Energy&Climate
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energy and climate change

ANALYSIS

The 2-year anniversary of the British Energy Security Strategy

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Introduction

The British Energy Security Strategy (BESS) was released on 7th April 2022, shortly after Russia invaded Ukraine in February 2022. Energy bills were already historically high and expected to rise further, while energy security concerns, mainly around gas supply, had some commentators discussing the possibility of blackouts.

The International Monetary Fund noted that the UK was the worst hit by the gas crisis in Western Europe due to its reliance on gas for home heating and power generation. This was felt in the energy bills received by households, which would have reached highs of £4,279 in quarter one of 2023, had the Government (and therefore taxpayer) not stepped in and covered a large proportion of household bills.

But the costs did not end there. Forcing up costs of fertiliser, food and causing havoc with petrol and diesel prices, the energy crisis has had far reaching consequences including a role in causing the surge in inflation.

The shocks of the last few years have prompted discussions about the best way to shield economies from future volatility in oil and gas markets, which will remain vulnerable to future geopolitical shocks.

Considered the Government's plan for "secure, clean and affordable British energy for the long term", the BESS detailed numerous actions and interventions that would be taken to boost energy security and keep bills low. The introduction of the BESS notes, "all of these steps will accelerate our progress towards Net Zero, which is fundamental to energy security."

The International Energy Agency, United Nations and the UK's own Climate Change Committee have also pointed to net zero as the solution, as by building out more renewables, insulating homes and moving away from fossil fuel boilers, dependency on volatile gas is reduced.

The below analysis assesses whether and to what degree these actions were carried out, and if they have been, what impact this has had on energy independence. We consider ten key commitments from the BESS and assess if they have been kept to.

As things stand, it would appear that the government has only achieved three out of this ten commitments, two years on since the strategy was published.

Analysis

Lowering energy demand in homes

The BESS recognises that homes in the UK are inefficient and this, coupled with high reliance on gas for heating, means that "price spikes in the gas market mean households are particularly exposed to these changes".

Noting that "we cannot afford merely to rely on taxpayer funding to assist with paying ever higher bills; we need to bring down the bills themselves", the Government committed to insulating 450,000 more homes through the 4th iteration of the Energy Company Obligation (ECO4) between 2022-26. This is not currently on track, as in the two years since the strategy, less than half of the target level has been met.

The BESS pledged to retrofit 2,000 social homes in 2022, which was achieved, but the Government has failed on a major promise to set long-term standards for different building types. This is because the Prime Minister Rishi Sunak scrapped standards for private renters and owner occupiers, leaving the majority of the British housing stock with no target.

The "record rise in global energy prices has led to an unavoidable increase in the cost of living in the UK, as we use gas both to generate electricity, and to heat the majority of our 28 million homes" – the British Energy Security Strategy.

On heating, the Boiler Upgrade Scheme (BUS) has been extended to run until 2028, from an initial end point of 2025, and the grant funding has been increased from £5,000 per heat pump to £7,500. When the grant was increased, applications rose by 40%, according to Government figures.

While the target for 600,000 heat pump installations per year by 2028 remains, the Prime Minister scrapped the phase out of fossil fuel boilers in off-gas grid homes which was set for 2026; pushed back the flagship Clean Heat Market Mechanism that would set boiler manufacturers a target for the number of heat pumps sold; and stated that around 1 in 5 homes would not meet the overall 2035 phase out of fossil fuel boilers.

Renewables

The BESS committed to holding annual auction rounds for the Government's flagship Contracts for Difference (CfD) scheme to secure the building of more offshore wind. Although annual auctions have happened, the last CfD auction failed to secure any offshore wind farms as the Government set the strike prices.

"But now we must go further and faster, building on our global leadership in offshore wind… We will be the Saudi Arabia of wind power" – the British Energy Security Strategy.

In addition to annual CfD rounds, the BESS committed to reforming a variety of planning regulations, including reviewing the permitted development rights for ground-mounted and rooftop solar PV. Although reviews did happen, including around offshore wind consent and planning, there has been no significant uptick in installations and the current Government has made moves to restrict ground mounted solar particularly. For example, the National Planning Policy Framework review in December advises that 'solar farms should be sited on previously developed and non-agricultural land', potentially restricting their use on low grade, low yield agricultural land.

In the BESS, the Government committed to reviewing the local partnerships and community benefits framework for onshore wind farms. Since then, there have been multiple developments on onshore wind policy, including the Government stating that it would lift the effective ban that has been in place in England since 2016. However, there were no plans for onshore wind submitted between the Government saying it had lifted the ban and the start of 2024, with developers suggesting that the reforms have not gone far enough to actually lift the ban.

"The growing proportion of our electricity coming from renewables reduces our exposure to volatile fossil fuel markets. Indeed, without the renewables we are putting on the grid today, and the green levies that support them, energy bills would be higher than they are now." – the British Energy Security Strategy.

Oil and gas

"We're not going to try and turn back the clock to the days when we choked our streets and our atmosphere with filthy fumes and ever-rising levels of climate-imperilling carbon dioxide." – foreword of the British Energy Security Strategy.

The BESS committed to another licensing round for North Sea oil and gas (O&G) in Autumn 2022, subject to the climate compatibility test. This test is made up of two parts; one, that the production would be cleaner than LNG imports and two, the UK is projected to remain a net importer in the future. The strategy re-affirms that the North Sea O&G sector should be net zero by 2050 and commits to an O&G 'new project regulatory accelerator'.

The Government is currently pushing its Offshore Petroleum Licensing Bill through Parliament, which requires the North Sea Transition Authority (NSTA) to hold annual O&G licensing rounds, despite the NSTA already having this power and having held rounds almost every year in recent times – the NSTA itself described the move as "unnecessary". It has committed to a Windfall Tax on the sector until 2029, including an investment allowance that returns money to O&G companies for more development in the North Sea.

It has been recognised by the current Secretary of State for Energy Security and Net Zero, Claire Coutinho, that more O&G from the North Sea would not help to bring down UK bills. Experts such as the International Energy Agency, the Climate Change Committee and United Nations have said that energy independence will not be achieved through more oil and gas, but reducing demand for it by building more renewables, installing insulation and electrifying heating and transport.

As "part of a global market, the price we pay for gas is set internationally" – the British Energy Security Strategy.

Nuclear

The BESS committed to eight new nuclear reactors being planned by 2030, an average of one per year from the release of the strategy. This includes a final investment decision on one nuclear plant by the end of the Parliamentary term (2024) and plans for two more over the next term.

It has recently been announced that Hinkley Point C, the UK's only nuclear reactor currently in the construction stage, is now more over budget and delayed than ever, and there is tension between the UK Government and the French Government over who should foot the bill.

Although the Government has pledged £160m of funding for a potential new nuclear plant at the Wylfa site in Wales, this is not yet at final investment decision stage and there are no concrete plans for more sites. However, the Government has re-affirmed its commitment to building small modular reactors (SMRs) many times, including funding for companies such as Rolls Royce to develop plans further.

"For decades successive governments have failed to make the necessary investments in British nuclear. Today the UK is making the big call to reverse decades of under-investment. We will kickstart a nuclear reaction to recover our global leadership in civil nuclear power and drive down costs by building at scale over the next thirty years." – the British Energy Security Strategy.

Hydrogen

Hydrogen is currently made from natural gas with steam methane reformation ('blue hydrogen') or from splitting water (H2O) into hydrogen (H2) and oxygen (O), producing 'green hydrogen'. The BESS committed to defining what 'low-carbon' hydrogen is and what standards are required to meet this definition and business models to accelerate hydrogen production and transport. Green hydrogen could be made using power from British renewables displacing some gas use in, for example, industrial processes.

Having released the low-carbon hydrogen standard and made a decision on the final business model, the Government awarded the first blue and green hydrogen contracts and has started the next round.

However, as blue hydrogen is currently made from natural gas, more blue hydrogen for energy use does not necessarily help with energy security as it would not lower imports and, in fact, may increase them. Both timelines for the roll out of blue and green hydrogen are significant and it is not expected that either technology would help in the near term with reducing demand, or energy security.

The Government also committed to deciding on whether to allow 20% hydrogen (by volume) to be blended into the existing gas grid, and decided which they did.

Energy markets

The BESS committed to re-balancing levies currently disproportionately placed on electricity rather than gas bills and reviewing electricity market arrangements, a process known as REMA, to try and incentivise electrification of heating and transport while de-coupling the prices of electricity from gas. This is because over the energy crisis, electricity prices have been forced up by high gas prices, because around 40% of our electricity generation comes from gas and as the marginal generator, gas often sets the price for all generation.

Two years on, the levies remain disproportionately on electricity, despite a brief period when Prime Minister Liz Truss committed to moving the levies into general taxation. The REMA process is ongoing, with timelines for amending the electricity market still multiple years from now.

Networks and grid operations

In response to concerns over how the grid was being managed, the Government and energy regulator Ofgem proposed creation of a Future System Operator (FSO). The FSO would take a key role in strategic planning, investment and in the operation of the grid so that it can run more efficiently and be more aligned with net zero. The BESS committed the Government to setting up the FSO.

There were also concerns about the overall strategy for the electricity grid, including long wait times to connect new power sources and the transmission of power from areas of high generation (e.g. Scotland) to areas of high energy need (where demand is highest e.g. London). The BESS committed the Government to appointing an Electricity Networks Commissioner to make recommendations.

In 2024, the National Energy System Operator is in operation, fulfilling the pledge of creating the FSO, and the Electricity Networks Commissioner Nick Winser has made recommendations to Government for a spatial plan to strategically decide where and when new grid infrastructure needs to be built. Government has accepted this recommendation.

"Accelerating our domestic supply of clean and affordable electricity also requires accelerating the connecting network infrastructure to support it." – the British Energy Security Strategy.

Grid connection and transmission

The BESS committed to reducing wait times to get connections to the electricity grid and speed up Ofgem approvals for new projects or infrastructure. There were concerns about the first-come-first-served nature of the queue for connections.

Since then, the Government has re-committed to reducing wait times on several occasions and National Grid and Ofgem have been working together to kick so-called 'zombie' projects out of the queue for connections. Zombie projects are those that are unlikely to get to a final investment decision or do not yet have the appropriate funding or planning permission. This has been reducing wait times, but they remain significant and the BESS's commitments have not yet been fully met.

Sector	BESS 2020 pledge	2024 progress	Target met?
Energy efficiency	ECO4 to retrofit 450,000 homes from 2022-26. Set clear energy performance standards varying by building type, phased in over the long-term.	ECO4 has only retrofitted 115,000 in the first two years, around half the target level. The minimum energy efficiency standards for the private rented sector were scrapped, and there have been no standards set for the owner occupier sector. Existing social sector standards remain, but have not been tightened.	No. ECO4 only likely to deliver half target level. The Great British Insulation Scheme has launched but is also not delivering at the target level, having installed just 5,600 measures to date. Long term standards for different building types have been scrapped.
Heat	£5000 Boiler Upgrade Scheme (BUS) grant until 2025. Clean Heat Market Mechanism (CHMM) launched in 2024. Fossil fuel boilers phased out in off-gas grid homes from 2026 and all homes from 2035.	BUS in operation, £7500 grant until 2028. CHMM delayed by one year. Fossil fuel boiler phase out for off gas grid homes scrapped, default back to all fossil fuel boilers by 2035.	Partly. BUS extended and grant amount increased, but CHMM and 2026 phase out in off-gas grid homes pushed back. Overall 2035 complete phase out of new gas boilers scrapped as 20% homes will not switch.
Energy markets	Rebalancing costs on electricity (ie. shifting levies onto gas or the taxpayer).	Levies not shifted, REMA docs published but no final decision made yet and progress is slow.	No. Levies still disproportionately on electricity and although REMA is progressing, the latest consultation

	Review of Electricity Market arrangements to de-couple gas and electricity prices.		stopped short of any radical reform with timelines still multiple years from now.
Offshore wind	CfD auctions to continue annually, reduce planning consent times to 1 year.	Last CfD auction round delivered no offshore wind and next round unlikely to max out, and consent times still long, despite some planning processes and frameworks being reviewed.	No. No offshore wind delivered in last CfD round and only two in the round before. One of these is now paused due to supply chain inflation. Consent times still long despite planning policy and frameworks being reviewed
Other renewables	Increase roll out of rooftop and ground mounted solar by reforming planning. Consult on community benefits of onshore wind in England in communities that want it.	Onshore wind ban effectively remains in place in England the regulations do not go far enough. Rooftop solar permitted rights were reviewed. Ground mounted solar progress is slow.	Partly. Onshore wind not progressing, solar progressing to a degree (uptick in rooftop solar as the energy crisis continues), but Government rhetoric on ground mounted solar is negative.
Nuclear	8 nuclear power stations planned in 8 years, including one final investment decision by end 2024, and plans for 2 more in the next Parliament.	Hinkley more over budget and delayed than ever. Problems with French Government on funding. £160m pledged for potential Wylfa site and launched a nuclear roadmap to 2050, but no final investment decision on any plant yet, though still aiming for one by the end of the Parliamentary term.	No. Hinkley's timelines have been pushed back again. Despite funding for Wylfa and a new nuclear roadmap, there have been no final investment decisions for new plants yet.

Networks and grid operations	Establish Future System Operator and appoint Electricity Networks Commissioner.	National Energy System Operator now launched and Nick Winser the Electricity Networks Commissioner has made a recommendation for a spatial plan which the government has committed to carrying out.	Yes. The National Energy System Operator has been set up and Nick Winser has reported on the electricity networks, with Government accepting the recommendations.
Grid connection and transmission	Reduce transmission network infrastructure waits by 3 years and speed up Ofgem approval process.	Still want to reduce connection times, Ofgem and National Grid starting to kick projects out of the queue.	Partly. Wait times are still long, but work happening to reduce them.
Oil and gas	More licensing rounds, that fit with climate compatibility tests: a) production would be cleaner than LNG imports and b) the UK is projected to remain a net importer.	OPL Bill that mandates annual licensing rounds despite the regulator already having this power. No changes to the climate compatibility test despite the UK importing cleaner fuel than LNG from e.g. Norway.	Yes, there have been more licenses issued, but as the international markets set the price this won't help with bills, and as the O&G doesn't necessarily stay in the UK it doesn't help with independence.
Hydrogen	Final decision on low carbon hydrogen standard and business models. First few hydrogen projects (blue and green) contracts awarded, and next round started. Decision on 20% volume blending into the gas grid in 2023.	First few contracts for blue and green hydrogen awarded, low carbon standard released, and decision made to support 20% volume blending into the gas grid.	Yes. Although blue hydrogen relies on natural gas so doesn't help with our energy security and at current rates neither blue nor green hydrogen technology is likely to help with energy security in the near term (before 2030).