**March 2023**

**Powering Up Britain – Department for Energy and Net Zero**

**Nuclear Skills Strategy Group Summary**

# Overview

“Powering Up Britain”[[1]](#footnote-1) was published by UK Government on 30th March 2023, setting out plans to *“enhance our country’s energy security, seize the economic opportunities of the transition, and deliver on our net zero commitments”.* It included four key areas of action:

* decarbonising electricity generation;
* improving energy efficiency;
* electrifying transport;
* and developing low-carbon heating.

It contains two more detailed reports: the Net Zero Growth Plan[[2]](#footnote-2) and the Energy Security Plan[[3]](#footnote-3), which are summarised below.

# Main report – key areas

## **Decarbonising electricity generation**

The plan highlights the need to decarbonise electricity generation rapidly by phasing out fossil fuels and replacing them with renewable energy sources including offshore wind, solar, and nuclear. It outlines plans to increase investment in energy storage technologies and smart grids to help balance the intermittent nature of renewable energy sources.

## **Improving energy efficiency**

A key way to reduce energy demand and lower emissions. Measures to include improving the energy efficiency of buildings, increasing the use of low-carbon heating technologies, and promoting energy-efficient appliances.

## **Electrifying transport**

Essential for reducing emissions in the transport sector. The report proposes measures such as increasing the availability of electric vehicle charging infrastructure, incentivising the uptake of electric vehicles, and promoting development of low-carbon fuels.

## **Developing low-carbon heating**

This area is intended to address a significant source of emissions in the UK. The report proposes a range of measures, including expanding the use of heat pumps, promoting the use of hydrogen and other low-carbon fuels, and improving energy efficiency of buildings.

## **Focus on Nuclear power generation**

The report outlines nuclear power as one of the key energy sources to help decarbonise electricity generation, providing the “critical baseload” for the system. It notes that it provides reliable, low-carbon electricity, and that the UK has a strong track record in nuclear technology. Hinkley Point C is expected to provide around 7% of the UK's electricity when it comes online, and government is committed to further new nuclear beyond Hinkley Point C and Sizewell C.

There are plans for small modular nuclear reactors (SMRs), to be deployed alongside traditional nuclear power plants. Government is exploring the potential for SMRs and is investing in research and development to support their deployment.

# Powering Up Britain: Energy Security Plan

The Energy Security Plan outlines plans to secure energy supply and decarbonise the energy system.

## **Security of supply**

A plan for ensuring security of gas and electricity for the UK over the next two years, addressing the (indirect) effect on global wholesale energy prices of the withdrawal from Russian gas. Measures include investing in domestic energy production, building interconnectors with other countries, and improving energy storage capacity.

## **Energy Demand**

The report forecasts an increase in energy demand due to factors such as population growth, economic development, and electrification of transport. To meet this demand, the government plans to invest in renewable energy and nuclear power, as well as mitigation through improving energy efficiency measures.

## **Decarbonisation**

The commitment to achieving net-zero emissions by 2050 is confirmed. Investment in low-carbon technologies to be supported by carbon capture and storage. A goal is to have wholesale electricity prices among the lowest in Europe by 2035.

## **Innovation**

The report emphasises the importance of innovation in driving the transition to a low-carbon energy system. The government plans to invest in research and development of new technologies, as well as support the deployment of innovative energy projects.

## **International Cooperation**

The report stresses the need for international cooperation to tackle global energy challenges. There are plans to work with other countries to promote the development of low-carbon technologies and improve energy security.

## **Market Arrangements:**

* Review of Electricity Market Arrangements published in autumn 2023
* Focus on the relationship between wholesale and retail energy markets during the decarbonisation transition

## **Nuclear Sector**

The report highlights the importance of the nuclear sector in meeting the UK's energy needs and achieving decarbonisation goals. It confirms the ambition to bring online 24 GWe of nuclear capacity by 2050 (25% of projected electricity demand).

This is to be achieved through completion of Hinkley Point C, Sizewell C and then a mixture of support for gigawatt-scale reactors alongside development of small modular reactors (SMRS) and advanced modular reactors (AMRS).

## **Nuclear National Policy Statement**

A new Nuclear National Policy Statement (NPS) is announced, covering the siting and policy framework for nuclear electricity generating infrastructure beyond 2025. Consultation on the proposed approach to siting new nuclear projects to begin later this year, aiming to designate the new NPS following consultation and Parliamentary scrutiny by early 2025.

## **Great British Nuclear**

GBN was announced last year and the NSSG has been instrumental in its planning. It will operate through British Nuclear Fuels Ltd and be launched with an interim chair and CEO this year.

* Competitive selection process from April for SMRs
* Siting strategy for new developments (SMR and gigawatt-scale)
* Future Nuclear Enabling Fund (£120 million)
* Roadmap later in 2023 to address recommendations of the Independent Review of Net Zero
* Advanced Modular Reactors: Advanced Nuclear Fund to be launched to support demonstration projects by early 2030s
* Nuclear Skills Strategy Group: working with NSSG to deliver the Nuclear Skills Strategic Plan

## **Nuclear Fusion**

Builds upon the 2021 UK Fusion Strategy – focusing on building a prototype fusion plant capable of providing energy to the grid by 2040.

## **Key dates for nuclear sector**

|  |  |
| --- | --- |
| **2023** | |
| **Q1** |  |
|  | Siting Strategy |
|  | Launch Great British Nuclear |
|  | Launch Nuclear Fuel Fund |
| **Q2** |  |
|  | AMR R&D programme – commence work on reactors and fuels |
| **Q3** |  |
|  | Select SMR technologes |
| **2024** | |
|  | Sizewell C FID |
| **2025-2030** | |
|  | AMR Phase B concludes |
|  | AMR construction begins |
|  | Two more FIDs (including SMRs) |

# Powering Up Britain: The Net Zero Growth Plan

## **Net Zero by 2050**

* UK's legally binding target to reach net-zero greenhouse gas emissions by 2050
* Commitment to meeting the goals set in the Paris Agreement
* Investment and Innovation:
  + £12 billion of government investment
  + Aims to leverage up to £44 billion of private sector funding
  + Encouraging private sector investment through incentives and policies

## **Nuclear Sector**

* Recognised as a critical component of the low-carbon energy mix
* Committed to the development of nuclear power, including SMRs and AMRs

## **Offshore Wind Sector**

* Plans to increase offshore wind capacity to 40 GW by 2030
* Creation of thousands of jobs in construction, operations, and maintenance

## **Carbon Capture, Utilisation, and Storage (CCUS)**

* £1 billion investment in CCUS infrastructure
* Aims to capture 10 million tonnes of CO2 per year by 2030

## **Hydrogen Economy**

* Developing a UK-wide hydrogen economy
* £240 million Net Zero Hydrogen Fund to support hydrogen production

## **Energy Efficiency and Buildings**

* £9.2 billion investment in building efficiency and heat decarbonisation
* Focus on public sector buildings, homes, and social housing

## **Green Finance**

* Promoting green finance and investment to support the transition to a low-carbon economy.
* Greening of the financial system - issuance of the UK's first Sovereign Green Bond

## **Transport and Infrastructure**

* Support for the development of electric vehicles and charging infrastructure
* Phasing out the sale of new petrol and diesel cars and vans by 2030

1. <https://www.gov.uk/government/publications/powering-up-britain> [↑](#footnote-ref-1)
2. <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147457/powering-up-britain-net-zero-growth-plan.pdf> [↑](#footnote-ref-2)
3. <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1148252/powering-up-britain-energy-security-plan.pdf> [↑](#footnote-ref-3)