Clean Power 2030 builds stability by cutting import reliance

The UK has a new Clean Power 2030 Action Plan, which aims to cut the use of gas power, but electrification is urgent to tackle energy imports across the rest of the economy. To stabilise energy bills the UK must cut imported fuels across the economy.

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About

This report reviews the forecasted changes to fuel imports according to the UK government's Clean Power 2030 Action Plan - which was published in December 2024. The action plan has been used in combination with the NESO (National Electricity System Operator) 2030 Clean Power report to estimate changes to imported fuels between present baseline and 2030.

Highlights

77%

By 2030, three-quarters of UK gas use will be imported due to long-term production decline

57%

Ember analysis shows that gas imports for power generation fall by 57% in a 2030 clean power system

95%

Currently, 95% of wood pellets used in biomass power production are imported

Executive summary

Electrification extends the energy security benefits of Clean Power 2030

Despite Clean Power 2030 targeting gas use in the power sector, the wider UK economy remains dependent on imported fossil fuels. To stabilise energy bills the UK must cut imported fuels across the economy.

The UK's imports of oil, gas, and biomass expose it to ongoing market volatility and supply disruption. Electrification of both heating and transport cuts fossil fuel import reliance and builds energy stability across the economy by making the best use of an increasingly efficient and independent UK power supply.

01 Clean Power 2030 will halve gas imports for power generation

Ember finds that the Clean Power 2030 Action Plan, which aims to accelerate the deployment of renewable energy and cut fossil fuel use, will slash an estimated 57% of gas imports by 2030.

02 Transport and home heating remain highly exposed to energy imports

Transport fuels, currently 40% imported, cost the average UK household more than electricity or gas. Reducing oil consumption through electrification represents a significant opportunity to cut energy bills and import reliance. For heating, by 2030 a heat pump will be 85% less reliant on imports, compared to a gas boiler.

03 Biomass is the UK's third largest fuel import, with production only able to meet 5% of wood pellet demand

Biomass power generation is almost entirely reliant on imports of wood pellets, which means generators are exposed to price rises, as witnessed during the energy crisis when wood pellet prices increased by over a third, and remain well above the pre-crisis average.

Stability is a key benefit of the clean power goal. Cutting UK exposure to international price shocks has benefits for power, for heating and transport. Oil and gas production is in long-term decline, the future energy secure economy will be based on homegrown energy generation.

Frankie Mayo
Senior Energy & Climate Analyst - UK, Ember

Relying on fuel imports
risks energy stability

Without clean power, the UK grid remains exposed to gas import shocks

To shield British consumers from future gas price volatility, the UK Clean Power 2030 Action Plan aims to decrease gas imports for electricity generation. As UK fossil fuel production continues its long-term decline, reducing demand is critical to limit import dependence.

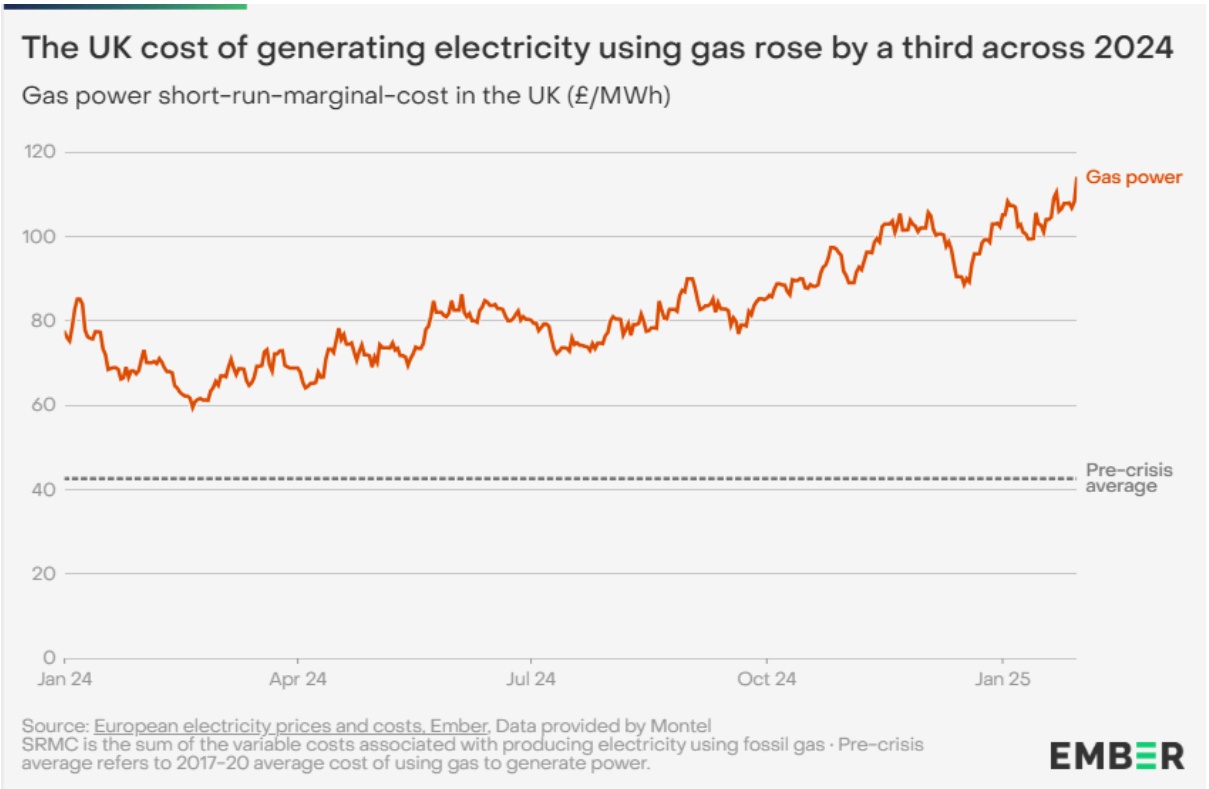
Reliance on fuel imports exposes the UK to cost rises and tariffs

Recent global volatility across oil, gas and biomass prices shows the benefits of homegrown, clean power generation. The UK is overreliant on fuel imports for energy generation, leaving it exposed to price shocks.

Import dependence leaves the UK vulnerable to rising costs and tariffs

In total, 45% of gas supply, 44% of oil products such as diesel, and around 95% of wood pellets are imported in the UK. These fuels are not only used for electricity generation but also in transport, heating, and in industry. The UK's reliance on these imported fuels leaves it vulnerable to price fluctuations, which are set by global markets.

The 2021-2022 energy crisis is still affecting consumer energy bills, as generating electricity using gas remains 88% more expensive than the pre-crisis average. Overreliance on gas, which is used for electricity system balancing and for heating around 80% of homes, has led to lasting energy bill increases. Although UK wholesale power prices have reduced since the 2022 peak, the cost of generating electricity using gas is once again increasing, having risen by a third (33%) across 2024.



The UK's use of LNG (Liquified Natural Gas) import shipments also exposes the UK to competing trade complications. The UK receives its gas imports from two main sources: pipeline gas from Norway, and LNG from the USA, Qatar and other countries. Overall LNG imports made up a fifth of the total gas supply, and during the energy crisis LNG imports increased, to be re-gassified and exported to Europe. However, LNG is also typically more expensive than pipeline gas, with the market more competitive. Reduction in gas demand through clean power deployment may mean reduced exposure to LNG markets, though with tariffs on China-US LNG trade announced there may be increased volatility in the market which has also seen price increases across 2024. Reliance on LNG imports means that the UK is exposed to international political volatility and market constraints.

The price of generating power using gas has risen consistently over the past 12 months, while continuing competition and tariffs on LNG trade threaten market stability. Although gas is currently important in balancing the UK electricity system, its cost and volatility have serious implications for energy security. Reducing demand is therefore a critical component of building energy system stability going forward.

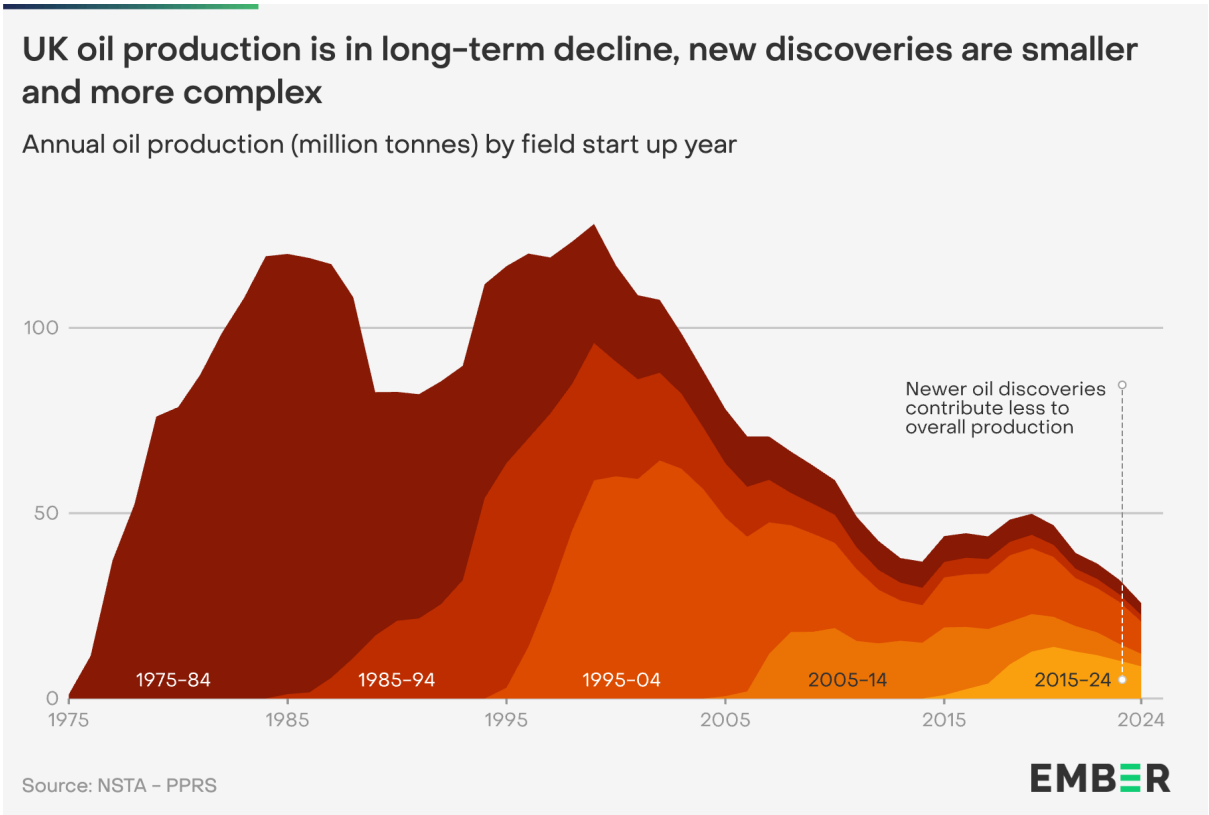
Fossil fuel and biomass generation must fall to cut import dependence

With production of oil and gas in long-term decline in the UK, homegrown power sources are critical to reduce import reliance and build stability in the energy system. Reducing demand for import-reliant fuels such as biomass and gas builds long-term energy security.

Fossil fuel demand reduction is critical as production is in long-term decline

The UK's oil and gas production is in long-term decline, with a 68% drop between 2003 and 2023. Without an equivalent reduction in fossil fuel demand, UK exposure to import price shocks is set to increase.

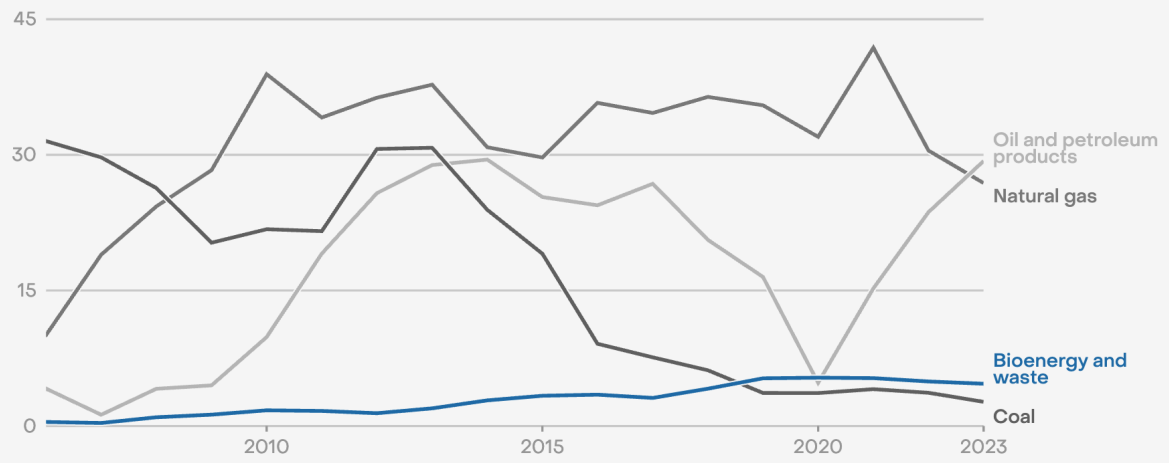
Since the first UK offshore oil fields were discovered in 1975, new finds have been smaller and harder to extract, while older fields produce less over time. As a result, overall production is declining. Although energy demand has also fallen, it has not decreased as quickly as production, meaning that import reliance has increased. To reduce reliance on fuel imports therefore, the UK needs to cut overall demand for oil and gas. This can be achieved through improved energy efficiency, expanded renewable generation and clean electrification.



Despite coal phase-out, the UK remains reliant on imports of oil, gas, and biomass. In total, the UK imports 40% of its energy supply, exposing its economy to price shocks. Despite the decline of coal use in power generation and industry, the UK remains heavily reliant on the remaining imported energy fuels. Oil and oil products, such as petrol and diesel, are the largest imported energy fuel in the UK, followed by gas and bioenergy, which overtook coal as the UK's third most imported fuel in 2019. Collectively, oil, gas and bioenergy comprise 86% of the total energy supply in the country. These three are used in electricity generation but also as fuel for transport, heating and industry, meaning that import reliance can be tackled by action across each of these sectors.

After the collapse in coal use, bioenergy is now the third largest fuel import after oil and gas

Net UK energy imports by major fuel type (Mtoe)



Source: DUKES Table 1.1 from DESNZ
Million tonnes of oil equivalent (Mtoe)

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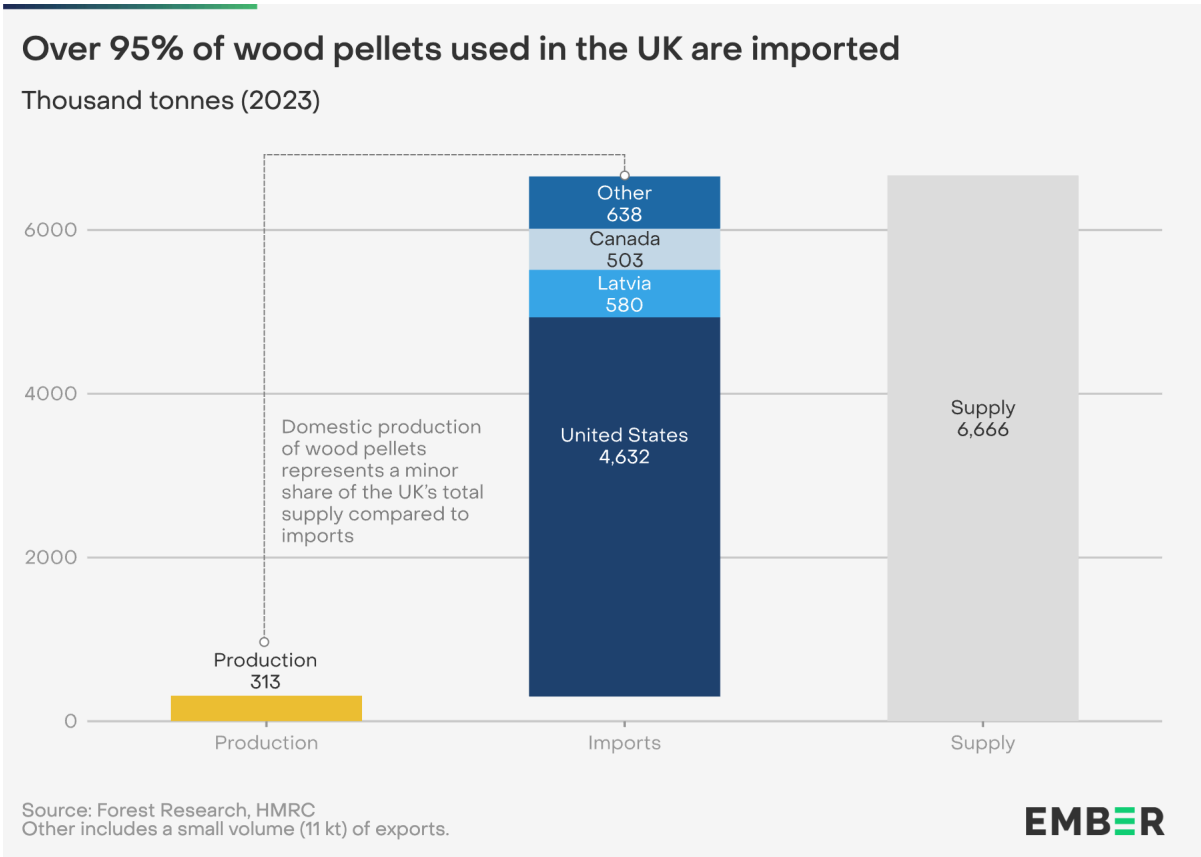
Transport fuel prices have been highly variable over the last four years, impacting homes and commercial users in the UK. Overall, 44% of petroleum products used by UK consumers are imported on average. Oil is imported in two broad forms: as raw primary oil and as refined petroleum products. Once refined, oil petroleum products are mostly used in the transport sector (80%), which is the largest

consumer of UK energy and almost entirely relies on petroleum fuels for supply. The rest goes to other sectors like homes and industries, including the plastics industry.

Bioenergy is the third largest UK import and is increasingly used across the economy in power generation (56%), home heating (22%), as well as transport fuels and gas grid injection (22%). However, it also has a range of cost, carbon and energy security impacts. Wood pellets have a high carbon intensity, and when burned at large volumes can have significant impacts. Drax power station was the UK's largest CO2 emitter in 2023 and paid a £25 million penalty last year after an Ofgem investigation into its failure to accurately report on the type of wood used. Plant biomass, including wood pellets, is the largest component of bioenergy use and is mainly (74%) used to generate electricity. Overall, 95% of wood pellets used in large-scale biomass power generation are imported, as demand far exceeds national production.



The UK is currently overreliant on fuel imports, and new oil and gas discoveries will make only a marginal contribution to slowing the decline in production. Building an energy system that is both stable and flexible means a reduction in fossil fuels and biomass generation, an acceleration in clean power development, and support for new technologies such as energy storage and interconnection with neighbouring countries.

Power imports have an important role to play

Flexible power supplies are critical to support energy stability. Interconnectors with neighbouring countries allow the UK to export power when it has excess, and import power from the continent when the UK needs it. These long-distance cables have a stabilising effect on power prices.

Power imports make up a small but important part of the electricity system

The UK trades electricity through long-distance interconnectors with many of its neighbours, although the volume of energy is small, these interconnectors can play an important role in balancing the power system. The UK imports 5% of its yearly electricity supply on average, over the past 10 years (2013-2023).

Interconnector flows are market driven and typically reflect the cost imbalance in power prices between European neighbours. In 2022, Britain became a net electricity exporter for the first time in over 40 years, as supply was increased to France due to maintenance at multiple nuclear power plants in France, reducing generation.

Interconnectors provide a flexible resource to balance variable renewable generation, aiding system stability. Although the UK currently has higher wholesale electricity costs than many of its interconnected neighbours, as UK

renewable energy deployment continues the wholesale power price is expected to gradually reduce, albeit at a slower rate than they increased during the recent energy price crisis. Therefore, the role of interconnectors may change over time, from providing flexibility to the UK power grid, to also facilitating increasing levels of power exports to the rest of Europe.

Therefore, although the UK does rely on electricity imports for a part of the power supply each year, these have a balancing effect on power prices - rather than exposing the UK to increased price shocks in the way that other import reliance does. Furthermore, the UK is forecast to become a net exporter of electricity by 2030 in the NESO 2030 Clean Power report.

Getting off imports to
stabilise UK electricity bills

Clean Power 2030 cuts expensive gas imports, but biomass imports remain high

The UK Clean Power 2030 Action Plan aims to reduce reliance on fossil fuels. Other imports such as biomass remain in the power system by 2030, increasing UK exposure to volatile energy bills.

Clean Power 2030 cuts gas import reliance quickly

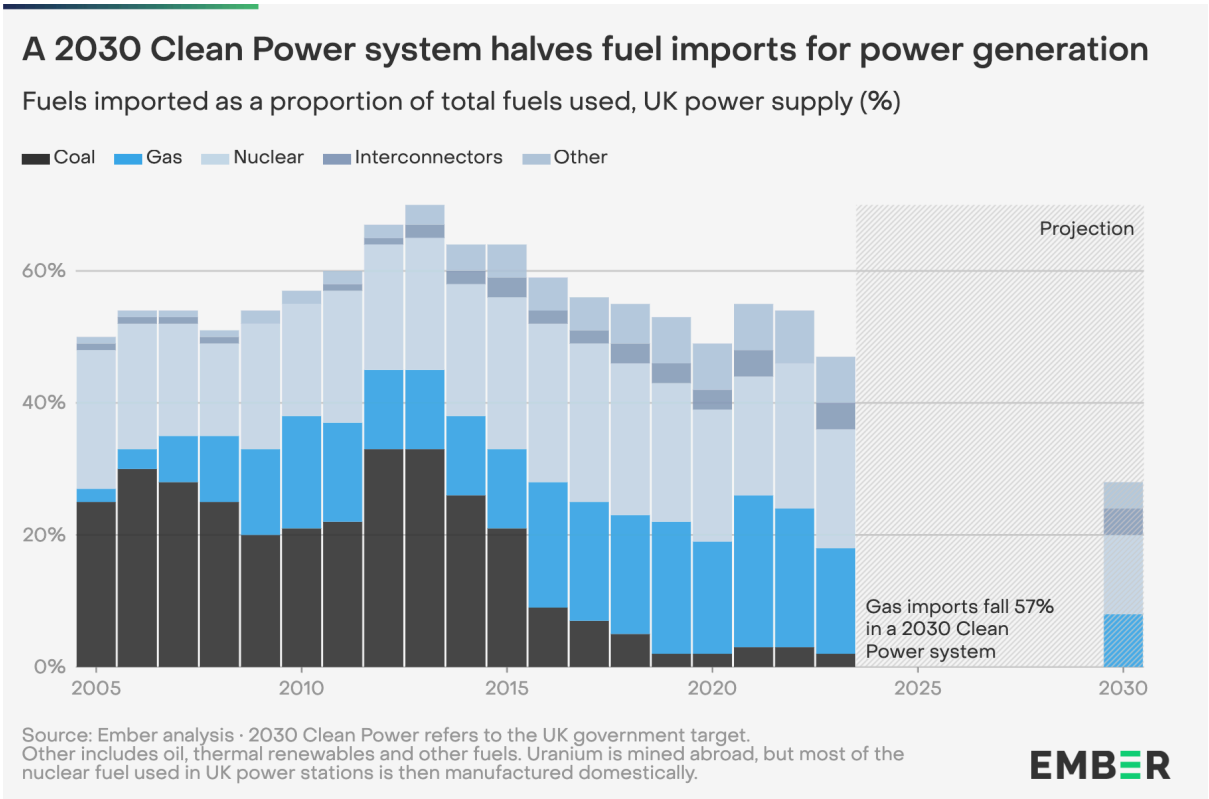
Clean Power 2030 will reduce gas use in the power system to below 5%

Since 2014, gas has been the single largest source of power generation in the UK. However, progress towards a clean power system by 2030 aims to reduce the UK's reliance on gas imports. In December 2024, the UK Department of Energy Security and Net Zero (DESNZ) published a Clean Power 2030 Action Plan to tackle overreliance on gas in the electricity system. This 2030 plan intends to reduce the

proportion of gas used in power generation to below 5%, down from 28% in 2024. This will limit both the total volume of expensive gas purchased but also the number of hours that gas sets the price in the wholesale electricity market - restraining the impact of gas price volatility.

Gas imports are expected to be cut by over half by 2030

Ember estimates that the Clean Power 2030 Action Plan will cut gas imports for electricity generation by 57% (-53 TWh) in line with the NESO 'Further Flex & Renewables' modelling. This is due to a large reduction in gas power use, displaced by a rise in renewable power generation. Overall, gas consumption for power generation is forecast by NESO to fall from 204 TWh in 2023, to 53 TWh in a 2030 clean power system. Clean power deployment therefore limits the availability of gas power plants to influence the wholesale power price, as well as reducing overall import volumes.



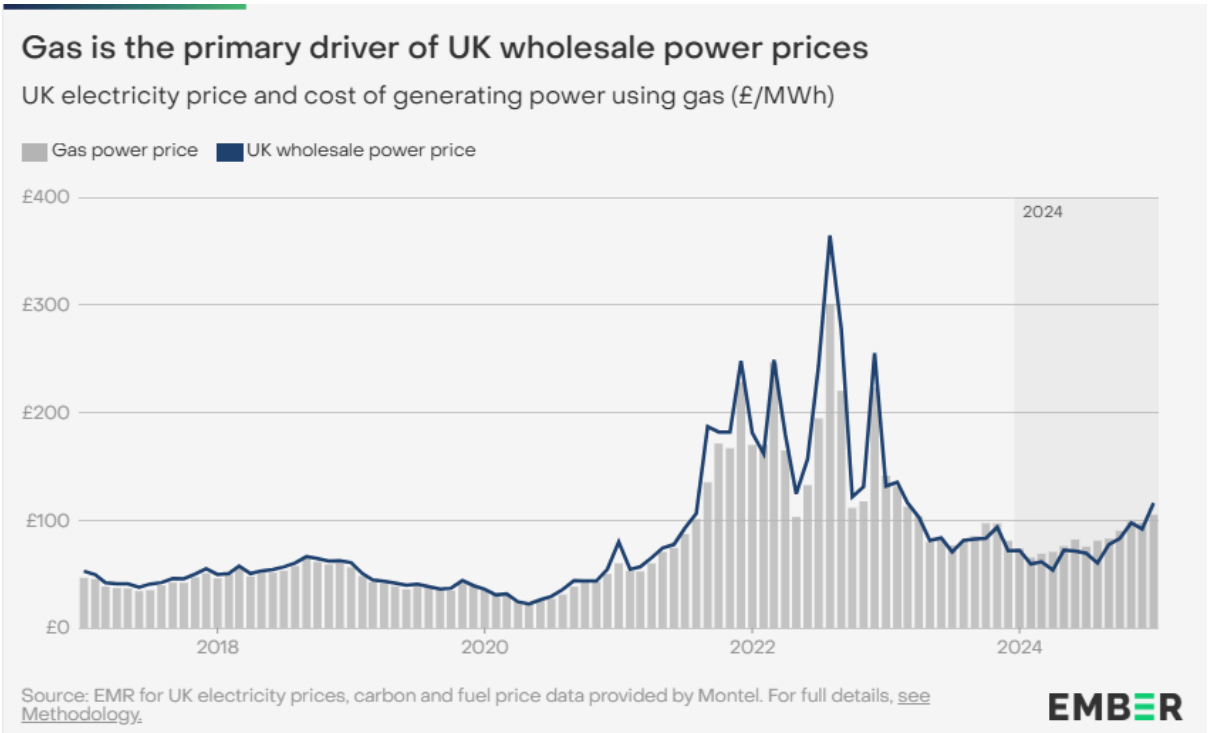
The accelerated deployment of low-carbon power generation in the Clean Power 2030 Action Plan will reduce total gas consumption for power by around three-quarters (-154 TWh). Achieving this demand reduction is critical to reduce exposure to market volatility, because the import reliance of gas supply is forecast to increase from around half (45%) in 2023 to over 75% of supply by 2030, due to a decline in UK gas production.

Clean power supports long-term price stability

Reducing gas use lowers electricity bills risks

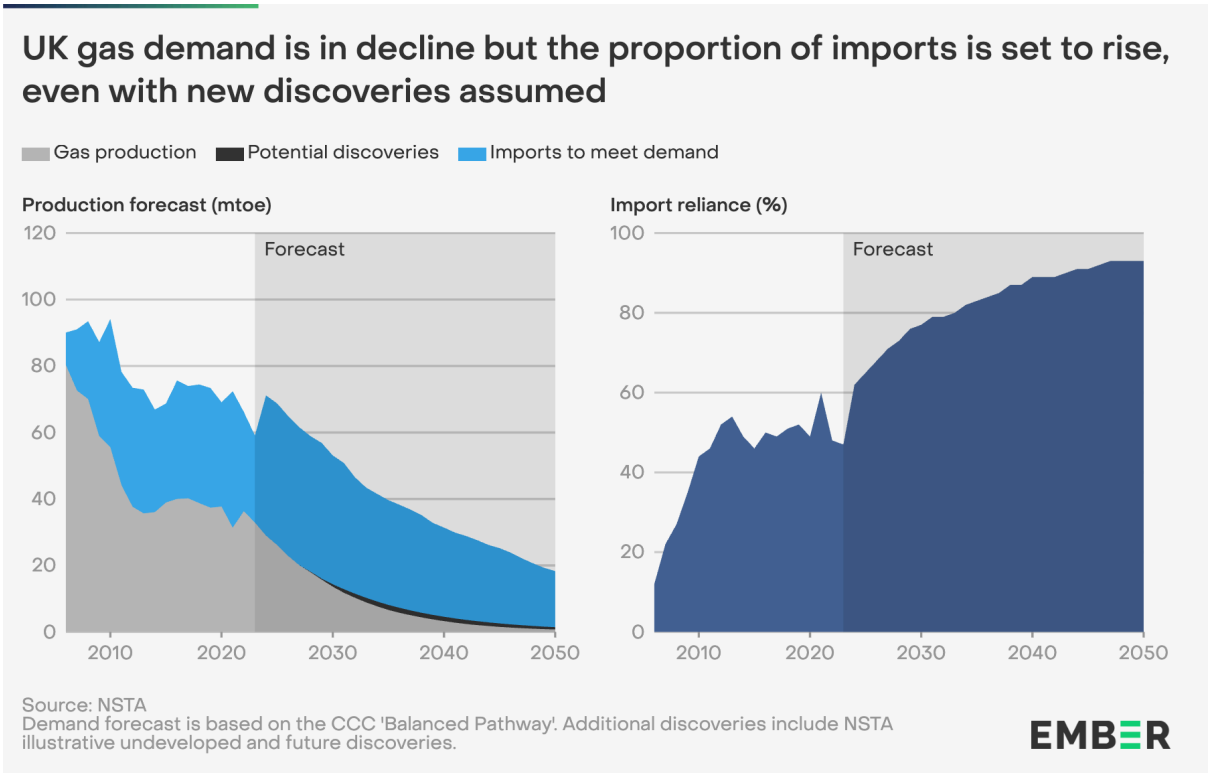
Cutting reliance on gas for power through the Clean Power 2030 Action Plan reduces the exposure of UK bill payers to high gas prices and market volatility. The largest component of residential electricity bills is the wholesale price of power which is typically driven by gas power prices, other components include network costs, VAT, and policy obligations.

In the UK wholesale power markets, the cheapest generators are used first, but the overall price is set by the most expensive units needed to meet demand, which in recent years has meant that expensive gas power plants often set the price of power. During the energy crisis in 2022, it was the wholesale price of power, largely set by the cost of gas, which increased significantly, which in turn drove the overall consumer electricity bill sharply upwards.



Gas prices are therefore critical to UK electricity costs, but whether produced domestically or imported, the price of UK gas is not set by the government but linked instead to international markets. Some power prices can be fixed in advance through Contracts for Difference (CfDs) which support low-carbon power generators by auctioning a set price of power to developers, or through bilateral agreements. However, day-ahead electricity prices are strongly linked to the volatile cost of gas in the European market, which has risen across 2024 and into 2025, with direct impacts on wholesale electricity prices.

Looking forward, reducing gas use by building clean power generation alternatives cuts power price volatility. Recent modelling by Baringa highlighted that household electricity bills would increase by five times less in a clean power system if faced with a comparable energy crisis, compared with 2022. Reducing gas use through a transition to a clean power system is the fastest way to reduce the impact of international gas prices on UK energy bills.



The long-term decline in domestic gas production, even with potential new discoveries, means that new gas infrastructure locks-in future import reliance. This analysis has assumed both that current discoveries are developed and assessment of additional potential fields are discovered and developed. Therefore, this is a conservative estimate and actual production may be even lower. The long-term decline in gas production means that a new gas power plant or gas CCS power plant will be more than twice as reliant on imports over its lifetime compared to historic gas power stations. For instance, a UK gas power plant built in 2025 will rely on 80% imported fuel over its lifetime, while a plant built in 2000 was 30% reliant on imports.

Renewable energy has reduced the impact of fossil fuel import reliance to date

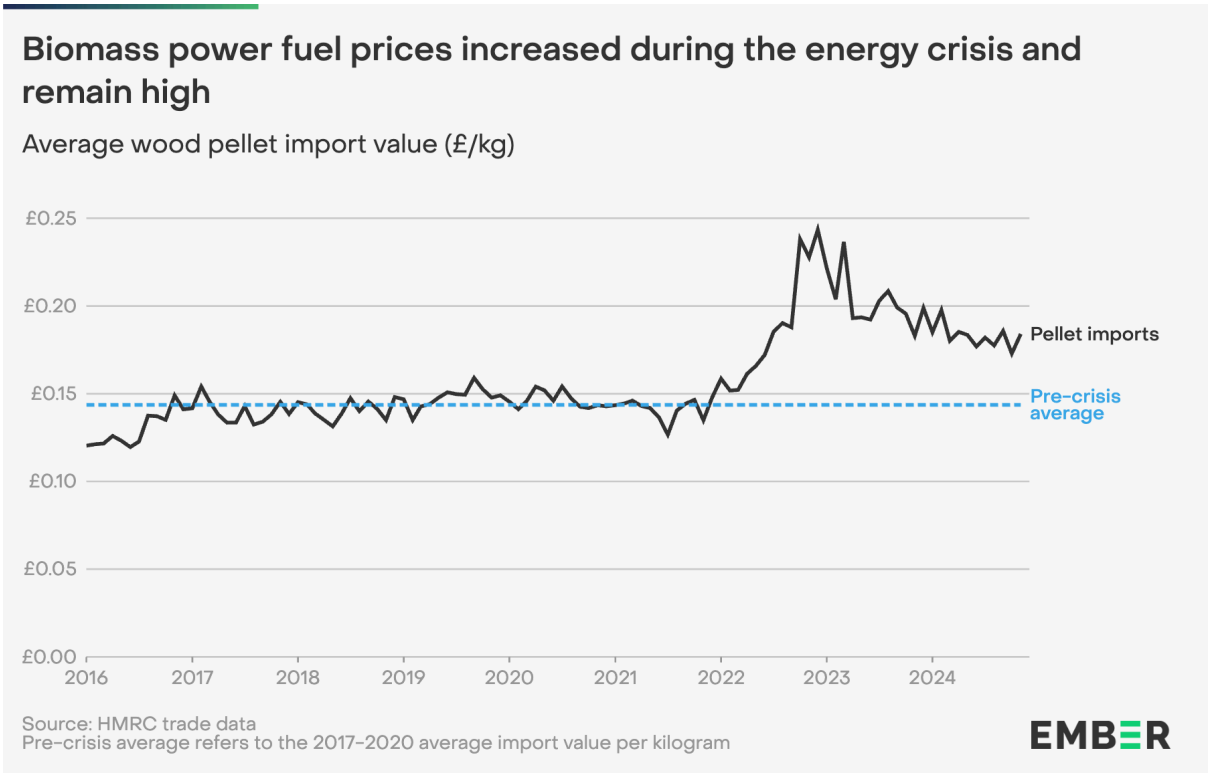
Since coal use in the UK power sector peaked in 2012, renewable power has increasingly displaced coal power without increasing the overall share of gas power. In 2024, the gas share of total power generation fell to its lowest since 2015.

Clean power generation displacing fossil fuel use has restrained a rise in imports, as between 2012 and 2024 gas power on average relied on imports for 48% of supply. Furthermore, some low-carbon support schemes paid back to consumers as the price of electricity rose during the energy crisis. In 2022, payments from renewable generators with CfDs helped reduce household annual electricity bills by £18. So far, renewable power has helped limit the rise in gas imports, as well as reducing the impact of gas price surges. However, accelerated deployment is now needed to further reduce import reliance.

The wind down in biomass power has begun

Wood pellet price volatility reveals an opportunity to extend energy security

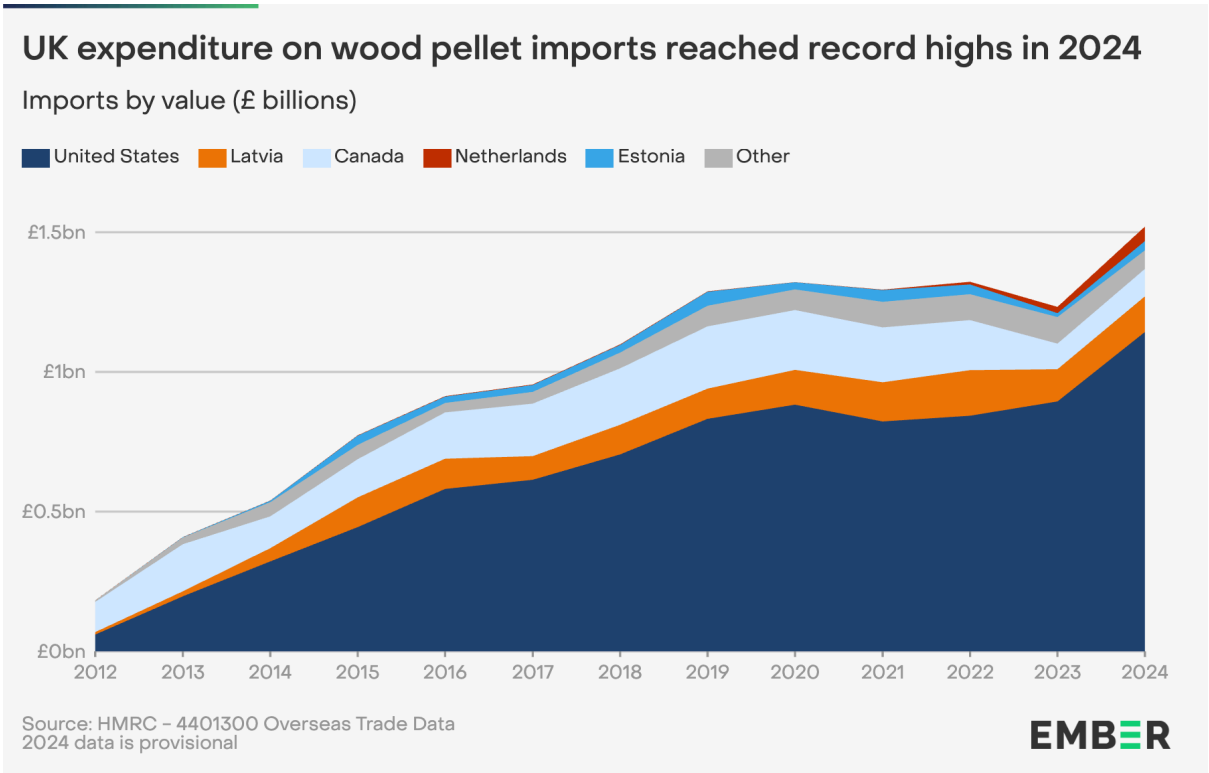
As the prices of gas jumped during the recent energy crisis, other imported fuels also saw cost shocks. Due to the reliance of large-scale biomass power on imported wood pellets, generators are exposed to knock-on price volatility during an energy crisis. The average wood pellet import price level, measured by value per volume imported, jumped 34% in 2022/23 compared to the pre-crisis average, and remains 27% above average in 2024.



Recent government announcements signal a shift towards lower biomass use

The Clean Power 2030 Action Plan does not explicitly target reduced biomass consumption, though more recent announcements signal the beginning of a wind down. The government action plan includes a capacity range for 'low-carbon dispatchable power' of both higher and lower than current biomass capacity, meaning there is no commitment to reduce imports, despite the high cost of biomass power generation and its high import reliance.

Recent Ember modelling however, suggests that high capacity levels are not required in a 2030 clean power system. Modelling showed that generating capacity at Drax power station, the largest biomass power plant in the country, could be reduced to a quarter of its current size within a stable functioning 2030 clean power system. This is a large reduction from current levels. In 2024, wood pellet import expenditure and volumes likely reached record highs, over 9.6 million tonnes, with generation at Drax power plant increasing 28% on 2023 levels.



In February 2025 a government decision was announced for the future of subsidies for Drax power station beyond the current end of subsidies in 2027. The announced subsidy package introduces some additional limits and conditions on subsidy payments to large-scale biomass power generation, including capacity factor limits and a contract limited to four years. These conditions will cap the estimated annual subsidy to half of its current level, and cut total biomass generation across the year.

Although this subsidy extension will support generation in the near term, it is at a far reduced level compared to current consumption. Further, enforcing the subsidy conditions could facilitate a longer-term reduction in biomass power, particularly as new renewable generation minimises the need for additional and more expensive power generation.

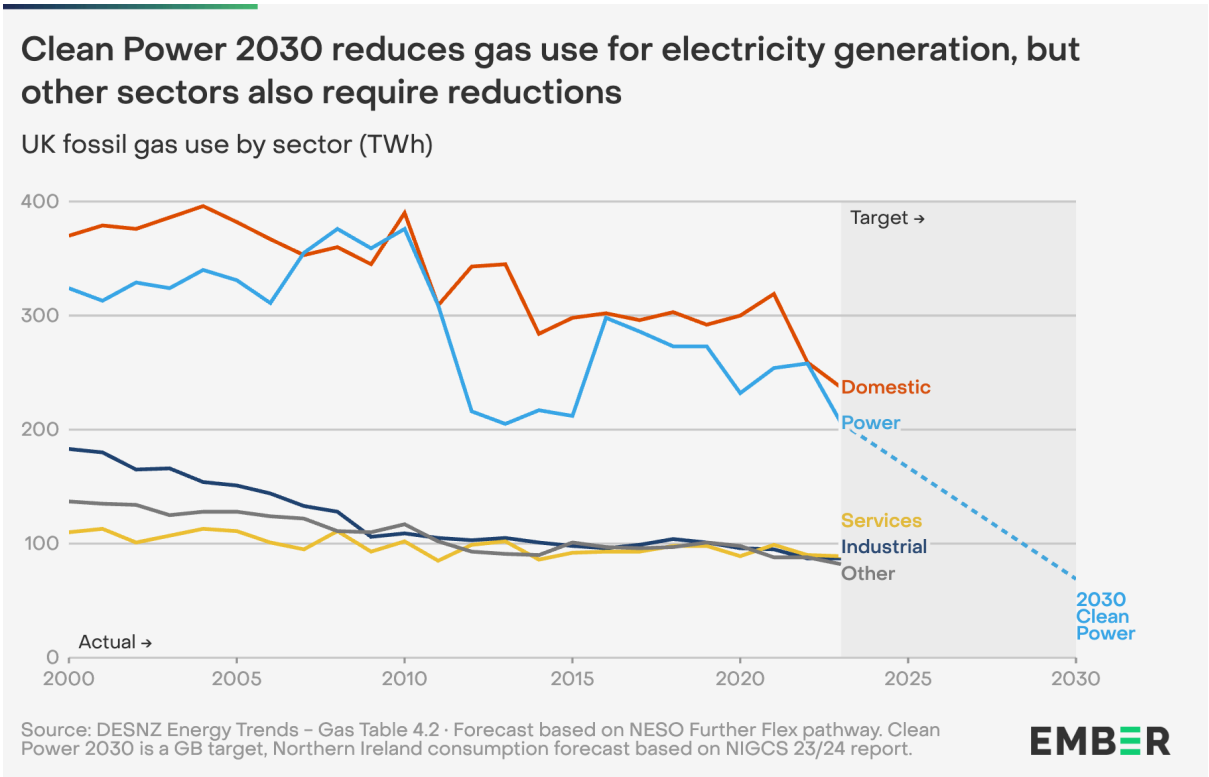
Minimising biomass generation represents an opportunity for a clean power system in 2030 to go further in cutting import reliance, beyond gas reduction.

Accelerated support for clean power generation and energy system flexibility will reduce the role of biomass to the margins of the power system, reducing import reliance and expenditure.

Other energy users remain reliant on imports

Reducing gas use for power helps to cut import bills, but other sectors remain reliant

Gas demand has fallen in recent years, partly due to its high prices, as well as the rise of renewable energy and higher electricity imports. There have been further reductions in the overall use of gas too. The biggest reduction in gas demand has been in annual household use (-133 TWh since 2000), followed by power generation (-119 TWh) and in industry (-96 TWh). However, despite these reductions, gas remains a critical source of energy. Used across the economy, gas is currently the second largest source of energy, behind oil, meaning increases in the price of gas have wide effects, raising energy bills for power, industry, and domestic heating.



The Clean Power 2030 Action Plan will cut expensive gas imports, and more recent policy announcements have signalled a shift away from biomass generation too. Unshackling the UK from these energy imports will support long-term price stability as the proportion of home-grown electricity steadily increases. Looking ahead, as other energy uses such as household heating and transport remain reliant on imports, a strategic approach to reducing imported fuel consumption in other sectors will extend the benefits of clean power, and support the evolution of a more stable energy system.

Toward a clean, cheaper
and more secure energy system

Electrification expands energy security into new areas

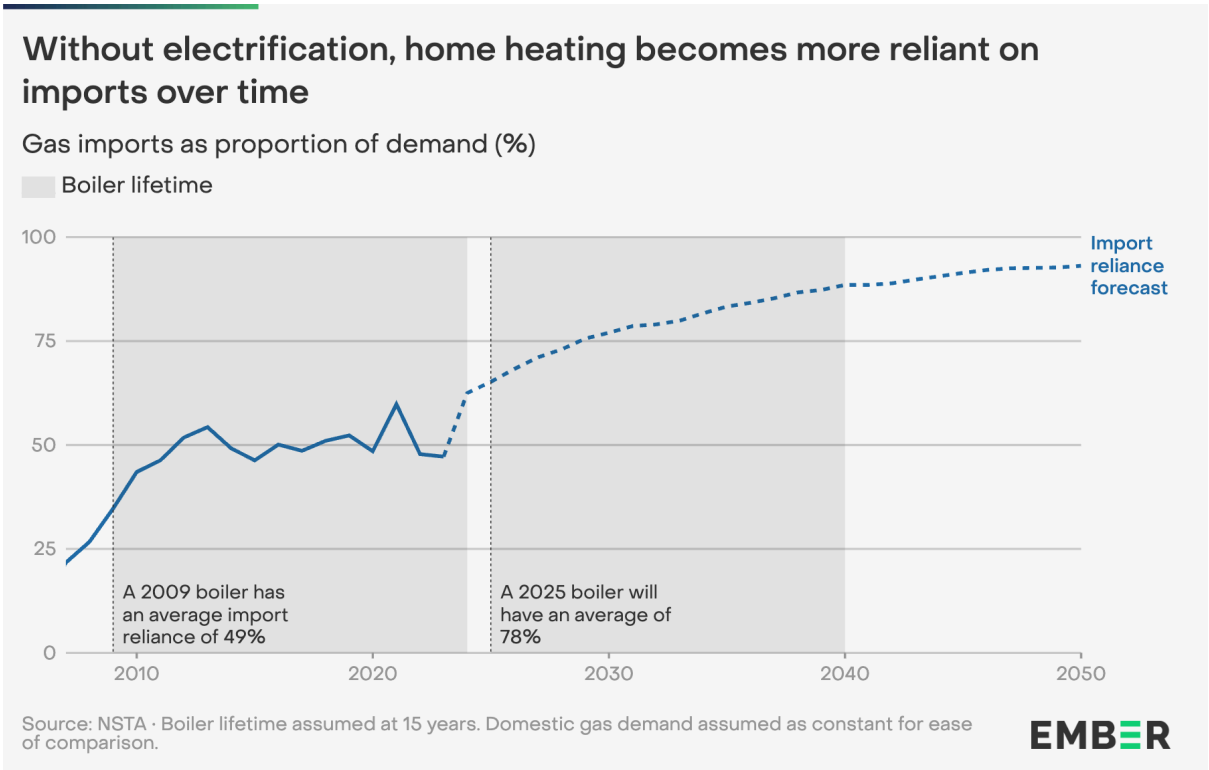
Transport and heating remain reliant on fuel imports, and form the majority of household energy expenditure. Energy security can be improved in these areas by building on the Clean Power 2030 Action Plan with electrification.

Electrification of domestic heating cuts imports and bills

Central gas heating means that the majority of households remain reliant on energy imports despite reductions in the power sector. With an increasingly homegrown power supply and more efficient heating technology, electrification of heating presents an opportunity to cut imports as well as costs.

Clean Power 2030 cuts gas power use, but domestic heating remains reliant on imports

Household use of gas is the largest component of UK gas consumption. It overtook power consumption of gas in 2010. The amount of gas used in UK homes has declined by around a third since 2005, due to rising energy costs, energy efficiency measures and regulation mandating more efficient condensing gas boilers. However, because of falling UK offshore gas production, import reliance has increased despite reduction in demand. Domestic heating using gas boilers, as in around 75% of UK homes, is therefore increasingly reliant on imports. A gas boiler installed in 2025 will be reliant on imports for three-quarters of the gas used over its lifetime (78%), compared to only 49% for a gas boiler installed in 2009.



Electrifying household heating can cut costs as well as imports

Most UK homes use gas for heating, meaning their energy bills are vulnerable to changes in fuel import prices. This was witnessed recently with the energy crisis, during which average household gas costs doubled from £550 to £1,100 between 2021 and 2022. That's a 100% increase. In comparison, electricity bills increased by 53% over the same period. The Clean Power 2030 Action Plan targets electricity cost reductions, but households could save even more by policies targeting lower heating costs, cutting gas use through electrification.

A typical household with a gas boiler will spend £640 on heating, over a third of a typical household's gas and electricity bills. This could be 10% lower if the same home were heated with a heat pump on certain tariffs, however as certain policy costs on electricity prices mean bills are capped at a much higher level than gas, heat pumps are not always competitive. It is estimated that rebalancing policy costs away from electricity bills would encourage electrification by reducing household electricity costs by around £200 per year, in 2024-2025 prices.

Electricity supply is less reliant on imports than direct use of gas, because of the growing share of renewable electricity generation in the UK. Electrifying residential heating, such as switching gas boilers to heat pumps, reduces import reliance for households while cutting the climate impact of home energy use. Fuel imports such as gas and biomass for electricity generation make up 47% of the current energy needs for a heat pump. However, this import reliance is forecast to halve to around 25% under a clean power system in 2030. Switching a home from using a gas boiler to a heat pump reduces gas imports both because a heat pump is over three times more efficient, but also due to the increasingly homegrown renewable electricity system.

In a Clean Power 2030 system, the electricity supply will be half as reliant on imports compared to in 2023, while gas boilers will be increasingly reliant on imports. As a result, heat pumps will use just 1 MWh of imported primary energy, compared to 6.1 MWh of imported gas for a gas boiler providing heating in 2030. In 2030, a heat pump will rely on 83% less imports compared to a gas boiler.

Connecting household heating to a clean power system strengthens energy security by cutting gas imports for heating, building on reducing the power generation fuel imports targeted in the Clean Power 2030 Action Plan.
Shifting away from gas boilers to heat pumps for heating UK homes reduces the country's reliance on imported energy fuels, reduces overall gas demand and helps stabilise energy costs for households. The UK can build a more resilient, electrified heating system, shielding households from the volatility of global fuel prices.

Transport fuels are a further opportunity to cut costs and imports

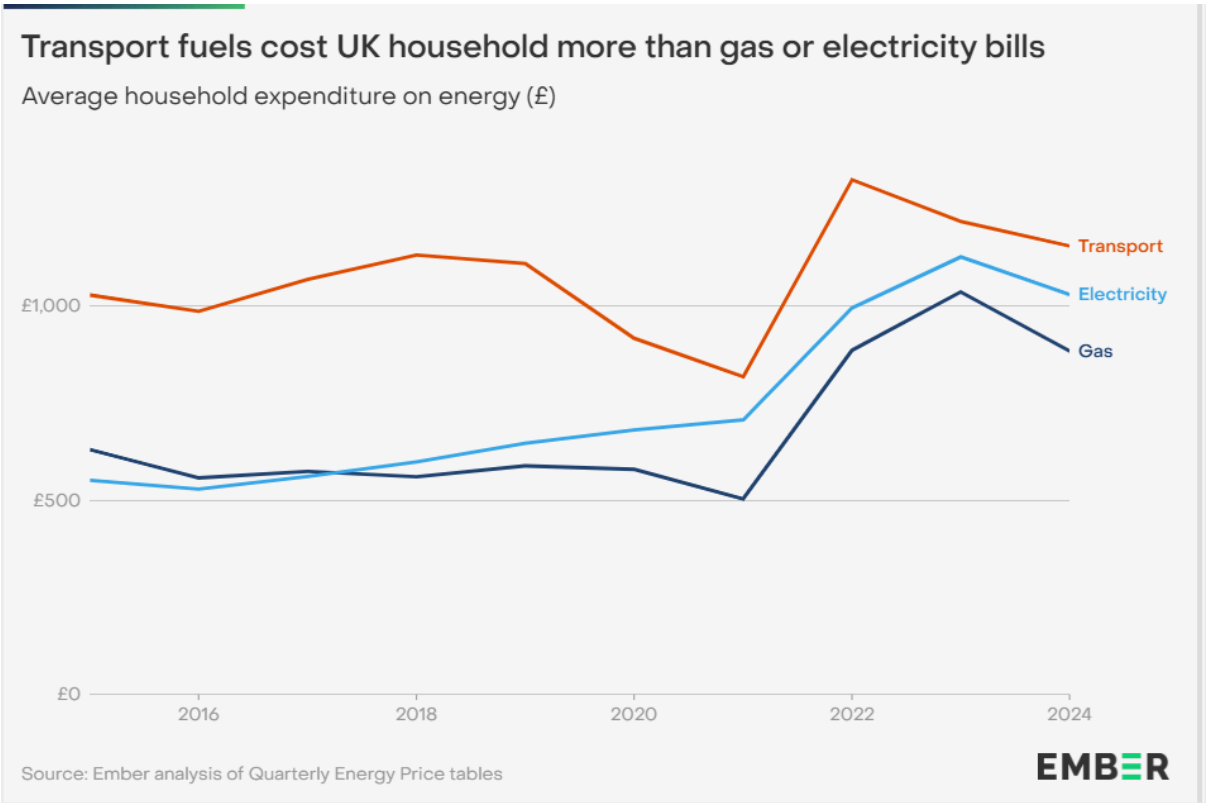
Petrol and diesel prices are set on international markets and total transport fuel costs the average UK household more than either gas or electricity. With production in long term decline, a strategic approach is needed to reduce demand and energy bills through electrification.

Transport fuels are the largest part of household energy bills

Oil fuels for transport, such as petrol and diesel, make up the largest component of household expenditure on energy and are highly reliant on fuel imports. Oil prices are set on global markets, and despite demand for transport fuels remaining below pre-pandemic levels, total expenditure has increased. UK households spent £1bn more on transport fuels in 2023 compared with 2019, a 3% increase to a total of £33bn, as average petrol and diesel pump prices increased by 20% over the same period.

Compared with other energy bills, transport makes up a significant component. Until 2020, half of total household energy bills were spent on transportation motor fuels (i.e. petrol and diesel) although with the rise in other costs, this proportion

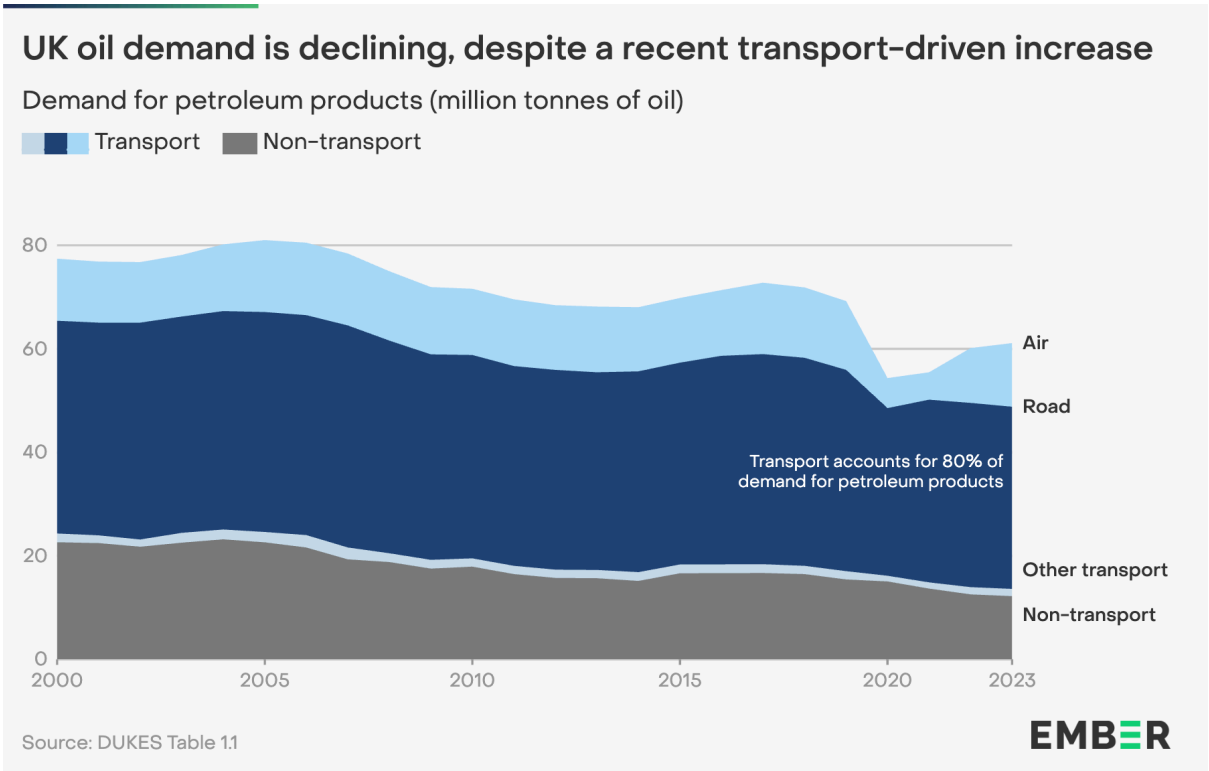
has decreased to around a third. UK households spend £21 per week on motor fuels, on average. The remainder of total energy bills is spent on gas, electricity and other minor fuels at a total of £21bn across all households in 2023, compared to a total of £33bn on transport fuels.



Imports for transport fuels are forecast to increase

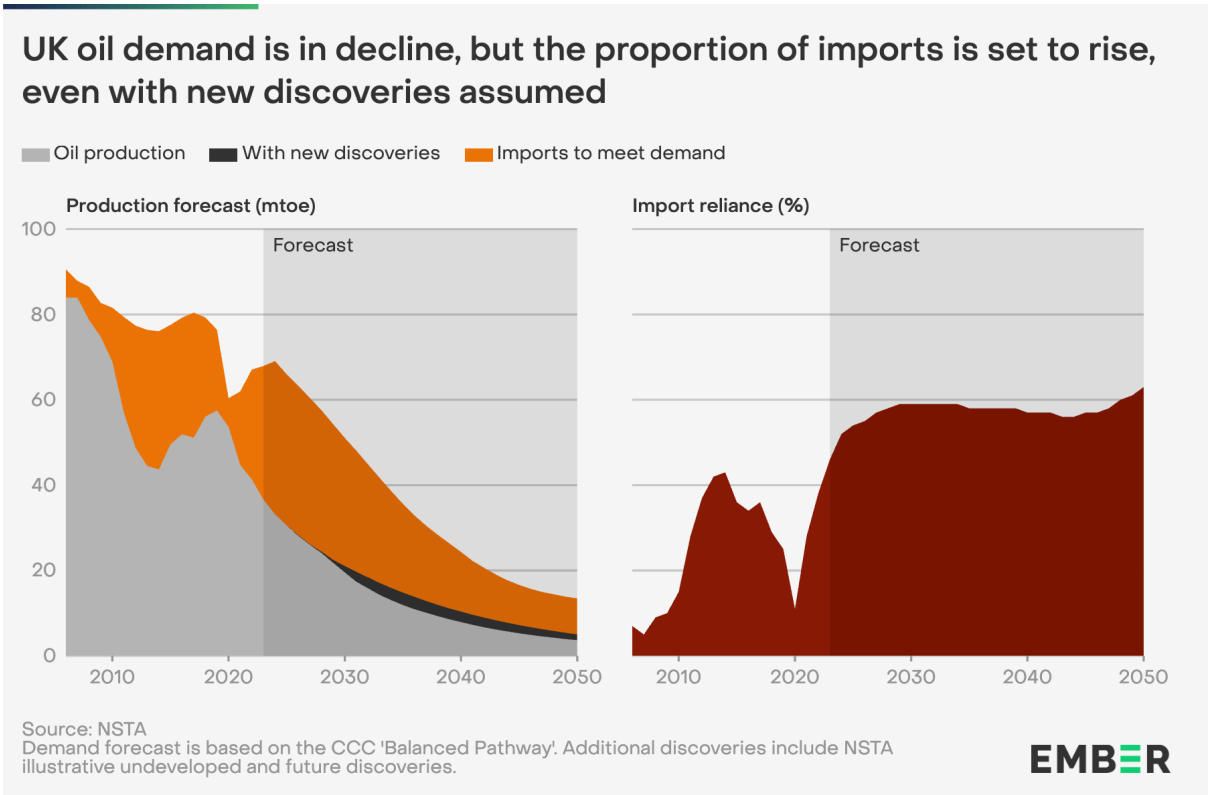
The Covid-19 pandemic created a lasting drop in oil demand for transport, but import reliance is still forecast to increase out to 2030. Demand for petrol and other oil products has risen slowly since the sharp drop during the Covid-19 pandemic, but remains around 12% lower than in 2019. Since 2000, oil demand has fallen by around a quarter (23%) due to reductions in road transport demand, domestic oil use and industry consumption. However, UK offshore oil production is also in long-term decline. During the pandemic, imports made up only 17% of oil

demand (2020/21 average) but this proportion has since increased to 44% in 2023 and is projected to rise to 60% by 2030.



Electrification cuts import reliance for transport fuels by more than half

Electrification of transport presents a significant opportunity to reduce household energy expenditure, as well as reducing fuel imports and cutting emissions. Charging an average-sized electric car can cost between three-quarters and half as much as for an equivalent petrol car. The power to charge an electric vehicle is typically 47% reliant on imports, under a Clean Power 2030 electricity system, this is forecast by NESO to fall to around 20%. Electrification of transport can cut household energy bills, but also overall import reliance.



Electrification of transport and heating is at an early stage in the UK, but already having an impact. In 2023, there were 1.5 million electric vehicles and 430,000 residential heat pumps in the UK, which were powered with 60% clean electricity. This reduced oil and gas consumption by 14 million barrels of oil equivalent, equivalent to almost two-weeks worth of the UK's annual net oil and gas imports.

Conclusion

Electrification boosts the security and stability benefits of Clean Power 2030

UK gas and oil production is in long-term decline. The only way to reduce import reliance is to accelerate clean power deployment and supply consumer demand with a more resilient, independent grid.

The Clean Power 2030 Action Plan is estimated to reduce imports in the power system by around half due to the accelerated deployment of renewable energy displacing gas power, despite declining UK oil and gas production. However, the wider energy system remains reliant on imports of gas and oil for heating, transport and commercial uses. Furthermore, the Clean Power 2030 Action Plan does not target deep reductions in biomass consumption, which is currently overwhelmingly reliant on imports.

Clean power builds stability but is part of a bigger opportunity

Gas imports for power generation in 2030 are estimated to be 57% lower than in 2023. However, domestic heating using gas is increasingly reliant on imports, by 2030 a heat pump will rely on 85% less energy imports compared to a gas boiler.

Transport fuels make up the largest component of domestic energy expenditure, and are another connection between household expenditure and international markets. Petrol and diesel pump prices are 13% above pre-pandemic levels (2024 and 2019 average), as pump prices have risen alongside gas prices during the energy crisis. Electrifying heating and transport reduces import dependence and importantly, strengthens energy stability across multiple energy sources by making the best of a more efficient and independent UK power system.

A strategic approach to energy security and electrification

Although there is a power system action plan, the UK does not yet have a joined-up strategy to bring together the energy security benefits of clean power with the cost benefits of electrified household energy consumption. Households use more gas than the power sector, and spend more on vehicle fuels than on electricity and gas combined.

A new strategy is needed to fortify the wider energy system against price shocks and import dependence. Electrification is a critical part of the solution to significantly reduce import reliance for household energy, along with wider measures to improve energy efficiency and reduce consumer bills.

Supporting materials

Methodology

Domestic energy bills

Fuel consumption and unit prices based on the 2025 Q1 Ofgem price cap and fuel used for heating based on DESNZ domestic energy consumption data. Total household expenditure data is based on Annual domestic energy bills - GOV.UK data, and has been divided by ONS household statistics to arrive at household level expenditure data. While transport makes up a significant proportion of household expenditure, gas demand has been significantly depressed since 2021, likely due to high gas prices in recent years. Transport expenditure is based on the government data table TSGB1306.

Clean Power 2030 data

The Clean Power 2030 target is only for Great Britain. Where UK data is used, Northern Ireland data has been incorporated based on the most recent Generation Capacity Statement (GCS) as well as historic data at country level available in DUKES and other national energy data. Power generation in Northern Ireland makes up around 3% of the UK total. As with future targets, there is a level of uncertainty in the Northern Ireland data, where particular assumptions are unclear in the GCS data, these have been kept at a constant level out to 2030.

Biomass wood pellet price data

Bilateral trade of wood pellets, and the vertical integration of producers and power generators, mean that the actual price paid for biomass power fuels are

often not publicly available - however overall trade data for wood pellets is published regularly.

Long-term price stability

Energy system modelling by E3G and Baringa (2025) found that the typical bill in an 'Unconstrained Acceleration scenario' (which achieves 96% clean power) "would rise by only £71 compared to our central gas prices – an increase of less than 9%." In their 'Baseline scenario' (which achieves 86% clean power) "a similar gas price shock would result in an increase in electricity bills of £161, or over 20%." The 'Unconstrained' scenario, similar to the 2030 Clean Power target, would see bills increase by only a fifth (21%) when compared to the rise during the most recent energy crisis, in which electricity bills for an average household increased by £335.

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