



Build Back Greener: Challenges & Opportunities for UK Construction

October 2021



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Allan heads up Glenigan's Economics Unit and has over 30 years' experience in providing insightful market analysis and forecasts on UK construction and the built environment. Following 20 successful years as Economics Director at the Construction Products Association, Allan joined Glenigan 13 years ago. During this time Allan and his team have helped hundreds of businesses confidently develop their market strategies.

Allan sits on the Consulting Committee on Construction Industry Statistics for the Dept for Business (BEIS), is member of a Construction Leadership Council working group and is a guest lecturer in construction at the University of Reading.

BUILD BACK GREENER

The impending COP26 Environmental Summit, to be hosted in Glasgow, has intensified the spotlight on the UK's environmental performance and commitments. The UK Government has pledged that the post-pandemic recovery should ensure that the nation "Builds Back Greener" and has committed the country to being carbon net zero by 2050.

The road to this target will involve major social and economic changes.

Construction will have a central role in delivering these changes which will generate new challenges and opportunities for the industry.

The path to net zero will require substantial investment in the UK's energy sector and new infrastructure such as electric vehicle charging points. The environmental performance of new and existing buildings will also need to improve. Alongside this investment the construction industry will need to reduce the carbon footprint of the construction process and the embodied energy of the structures that we create.



LOW CARBON ELECTRICITY

The last ten years have seen a rapid growth in electricity from renewable sources. In 2020 at 22GW, renewable energy accounted for 30% of the UK's generating capacity. The growth in offshore wind capacity has been especially dramatic, rising five-fold to 4.5GW. (Chart 1)

A further marked acceleration in investment will be required to replace fossil fuel power plants and to meet the anticipated growth in electricity demand. Whilst UK generating capacity has fallen by 15% since 2010, electricity demand is set to rise by 50% by 2035 and to double by 2050, in large part due to additional demand for heating buildings and charging electric vehicles.

The Energy White Paper sets out the ambition of quadrupling offshore wind capacity to 40GW by 2030. The value of offshore wind projects starting on-site has grown sharply over the last two years, driving a strong overall increase in renewable energy projects. The value of renewable projects started during 2021 is on track to total £5 billion, a 70% rise on last year and six times the value seen in 2019. (Chart 2)

Further sustained growth in investment will be required over the next ten years to deliver the planned increase in offshore capacity. Greater investment will also be required in other renewable technologies to deliver the overall increase in low carbon generating capacity.

The Government will be holding regular Contract for Difference (CfD) auctions every two years to approve new investment proposals and is looking to sanction 12GW renewable capacity in the 2021 auction, double the amount approved in the last round, with the auction open to onshore wind, solar photovoltaics, and other established technologies, as well as offshore wind.

70%

Rise of the value of renewable projects started during 2021 against last year

CHART 1: UK GENERATING CAPACITY

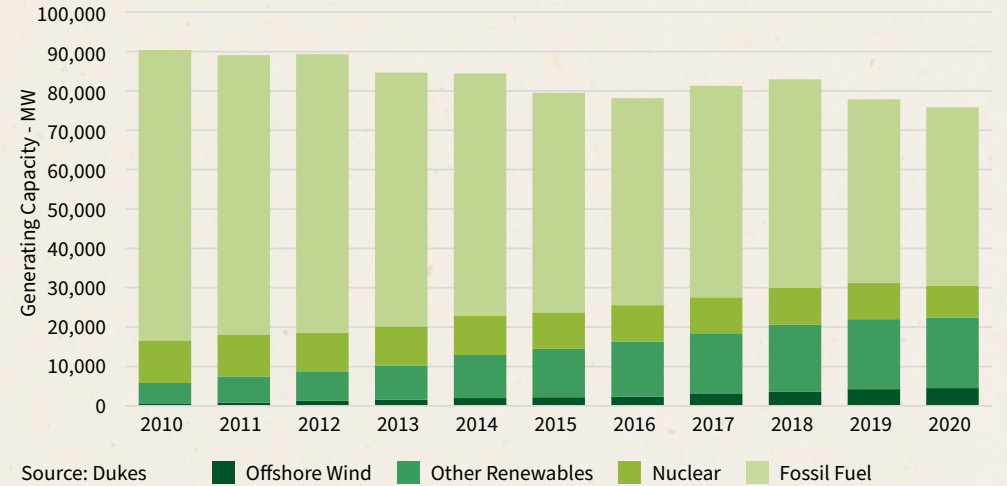
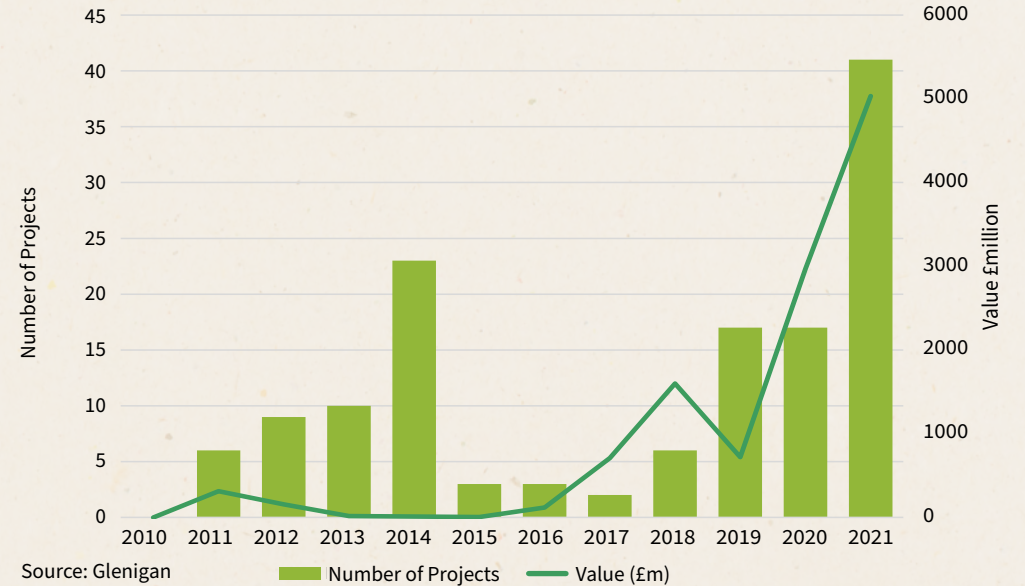


CHART 2: RENEWABLE ENERGY PROJECTS STARTED



CONNECTING & TRANSFORMING THE NETWORK

Alongside additional generating capacity, construction work will be required to connect new electricity sources to the national grid. Longer term investment will be required to raise the capacity of the grid to accommodate the anticipated rise in demand over the next 30 years. (Chart 3)

Sales of electric vehicles (EVs) have grown sharply over the last two years. During the first nine months of this year sales of new EVs totalled 125,000 and accounted for over 9% of all new vehicles, helping to double the number of such vehicles on UK roads over the last year to 280,000. The roll out of public charging points has lagged behind the recent acceleration in EV sales, with the number of points rising by just 27% during the last year.

New electric car and van sales are set to accelerate rapidly over the next 15 years. The Government is banning the sale of new petrol and diesel cars from 2030 and hybrid vehicles from 2035. By the end of this decade, over 10 million EVs may have been sold and on the UK's roads.

A step change in the roll-out of publicly accessible charge points is required to support and encourage the anticipated growth in EV sales. Over the last year, Glenigan has identified around 5,000 projects that include EV charge points. These range from home installations through to major new commercial, residential, and industrial projects.

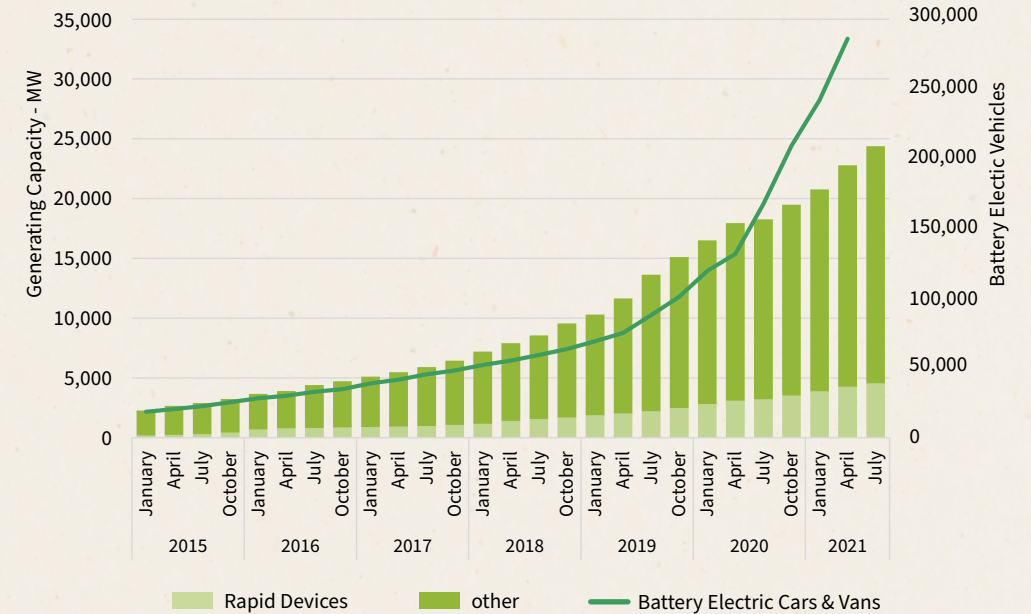
As EV owners will typically charge their vehicles at home, public charge points will generally not be required to recharge vehicles for short, local journeys, although a number of retailers are installing free-to-use units to attract footfall and increase the dwell time of EV owners at their stores.

However, a comprehensive network of public charge points is required to facilitate longer journeys and to overcome 'range anxiety' which can deter potential EV purchasers. The House of Commons Climate Change Committee has called for around 150,000 public charge points to be operating across all parts of the UK by 2025. Investment in charging points and supporting driver facilities along the UK's motorway and strategic network is set to be a growth niche market over the next decade.

A rapid roll out of on-street charging facilities will also be required to enable the 25% of households that do not have access to off-street parking. The industry's urban landscaping expertise will be needed by local authorities and private network providers to install off-street parking infrastructure that enhances rather than detracts from our urban streetscapes.



CHART 3: ELECTRIC VEHICLES & CHARGE POINTS



Sources: DVLA/DfT, Zap-map

27%

rise in number of charging points during the last year

SUSTAINABLE CONSTRUCTION

The greatest contribution that the industry can make towards delivering net zero is through improving the environmental performance of new buildings and the existing building stock. At 19%, buildings are the second largest source of emissions in the UK. Delivering the Government's net zero target means largely eliminating emissions from domestic and commercial buildings by 2050.

The BRE's BREEAM accreditation scheme demonstrates that construction has the know-how to deliver projects with a high environmental performance. Since 2016, 8% of construction projects¹, have been BREEAM accredited. In value terms, at 21%, BREEAM projects account for a far higher proportion of work started, demonstrating that a higher environmental performance is an increasingly sought-after feature for premium buildings.

Furthermore, over the last four years, accredited buildings have increasingly secured the higher BREEAM ratings of 'excellent' or 'outstanding'. By value, half of BREEAM rated projects granted planning consent since 2018 have secured these higher accolades, compared to 43% in the preceding four years.

Less encouragingly, BREEAM accredited projects have accounted for a declining proportion of projects granted planning consent or starting on-site over the last two years. The recent decline may have been caused by the impact of COVID and the related economic turbulence, which has prompted clients to defer investment decisions especially on higher value capital projects. (Chart 4)

The squeeze on public sector finances may also have impacted on the number of BREEAM accredited projects. The last four years have seen a drop in a portion of projects in health, education and other public sector areas that have been seeking a BREEAM rating.

In contrast there has been a strong take up in the office and industrial sectors from private sector clients. BREEAM accreditation has been granted on 35% and 46% of industrial and office projects by value since 2018. (Chart 5)

CHART 4: BREEAM ACCREDITED PROJECTS

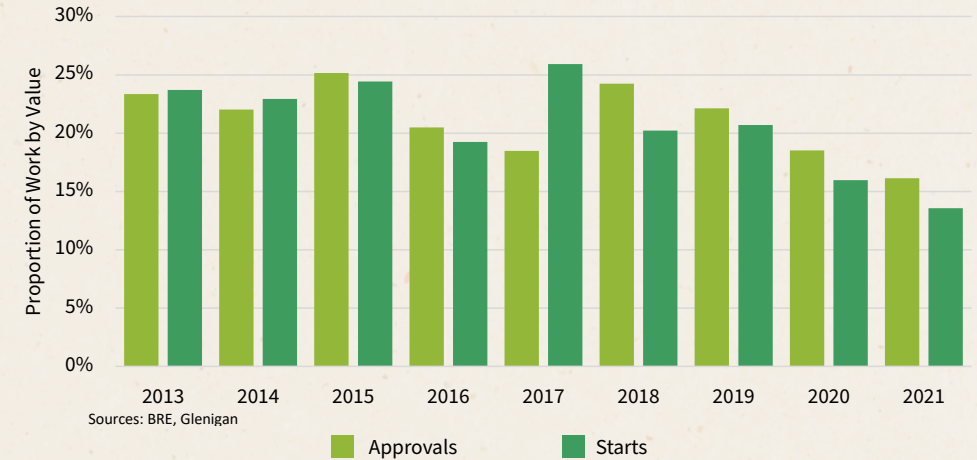


CHART 5: BREEAM ACCREDITED PROJECTS SECURING DETAILED PLANNING BY SECTOR



¹Projects with a construction value of £250,000 or more, new residential projects of 10 or more units

SUSTAINABLE CONSTRUCTION

Renewed support from the industry's clients, especially in the public sector, for programmes such as BREEAM will be required to further enhance the environmental performance of new buildings and existing buildings.

BREEAM has demonstrated that the industry has the know-how to design, build and refurbish buildings which environmentally outperform existing regulations. Moving towards net zero will require much of this know-how to be integrated into building standards.

Some of the lessons from BREEAM can be applied to deliver the Future Homes Standard. This will require all new-build homes to be fitted with low-carbon heating and have high levels of energy efficiency. Homes built to the Future Homes Standard will be zero carbon-ready and have 75% to 80% lower carbon emissions than those built to current standards. Whilst the Government has yet to publish a detailed timetable for the new standards, the direction of travel is clear.

Only 30% of existing homes have an Environmental Performance Certificate of rating of A, B or C, with only 5% falling into band A or B. This compares to 95% of new homes in Bands A to C. The Government wishes to bring as many existing homes as possible up to EPC Band C or better by 2035 'where this is practical, cost-effective and affordable'. Improved home insulation will be a crucial element in delivering the accompanying government objective of switching up to 600,000 homes a year to lower carbon heat pumps by 2028, as such systems require well insulated homes to operate efficiently.

The Government is to provide £450 million from April 2022, to provide £5,000 grants to households replacing gas boilers with heat pumps. This will be sufficient to support the installation of 90,000 heat pumps.

Whilst the price of pumps is expected to fall, further support is likely to be required to raise installations to the Government's target of 600,000 per annum.

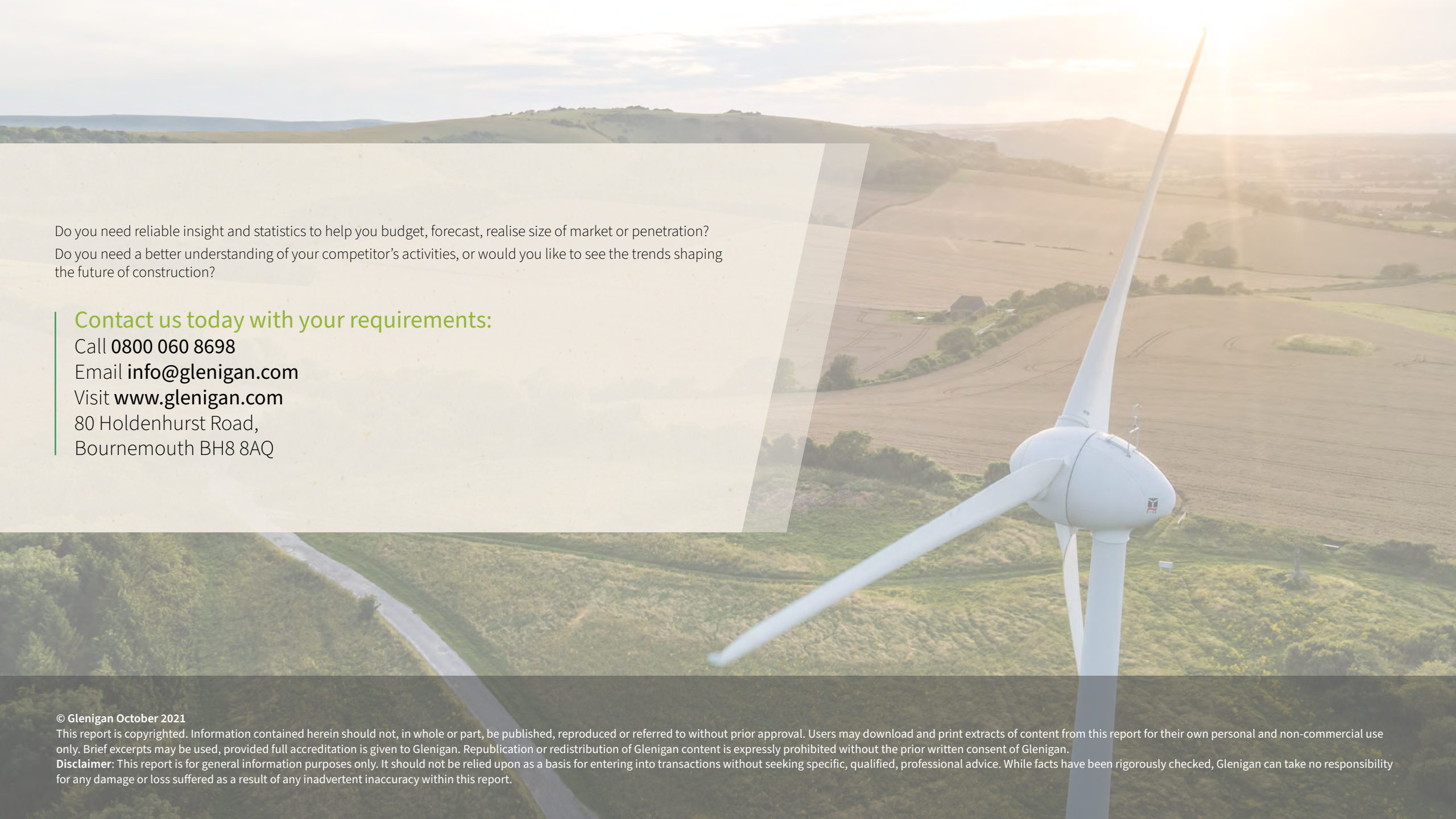
In addition, the Government plans to drive up the energy performance of non-residential buildings by requiring all rented industrial and commercial properties to be in EPC band A or B by 2030, where cost-effective. Currently less than 17% of non-residential buildings in England are in B or better. Landlords are likely to review and potentially bring forward refurbishment works to incorporate changes to meet the higher performance standard ahead of the deadline.

Delivering carbon net zero will involve major challenges for the nation, government, and the construction industry. Recent investment in renewables and accreditation schemes such as BREEAM demonstrate that construction has the experience and know-how to deliver many of the changes required to the UK's energy infrastructure and to the built environment. During the current decade the industry will experience a rapid increase in investment in our energy networks and the need to disseminate and deploy its know-how to enhance the performance of the nation's buildings - new and old. This will require investment in materials, labour, and training to deliver a substantial and sustained increase in the industry's capacity.

Delivery will also require sustained demand from the industry's clients. The Government has a key role to play both as the industry's largest client and by providing the legislative and fiscal support that will drive demand from private business and households. The Energy White Paper and the recently announced support for the installation of heat pumps are welcome first steps on the long road to net zero.



Retrofitting of the existing building stock, to raise its environmental performance, will potentially be the greatest growth area for construction over the next decade.

An aerial photograph of a white wind turbine in a rural landscape. The turbine is positioned on the right side of the frame, with its three blades extending outwards. The background shows rolling hills, fields, and a small farm with a barn. The sky is filled with soft, golden light from the setting sun, creating a warm and serene atmosphere. A semi-transparent white box is overlaid on the left side of the image, containing text.

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