for the average UK worker.

**North East Scotland Pension Fund (NesPF)** administers the local government pension scheme (LGPS) for employers located throughout the North and North East of Scotland. Established in 1974, the Fund has evolved and grown to become the third largest fund in Scotland. With an asset value of over £6.2 billion, and serving over 77,000 members, the NesPF strives to deliver a sustainable future for all, while maintaining an efficient and effective service for members, employers and stakeholders.

**The Pensions and Lifetime Savings Association (PLSA)** is the voice of workplace pensions and savings. PLSA represents pension schemes that together provide a retirement income to more than 30 million savers in the UK and invest more than £1.3 trillion in the UK and abroad. Its members also include asset managers, consultants, law firms, fintechs, and others who play an influential role in people's financial futures. PLSA recently highlighted in its report, *Pensions & growth: Creating a pipeline of investable UK opportunities*, how government, by working closely with pension funds, can increase the range of investable opportunities in key areas of importance to the economy.

**Universities Superannuation Scheme (USS)** was established in 1974 as the principal pension scheme for universities and higher education institutions in the UK. It works with around 330 employers to help build a secure financial future for 554,000 members and their families. It is one of the largest pension schemes in the UK, with total assets of around £77.9 billion (at 31 March 2024).



**Aware Super** is one of Australia's top-performing and largest profit-for-member pension funds with a core objective of delivering the strongest risk-adjusted returns for its 1.1 million members. Its Australian and London-based investment teams currently originate and manage A\$180 billion of assets on behalf of its members with a projected growth target of A\$250 billion in assets under management in the next few years. As one of the top 50 institutional investors globally, Aware typically takes an active management approach across alternative assets, including infrastructure, real estate and private equity, and additionally allocates to liquid markets. Returns for its A\$19 billion infrastructure portfolio are driven by a globally diversified program which captures global trends in demography, sustainability and technology to achieve a broad universe of assets.

**CareSuper** is a trusted fund for life for people who value high performance and a smoother ride over the longer term. Established in 1986, CareSuper is a profit for member fund which manages over A\$23 billion in assets for over 220,000 members throughout Australia. CareSuper is a multi-award winning fund, focussed on achieving great outcomes for and acting in the best interests of its members, delivering high quality products, more personalised experiences and meeting their expectations for sustainability and integrity while helping them through the twists and turns of their life journey to live their best possible retirement. On 1 November 2024 CareSuper is merging with Spirit Super will have over 550,000 members and A\$55 billion in assets.

**Cbus** is one of Australia's largest superannuation funds. From its origins as the superannuation fund for workers in the construction and building industries, Cbus now serves over 920,000 members from a broad range of industries, managing A\$94 billion of their money as of 30 June 2024. Its fully owned entity Cbus Property is a successful commercial, residential and retail developer that contributes to job creation, community development and significant renewable energy projects.

**HESTA** is an Australian pension fund dedicated to people working in health and community services. HESTA serves more than 1 million members, around 80% of whom are women, and has close to A\$87 billion in assets invested globally on behalf of its members.

**Hostplus** is one of the largest industry superannuation funds in Australia, with more than 1.8 million members, over 312,000 contributing employers and more than A\$115 billion in funds under management. Founded in 1988, with its origins in the hospitality and tourism industries, Hostplus continues to grow and evolve as a lifetime fund of choice for all Australians. Hostplus leverages its size and scale to keep costs low, access diverse and unique investment opportunities, and offer a broad range of products and services to support members on their journey towards retirement. Hostplus' approach to investing is driven by a strong belief in asset class diversification, active management, and a sharp focus on investing for the long term.

**Rest** is one of Australia's largest profit-to-member superannuation funds, with 2 million members and around A\$86 billion in funds under management as at 30 June 2024. Established in 1988, Rest has been looking after hardworking Australians and their super for more than 30 years. We use our size and expertise to deliver strong long-term investment performance for the benefit of our members, around a million of whom are aged 30 or younger and will retire into a post-net zero world.

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## Executive summary

The new UK government has made clean power by 2030 one of its defining missions. It wants to work with the private sector to double onshore wind, triple solar power, and quadruple offshore wind over the next six years.<sup>1</sup> Emerging net zero technologies and industries, like carbon capture and storage and hydrogen, will also need to expand.

This will require significant investment – in the order of tens of billions of pounds annually, according to estimates from the Climate Change Committee.<sup>2</sup> The government expects pension funds local and global to play a major role in financing the transition and is committed to consolidating UK pension provision to drive greater investment in these assets.<sup>3</sup>

*Mobilising pension capital for net zero: a policy blueprint for the UK* is a contribution by some of the UK's and Australia's leading pension funds, already major investors in the UK, to this debate. It is the result of a collaboration between IFM Investors – an infrastructure manager owned by Australian pension funds – the UK pensions trade association, and some of the largest pension funds in the UK and Australia.

Pension funds represent one of the largest and fastest growing pools of capital in the 21st century, with the UK and Australian pensions systems respectively the third and fifth largest in the world.<sup>4</sup> Collectively, the signatories to this blueprint represent £1.7 trillion in pension savings invested on behalf of more than 30 million workers in the UK and more than 10 million workers in Australia. We invest for the long term, with the aim of delivering returns for decades to come, and we have a duty to act in the best interests of our members and investors.

We believe that the right policy settings can help unlock further investment in the UK's net zero transition, drive economic growth and deliver appropriate risk-adjusted returns on workers' retirement savings. This blueprint calls on the government to take an active and coordinated approach across planning, climate, energy, fiscal and industrial decarbonisation policy to give investors of pension capital greater clarity and confidence in the UK market.

Our key recommendations include:

- adapting the fiscal rules for calculating public sector net debt to account for investment in productive assets by the National Wealth Fund and Great British Energy
- setting clearly defined commercial objectives for Great British Energy so that it can effectively partner with and mobilise additional investment by long-term investors like pension funds
- focusing the National Wealth Fund on supporting the commercial development of higher risk net zero industries and projects, where it can play a valuable role bridging gaps in capital markets
- extending Contracts for Difference terms for new renewable and low carbon power generation beyond 15 years to reflect longer project lives and to unlock a lower cost of capital
- streamlining the permitting process for repowering onshore wind sites, using the latest technology to upgrade existing wind farms and increase renewable energy production, and
- improving physical and regulatory integration between the UK and EU energy markets to support harmonised, tariff-free trading.

Where pension funds are trustee governed with a fiduciary duty to members, they are able to take a long-term view with respect to investments. This structure and the scale they enjoy means that many are already investing in the UK energy transition. They are well positioned to support the government's ambition that pension capital play a bigger role still in financing net zero and investing in industries that will drive future growth, jobs and innovation. This blueprint outlines policy actions that will, in our view, help create a supply of new investable projects attractive to pension funds.



**Mobilising pension fund investment into UK productive finance has the potential to result in significant tangible real-world benefits for society. Quite rightly, pensions funds have a fiduciary duty and will only invest where the risk-return characteristics of potential investments meet the needs of their members. But with government, pension funds, investment managers, investee companies and consultants all playing their part, there is substantial potential to open the pipeline of assets to attract the investment of pension funds to support UK growth.<sup>5</sup>**

The Pensions and Lifetime Savings Association

## LIST OF RECOMMENDATIONS

<b>1</b>	<b>Taking a long-term and strategic approach to public sector investment</b>
✓	Set clearly defined commercial objectives for Great British Energy so that it can effectively partner with and mobilise long-term investors like pension funds
✓	Focus the National Wealth Fund on supporting the commercial development of higher risk net zero industries where it can play a valuable role bridging gaps in capital markets
✓	Adapt the rules for calculating public sector net debt to account for investment in productive assets by the National Wealth Fund and Great British Energy
<b>2</b>	<b>Accelerating growth in renewable power and emerging net zero industries</b>
✓	Extend Contracts for Difference terms for new renewable and low carbon power generation beyond 15 years to reflect longer project lives and unlock a lower cost of capital
✓	Use the Low Carbon Contracts Company to aggregate industrial and commercial demand for power, increasing access to power purchase agreements for renewable energy
✓	Streamline the permitting process for repowering existing onshore wind sites, with a clear presumption in favour of repowering
✓	Support hybrid renewable energy generation systems, combining different types of generation and/or storage, through updates to the grid connection process, planning policy and market support schemes
✓	Accelerate delivery of the revenue certainty mechanism for UK producers of sustainable aviation fuel
✓	Prioritise the development of business models and markets for hydrogen and e-fuels
✓	Accelerate the delivery of energy storage solutions, in particular long duration energy storage systems, through the development of revenue certainty mechanisms
✓	Improve physical and regulatory integration between the UK energy market and the EU Internal Energy Market to support harmonised, tariff-free trading and two-way transportation of energy
<b>3</b>	<b>Delivering planning reform</b>
✓	Include legally binding emissions reduction targets in the National Planning Policy Framework
✓	Review key National Policy Statements at least every five years
✓	Mandate economic regulators, <sup>6</sup> such as Ofgem, to report on the delivery of new infrastructure needed in their sector
✓	Implement the reforms in the Transmission Acceleration Action Plan and Connections Action Plan quickly to address grid connection delays and plan for future electricity system needs
✓	Designate the new independent National Energy System Operator as the single provider responsible for the development of offshore transmission infrastructure, to deliver the offshore grid and new offshore wind capacity more efficiently
✓	Implement the commitment to create regional energy planning roles to develop local net zero plans which will help inform investors of local investment opportunities
✓	Increase planning capacity in Local Authorities and reduce resource requirements in the planning system
✓	Support local government to develop Local Area Energy Plans and provide clear guidance and support to standardise energy-related procurement and business models
✓	Issue a new National Policy Statement allowing Local Authorities to exceed national standards in Local Plans, allowing for more ambitious climate action in communities



## 1. Taking a long-term and strategic approach to public sector investment

### 1.1 Great British Energy

#### **ACTION:**

**Set clearly defined commercial objectives for Great British Energy so that it can effectively partner with and mobilise long-term investors like pension funds**

One of the government's first acts was to announce the creation of Great British Energy, a publicly owned energy company headquartered in Scotland that will own, manage and operate low carbon energy projects across the UK. The government has set out that Great British Energy will have five core functions:

- project investment and ownership, particularly in less developed technologies like floating offshore wind
- project development, including through the recently announced partnership between Great British Energy and The Crown Estate
- supporting delivery of the "local power plan," to give communities a stake and ownership in renewable energy through partnerships with Local Authorities and the private sector
- building sustainable supply chains for greater energy security, and
- working with Great British Nuclear.<sup>7</sup>

The UK benefits from having a long track record of attracting private investment in energy, including substantial foreign direct investment. It will be important that Great British Energy is additive – mobilising additional private capital, including from long-term investors like pension funds, rather than displacing it.

The government has already set out that Great British Energy will be an operationally independent company, overseen by an independent fiduciary board, and this will be important in building trust with the market.<sup>8</sup> It will take time to establish the company and onboard staff with the right skills and experience. The Department for Energy Security and Net Zero and HM Treasury should nonetheless move quickly to set clearly defined commercial objectives for the company and provide the market with clarity through its business plan and framework document. This should set out how it will work with private investors, participate in commercial financing structures, and assess value for money and return on investment. Private investors may otherwise pause or delay investment decisions pending clarity on what role Great British Energy may play in their investment decisions or those of their competitors.

It will be important to focus Great British Energy's efforts on regions and sectors where it can have the most impact. Offshore wind, particularly the emerging floating offshore wind sector, is one example. The agreement with The Crown Estate in relation to the development of the UK's offshore wind sector offers potential for streamlining early development of offshore wind sites. The Department for Energy Security and Net Zero estimates that this could leverage up to £30-60 billion of private investment.<sup>9</sup>

There is also an opportunity for Great British Energy to take on development risk in areas that would otherwise fail to attract private investment, such as projects on publicly owned land, and to work with and build capacity in Local Authorities to deliver projects that will deliver ongoing benefits to local communities.

Finally, the government should engage with a wide stakeholder base, including pension funds and their managers, strategic investors in renewable energy and energy intensive industries on the design and functions of Great British Energy. Pension funds will continue to pursue opportunities in the UK energy transition where the risk and return profile aligns with their objectives. Where Great British Energy seeks to mobilise capital in partnership with pension funds it will be important to have alignment on commercial objectives and approach.

### 1.2 The National Wealth Fund

#### **ACTION:**

**Focus the National Wealth Fund on supporting the commercial development of higher risk net zero industries where it can play a valuable role bridging gaps in capital markets**

One of the government's first actions was to begin work to align the UK Infrastructure Bank and the British Business Bank under a new £7.3 billion National Wealth Fund that will invest in industries of the future.<sup>10</sup> The vision for the National Wealth Fund is that it will reshape approaches to public-private risk-sharing, providing investors with the confidence to fund the technologies and infrastructure needed to drive growth across the UK.<sup>11</sup>

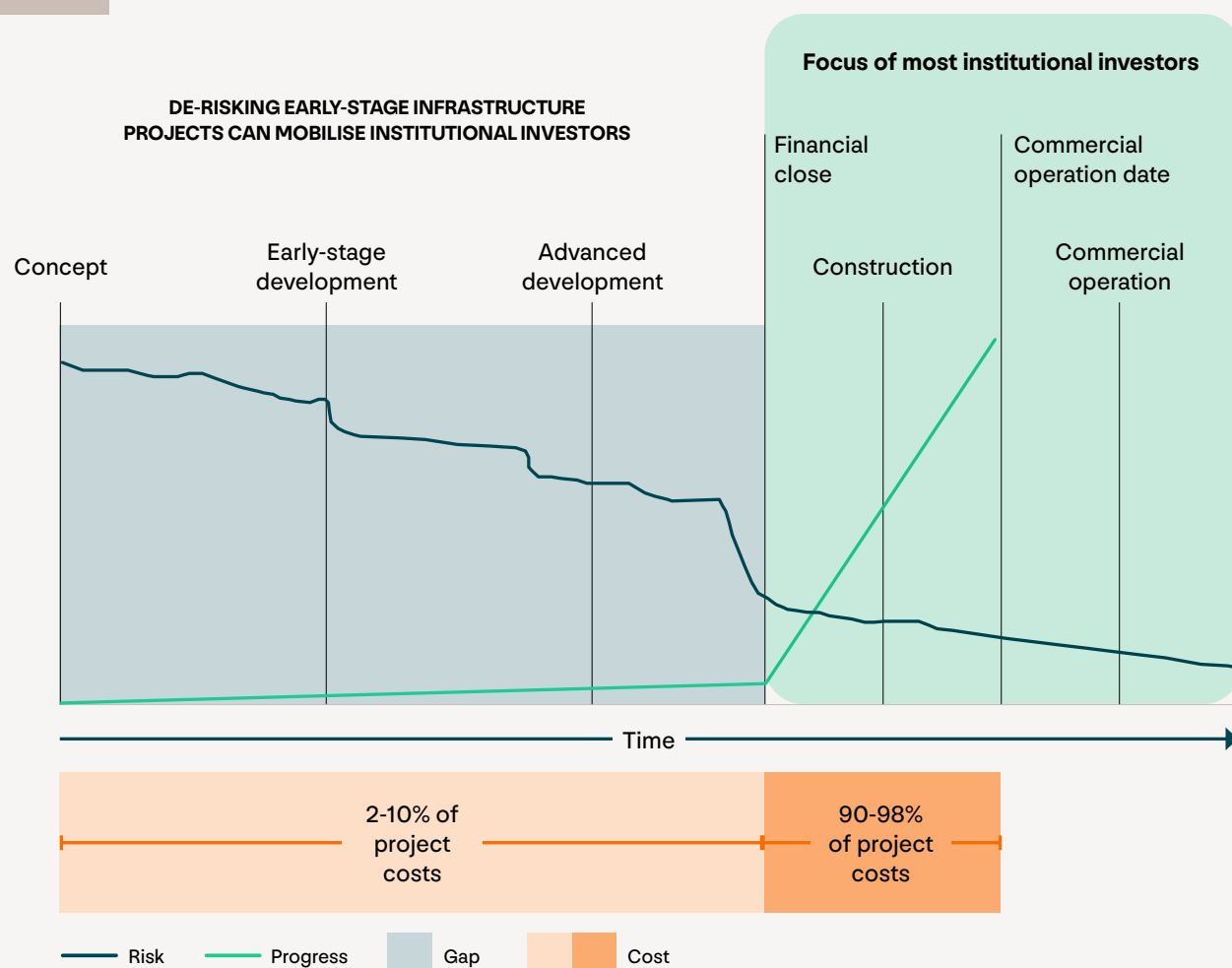
The government has signalled five preliminary sectors where capital from the National Wealth Fund could help to catalyse private investment: green steel, green hydrogen, industrial decarbonisation, gigafactories and net zero ports.<sup>12</sup> The National Wealth Fund is expected to focus on projects where levels of investment risk currently exceed the risk appetite of private investors.

The National Wealth Fund can play an important role by catalysing private investment, including from long-term investors like pension funds, through:

- providing capital or innovative financing to bridge gaps in markets, using various types of finance including concessional loans and equity financing, to help scale up nascent technologies, for example by co-funding a green steel plant, or anchoring a giga-factory<sup>13</sup>
- taking on first-of-a-kind execution risk or derisking projects, for example, through credit and/or loan guarantees to develop the market in emerging sectors and crowd in investment. This could take the form of a venture capital or growth equity strategy focused explicitly on industrial transformation
- re-investing (recycling) its capital into new projects. While the National Wealth Fund should provide capital through the development stages of technologies, it should divest once projects mature (i.e. once the cost and performance gap with existing technologies is closed) and re-invest capital into new early stage projects (creating potential for a multiplier effect on the National Wealth Fund's £7.3 billion budget). For example, Ørsted typically divests 50% of their offshore wind farm ownership to industrial and institutional partners so it can reinvest the capital in new renewables projects.<sup>14</sup>

Investors will need clarity on how the National Wealth Fund will interact with the funding and mandate of existing organisations, including the

FIGURE 1



**Source:** Adapted from Figure 15.7 in IPCC, 2022: *Climate Change 2022: Mitigation of Climate Change*. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.

UK Infrastructure Bank, the British Business Bank and Great British Energy, as well as with grant programmes that may be able to offer complementary forms of support.

### 1.3 Updating fiscal rules to support public investment in productive assets

#### **ACTION:**

**Adapt the rules for calculating public sector net debt to account for public investment in productive assets by the National Wealth Fund and Great British Energy**

Taking a long-term and strategic approach to public sector investment is important in a fiscally constrained environment. Currently, accounting rules are impacting on the ability of national investment vehicles like the National Wealth Fund and Great British Energy to effectively invest in productive assets.<sup>15</sup>

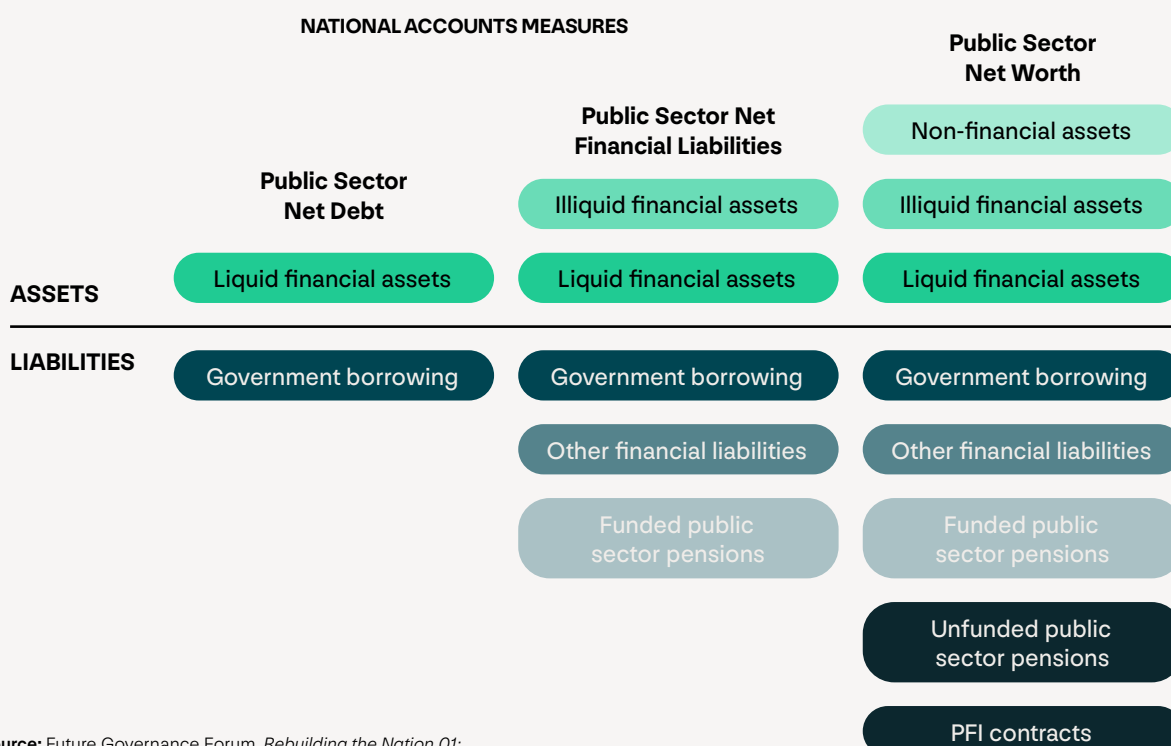
Public sector net debt, a key fiscal metric, takes a narrow view of government assets and liabilities by valuing the stock of government debt against the value of liquid financial assets. Illiquid financial assets,

such as fixed infrastructure assets and public equity investments, are not accounted for as an asset in the calculation of public sector net debt, even though debt issued to finance these investments is accounted for as a liability. In our view, this does not make economic sense and may be a barrier to the National Wealth Fund and Great British Energy successfully fulfilling their mandates.

Instead, we believe the government should adapt the rules for calculating public sector net debt to account for investment in productive assets by national investment vehicles. This would create fiscal headroom, incentivise long-term public investment and help Great British Energy and the National Wealth Fund crowd in pension capital at scale.

It would also bring the budget treatment of the National Wealth Fund and Great British Energy more in line with comparable organisations like Australia's Clean Energy Finance Corporation and Germany's Kreditanstalt für Wiederaufbau (KfW). The government has signalled its openness to such reforms through a net worth rule, building on the Office for National Statistics' inclusion in its official data points.<sup>16</sup>

FIGURE 2



**Source:** Future Governance Forum, *Rebuilding the Nation 01: Progressive principles for effective investment* (2024) based on HM Treasury, *Whole of Government Accounts* (2021)





## Canadian Infrastructure Bank

A powerful model for the National Wealth Fund is the Canadian Infrastructure Bank (CIB), which has been highlighted as a model institution by the OECD.<sup>17</sup> The CIB's objectives are to invest in revenue-generating projects to accelerate private infrastructure investment, secure return of principal and deliver good public outcomes and impact.<sup>18</sup> Its mandate gives it the flexibility to take more risk than the market is willing to assume, and be a patient impact investor by, for example, accepting concessional returns or longer or more flexible financing terms.<sup>19</sup>

The CIB is structured to bridge the gap in a project's financial model that is preventing it from proceeding with private capital alone. It aims to only invest in projects that may not have been built, would have been significantly delayed or would have been delivered at a smaller scale without the CIB's financing.<sup>20</sup>

The CIB's experts work with the proponent to develop bespoke, innovative financial tools to crowd in private sector infrastructure investment. The CIB

can make these investments because of its ability to expend C\$15 billion against the fiscal framework, making investments that others won't. In situations where the project risks are well understood, the CIB's financing aims to reduce the project's cost of capital. While most of the CIB's investments to date have been based on debt instruments, the CIB is increasingly structuring its financing options as equity participation.

Most private and institutional investment has come from portfolio companies or growth platforms established by larger investors. For example, the CIB has committed C\$600 million to a project which allows Enwave (jointly owned by the Ontario Teachers' Pension Plan and IFM) to accelerate the build-out of district energy systems in the Cities of Toronto and Mississauga.<sup>21</sup> This reflects the strategic approach of most large institutional investors who tend to establish or acquire growth-focused subsidiaries to invest in greenfield projects because greenfield projects involve comparatively greater risk with less certainty around expected cashflows.

## 2. Accelerating growth in renewable power and emerging net zero industries

The UK has made significant progress in decarbonising its power sector. Today, over 40% of electricity in the UK is provided by renewables.<sup>22</sup> The UK recently became the first G7 and advanced industrialised nation to phase out coal-fired power, with the closure of the last UK coal-fired power station in September 2024.<sup>23</sup>

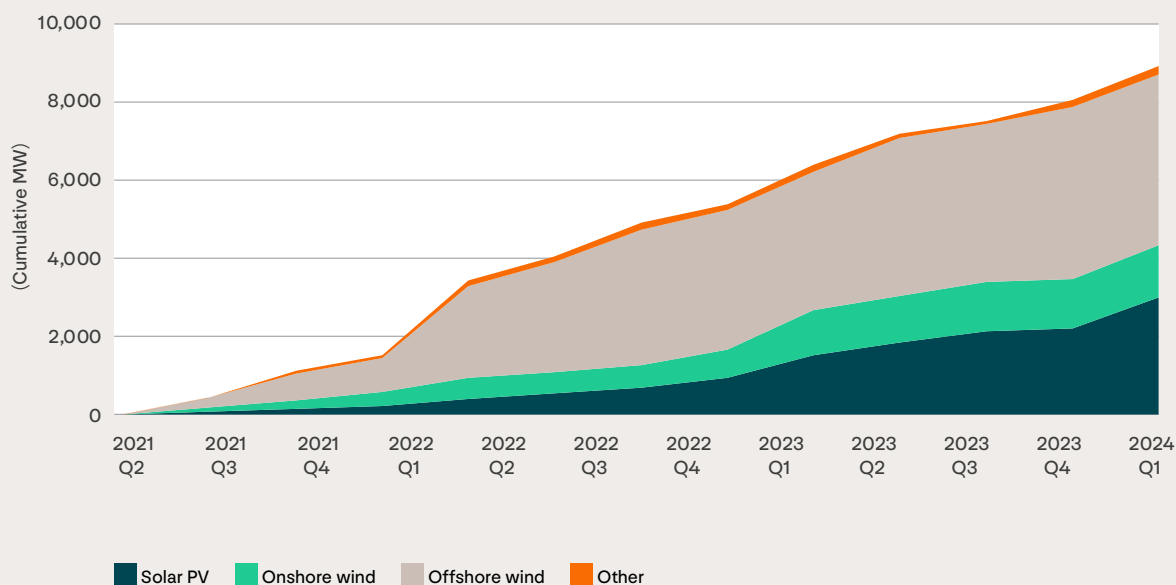
Leadership and innovation have characterised the UK's energy transition, such as in the early development of offshore wind and then battery storage systems. UK government policy backed the development of these emerging sectors years ahead of European and other global markets, supported by strong industrial supply chains, skilled workforces and sophisticated capital markets. In offshore wind, for example, the UK is second only to China in installed capacity.<sup>24</sup>

The government's clean power by 2030 mission will require a further and rapid expansion in renewable energy capacity. It wasted no time getting started. In its first days in office the government announced reforms to planning processes for onshore wind farms in England, expanded the budget for the next Contracts for Difference scheme auction round, and published its founding statement for Great British Energy.<sup>25</sup>

The government has pledged to work with the private sector to double onshore wind, treble solar capacity and quadruple offshore wind by 2030, with an ambition to reach 140GW of renewable capacity by 2030.<sup>26</sup> Realising this ambition will require roughly 90GW of new renewable capacity to be installed in the six years to 2030, an average of about 15GW annually.<sup>27</sup> This will require a step change in the rate at which new capacity is installed, because only around 9GW of new renewable capacity was installed in the UK in the past three years, an average of about 3GW annually.<sup>28</sup>

FIGURE 3

### APPROXIMATELY 9GW OF NEW RENEWABLE CAPACITY (CUMULATIVE) WAS INSTALLED IN THE UK IN THE PAST THREE YEARS



Source: Department for Energy Security and Net Zero, "Energy Trends UK, January to March 2024", June 2024

Looking further ahead, the next phase of the UK's energy transition will also require the delivery of first-of-a-kind projects in areas such as carbon capture, low carbon fuels (hydrogen, sustainable aviation fuels, green ammonia, green methanol) and floating offshore wind. First-of-a-kind projects carry a unique combination of risks which often have binary outcomes for investors and developers, limiting the pool of private capital available to invest. These risks include permitting sites for new technologies, technology maturity and scale, construction and supply chain risks, revenue uncertainty and risks associated with changes to policy and regulation.<sup>29</sup> Under current policy settings, pension funds can play

a role in supporting first-of-a-kind projects through their venture capital allocations, but these are typically only small relative the rest of their portfolios.

The government has several policy options for supporting project delivery in priority sectors. Targets are important but will not alone attract investment. Policy action is needed to support investment and delivery. In addition to the recommendations on Great British Energy and the National Wealth Fund set out in the previous section, we believe the policy actions below could help address barriers to investment in specific subsectors of renewable power and emerging net zero industries.

## CASE STUDY

### Renewable energy partnership between Swift Current Energy and major US cities

Swift Current Energy (Swift), which forms part of IFM's infrastructure portfolio, is a utility-scale renewable energy company developing and operating a range of low carbon energy technologies across the United States. It has had success partnering directly with cities to help meet their climate goals and power needs.

Swift is building the Double Black Diamond solar farm, which is expected to be the largest solar farm in Illinois and the second largest single-phase solar farm in the US. Double Black Diamond farm intends to have c.600 MWac of capacity, powering the equivalent of over 100,000 homes.<sup>32</sup>

The project was made possible through collaboration with the City of Chicago, which will source renewable energy from the project to power its facilities, including O'Hare and Midway airports. The agreement will help offset approximately 70% of the electricity

use associated with the City's municipal operations and is expected to help meet the City's goal of transitioning all city operations to 100% clean energy by 2025.<sup>33</sup>

The project is representative of Swift's support for local communities and workforce development. This has involved working with local unions to facilitate apprenticeship programs, including supporting training programs and facilities for apprenticeship candidates.

Swift is also investing in renewable energy projects to power the City of Houston. Swift is the developer, owner and operator of the Tres Bahias Solar project, the largest operating solar project in Calhoun County, Texas and the third largest in the Texas Gulf Coast region. The project is providing renewable energy to the City of Houston's facilities and is expected to feed 195 MWac of electricity to the Texas power grid.<sup>34</sup>





## 2.1 Extend Contracts for Difference terms beyond 15 years to reflect longer project lives

### **ACTION:**

**Extend Contracts for Difference terms beyond 15 years to reflect longer project lives and unlock a lower cost of capital**

The UK Contracts for Difference scheme was established in 2014 and incentivises investment in renewable energy by providing developers of projects with high upfront costs and long lifetimes with protection from volatile wholesale prices.

The scheme is helping to facilitate the delivery of over 30GW of new energy transition projects across renewable and low carbon power generation sources by 2030. The success of the scheme is underscored by the government's recent expansion of the budget for the sixth allocation round, allowing more projects to come online.<sup>31</sup>

Since the scheme was established, however, innovations in technology and changes in the risk appetite of investors have extended the expected life of renewable projects.<sup>35</sup> Today, the 15-year contract term only covers about half of the expected 25 to 35-year operating life of wind and solar projects.<sup>36</sup> When the contract term expires, investors need to rely on uncertain future market revenues to underwrite their investments. This risk increases the cost of capital which ultimately raises strike prices. Several EU countries, including Germany, France, Italy and Denmark, offer 20-year Contracts for Difference.<sup>37</sup>

Long-term investors such as pension funds typically look for stable, long-term revenue streams. Longer-term contracts (e.g. with terms of 20 years or more) would lower revenue volatility for project cash flows, helping to unlock a lower cost of capital and supporting continued investment in renewable energy capacity.

## 2.2 Renewable energy procurement

### **ACTION:**

**Use the Low Carbon Contracts Company to aggregate industrial and commercial demand for power, increasing access to power purchase agreements for renewable energy**

The most common alternative to contracts for difference is for project owners to secure increased revenue certainty through power purchase agreements directly with industrial and commercial energy

users, for example data centres. Together, contracts for difference and power purchase agreements can support secure and stable investment conditions for renewable energy developers and investors.

To unlock more investment in renewable energy it will be important to expand access to power purchase agreements. Project owners offering power purchase agreements look for a credit-worthy partner, but for lots of businesses the long duration of contracts and high financial strength requirements can be a significant barrier.<sup>38</sup>

Bringing small to medium size energy intensive users together and aggregating their energy demand could expand the market. The Low Carbon Contracts Company is a government-owned company that acts as the counterparty to the contracts awarded in Contracts for Difference scheme auctions. With its existing track record and market expertise, it could play this role, allowing small to medium size companies access to long-term fixed price and low carbon electricity.

For this approach to be effective, the Low Carbon Contracts Company might have to provide guarantees to the supply side. It could partner with other public institutions, such as the National Wealth Fund, to underwrite such guarantees. A similar approach was taken in 2023 in France when French state-owned bank Bpifrance launched the Guarantee for Renewable Electricity scheme, aimed at helping industrial consumers sign up to 500 MW of cumulative long-term power purchase agreements. The guarantee covers up to 80% of a buyer's obligation in the event of default by a power purchaser.<sup>39</sup>

## 2.3 Repowering onshore wind farms

### **ACTION:**

**Streamline the permitting process for repowering existing onshore wind sites, with a clear presumption in favour of repowering**

Onshore wind provides generation close to communities, reducing the strain on transmission and diversifying the mix of generating technologies. The government has said it will work with the private sector to rapidly expand onshore wind capacity.<sup>40</sup> Its decision to amend the policy on local consent for onshore wind in England, effectively removing the de facto ban that has been in place since 2015, is a welcome first step. Repowering – that is, upgrading and renewing existing onshore wind installations with more modern technologies – must also be a key part of the UK's mission for clean power by 2030.

The UK's first generation of wind turbines are approaching the latter half of their expected operational lives. Repowering can play an important role in maintaining and expanding the installed capacity of the renewable energy system and ensuring the UK has ongoing access to locally produced wind energy.<sup>41</sup>

Over the last 20 years technological advances have significantly increased the scale and efficiency of turbines. Wind turbines continue to grow in size and capacity, with modern onshore wind projects frequently having a turbine capacity of more than 4 MW, 80 times higher than the 1985 capacity of 0.05 MW.<sup>42</sup> Repowering therefore has the potential to increase the amount of electricity produced on existing sites and/ or reduce the number of turbines needed to produce the same amount of electricity.

Policy change is needed, however, to ensure assets are upgraded easily and effectively and continue to produce electricity to power households and businesses over the long term. Larger, more modern

turbines need to go through a new planning process even where the impacts from a planning perspective have not changed. Increased power generation can also require improvements to grid infrastructure, something that can also be delayed by planning.

We recommend the Ministry of Housing, Communities and Local Government, with the support of the Department for Energy Security and Net Zero, further update planning regulations to facilitate the repowering of existing sites and support the deployment of larger turbines. The amendments made to the National Planning Policy Framework in 2023 to support repowering and life extension where their "impacts are or can be made acceptable" was a positive development,<sup>43</sup> but the language creates ambiguity for project owners and developers. Updated guidelines should clearly reflect the importance of maintaining existing onshore wind capacity and should offer sufficient direction to decisionmakers to ensure consistency in planning decisions.

## CASE STUDY

### ERG SpA repowering in Italy

Repowering has the potential to enhance the productivity of the UK's existing grid infrastructure by upgrading existing wind farms with the latest technology.

ERG SpA, part of IFM's infrastructure portfolio, is a renewable energy operator across nine European countries and in the United States. It has been at the forefront of capturing the repowering opportunity in Italy.

The Partinico-Monreale wind farm in Palermo, Sicily, was commissioned in 2005 with an installed capacity of 16 MW across 19 turbines yielding energy production of 27 GWh per year. As the project neared the end of its second decade in operation, repowering created the opportunity to deploy the newest available technology at the site.

The capacity of the wind farm, repowered in 2023, was increased to 42 MW, with production expected to grow to 94 GWh per year and the number of turbines reduced to 10. The transformational increase in energy production sees the average full load hours increase from approximately 1,700 annually to over 2,200, improving the use of the site's wind resource and importantly the use of the existing electricity network to provide green electricity for up to 18,000 homes annually.



Similar repowering projects at ERG's Camporeale and Mineo-Militello Vizzini wind farms, also in Sicily, have at least halved the number of wind turbines at each site while more than doubling generation capacity. Together, the three repowered facilities are expected to increase their production from 135 GWh to 414 GWh, while reducing the number of turbines from 102 units to 46 units.

ERG has plans to repower its wider fleet of onshore wind farms internationally and is also an investor in the UK with 249 MW of onshore wind capacity in operation, 47 MW under construction and a development pipeline of over 200 MW.<sup>44</sup>

## 2.4 Hybridisation and co-location of renewable and low carbon energy

### ACTION:

**Support hybrid renewable energy systems through updates to the grid connection process, planning policy and market support schemes**

Hybrid renewable energy systems combine different types of generation and/or storage projects at the same grid connection point. Hybrid systems make more efficient use of the grid by allowing more electricity to be delivered for the same piece of grid infrastructure, for example, through co-locating wind and solar. They also create more flexibility through the addition of storage allowing power to be delivered at times of higher demand.

In suitable locations, combining wind and solar and/or battery storage can therefore deliver more low carbon electricity, reducing energy costs over the long term. Globally, we have seen deployments of hybrid renewable sites in markets such as the USA, Spain and Turkey.<sup>45</sup> In 2020, Spain passed a new law to allow for existing renewable projects to add an additional technology, increasing the output being delivered through existing grid infrastructure.<sup>46</sup>

In the UK, hybrid systems have the potential to reduce the need for additional grid infrastructure to enable new generation, improve project efficiencies and lower consumer costs.

Co-location is being held back by three issues:

- the need to ‘reconnect’ to the grid
- the need to submit new planning applications, and
- market arrangements that act as a barrier to increasing co-location.

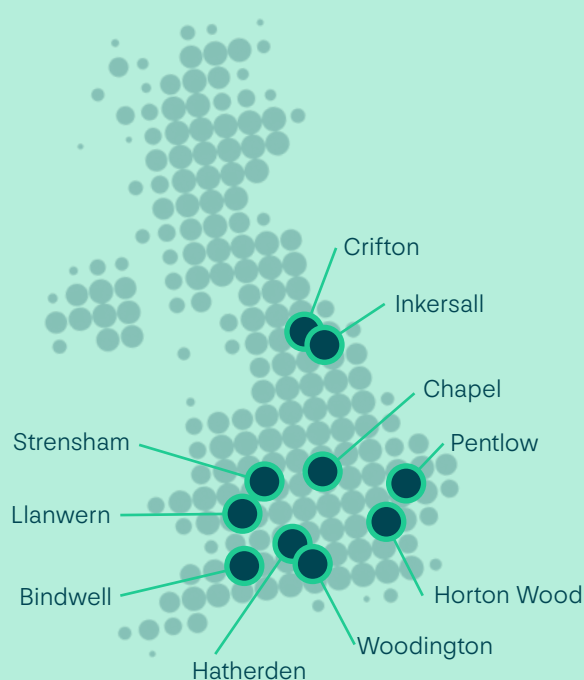
Adding co-located storage (or adding an additional form of generation to existing generating sites) requires developers to revise grid connection agreements. This is the case even if the addition does not increase the required export capacity. As part of its new role overseeing the strategic planning and design of the UK’s electricity and gas networks, the new National Energy System Operator should take into account the valuable role that hybrid renewable and low carbon energy systems can play in the country’s future energy networks. The government and Ofgem should work closely with the National Energy System Operator to support an efficient authorisation process and incorporate a presumptive right to hybridise projects where the export capacity of the overall project is unchanged.

### CASE STUDY

## LGPS Central backed solar and battery projects in England and Wales

Installed solar capacity in the UK has increased by 12% since January 2023, reaching 16.9 GW in July 2024. This includes non-residential solar projects which have attracted investments from UK pension schemes. An example of this is an LGPS Central seeded fund focused on building utility-scale solar power in England and Wales. The fund owns 10 assets (of which four are in the LGPS Central geographical footprint) with an aggregate solar and battery capacity of 497MW.

At present, 76% of the fund’s capacity is in the construction or operational stage, with the remainder in the pre-construction phase. Projects are securing routes to market through a combination of mid-to-long-term power purchase agreements and Contracts for Difference. Looking ahead, the new government’s commitment to triple the UK’s solar capacity by 2030, together with it achieving a streamlined planning process and improved grid and transmission infrastructure, is in our view set to enhance the growth outlook for solar and battery storage investments in the UK.





Planning challenges are exacerbated for co-location because of the different planning regimes for different technologies. The government should consider the creation of a streamlined approach to accelerate delivery of new projects. Rationalising the planning regimes, notably for the different approaches that some devolved authorities take to storage, would streamline co-location decisions significantly.<sup>47</sup>

Market arrangements can also act as a barrier to co-location, as existing arrangements or commercialisation pathways were designed without the need for co-location in mind. At present the commercialisation pathways for generation and storage are fragmented, where a coordinated approach could unlock improved efficiency in delivering complimentary technologies.

In 2023, the Low Carbon Contracts Company provided guidance on how co-located storage and generation could be deployed for Contracts for Difference scheme generation projects with appropriate metering infrastructure.<sup>48</sup> Clarifying definitions of hybrid systems and their eligibility for competitive access to market support schemes, such as the capacity market and Contracts for Difference auctions, will support the deployment of low and zero carbon electricity generation and storage.

## 2.5 Sustainable aviation fuels

### ACTION:

**Accelerate the delivery of the revenue certainty mechanism for UK producers of sustainable aviation fuel**

Sustainable aviation fuels (SAF) are one of the key ways to decarbonise air travel. They are technically feasible and commercially available, but not always economically competitive. SAF is already being used in commercial aviation and can reduce emissions by up to 80% across the lifecycle of the fuel.<sup>49</sup> The International Air Transport Association estimates that the transition to SAF could contribute up to 65% of the required changes for the aviation industry to achieve net zero by 2050 (see Figure 4 below). The International Energy Agency's most recent net zero scenario found that SAF use needs to be scaled up rapidly, noting this will require a significant ramp-up of investment in production capacity and supportive policies.<sup>50</sup>

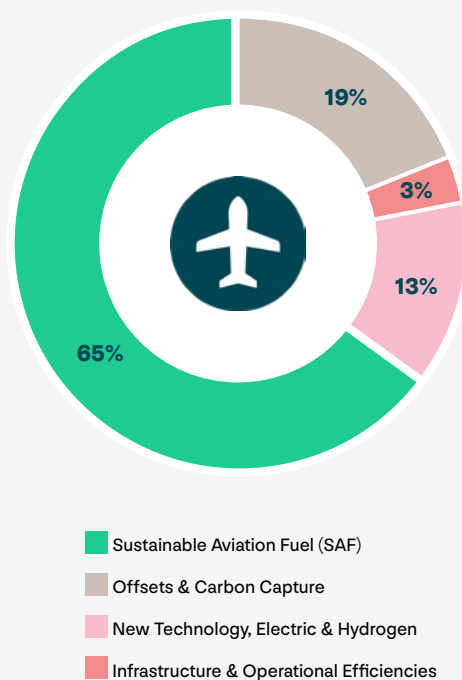
SAF can be produced from several sources (known as feedstocks) including waste, agricultural and forestry residues, as well as non-food crops (known as bio-SAF).<sup>51</sup> SAF can also be produced synthetically using green hydrogen derived from splitting water into

oxygen and hydrogen using renewable electricity via electrolysis, combined with biogenic carbon (known as e-SAF).<sup>52</sup>

The UK's expertise in waste management and chemicals production mean it could be a leader in low carbon fuels. Given the skilled nature of this work, and the locations of associated infrastructure, low carbon fuels could benefit areas experiencing declines in traditional industries.<sup>53</sup> However, the UK's industrial energy prices are significantly higher than in comparable countries, making e-SAF production relatively more expensive in the UK.

FIGURE 4

### CONTRIBUTION TO THE EMISSIONS REDUCTIONS NEEDED FOR GLOBAL AVIATION TO REACH NET ZERO BY 2050



Source: Adapted from International Air Transport Association (IATA), "Net zero 2050: sustainable aviation fuels", May 2024

Subject to parliamentary approval, the incoming SAF mandate will set targets to increase SAF in aviation fuel supply to 2% of total UK jet fuel demand from 2025, increasing on a linear basis to 10% in 2030 and 22% in 2040.<sup>54</sup> If fuel providers don't meet that level they must pay a 'buyout price' of £4.70 per litre.<sup>55</sup> This will be an important catalyst to stimulate demand.



## Manchester Airports Group

The UK's need for increased infrastructure investment will present opportunities for local government and private investors to collaborate.

Manchester Airports Group, the UK's largest airport group, is owned by Manchester City Council, nine Greater Manchester Local Authorities and IFM. It owns and operates Manchester Airport, East Midlands Airport and London Stansted Airport.

Manchester Airports Group was the first UK airport group to be certified carbon neutral and is on track to achieve net zero by 2038 for its direct operations. It is also working to support and collaborate with developers seeking to make much needed investments in sustainable aviation fuels.

Collaboration amongst the public and private shareholders has facilitated an expansion in the size and quality of the company's infrastructure; for example, through the £1.3 billion Manchester Airport Transformation Project which will increase passenger capacity at the airport by approximately 50% with an improved service offering.

During the first phase of the project, 83% of the £450 million project spend was directed towards local suppliers and nearly three-quarters of the jobs associated with the project were local.

Additional policy support is needed to kickstart production in the UK, however.<sup>56</sup> The government's recent announcement that it will legislate to introduce a revenue certainty mechanism for SAF producers who are looking to invest in new plants in the UK is a vital step. SAF production is estimated to have potential to add over £1.8 billion to the UK economy and support over 10,000 jobs.<sup>57</sup> Commercial plants, however, typically cost around £1 billion to reach economic scales of production and can take at least five years to build. Where plants are first-of-a-kind, the capital requirements are often too large for venture capital or too risky for most private equity and fund investors.<sup>58</sup> A revenue certainty mechanism is critical to support investor confidence, accelerate project delivery and support domestic supply chain and production capacity.

In keeping with the government's partnership approach to industrial strategy, SAF developers, investors and offtakers should be brought together with civil servants to set out the success criteria and design of an effective revenue certainty mechanism. The government should accelerate the delivery of revenue certainty from the end of 2026 to 2025 by bringing forward enabling legislation.

While the revenue certainty mechanism is under development, the Advanced Fuels Fund could be used to support investment in SAF production facilities reaching final investment decisions now.



## 2.6 Hydrogen and other emerging net zero industries

### **ACTION:**

**Prioritise the development of business models and markets for hydrogen and e-fuels**

Green hydrogen's expansion faces similar barriers to SAF. End users of green hydrogen need to know that there is sufficient supply, when they need it, at a predictable price for it to effectively displace natural gas in industrial processes.

As part of its upcoming industrial strategy, the government should develop an integrated policy framework to support clean growth and emerging net zero industries, with a focus on maximising the decarbonisation and economic growth derived from each pound invested. An integrated approach to developing the hydrogen value chain needs to consider feedstocks (i.e. green power), electrolyser manufacturing and hydrogen production sectors, together with use cases for hydrogen in the UK economy. On the demand side, use cases in heavy transport (for example green ammonia, green methanol and e-SAF), power generation, heating, steel and cement manufacturing and agriculture (green ammonia for fertilisers) need to be developed to complement mechanisms to develop supply.

The government's promise of a British Jobs Bonus for hydrogen projects using a domestic supply chain is welcome, but such incentives must be given time to bed in and run for long enough for a sustainable supply chain to be established.<sup>59</sup> The previous government consulted on evolving the Hydrogen Production Business Model from a top-up revenue support for eligible projects to a more competitive auction

process.<sup>60</sup> However, this would move significantly faster than comparable support schemes have in the past (e.g. support schemes for offshore wind in the early 2010s), creating a risk of failure if the supply chain is not ready to support a competitive auction process. In time, an auction process would allow various technologies to bid competitively, but only when it is clear each is able to compete on price.

## 2.7 Extending revenue support for long duration energy storage projects

### **ACTION:**

**Accelerate the delivery of energy storage solutions, in particular long duration energy storage systems, through the development of revenue certainty mechanisms**

Energy storage systems, particularly batteries, have been a key growth sector over the last decade for investors in energy infrastructure.

Energy storage allow excess renewable electricity production to be stored when demand is low and renewable generation is high, and delivered in the future when demand is high and renewable generation is low. Energy storage also provides services to the electricity network to maintain system frequency and provide reserve energy to support the National Energy System Operator in balancing the system and maintaining stability.

In 2023, grid-scale battery energy storage systems reached 3.5GW of capacity, largely made up of short duration systems with the ability to provide up to 2 hours of energy.<sup>61</sup> It is estimated that 120GW of energy storage systems are in the grid queue for



connection over the next 15 years. These are expected to support the integration of renewable generation in the decades ahead.<sup>62</sup>

Long duration energy storage systems, which offer storage for extended periods of time from 6 hours up to weeks, encompass a range of technologies including innovative flow battery technologies, mechanical systems (for example pumped storage hydro and compressed air storage) and chemical storage solutions (hydrogen). Such technologies will play an important role in security of supply, system flexibility and decarbonisation of the electricity system, while also having the potential to generate savings of up to 3% of total system costs through avoided grid upgrades.<sup>63</sup> The House of Lords noted that there is a need for a “clear business case, supporting infrastructure such as grid connections, and financial support in order to invest” in long duration energy storage.<sup>64</sup>

The government should move to develop a cap and floor mechanism as proposed in the previous government’s long duration electricity storage consultation in January 2024.<sup>65</sup>

## 2.8 Cooperation with the EU

### **ACTION:**

**Improve physical and regulatory integration between the UK energy market and the EU Internal Energy Market to support harmonised, tariff-free trading**

One of the government’s ongoing commitments is to work to improve the UK’s trade and investment relationship with the EU, and to pursue a deeper relationship with the EU with respect to energy security.<sup>66</sup>

The business case for UK renewable projects in the long term will partly depend on their export revenue potential. Early analysis of the EU Carbon Border Adjustment Mechanism, for example, suggests that the carbon tax it will place on electricity imports from the UK could decrease UK clean electricity exports significantly. This could have a big impact on investment decisions for new clean electricity projects and on financial results for existing assets.<sup>67</sup>

Working together on renewables and grids in the North Sea can create a more efficient system, with less infrastructure needed than if the UK and EU acted alone. Cooperation should also facilitate interconnection, for example with the increased deployment of multipurpose interconnectors, to effectively move power from the North Sea to both the UK and EU.

Consequently, improving physical and regulatory integration between the UK and the EU in energy markets is important. In the short to medium term there are opportunities to enhance the UK investment environment by working cooperatively with the EU on matters such as fair treatment of UK exports under the EU Carbon Border Adjustment Mechanism and increasing alignment between the UK and EU Emissions Trading Schemes.<sup>68</sup>

This would lay the foundation for evolving arrangements for the two-way trading of electricity between the UK and the EU, and exploring the case for the UK to return to the North Sea Energy Cooperation body of the European Commission.



### 3. Delivering planning reform and grid connections

If the UK government is to achieve its mission of clean power by 2030, and take advantage of the economic opportunities offered by emerging net zero industries, new projects will have to be delivered at pace.<sup>69</sup> To secure the investment needed, delays in the planning system and in grid connections must be addressed.

In July, the government put planning reform at the centre of its King's Speech and approved several major new solar projects.<sup>70</sup> The current reality is still challenging, however. Since 2012, the time it has taken for Nationally Significant Infrastructure Projects – major infrastructure projects relating to energy, transport, water and waste – to get planning consent has increased from 2.6 to 4.2 years.<sup>71</sup>

Connecting projects to the grid takes even longer. The UK has one of the longest grid queues in Europe, with more than £200 billion worth of projects waiting to connect.<sup>72</sup> Last year 70% of applicants who received a connection offer reported connection dates five or more years away, and over a quarter received dates beyond 2032.<sup>73</sup> This means that many project developers and investors who are ready and willing to add renewable capacity to the grid won't be able to do so until many years after the government's 2030 deadline.

Addressing these challenges will require planning reform at both the national and local levels, along with action to support local planning capacity.

#### 3.1 Planning as an enabler of the net zero transition

**ACTION:**  
Include the government's legally binding climate objectives in the National Planning Policy Framework

The National Planning Policy Framework sets out the government's planning policies for England and how these should be applied in locally prepared development plans. Currently, it makes no specific reference to the Climate Change Act.<sup>74</sup> As such, the importance of the planning system in emissions reductions is not explicitly recognised or accounted for in planning decisions. Similarly, the previous government's net zero strategy did not incorporate planning reform as integral to its achievement.

The National Planning Policy Framework should be updated to include new guidelines that mandate the assessment of climate impacts for all significant projects, and ensure that all policies, plans and decisions deliver on the targets of the Climate Change Act. Stakeholders such as the Town and Country Planning Association have called for greater clarity both on the handling of carbon emissions in planning decisions and on policy options.<sup>75</sup> Key

planning organisations such as the Royal Town Planning Institute have been pressing for the National Planning Policy Framework to have a much stronger connection to climate policy.<sup>76</sup>

Nationally Significant Infrastructure Projects and National Policy Statements should also include specific consideration of the Climate Change Act so that net zero targets are embedded throughout the planning process.<sup>77</sup>

**ACTION:**  
Review key National Policy Statements at least every five years

National Policy Statements set out the government's objectives for strategic infrastructure, and contain the policies which the government expects the Planning Inspectorate and the Secretary of State to consider when making decisions on proposed projects.<sup>78</sup>

The National Infrastructure Commission has said that delays in Nationally Significant Infrastructure Projects are partly the result of outdated National Policy Statements that haven't kept up to date with other policy changes.<sup>79</sup> In key infrastructure sectors National Policy Statements are increasingly outdated, for example the National Policy Statement for Ports is dated January 2012, and the National Policy Statement for Airports is dated June 2018.<sup>80</sup> Regular updates to National Policy Statements are essential so they remain relevant and fit for purpose. A clear, common understanding of the government's priorities and objectives is seen as critical to faster infrastructure delivery.

We welcome the government's draft Planning and Infrastructure Bill and its intent to establish a review process for National Policy Statements. Given the pace of policy change, especially in energy, the government should introduce a legal requirement that key National Policy Statements are reviewed at least every five years.<sup>81</sup>

**ACTION:**  
Mandate economic regulators, such as Ofgem, to report on the delivery of new infrastructure needed in their sector

The government has promised significant reforms to accelerate infrastructure delivery, notably the creation of the new National Infrastructure and Service Transformation Authority. Building new transmission

infrastructure and other regulated infrastructure projects, at pace, will be essential to meeting the government's targets on energy.

To support project delivery, at the speed required, economic regulators should report annually to the relevant minister on the progress of new infrastructure in their sector.<sup>82</sup> In Parliament, Select Committees could also take a role in oversight of relevant regulators' infrastructure targets. The National Infrastructure and Service Transformation Authority could provide infrastructure specialist support to regulators (e.g. as Non-Executive Directors).

### 3.2 Energy systems planning and grid connections

#### **ACTION:**

**Implement the reforms set out in the Transmission Acceleration Action Plan and the Connections Action Plan quickly to address grid connection delays and plan for future electricity system needs**

Implementing the reforms set out in the Transmission Acceleration Action Plan and the Connections Action Plan quickly will be vital to bringing more renewable energy capacity online and to allowing more new projects, including EV charging and other hydrogen production projects, to access the network.<sup>83</sup> These include key areas for action for the government, Ofgem and the new National Energy System Operator, namely:

- raising entry requirements to secure grid access
- removing stalled projects from the grid queue
- matching long-term targets for new capacity with supply and demand forecasts
- improving the use of existing network capacity (which will involve Regional Energy Strategic Plans),<sup>84</sup> and
- streamlining the use of data and processes for acquiring a connection and improving long-term connection models.

The Transmission Acceleration Action Plan aims to halve the time it takes to complete the physical build of transmission assets. Similarly, the Connections Action Plan aims to cut the average delay that project developers face to connect from 60 months to 6 months from the requested connection date.<sup>85</sup> This change is projected to release over 100GW of capacity from the current queue, which currently stands at around 700GW.<sup>86</sup> This represents between two and four times the UK economy's projected additional electricity generation requirements by 2050, illustrating the relatively low barriers to entry

to join the grid connection queue, and that the grid connection process is not directly linked to forecasts for future demand or supply.<sup>87</sup>

Government, regulators and network companies should work together to ensure timely and effective implementation of these plans, with the government and the new National Energy System Operator providing strategic direction and network companies taking action to implement crucial industry change.

#### CASE STUDY



#### **Universities Superannuation Scheme investing in the transition to electric vehicles**

Moto Hospitality Limited (Moto), an operator of motorway service stations, is majority owned by USS. Moto's goal is to become the UK's top en route electric charging destination and it is investing heavily in electric vehicle chargers.

Electric charging infrastructure is key to supporting adoption of electric vehicles and provides a practical solution to 'range anxiety' as a barrier to adoption. Moto continues to expand the number of ultra-rapid electric vehicle chargers (>250kW) across its motorway service sites and finished 2023 with 515 ultra-rapid electric chargers live across 35 sites. The biggest is Exeter, with 56 ultra-rapid electric vehicle chargers, making it the UK's largest ultra-rapid electric vehicle charging hub.

Supported by USS, Moto plans to play a big part in the energy transition and decarbonisation of UK road transport. Grid connections and hence the Connections Action Plan are key not just to energy generation but also to energy end users like the transport sector. Further, Moto is exploring ground mounted solar and battery storage strategy with four planning applications submitted to date and one of those planning applications approved for a 7MW solar farm at one of Moto's largest sites, Wetherby.





## Border to Coast is investing to support the energy transition

As part of Border to Coast's net zero commitment, it is investing in infrastructure and technology solutions, on behalf of its partner pension funds, to support the transition to a decarbonised economy.<sup>88</sup> As at 31 March 2024, £8 billion of the equity and fixed income portfolios that are covered under Border

to Coast's net zero roadmap were invested in such solutions. In addition, Border to Coast's private markets portfolio includes around £2.6 billion of capital that has been committed to investments in climate solutions.<sup>89</sup> These investments include stakes in a range of assets held through external managers, including:



**Synchronous condensers:** Border to Coast is supporting the largest portfolio of stability pathfinder synchronous condenser assets in the UK. Synchronous condensers address the growing need for stability and high voltage support services in the UK that arises as the grid continues to decarbonise and the reliance on intermittent sources of supply increases.



**Offshore wind:** Gwynt y Môr, a £2 billion wind farm, supports the UK's net zero transition by providing 1,950GWh of renewable power a year to the grid; enough to power around 400,000 households.<sup>90</sup> Commissioned in June 2015, it comprises 160 wind turbines situated 13km into the Irish Sea from Llandudno.



**EV charging stations:** InstaVolt develops, installs, owns and operates EV charging stations across the UK, and now controls a network of around 700 charging points. In 2024, the company secured top spot in the ORESA Growth Index, marking it as the fastest growing company in the UK. As InstaVolt looks ahead to the future, the business hopes to roll out 10,000 rapid EV chargers by 2032.<sup>91</sup>



**ACTION:**

**Designate the new independent National Energy System Operator as the single provider responsible for the development of offshore transmission infrastructure**

Offshore wind is central to the delivery of a decarbonised electricity system, but the next generation of offshore wind projects face higher complexity in terms of scale, seabed conditions, distance from the foreshore and other factors. Projects are further complicated by the way the offshore electricity grid is managed. There is wide recognition in the UK and other countries that connecting offshore wind farms to onshore power networks, including permitting of the network and securing capacity onshore, are major barriers to expanding offshore wind capacity at scale.<sup>92</sup>

These issues have been examined in the Offshore Transmission Network Review and in the independent report by Nick Winser in his capacity as the government's inaugural Electricity Networks Commissioner.<sup>93</sup>

To scale up deployment of offshore wind, the government could work to support developers to bring the electricity generated offshore onshore in

a timely and cost-effective way, e.g. by facilitating and coordinating the development of the offshore grid. To this end, the government should follow the recommendations of the Offshore Transmission Network Review and adopt a strategic approach for implementing offshore infrastructure.<sup>94</sup>

To accelerate the delivery of offshore wind capacity, the government should designate the new independent National Energy System Operator as the single provider responsible for the development of offshore grid infrastructure, in addition to its broader strategic oversight of the country's electricity and gas networks, system planning and market operations.

In its former guise as the Electricity System Operator, owned by National Grid, the organisation has demonstrated its efficacy through achievements such as delivering the first Holistic Network Design in July 2022, and working with The Crown Estate and Crown Estate Scotland to identify the optimal combination of seabed use and transmission network configuration.<sup>95</sup> This has the potential to unlock vital transmission investment by identifying areas of the seabed available for substantial wind generation and the associated impacts on the electricity transmission system.

## CASE STUDY



### **Nest and other pension funds invest in Hornsea One offshore wind**

The 1.2GW Hornsea One wind farm is off the Yorkshire coast and was the world's first offshore wind farm to exceed 1GW in capacity. It produces enough green energy to power well over one million homes. Its 174 wind turbines are each 190m tall, larger than the Gherkin building. Hornsea One became fully operational in 2019 and is operated and maintained by Ørsted from their East Coast Hub in Grimsby which supports a workforce of more than 370 people.<sup>96</sup>

In 2022, Nest invested more than £200m in Hornsea One through a joint venture of Octopus Energy and GLIL Infrastructure.<sup>97</sup> Nest continues to invest hundreds of millions of pounds into UK-based green infrastructure.

### 3.3 Supporting local planning capacity

#### **ACTION:**

**Implement the commitment to create regional energy planning roles to develop local net zero plans to help inform developers and investors of local investment opportunities**

The energy regulator Ofgem recently announced it would create regional energy planning roles across Great Britain to improve local energy planning and speed up the transition to net zero.<sup>98</sup> These regional energy strategic planners are expected to work with organisations at a local level, including local government and gas and electricity networks, to improve understanding of the infrastructure needed in different parts of the country and develop plans for how local energy systems need to be developed to reach net zero. These plans are intended to include demand, generation, and storage requirements, providing critical planning assumptions to inform system and network needs.

Ofgem launched a consultation in July 2024 on the policy framework for Regional Energy Strategic Plans and is seeking input on their structure, boundaries and regional governance frameworks.<sup>99</sup> The Regional Energy Strategic Plans will be overseen by the new National Energy System Operator and are expected to be tasked with ensuring there is effective coordination for strategic planning between Local Authorities, network companies and other key stakeholders.<sup>100</sup>

Regional Energy Strategic Plans will be crucial to improving local energy planning and the way that new network infrastructure is delivered. They will

help tailor the future energy system to the needs and ambitions of different regions. They will, for example, develop forecasts of demand and changes in network capacity requirements. In improving network allocation and the use of existing capacity, local net zero plans will also potentially contribute to reduced waiting times for grid connections over time.

Finally, participation and engagement from regional stakeholders is a key pillar of the regional energy planning process. This will be important to enabling wider regional value, maintaining regional legitimacy and supporting a just transition for workers and communities.<sup>101</sup> Building public support for grid infrastructure will be crucial. There should be a role for the LGPS pools to feed into the regional energy planning process as sophisticated investors with deep pools of capital available and a connection to, and understanding of, place-based development.

#### **ACTION:**

**Increase planning capacity in Local Authorities and reduce resource requirements in the planning system**

Most planning is managed by councils, including environmental approval, but expenditure on planning has fallen by around 40% across England, Scotland, and Wales over the past decade and resourcing challenges for many Local Authorities are causing delays in planning approvals.<sup>102</sup> The government has committed to funding 300 new planning officers to support Local Authorities.<sup>103</sup> This is welcome, but would amount to less than one new officer per Local Authority.<sup>104</sup>



The proposed Planning and Infrastructure Bill will be another important opportunity to ease blockages in the planning system, which could reduce resource requirements. Streamlining and increasing the efficiency of the consenting process, particularly for transmission infrastructure, will also be vital to deliver the government's clean power by 2030 mission.<sup>105</sup>

#### **ACTION:**

**Encourage Local Authorities to develop Local Area Energy Plans and provide clear guidance and support to standardise energy-related procurement and business models**

Local Area Energy Plans are Local Authorities' view of what actions and infrastructure are required to meet net zero. Many Local Authorities are developing them, and they are a useful tool for investors to understand what investable opportunities will be available, such as local heat networks or social housing retrofit. Areas such as Greater Manchester have used their plans to attract public and private sector investment and progress project delivery.<sup>106</sup> Whitehall should encourage their uptake more widely.

A Local Area Energy Plan is a starting point from which stakeholders can develop a business case including economic, commercial, financial and management cases. Local Authorities also need to develop the right commercial models and structure bankable projects to attract private investment. Many Local Authorities need to be able to build capacity and resources to do this effectively and may not have partnered with developers or investors

before. Central government can support them attract investment by filling this gap.

The UK Infrastructure Bank has begun to play this role, but it is a major task. Guidance on commercial models and structures for local net zero investments could come from a joint team across the Ministry of Housing, Communities and Local Government and the Department for Energy Security and Net Zero. Ministry guidance could set out options for technology mix, scale and ownership models. It could also provide advice on procurement processes or standardised terms which Local Authorities could use as a starting point.

#### **ACTION:**

**Issue a new National Policy Statement allowing Local Authorities to exceed national standards in Local Plans**

Beyond direct resourcing and constraints, Local Authorities often face limitations in their ability to implement ambitious sustainability measures due to the Planning Inspectorate's interpretation of national standards.

The Ministry of Housing, Communities and Local Government should expressly allow Local Authorities to exceed these standards. This will enable more progressive and tailored climate action at the local level, foster innovation and allow localities to address environmental challenges effectively. For example, Local Plans could incorporate more robust climate adaptation measures, energy efficiency standards, or low carbon technologies. The Statement should instruct the Planning Inspectorate to support enhanced standards.





## Endnotes

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