Department for
Business, Energy
& Industrial Strategy

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Lord Hollick
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Dear Lord Hollick,

Thank you for your letter of 16 December, regarding your Committee's report 'The net zero transformation: delivery, regulation and the consumer'. I am aware that the report will be debated by the House of Lords on 20 January. Lord Callanan will be representing the Government in the debate in what I am sure will be a timely and an insightful exchange of views about the challenge of delivering Net Zero. You will also be aware that the Rt Hon Chris Skidmore has published his Net Zero Review. The Government is now considering his recommendations.

In your letter, you asked a number of detailed questions. I am happy to set out a response to these in the attachment to this letter.

I hope you and your Committee will find these responses helpful.

Yours sincerely,

RT HON GRANT SHAPPS MP
Secretary of State for Business, Energy & Industrial Strategy

ANNEX: DETAILED RESPONSES TO QUESTIONS

How many heat pumps have been installed over the past year? How does the Government plan to reach the target of 600,000 installations per year by 2028? What steps has Government taken to support the development of an indigenous business sector in the UK capable of making the heat pumps needed and of making installations on this scale?

- The Heat and Buildings Strategy highlights that heat networks and heat pumps are effective options for decarbonising heat and achieving net zero. The government's ambition is to improve the consumer appeal and affordability of heat pumps, growing the market to 600,000 installations annually by 2028, increasing UK manufacturing, and setting a clear ambition for industry to reduce the costs of installing a heat pump by at least 25-50% by 2025 and reaching parity with gas boilers by 2030.
- The Microgeneration Certification Scheme Installations Database shows that there were 32,876 heat pump installations registered in the UK in 2022. It should be noted that the database does not include all heat pump installations, such as those installed without government funding, and generally new-builds are not captured in the MCS data.
- A range of policies will support the heat pump market to roll out heat pumps at scale including:
    - Investing in the £450 million Boiler Upgrade Scheme (over 3 years) with grants of up to £6,000 for heat pump installations, and £1.1 billion (over 4 years) Home Upgrade Grant.
    - Committing to a £3.8 billion (over 10 years) Social Housing Decarbonisation Fund.
    - Introducing the Future Homes Standard by 2025.
    - Introducing on a new clean heat market mechanism and consulting on phasing out new oil, coal and LPG heating,
    - Introducing zero-rating VAT for the installation of low-carbon heating for the next five years,
    - Launching the £9.2 million Home Decarbonisation Skills Training Competition,
    - Investing in a £30 million Heat Pump Investment Accelerator Competition to support the manufacturing of heat pumps in the UK and £60 million Heat Pump Ready Innovation Programme.

What steps have been taken to encourage the development of offshore wind capacity to achieve the target of 40GW? How much capacity exists now, and how much is under construction?

- The British Energy Security Strategy, which was announced last year, commits to accelerating the deployment of offshore wind, reducing the time it takes to get planning consent from up to four years to one year whilst continuing to maintain environmental protections. The Strategy set a new ambition for up to 50GW of offshore wind by 2030, including up to 5GW of innovative floating offshore wind.
- We are delivering this through a range of measures:

    - Strengthening the Renewable National Policy Statements to reflect the importance of energy security and net zero.
    - Establishing a fast-track consenting route for priority cases where quality standards are met.
    - Implementing a new Offshore Wind Environmental Improvement Package (OWEIP). This will streamline the Habitat Regulations Assessment process, develop and implement Offshore Wind Environmental Standards, and create a Marine Recovery Fund to enable compensation to be undertaken at a strategic level.
    - Working closely with industry through the Offshore Wind Acceleration Task Force.
- The Government has progressed delivery of the offshore wind elements of the Strategy through:
    - Taking amendments to the Levelling Up and Regeneration Bill through the House to provide an enabling power to implement a “fast track” consenting process, and set up a cross-government working group to develop the full system.
    - Laid amendments to the Energy Bill currently going through parliament to implement the necessary enabling powers to implement the OWEIP reforms relating to strategic compensation, changes to the way in which HRA assessments are undertaken and the creation of a Marine Recovery Fund. This will enable further, secondary legislation to be developed to implement the measures.
    - Worked to develop the non-legislative elements of the OWEIP such as offshore wind environmental standards.
- The Government aims to implement the measures towards the end of 2023. However, some measures will have an impact sooner than this, helping projects already in the planning process.
- The Government has set up the Offshore Wind Acceleration Task Force which brings together industry, Government, regulators and National Grid to co-ordinate their efforts to drive acceleration of offshore wind and tackle issues. The Taskforce is co-chaired by the UK Offshore Wind Champion, Tim Pick and Minister for Energy & Climate, Graham Stuart.
- We also continue to work across government to understand and address the environmental impacts of offshore wind. BEIS and Defra continue to work in partnership with The Crown Estate’s Offshore Wind Evidence and Change (OWEC) Programme, an ambitious strategic research and data led programme designed to facilitate the sustainable and coordinated expansion of offshore wind in the UK.
- On 7 July 2022, the government published the results of the fourth allocation round of its flagship renewable energy scheme, Contracts for Difference (CfD). The results confirm that Allocation Round 4 (AR4) is by far the most successful CfD auction yet with ninety-three new low-carbon electricity projects winning contracts across Great Britain – more than in all previous rounds combined.

- AR4 has delivered record capacity, securing nearly 11GW of new generating capacity – which is almost double (+87%) the capacity achieved in AR3, and enough to generate sufficient electricity to power around 12 million homes. It has seen further reductions in offshore wind strike prices. The price per MWh of offshore wind is now £37.35 (2012 prices), which means it has fallen by almost 70% since the first CfD auction in 2015.
- More renewable technologies have been successful in AR4 than in any previous round: onshore wind, solar, energy from waste, remote island wind, floating offshore wind, tidal, and fixed-bottom offshore wind. At a combined capacity of almost 7GW, the successful offshore wind projects represent a significant step towards meeting the government's increased ambition to have 50GW of offshore wind by 2030.
- The Contracts for Difference allocation process has moved from a two-yearly cycle to the delivery of annual allocation rounds.
- On 14 December 2022, the government published updates to next year's Contracts for Difference (CfD) round, the government's flagship renewables auction scheme. Launching in March 2023, Allocation Round 5 will be the first CfD round to run on an annual basis in line with the government's commitment to increase the frequency of auctions to quicken the pace of the rollout of new renewable energy projects in Great Britain.
  To ensure greater competition and value for money, and reflecting offshore wind's lower price as an established technology the "pot structure" in the allocation round is being amended, with offshore wind being moved to Pot 1. Evidence from previous rounds suggests Remote Island Wind has also become a more established technology and so it will also move to Pot 1. With the move to annual auctions, effective auction design will be crucial to ensuring the scheme remains competitive and can deliver the best outcomes for consumers and renewable deployment.
  There is currently 14GW of operational offshore wind capacity, with 6GW currently under construction and around a further 8GW finalising procurement and preparing for construction (rounded to the nearest GW).
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What steps have been taken to encourage the development of onshore wind capacity in the UK? How much capacity exists now and how much is under construction?

- Onshore wind is an important part of the energy mix. We currently have over 14GW of installed operational onshore wind capacity in the UK today, accounting for around a quarter of both installed renewable capacity and renewable generation in the UK. There is around 1.4GW Onshore Wind currently under construction in the UK.[1]
- The costs of onshore wind have fallen dramatically, and it is around 50% cheaper than in 2015. It is now the second cheapest form of electricity generation in the UK today, behind utility-scale solar.

[1] Renewable Energy Planning Database (REPD) October 2022 - https://www.gov.uk/government/publications/renewable-energy-planning-database-monthly-extract

- As set out in the Energy White Paper and Net Zero Strategy, a low-cost net zero system of the future will be predominantly comprised of wind and solar. To achieve this we will require a sustained increase in locally supported onshore wind to 2030 and beyond, alongside other renewables such as solar and offshore wind.
- That's why we have included onshore wind in the latest Contracts for Difference auction and intend to include it in future rounds. The Contracts for Difference Scheme is the government's main mechanism for incentivising large-scale renewable electricity generation.
- We are also consulting on making changes to the National Policy Planning Framework in England so that local authorities can better respond to the views of their local communities when they wish to host onshore wind infrastructure.

What progress has been made in developing a funding mechanism for the deployment of small modular nuclear reactors? Given the urgency of building a new generation of nuclear plants, what are the remaining obstacles to putting such a funding mechanism in place?

- The Nuclear Energy (Financing) Act 2022 has established the Regulated Asset Base (RAB) funding model as an option for new nuclear projects.
- The appropriate funding model for each new nuclear project will be determined through negotiations between Government and the project's developer.
- We are engaging technology vendors, developers and prospective investors to develop a delivery model and funding strategy for SMRs that addresses market needs.
- Fundamental to this is establishing Great British Nuclear as committed to in the British Energy Security Strategy to develop and deliver a coordinated nuclear programme.

When does the Government expect power to be delivered to the grid from the Hinkley Point C nuclear power plant? Why has the contract for that power supply been extended to the benefit of the developer? What plans does the Government have to maintain supplies if that project is further delayed?

- On 19 May 2022, EDF announced an updated cost and schedule for Hinkley Point C, following a full review. The expected start of commercial operations for Unit Reactor 1 has moved from June 2026 to June 2027 with Unit Reactor 2 following a year behind at June 2028. Both units have a risk of further delay of 15 months. The new forecast start of commercial operations date falls within the Target Commissioning Window as defined in the Contracts for Difference for Hinkley Point C.

- The key drivers for the schedule (and cost) increase are:
    - The pandemic – inefficiencies caused by working restrictions, self-isolations, travel restrictions, and wider supply chain delivery impacts.
    - An over optimistic initial cost and schedule estimate - Some quantities (e.g. steel and concrete requirements) and the number of workers needed on the project have been underestimated.

- If Hinkley Point C comes online later than expected, we will need to secure electricity from another source. There are Market mechanisms (the Capacity Market) in place to ensure we always have enough capacity. If Hinkley Point C is delayed, we will simply set higher Capacity Market targets and procure alternative capacity in the meantime.

What progress has been made in developing a business model for the further development of hydrogen, including support for conversion of existing infrastructure?

- The government has set out a comprehensive package of support for new low carbon hydrogen production projects combining a new production business model offering revenue support over a 15-year period and capital co-funding.
- This support will be critical in delivering the ambitions set out in the Energy Security Strategy to deliver up to 1GW of electrolytic hydrogen in construction or operation (as well as 1GW of CCUS-enabled hydrogen) by 2025 and up to 10GW of low carbon hydrogen generation by 2030, with at least half from electrolytic hydrogen. We aim to run yearly electrolytic allocation rounds for the Hydrogen Production Business Model with price-competitive allocations introduced from 2025, subject to legislation and market conditions.
- In early 2023 we expect to announce the project shortlist for the first electrolytic allocation round, offering support from our Net Zero Hydrogen Fund (capital co-funding) and from the Hydrogen Production Business Model (revenue support). This round will unlock hundreds of millions of pounds of investment across the UK. A second allocation round is planned for launch later in 2023 for contract award in 2024.
- Hydrogen network and storage infrastructure will be essential to the development of the hydrogen economy, providing the link between production and demand. More broadly, they will be strategic assets within a fully decarbonised, net zero economy. This is why the Energy Security Strategy also committed to design new business models for hydrogen transport and storage infrastructure by 2025, which will be essential to grow the hydrogen economy and provide security for producers and consumers of hydrogen.
- Government recently consulted on high level business model design options for hydrogen transport and storage infrastructure, which considered the potential for supporting the conversion of existing infrastructure as well as the build out of new infrastructure. The consultation also sought views on the need for a strategic planning function for the rollout of hydrogen transport and storage infrastructure, approaches to wider regulation and implications for blending. The consultation closed on 22 November 2022 and BEIS aims to respond in Q2 2023.
- As the UK begins to transition away from natural gas, there should be more opportunities for repurposing. Currently, repurposing has the potential to contribute hydrogen infrastructure this decade, and we envisage seeing a mix of new and repurposed pipelines making up the UK pipeline systems and network.

What is the current level of gas storage capacity in the UK? How does that compare with countries such as France and Germany? What has the Government done to ensure that the UK has adequate gas storage?

- The UK currently has eight operational storage sites, with a total capacity of approximately 2.3 billion cubic meters (bcm), following the reopening of the Rough facility by Centrica Storage Limited.
- Total EU storage capacity stands at approximately 102bcm, concentrated in Germany, Italy, France, Italy and the Netherlands. Germany has approximately 22bcm of storage capacity, and France has approximately 12.1 bcm.
- The diversity of our sources of GB gas supply, including an indigenous supply of gas from the UK Continental Shelf, means that we are not as reliant on natural gas storage as European counterparts. It is for this reason that Europe has higher levels of long-range gas storage.
- GB gas storage has been an effective source of system flexibility and resilience even in cold winters, in responding to short-term changes in supply and demand. Government has engaged extensively with industry to monitor and understand the role gas storage plays in the UK's energy security. Government is exploring the future role of gas storage at present.

The tightness of the energy market has recently led to very high short-term spikes in prices reflecting intense competition for supplies across Europe at particular moments when demand is high and when supplies are constrained by low wind output, maintenance work and other factors. What is the Government doing to mitigate the instability and high costs involved in this?

- The UK gas system is supported by market flexibility and dynamic price signalling. Market flexibility is essential to promoting global security of supply, ensuring that gas is delivered where it is most needed, and continued balancing of supply and demand is facilitated by adjustments in wholesale contract prices. Many of the factors affecting the spikes we have seen in wholesale gas prices are attributable to international activity extending beyond GB's domestic production. Gas is exported and imported in line with the market forces. This ensures that the UK can attract gas supply to meet gas demand, even under severe weather conditions for an extended period of time. Capping the price of gas would not limit our exposure to international prices: gas is an internationally traded commodity, and the price is determined by international supply and demand fundamentals. Disruption of established price signals could result in the diversion of gas supplies traded on international markets away from the UK.

- HM Treasury and the Bank of England have launched the Energy Market Financing Scheme (EMFS). The EMFS was jointly launched with the Bank of England on 17 October to help viable energy firms deal with extraordinary short-term liquidity requirements caused by margin calls and volatility in UK gas/electricity markets. This helps to reduce the eventual cost that businesses and consumers face. The Scheme provides an 100% HMG guarantee to commercial banks for additional credit lines to approved energy firms to meet extraordinary margin calls. The EMFS is intended as a last resort and is structured and priced accordingly, with penal pricing upon drawdown. As a result, firms should exhaust other sources of commercial lending before using the scheme. The EMFS has been designed to supplement exiting commercial financing where this alone is not sufficient. The EMFS was not intended to replace commercial financing.

Actions to ensure security of supply over winter	**Facts and Figures**
Through National Grid kept 3 Coal-fired power station open	Drax, West Burton and **Ratcliffe coal-fired power stations** provide over **2 GW** of additional back-up generation capacity.
Welcomed Centrica's decision to reopen the Rough storage facility	Rough storage facility has added **0.8bcm** to pre-existing **1.5bcm** GB storage.
Equinor and Centrica signed a major agreement to shore up Britain's gas supply over the next 3 winters.	It will add around **1 billion** cubic metres of gas per year to our supply – enough to supply an additional **2 million** UK homes per year.
Capacity Market procurement of the maximum capacity possible	Almost **5GW** in the most recent T-1 year-ahead auction, bringing this to a total of around **52.9GW** for the 2022/23 delivery year. This will allow NGESO to meet peak demand in a wide range of scenarios over the coming winter.
Treasury and the Bank of England have launched Energy Market Financing Scheme	**£40bn** to support viable energy firms (UK) to meet large margin calls arising from energy price.

What measures of capital adequacy have been applied to the gas and electricity retail sector to ensure that the failure of supply companies at a cost of several billion pounds to consumers does not happen?

- On 25 November 2022, Ofgem published a statutory consultation proposing new measures aimed at improving the financial resilience of suppliers. This includes a proposal to set a minimum capital requirement for all domestic suppliers. This will be supported by an enhanced Financial Responsibility Principle and monitoring framework across all suppliers. The consultation closed on 3 January 2023 and, subject to the responses received, Ofgem has said that it intends to publish a decision on these proposals in February 2023. If implemented, Ofgem and the Department will continue to review the impact of these measures to ensure that the tools we have to protect customers are proportionate and effective.

Is the Government content with the performance of Ofgem, particularly in relation to its protection of consumer interests in the retail market and its role in bringing about energy networks that are ready for a decarbonised power system?

- Ofgem has recognised how its regulatory approach over the latest 18 months has contributed to supplier failure and the related issues within the energy supply market, and is taking active efforts to ensure that the supply market is more robust going forward to ensure that we do not see a repeat of the recent issues.
- The BEIS Select Committee's report on 'energy pricing and the future of the energy market', published in July 2022, found that the collapse of the energy supplier market could have been mitigated through more robust regulation. The Committee identified failings in Ofgem's regulatory approach over the last decade. We are working with Ofgem to implement the recommendations of the report and Ofgem is proceeding with a major package of regulatory reform to address its previous shortfalls and boost suppliers' financial resilience.
- The government is also working to deliver a Strategy and Policy Statement (SPS) for the energy sector. The Energy Act 2013 requires government to undertake a two-stage consultation on the SPS; first a private consultation with the Devolved Administrations and Ofgem, followed by a public consultation. The first stage consultation was completed in the summer and, since the change in government, we have restarted work on the SPS and are preparing for a public consultation in the spring.
- The SPS will set out the strategic priorities and policy outcomes of the government's energy policy, including a resilient and secure energy system that provides protection to all consumers, a retail market framework that is fit for purpose and facilitates net zero, and network infrastructure delivered at scale and pace to meet the demands of a decarbonised energy system and to handle increased capacity as electrification grows.

What steps have been taken to encourage adequate investment in the UK energy system to ensure that energy security will be maintained? Does the Government consider the current level of investment to be adequate?

- Government recognises the importance of investing in the UK energy system. We have a proven record of creating an investment friendly energy system.
- One example is the Capacity Market which makes guaranteed payments to support new and existing generators with a Capacity Market agreement. The Capacity Market has a proven track record of facilitating investment in new-build capacity – it has procured almost 15GW of new capacity to date, including gas-fired generation, interconnectors and batteries, and continues to support a wide range of new build resources.

What are the Government's plans to fund and to implement the installation of energy efficiency measures in homes?

- UK buildings contribute to 30% of emissions and require significant change to improve energy efficiency and decarbonize heating. The Government has stated its ambition to reduce the UK's final energy consumption from buildings and industry by 15% by 2030. To lead this national effort, a new Energy Efficiency Taskforce will be established.
- Affordability and fuel poverty are pressing issues, as well as emissions reductions. £6.6 billion is being invested over this Parliament to decarbonize homes and buildings. This includes domestic energy efficiency schemes aimed at those in fuel poverty and in low-income households, through the first and second phases of the Social Housing Decarbonisation Fund and the Home Upgrade Grant schemes, and the third phase of the Local Authority Delivery scheme, which will deliver upgrades to over 85,000 of the lowest performing homes in England.
- In addition, £6 billion of new Government funding will be made available from 2025 to 2028, providing long-term funding certainty, supporting the growth of supply chains, and ensuring we can scale up our delivery over time.

Does the Government still intend to publish a Call for Evidence on affordability and fairness in energy bills? Will the Government set out how it intends to fund the energy transition, and will this include greater use of public funding, given the regressive nature of funding investment through energy bills?

- The government is committed to ensuring that the costs of the UK's energy transition are fair and affordable for all consumers.
- The government's focus continues to be on providing robust support for energy consumers; for households, through the EPG until March 2024, plus further targeted support for the most vulnerable households; and for non-domestic consumers through the Energy Bills Relief Scheme until March 2023 and the Energy Bills Discount Scheme until March 2024.
- Alongside support for households and businesses, the government is working to ensure that energy bills remain affordable in the long term. Our exposure to volatile global gas prices underscores the importance of our plan to build a strong, home-grown renewable energy sector.

Given the crucial role of consumer demand in bringing down the costs of the transition, what will the Government do to encourage consumers to change their behaviour in relation to energy usage? Do you recognise that the Government has a leading role in outlining what will be expected of consumers and providing incentives, and what policies will the Government be bringing forward in this area?

- The Government has addressed public engagement through the Net Zero Strategy, published in October 2021. The Strategy outlines our approach to empowering the public to make green choices by making them easier, clearer and more affordable and working with industry to remove barriers. It also sets out our approach for engaging the public both in communicating the challenge and giving people a say in shaping future policies.

- As part of this approach, the Government recognises that it has a role to play in providing direct advice and support to the public on the variety of ways they can save energy in the home. Since launching the 'Find ways to save energy in your home' service website in 2018, we have helped over 1.8 million homeowners by providing personal, tailored advice for improving and decarbonising their homes and links to local, accredited, trusted installers. Further, the Government has significantly expanded its public awareness campaign to help customers take straightforward actions to reduce their own household energy usage and bills, while also giving vulnerable groups the right information for doing this without harming their comfort or health.
- The Government wants to encourage the public in making green choices in a way that supports choice and maintains freedoms. We recognise that the best way to do this is to go with the grain of existing behaviour and trends and by working closely with partners like local authorities, voluntary sector organisations, social enterprises, regulators, and businesses, who all play an important role in how we use and choose different services.