Key Policies:

Power: The Strategy promises a fully decarbonised power system by 2035, with clean electricity from renewable sources and nuclear power. Key policies include:

- An investment decision on a large-scale nuclear plant by the end of this Parliament, and a 120m Future Nuclear Enabling Fund for future nuclear technologies, including Small Modular Reactors.
- 380m funding for the offshore wind-sector, with 40GW of offshore energy produced by 2030, and support for floating offshore wind.

Fuel & Hydrogen: A supply of cleaner fuels will be required for sectors which cannot be electrified, to reduce emissions from oil and gas. Key policies include:

- £140m Industrial Decarbonisation and Hydrogen Revenue Support scheme, £100m awarded towards electrolytic hydrogen production projects.
- Regulation of the oil and gas sector through a revised Oil and Gas Authority Strategy.

Industry: Support for industries to switch fuels and improve energy efficiency. Key policies include:

- Creation of new industries in low carbon hydrogen, CCUS (carbon capture, usage, and storage), and renewable energy.
- Creation of decarbonisation clusters that can access support from £1 billion CCS Infrastructure Fund, these clusters include HyNet and the East Coast initially.
- £315m Industrial Energy Transformation Fund.

Transport: Remove road emissions at the source and launch the start of zero emissions international travel. Key policies include:

- Zero Emissions Vehicle mandate; end sale of new petrol and diesel cars by 2030, with all cars fully zero emissions capable by 2035.
- £620 million for zero emission vehicle grants and electric vehicle infrastructure, with a focus on street residential charging.
- Deliver 10% sustainable aviation fuel by 2030: £180 million funding for the development of SAF plants.

Natural Resources & Waste: Restore the countryside to reduce emissions and build our resilience to climate change:

- £124 million increase to the Nature for Climate Fund, for use on peat restoration, woodland creation and management.
- Treble woodland creation rates in England, plant 30,000 hectares per year by the end of Parliament.
- Eliminate biodegradable waste from landfill by 2028.

Greenhouse gas removals: Delivering £100 million of investment in GGR innovation, which in turn will leverage private investment and demand for transferrable engineering expertise from the UK's oil and gas sector.

Other:

- Use the UK Infrastructure Bank to crowd in private finance, support more than £40 billion of investment, and pull through low carbon technologies and sectors to maturity.
- Introduce a new Sustainability Disclosures Regime, including mandatory climate related financial disclosures and a UK green taxonomy.
- Publishing annual progress update against key indicators for achieving climate goals.

Heat and Buildings Strategy – In detail

The Government has published its Heat and Buildings Strategy, setting out plans to significantly cut carbon emissions from homes and workplaces in a fair and affordable way. The Strategy aims to provide a clear direction of travel for the 2020s to achieve net zero by 2050.

In the accompanying Net Zero Strategy, the Government has set a goal to decarbonise the heat and buildings sector by between 47 to 62 percent by 2035 compared to a 1990 baseline. It also sets out goals for no gas boilers to be sold by 2035, alongside a £450bn Boiler Upgrade Scheme.

Commitments include a pledge to bring the upfront and operational cost of heat pumps for homes to price parity with gas boilers by 2030, setting the foundations for all new domestic home heating systems installed from 2035 to not rely on fossil fuels.

The policies, which focus on "no-regrets" actions and proven technologies such as heat pumps, aim to deliver on the Government's levelling-up agenda and support 240,000 skilled green jobs by 2035, concentrated on areas of the UK where investment is needed most.

Please see below for headline announcements and a full policy summary:

Headline announcements

Support for decarbonisation plans

£3.9bn of new investment has been announced to fund the next three years of the Social Housing Decarbonisation Fund, Home Upgrade Grant scheme, Boiler Upgrade Scheme, Heat Networks Transformation Programme and Public Sector Decarbonisation Scheme:

- £950m into the HUG over 2022/23 to 2024/25
- £1425m into the Public Sector Decarbonisation Scheme over 2022/23 to 2024/25
- £450m into the new Boiler Upgrade Scheme over 2022/23 to 2024/25
- £338m into Heat Network Transformation Programme over 2022/23 to 2024/25

Heating domestic buildings

- £450m three-year Boiler Upgrade Scheme to provide grants of £5,000 to homeowners to install more efficient, low carbon heating systems such as heat pumps. Grant will mean people installing heat pumps will pay a similar amount to traditional gas boilers.
- Ambition to scale up heat pumps production and making technologies more efficient, with the cost of a domestic heat pump projected to be 25-50 percent lower in 2025 than today and comparable with gas boilers by 2030.
- Ambition for all new heating systems by 2035 to either use low-carbon technologies like heat pumps, or support new technologies like hydrogen-ready boilers.
- Nobody will be forced to remove existing fossil fuel boilers from their homes. Focus will be enabling homeowners to make green choices over the next 14 years.

- Commitment to work with local authorities to help encourage individuals to choose a heat pump when next replacing their boilers.

Energy efficiency

- £950m Home Upgrade Grant scheme to support energy efficiency improvements, in addition to the Social Housing Decarbonisation Fund that has been extended through to 2025, with the Government pledging to invest £800m by this time.
- Policies could bring up to 70 percent of England's homes to EPC Band C or above by 2035, from approximately 40 percent at present BEIS will explore whether minimum energy performance standards should be set for the 2030s and 2040s.

Longer-term innovation

- Defers decision on role of hydrogen in heating to 2026, with Hydrogen Village trials due to be completed in 2025.
- Scale of Carbon Capture, Usage and Storage needed for decarbonising heat depends on balance of hydrogen production methods and ongoing research regarding using hydrogen as a heat source.
- £60m Heat Pump Ready innovation programme, forming part of the £1bn Net Zero Innovation Portfolio, to ensure heat pumps are no more expensive than gas boilers.

Flexibility and levies

- Ambition to reduce the price of electricity over the next decade by shifting levies away from electricity to gas. A call for evidence is expected to be published with decisions made in 2022.
- Commitment to work with Ofgem and National Grid to assess how supply and demand are likely to change, and how flexibility can be built in using technologies like batteries to manage that change.
- Strategies will be developed to help coordinate the installation of heat pumps with other technologies that assist the low-carbon transition, including rooftop solar, battery storage, electric vehicle charging and smart technologies.

Detailed policy summary

Developing market for net zero heating

- **Phasing out installation of new natural gas boilers from 2035**, once costs of low-carbon alternatives have come down. No-one will be forced to remove their existing boilers.
- **Ambition for industry to reduce the costs of installing a heat pump by at least 25-50% by 2025** and to ensure heat pumps are no more expensive to buy and run than gas boilers by 2030:
- **The £60 million 'Heat Pump Ready' Programme** will support development of innovation across the heat pump sector, including to improve the consumer experience in installing and using a heat pump.
- **Rebalancing energy prices to ensure that heat pumps are no more expensive to buy and run than gas boilers.** When the current gas spike subsides the government will look at options to shift or rebalance energy levies and obligations away from electricity to gas over this decade. This will include looking at options to expand carbon pricing. The government

will launch a Fairness and Affordability Call for Evidence on these options for energy levies and obligations to help rebalance electricity and gas prices.

- **Significantly growing the supply chain for heat pumps to 2028.** The government still aims to go from installing around 35,000 hydronic heat pumps a year to a minimum market capacity of 600,000 per year by 2028. This will be supported by the introduction of a market-based mechanism to establish the incentives for industry to take the lead in transforming the consumer market in low-carbon heating.
- **Ensuring all new buildings in England are ready for Net Zero from 2025.** The Future Homes Standard will be adopted alongside the Government's ambition is to build 300,000 new homes a year by the mid-2020s. The government anticipates that at least a third of 2028 heat pump target will be installed in new build domestic properties annually. To enable this, legislation including building standards with be introduced.
- **Consult on ending the installation of high-carbon fossil fuels to heat homes that are not connected to the gas grid in England from 2026** and non-domestic buildings not connected to the gas grid from 2024.

Hydrogen for heating

- **Developing hydrogen for heating buildings by assessing the feasibility**, safety, consumer experience and other costs and benefits, by the middle of the decade.
- **Support industry to conduct first-of-a-kind 100 percent hydrogen heating trials**, including a neighbourhood trial by 2023 and a village scale trial by 2025. We will also develop plans by 2025 for a possible hydrogen town that can be converted before the end of the decade.
- **Engage with industry and regulators to develop plans to blend up to 20 percent hydrogen into the existing gas network**. Aim to provide an indicative assessment of the value for money case for blending by autumn 2022, with a final policy decision likely to take place in 2023.
- **Consult on the case for enabling, or requiring, new natural gas boilers to be easily convertible to use hydrogen ('hydrogen-ready') by 2026**, in line with our timelines to take broader strategic decisions about the role of hydrogen in heating buildings.
- **Developing the evidence base necessary to take strategic decisions on the role of hydrogen for heating buildings in 2026**.

Greener Buildings

- **Drive improvements to poorer performing homes throughout the 2020s**, in line with the commitment we made in our Clean Growth Strategy for as many homes as possible to achieve EPC band C by 2035 where cost-effective, practical and affordable.
- **Ensure financial support is targeted to those who need it most**, boosting funding for the Social Housing Decarbonisation Fund and Home Upgrade Grant.
- **Reduce direct emissions from public sector buildings by 75 percent against a 2017 baseline by the end of carbon budget 6**. We will encourage public sector organisations to monitor and report their energy use, develop and deploy plans to decarbonise, including by applying for government funding, and to lead by example.
- **Launch a new world-class policy framework for energy-related products**. Continue to pursue and explore policies that increase use of energy efficient, smart and sustainable products and maximise their associated benefits, following our departure from the EU. Launch new Energy Related Products Policy Framework in due course.
- **Considering how to ensure flexible demand and supply** is taken into account across the full range of energy performance, fuel poverty and heat policies, including regulation and subsidy schemes.

- **Developing a workforce pipeline with the skills to meet the requirements of Net Zero transition**. Government is working closely with industry to ensure that installers have up-to-date, high-quality training and that they are not undercut by installers who offer cheaper, low-quality installations.

Jobs and skills

- **Investing in the green recovery can support up to 240,000 low-carbon buildings-related jobs by 2035**, with a huge range of skills and opportunities for new entrants and experienced workers looking to transition to the green buildings sector.
- **Working with the Department for Education to review the existing apprenticeship framework for heating and plumbing** and developing a Heat Network Skills Programme to increase the recruitment pool and capability of the workforce.

Technological Approach

Heat pumps

- Continue to support the growth of the UK heat pump market and work to ensure the installation and operation of heat pumps is accessible and affordable, such as through the new Boiler Upgrade Scheme.

Heat networks

- Work with local actors to deploy low-carbon heat networks in suitable areas, developing our zoning approach, and providing capital support through Heat Networks Investment Project and Green Heat Network Fund.
- Develop regulations to drive decarbonisation, improve consumer protection and performance of legacy networks, grow supply chains and upskill the workforce.

Hydrogen

- Role of hydrogen in heating will need to be joined up with our broader strategic planning for hydrogen.
- Government is looking to consult on mandating hydrogen-ready boilers, conduct technical research and analysis, deliver consumer trials, explore hydrogen blending, and make strategic decisions on the role of hydrogen in heating buildings in 2026.

Hybrid heat pumps

- Acknowledges that hybrids could play a transitional role in the 2020s and 2030s, but currently remains too early to rule hybrid systems in or out of the 2050 energy mix, particularly in the context of the role of hydrogen for heat.
- Prioritising activity to collect further data, such as gathering data on the real-world use of the hybrid systems through the Electrification of Heat Demonstration Project203 to better understand the effectiveness of hybrid heat pumps in reducing carbon emissions and peak electricity demand.

Bioenergy

- Use biomethane to decarbonise the gas grid in the near-term, look to improve how we target use of bioenergy to address buildings unsuitable for alternative sources of low-carbon heat, and continue to ensure our policies have appropriate air quality and sustainability requirements for participants.

Other publications

Alongside the Heat and Buildings Strategy, the Government has also published:

- Response to the Clean Heat Grant proposals within the Future support for low carbon heat consultation, which sets out plans for a Boiler Upgrade Scheme to provide capital grants to support installation of low carbon heating systems in homes and non-domestic buildings
- Heat Pump Ready innovation programme, part of the Net Zero Innovation Portfolio
- Consultation on the introduction of a market-based mechanism to support investment and innovation in transforming the consumer proposition on heat pumps
- Consultation on phasing out the installation of new fossil fuel heating in domestic properties off the gas grid, with a heat pump first approach to replacing those heating systems
- Consultation on phasing out the installation of fossil fuel heating systems in businesses and public buildings off the gas grid