

ANALYSIS REPORT

Cost of the fossil fuel crisis in the UK

November 2025

Executive summary

The past four years have seen extraordinary turmoil in international energy markets. The surge in global demand triggered by the post-pandemic recovery pushed up prices in 2021. Russia's interference in gas supplies and invasion of Ukraine then caused huge price spikes in international energy markets. Gas prices in 2022 averaged four times pre-pandemic levels, and have been almost double that pre-crisis level during 2025, almost four years on. Oil prices also increased, pushing up UK fuel prices for over two years.

This fossil fuel crisis has taken an enormous economic toll on the UK. This analysis concludes that the total direct cost to the UK economy is £183bn (in 2024 prices), excluding taxes (which are treated as a transfer within the economy). This is more than the £177bn that NHS England spent on health services in 2024/25.

Within this total, the extra costs of gas, electricity and road fuels for households was £58.8bn. Households have also been liable for costs of up to £4.5bn for supplying customers of more than 30 energy suppliers that suffered bankruptcy during the gas crisis, taking the total direct household costs to over £63bn. The extra costs of gas and electricity for businesses and other customers amounted to £65bn, taking the total extra cost of gas, electricity and supplier bankruptcies to £128bn, excluding tax.

The cost that the government had to pay in direct support to defend households and businesses from fossil fuel price volatility totalled almost £64bn – larger than the UK's annual defence budget of £60bn. After accounting for energy windfall taxes, the net cost to the public finances, including interest payments on the debt, is almost £55bn. Estimated annual interest payments of around £2.4bn – equal to the annual cost of the School Rebuilding Programme, which aims to rebuild over 500 schools and colleges – are due every year for 14 years, until 2037.

The £63bn of direct extra costs of household energy amount to an average of £2,200 per household. Although the total impact on the UK of £183bn is spread across different sectors, for the purposes of illustration it equates to £6,400 per household.

At the height of the crisis, direct energy costs accounted for more than double the proportion of household expenditure than in mid-2021, driving over half of the overall increase in the cost of living even before the knock-on effects of energy costs on wider prices are considered. Direct energy costs were responsible for a third of the cumulative inflation experienced by households from 2021 to 2023.

The increase in energy costs for businesses has had a negative impact on their ability to invest in the economy and on their long-term competitiveness. These costs are a reminder of the ongoing and permanent risk of fossil fuel dependence. UK consumers pay the international price for oil and gas whether or not they are imported or extracted from the UK's declining North Sea basin. When global prices spike due to international demand or supply crises, UK households and businesses pay the price. This exposure has driven the cost of living crisis and has left the UK with much higher debt levels than before the fossil fuel crises began.

The only permanent solution is for the UK to invest in clean energy and energy efficiency at home, taking greater control over its energy supplies. Choosing clean energy over fossil fuels will provide greater price stability in place of price volatility, shielding households and creating a more predictable investment environment in which UK businesses can prosper.

Introduction

This report estimates the costs faced by the UK economy as a result of the global spike in energy prices which began in 2021, to help assess the financial impact and risk of the UK's continued reliance on fossil fuels in its energy mix. The analysis used publicly available data from Government departments and agencies.

The first part of this report seeks to quantify the direct cost impacts, which fall into two groups. Customers across the economy paid higher gas and electricity bills due to the high and volatile gas prices, and they paid more for road fuel costs due to high oil prices. Taxpayers are also paying the costs (including interest) of Government borrowing that funded support schemes put in place in 2022 to reduce the immediate burden on gas and electricity bill payers.

The second part of this report looks at the indirect costs of the energy crisis, including increased consumer debt and also the wider impacts on inflation and the cost of living.

Given that the scope of the analysis is the overall impact to the UK economy, it does not count costs that are 'transfers' within the economy. This means that taxes – which move money from individuals and organisations to the Government for public spending – are not included in the results in most cases. The relevant taxes are VAT at 5% for household gas, electricity and heating oil, VAT at 20% on other energy consumption (albeit this is claimed back by many businesses), and fuel duty at the prevailing rates.

For the purposes of comparison, costs in this report are expressed in 2024 prices. These values differ notably from costs in nominal terms (i.e. prices paid in previous years), given the sustained period of high inflation in 2021 to 2023.



HEAT
OFF

Direct costs

The most obvious impact of the recent gas and oil price spikes was the rapid and significant increase in household, business and industry expenditure on gas, electricity and oil-based fuels. Bills for gas and electricity would have been even higher, were it not for Government support schemes to shield consumers from the worst impacts of the crisis.

Gas and electricity bills

Wholesale natural gas and crude oil prices began rising sharply in summer 2021 as economies around the world rebounded rapidly from Covid lockdowns. Prices spiked dramatically higher as heightened tensions on Europe's eastern border with Russia spiralled into the full-scale invasion of Ukraine in early 2022. Gas prices in the UK peaked at record highs in late August that year as uncertainty around the future of the Baltic Nordstream pipelines rose, remaining volatile throughout 2023 and 2024,¹ and wholesale gas costs for households are still 75% higher than before Russia's invasion of Ukraine.²

This price spike was the latest (and most dramatic) in a series of international gas price swings that have affected the UK over many decades. Such swings will continue happening in future, with prices set by international factors and irrespective of North Sea production levels – which currently equate to around 50% of UK demand³ and are set to decline by up to 59% by 2030⁴ – exposing households, businesses, and the economy as a whole to price volatility.

UK consumers are exposed to wholesale gas prices not just through direct use of gas in homes and businesses, but also due to the role which gas plays in electricity generation. Research has shown that burning fossil gas continues to set the price for electricity in Great Britain the vast majority of the time – 80-90% before the pandemic, 97% in 2021, and c.85% in 2024.⁵ The result is that UK electricity prices for customers are closely related to wholesale gas prices, which is the main reason for UK electricity prices being amongst the highest of comparator nations.⁶ Dual fuel bills for typical consumption of gas and electricity are still around 50% higher than before the gas crisis, with wholesale gas having the biggest single effect.⁷

The growing proportion of renewables on the electricity grid is beginning to weaken this link, with recent analysis suggesting that large wind farms displacing gas power

1 Time series of prices for [UK Natural Gas](#) (Trading Economics, accessed October 2025)

2 See forward to [Carbon Budget and Growth Delivery Plan](#) (UK Government, 2025)

3 Data for 2024 from [Energy Trends Chapter 4](#) (DENSZ, 2025)

4 [Production Projections](#) (NSTA, August 2025) suggest that UK North Sea gas production in 2030 will be 59% lower than in 2024 without new licences, and 52% lower if new licences were to yield their maximum potential.

5 Results up to 2021 are from [The role of natural gas in setting electricity prices in Europe](#) (Zakeri et al, 2023). Estimate for 2024 is from [Marginal Gains](#) (ECIU, 2025).

6 Factcheck: Why expensive gas – not net-zero – is keeping UK electricity prices so high (Carbon Brief, 2025)

7 [Energy price cap \(default tariff\) levels](#) (Ofgem, accessed October 2025) – in particular Annex 9 (overall bills) and Annex 2 (wholesale costs). Note that Ofgem's price cap model uses older (higher) values of typical demand for gas and electricity, and results are converted to current (lower) typical demand levels for use in Ofgem press releases.

generation had the effect of cutting the day-ahead wholesale price of electricity by up to 25% (£25/MWh) in 2024.⁸ Another study this year estimated that removing gas power plants from the open market, and instead operating them under a 'Regulatory Asset Base' (RAB) model, could save the UK £5.2bn a year by 2028.⁹ Previous analysis has shown that delivering the UK Government's 'Clean Power 2030' mission would reduce consumers' exposure to gas price volatility by almost 80%, and can deliver significant bill savings if consumers are empowered to reap the full benefits of a smart electricity system powered by renewables.¹⁰

In this report, the extra expenditure on gas and electricity by each sector of the economy over the four years 2021 to 2024 was assessed using the Government dataset DUKES 1.3,¹¹ comparing the costs to a baseline of 2016 to 2019 (omitting 2020 on the grounds of disruption from the pandemic).

The results are summarised in Table 1. The total extra expenditure on units of gas and electricity was almost **£103 bn** (in 2024 prices). Domestic consumers experienced the highest increase of almost £48 bn, followed closely by other sectors (public and commercial) at nearly £36 bn, with industry spending £19 bn more than pre-crisis levels.

Table 1: Cumulative increase in energy expenditure during the gas crisis (2021-2024) relative to 2016-2019 baseline (real prices, 2024 £bn)

Category	Gas and Electricity costs
Domestic	£47.6 bn
Other (e.g. public & commercial)	£35.8 bn
Industrial	£19.2 bn
Total	£102.6 bn

8 [Marginal Gains](#) (ECIU, 2025).

9 [Power Shift](#) (Greenpeace and Stonehaven, 2025)

10 [The UK's Clean Power Mission: Delivering the Prize](#) (E3G and Baringa, 2025)

11 [DUKES 1.3](#) (DESNZ, 2025) – Table 1.3A states total expenditures, and Table 1.3B states unit rates, expressed in nominal £M. Both tables are broken down by type of energy and economic sector. DUKES 1.3A does not appear to not include standing charges that apply to gas and electricity, on the grounds of dividing the costs by the unit prices to energy volumes, and comparing them to other Government datasets, and finding that they agree accurately for gas (DUKES 4.1) and within 5-10% for electricity (DUKES 5.1). Note that household unit rates (and implied spending on units per home) from DUKES 1.3 do not necessarily tally with those from Ofgem's price cap, partly because the DUKES data combines all homes, whereas Ofgem's price cap model separates out data about Profile Class 1 (the majority of homes) and Profile Class 2 (which have higher electricity demand).

Supplier bankruptcies

The extreme prices and volatility in the worst of the gas crisis caused over 30 energy suppliers to fail between late 2021 and summer 2022.¹² Measures were enacted to ensure that their customers continued to be supplied with gas and electricity.

In most cases, Ofgem's Supplier of Last Resort (SoLR) arrangements were used, whereby customers were moved to other suppliers that were large enough to cope with the financial pressure of absorbing large numbers of customers and purchasing extra gas and electricity at short notice. These energy prices were particularly high at the peak of the gas crisis. The extra costs incurred (compared to supplying a pre-existing customer) were reclaimed and paid back through network charges on bills.

Ofgem estimated the total cost to be £2.2–2.4 bn (2022 prices).¹³ Roughly 40% was repaid via unit rates on gas bills, and so is assumed to be included in the DUKES 1.3 data listed above. The rest was paid via standing charges on electricity bills, and so is additional to the costs above, and amounts to around £1.2 bn (2022 prices).¹⁴

In the case of Bulb – which, with 1.5 million customers, was by far the largest supplier to fail in the gas crisis – the SoLR process was deemed inappropriate, owing to the impact it would have on another supplier's financial position. Instead, the company was placed into Special Administration, and then acquired by Octopus Energy. The Government covered costs amounting to £3bn (2023 prices).¹⁵ These costs will ultimately be recovered from billpayers, whether those of Octopus or more widely.

These costs are summarised in Table 2, inflated to 2024 prices. Together they come to around **£4.5 bn** in real terms (2024 prices).

Table 2: Costs of supplying customers of failed suppliers during gas crisis (real prices, 2024 £bn)

Category	Costs
Supplier of Last Resort	
Only that part added to electricity standing charges	£1.4 bn
Special Administration	£3.1 bn
Total costs (in addition to those on unit costs)	£4.5 bn

12 [How you're protected when energy firms collapse](#) (Ofgem, 2021 – with data extending into 2022)

13 [Ofgem written evidence: Call for Evidence on energy pricing and the future of the Energy Market](#) (HoC, 2022)

14 This split is estimated based on data from Annex 3 (network costs) [Energy price cap \(default tariff\) levels](#) (Ofgem, 2025)

15 [Investigation into Bulb Energy](#) (NAO, 2023)

Road fuel bills

The UK's primary use of oil is in transport, with road fuels accounting for over 60% of the UK's consumption.¹⁶ Similarly to gas, the price of oil is determined by international demand and the output from major producers.

Brent crude prices began to rise in summer 2021, and spiked due to the Russian invasion of Ukraine, pushing up road transport fuel prices as many countries sought to reduce their imports from Russia and sanctions were imposed. The price spike for oil was shorter lived than that for natural gas, peaking in June 2022, and returning close to mid-term baseline levels in early 2023.¹⁷ The reasons for this are primarily structural: while wholesale gas markets are significantly constrained by pipeline routes and existing LNG terminals, making trade re-routing costly and slow, the higher liquidity embodied in the global seaborne trade of oil allowed prices to correct more rapidly.¹⁸

The costs were analysed using data published by DESNZ on monthly average fuel prices¹⁹ (which were adjusted for inflation) and total fuel volumes purchased.²⁰ For each fuel, a 'structural break test' was used to define the duration of the price spike (October 2021 to February 2023 for petrol, and November 2021 to June 2023 for diesel),²¹ and prices during these spikes were compared to pre-crisis averages.

This exercise was completed both using average pump prices, and 'base' prices that reflect pump prices less fuel duty²² and VAT.²³ Government datasets were used to estimate the proportion of petrol and diesel used by domestic and non-domestic users.²⁴

The results are summarised in Table 3. Excess fuel costs reached almost **£21.5 bn** in under two years. This extra cost was split as one-third petrol and two-thirds diesel. Households paid slightly more than half of the total, and other customers slightly less than half.

16 [Energy Trends Chapter 3](#) (DESNZ, 2025)

17 [Brent Crude Oil](#) time series price data (Trading Economics, accessed October 2025)

18 [Anatomy of a natural gas crisis](#) (IEA, 2025). It should be noted that, while wholesale gas markets may be slow to adjust, they are nonetheless global. It has been argued that UK gas supply sovereignty would immunise the UK to external price shocks, but without massive market intervention to force sale of output to UK markets, wholesale prices would still be set by global prices as producers will continue to sell to the highest bidder. And removing the UK from international markets would axiomatically prevent the import of gas to make up for the difference between UK demand and production as the North Sea continues to decline.

19 QEP 4.1 (DESNZ, 2025)

20 Data from Energy Trends 3 (DUKES, 2025) is reported in tonnes and was converted to litres using BP conversion factors.

21 The price spikes were defined to have started when the monthly average inflation adjusted price reached a level 5% above the pre-crisis (2016-2019) average for two consecutive months, and to have finished when the price fell below this level for the same duration.

22 Historical hydrocarbon oils duty rates (HMRC, 2025). Fuel duty is currently levied at 52.95 pence per litre, following a 5 pence cut in March 2022.

23 VAT is levied at 20% on the price of road fuel, including on the fuel duty.

24 Energy Consumption UK table C8 (DESNZ, 2025). This user split is not recorded at the pump and therefore reliable data is not available, but recorded data on fuel use by vehicle type was used as a proxy to calculate an appropriate allocation. All LGV, HGV and bus fuel use (primarily diesel) was considered to be non-domestic. Petrol cars and motorcycles were assumed to be 95% for domestic use due to limited commercial use as fleet vehicles and taxis, while 75% of diesel car use was considered to be domestic, reflecting a higher prevalence of diesel car use in commercial fleets. Diesel cars have historically been overrepresented in company fleets, but the proportion has been falling in recent years – see Benefit in kind statistics commentary June 2025 (HMRC, 2025).

Table 3: Excess costs incurred by road transport fuel users during 2021-2023 price spike event, by fuel and user type (excluding VAT & fuel duty) (real prices, 2024 £bn)

User type	Petrol	Diesel	Total
All users	£7.2 bn	£14.3 bn	£21.5 bn
Of which domestic users	£6.7 bn	£4.5 bn	£11.2 bn
Of which non-domestic users	£0.5 bn	£9.8 bn	£10.3 bn

Government support and public sector debt

During 2022, the UK Government implemented several emergency support measures to cushion the impact of rapidly rising energy bills on the UK economy. The National Audit Office (NAO) issued its latest estimate of these costs in November 2024.²⁵

These costs of support schemes are partially offset by taxes that were introduced in 2022 to capture part of the windfall profits that were accruing to energy companies as a result of higher gas prices: the Energy Profits Levy (EPL) and the Electricity Generator Levy (EGL). Data for historic and forecast revenues are available from the Office of National Statistics (ONS)²⁶ and Office for Budget Responsibility (OBR).²⁷

These costs and revenues to-date are summarised in Table 4. The support schemes cost a total of £63.8bn, larger than the UK's annual defence budget of £60.2bn in 2024/25.²⁸ The windfall taxes have collectively generated £12.45 bn to-date, such that the net total of spending less revenue currently stands at £51.35 bn.

²⁵ Energy bills support: an update (NOA, 2024)

²⁶ Energy Profits Levy: Accrued basis (ONS, 2025)

²⁷ Economic and fiscal outlook – March 2023 (OBR, 2023) and Economic and fiscal outlook – October 2024 (OBR, 2024)

²⁸ Public Spending Statistics: July 2025 (HMT, 2025)

Table 4: Government expenditure on energy bill support schemes and other measures (real prices, 2024 £bn)

Scheme	Total expenditure
Domestic schemes	£36.22 bn
Energy Price Guarantee	£23.99 bn
Energy Bills Support Scheme	£11.62 bn
Alternative Fuels Payment	£0.53 bn
Energy Bills Support Scheme (Alternative Funding)	£0.06 bn
Alternative Fuel Payment (Alternative Funding)	£0.02 bn
Non-domestic schemes	£7.78 bn
Energy Bills Relief Scheme	£7.48 bn
Energy Bill Discount Scheme	£0.24 bn
Alternative Fuel Payment – non-domestic	£0.06 bn
Additional support schemes	£19.8 bn
Cost of living payments	£19.8 bn
Total government spending to date (excluding debt costs)	£63.8 bn
Revenue from EPL and EGL to date	£12.45 bn
Net spend to-date (nominal, excluding debt costs)	£51.35 bn

The borrowing that funded the support schemes is being repaid, with interest. The net financial flows of these measures were calculated based on previous OBR analysis²⁹ and the latest total cost estimates from the NAO.³⁰

The current average yield on UK public sector net debt based on OBR figures is 3.8%,³¹

²⁹ Box 3.1 of Economic and fiscal outlook – March 2023 (OBR, 2023)

³⁰ Energy bills support: an update (NOA, 2024)

³¹ A brief guide to the public finances (OBR, 2025) – A detailed breakdown of debt instruments used to finance current spending is not available, so this average figure from the OBR was applied.

reflecting a mix of different terms and structures, including both fixed yield and index-linked gilts. The average time to maturity of the debt portfolio is 14 years,³² so the UK will be paying for the gas crisis for years to come – until 2037.

On total borrowing of £63.8bn, these inputs imply an estimated annual interest cost of £2.4 bn. This is equal to the entire annual cost of the School Rebuilding Programme, which aims to rebuild over 500 schools and colleges.³³

The two windfall taxes are expected to generate diminishing revenues until their expiry (in 2025 and 2030, respectively), raising potentially another £12.9 bn. Were the Government to end the EPL early (as has been reported in autumn 2025),³⁴ then the net cost of Government measures would be higher than estimated.

The net annual cash flows (debt interest less tax revenues) were discounted at forecast CPIH to generate an estimate of the present cost of the overall combination of support schemes and tax revenue: **£54.6 bn**.

Total direct costs

Adding together the direct costs incurred by domestic and non-domestic energy consumers and road transport users, plus the costs of public sector spending on support measures, and netting off the revenue for taxes on windfall profits, an estimate is reached for the total direct cost of higher fossil fuel costs during the crisis of **£183 bn** (2024 prices).

To put this into context against areas of public spending, the direct cost of the gas crisis is three times the UK's annual defence spending of £60.2bn in 2024/25,³⁵ and larger than NHS England's spending of £177bn on health services in 2024/25.³⁶

Impacts on households

The impacts on the UK's 28.6 million households can firstly be presented as the extra direct costs of domestic energy bills and road fuel costs. These extra costs came to £62 bn, or an average of **£2,200 per household** (2024 prices).³⁷

Secondly, whilst the total impact on the UK of **£183bn** is spread across different sectors, for the purposes of illustration it equates to **£6,400 per household** (2024 prices).

32 Debt Management Report 2025-26 (HMT, 2025)

33 What does the Spending Review 2025 mean for education? (DfE, 2025)

34 Rachel Reeves looks at early scrapping of windfall tax on UK oil and gas sector (Financial Times, 2025)

35 Public Spending Statistics: July 2025 (HMT, 2025)

36 Public Expenditure Statistical Analyses 2024 (HMT, 2024) – which includes values for 2024/25. See also: The NHS budget and how it has changed (The King's Fund, 2025)

37 By a coincidence of changes in VAT and fuel duty, the extra direct costs per household are around £2,200 (2024 prices) whether taxes are included or excluded. Households paid VAT at 5% on extra gas and electricity costs, such that the extra costs including tax were larger than those without tax, as would be expected. Households paid VAT at 20% on extra road fuel costs (including on fuel duty), but the 5p/L reduction in fuel duty meant that fuel costs including tax rose by less than fuel cost excluding tax. Across gas, electricity and road fuels, the increased VAT payments and the reduction in fuel duty payments (and the related VAT) largely cancelled out (to within £0.2bn), such that the total extra cost when rounded was £63bn in both cases, and the average cost per household was £2,200.

For context, ONS data shows that the average weekly household food shop for 2023/24 cost £70.50 (£3,680 for the year), and that household energy (mostly gas and electricity) cost £40.50 per week (£2,120 for the year), giving an annual total of £5,800.³⁸

So, the direct extra household spending (£2,200) of four years of high energy prices equated to 60% of the annual household food budget, or seven months' worth of food. And the total impact on the UK, expressed as a cost per household (£6,400), was 10% more than the average annual household spending on food and energy.

Beyond energy expenditure

Whilst energy bills and Government support schemes were the most obvious impact of the fossil fuel price spikes, they were by no means the end of the story. The impacts of high energy prices were felt throughout the wider economy and society – though more financial pressure, reduced ability to invest in productive assets and higher inflation. This section sets out data and analysis to illustrate some of these impacts. The interactions within the economy are too complex to reliably capture all of the effects, and so it is not possible to make an estimation of the full impact of the crisis. What can be said is that the real costs of the fossil fuel crises are significantly higher than the direct costs calculated above.

Energy debt and the affordability crisis

Total domestic energy debt and arrears have increased 150% since late 2021, with both the number of households in debt and average debt values having risen sharply, and Ofgem stating in autumn 2025 that customer debt stands at £4.4bn.³⁹

While most customers do not typically pay interest on energy debts, analysis suggests that even as the energy price cap has fallen over the last year, high monthly repayments to clear debts mean that the actual cost of living has not been falling for the typical household.⁴⁰

Evidence from Citizens' Advice suggests people in energy debt often fall behind on other essential payments and face worse physical and mental health conditions, especially when suppliers adopt aggressive debt collection approaches.⁴¹

Impact on inflation, productivity and growth

UK inflation began rising in 2021 as the post-Covid recovery took off around the world and global supply chains fought to keep pace with rising demand. When wholesale gas prices began spiking late that same year, annual price inflation measured by CPIH surged higher,

³⁸ Family spending in the UK: April 2023 to March 2024 (ONS, 2025) – Energy in this case includes gas, electricity and other household fuels, but excludes road fuels.

³⁹ Ofgem to set out plan to 'reset and reform' growing energy debt (Ofgem, 2025)

⁴⁰ Over £3 billion energy debt wipes out price cap drop for millions of customers (NEA, 2024)

⁴¹ Written evidence submitted by Citizens Advice (COE0077) (HoC, 2025)

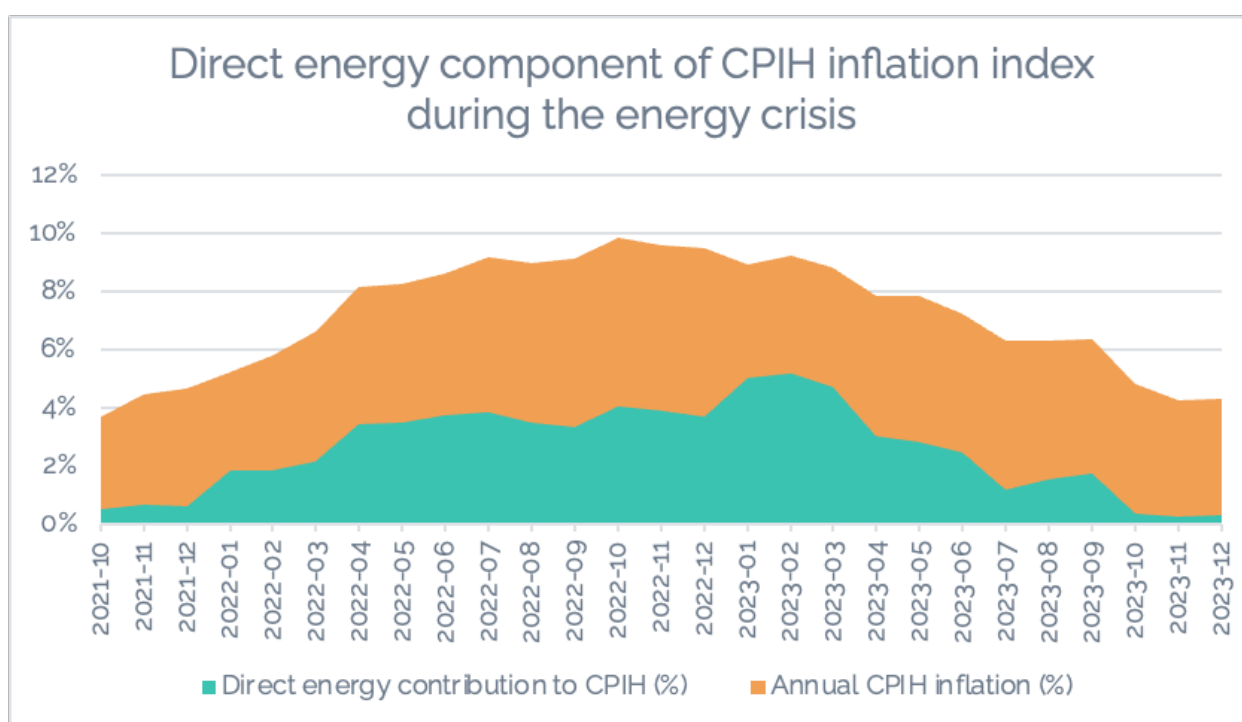
peaking at around 10% towards the end of 2022 and escalating into the UK's 'cost of living crisis'.

The ONS' consumer price inflation dataset⁴² provides annual and monthly time series of CPIH weights and detailed component indices, allowing the construction of the overall CPIH index and the isolation of its direct energy cost components (gas, electricity and liquid fuels). This enables the calculation of the portion of overall inflation which was driven by rising energy costs throughout the period of the fossil fuel crises.

Chart 1, below, shows the proportion of the 12 month rise in the CPIH index which is accounted for by the direct energy components of the CPIH basket, i.e. household energy bills and transport fuels.

In January 2023, direct energy costs accounted for a high of 56% of the CPIH rate, when rising energy costs made up 5% of the overall annual inflation of 8.8%. Over the peak inflationary period through to the end of 2023, direct energy costs cumulatively accounted for 35% (over one-third) of the overall rise in CPIH.

Chart 1: Direct energy cost inflation as a proportion of CPIH inflation during the peak of the energy crisis



⁴² See reference tables 9 and 37 of CPI Inflation Dataset (ONS, 2025)

During the early phase of the crisis, inflation significantly outstripped wage increases such that average incomes fell in real terms, with households on the lowest incomes most affected.⁴³ Energy costs rose so rapidly during 2022 that energy's share of the overall goods 'basket' used to calculate inflation more than doubled from 4.8% prior to the crisis to 10.2% at its height.⁴⁴

Analysis from the National Institute of Economic and Social Research (NIESR) suggests that inflation during this period is in fact likely to have been underestimated as a result of the slow process of updating the basket weights used in calculation of the headline rate.⁴⁵

While both energy bills and inflation have fallen from their peaks, inflation remains high, continuing to run at just below 4% in autumn 2025, almost double the Bank of England's target.

The analysis above captures only the impact of direct energy costs on the CPIH index. It does not capture the broader secondary impacts that occur as a result of energy's role as an input to production. These impacts are very complex and are beyond the scope of this analysis.

However, previous analysis can provide an indication of the potential scale of these wider effects:

- The ONS estimated that the indirect energy intensity of CPI – i.e. the proportion of all consumer prices that are accounted for by energy costs – was 6.6% in 2022.⁴⁶
- Previous analysis on the impacts of energy costs and extreme weather events on household food bills isolated the energy-driven component of food price increases at £244 per household during 2022 and 2023 when compared to pre-crisis levels.⁴⁷

High energy prices have knock-on impacts for the whole UK economy. Business energy prices remain very high – on average 70% higher than pre-crisis rates – and are expected to remain high for some time to come.⁴⁸

Beyond the immediate impact on short term business profitability, high energy prices have broader implications for the wider economy. Lower profitability immediately impacts gross value added by UK plc, reflected in lower industrial output and lower overall GDP growth. This is particularly true in energy-intensive industries, where ONS estimates show that output is down by a third since 2021.⁴⁹ This decline is at least in part driven by industrial electricity prices, which are well above the IEA average and the highest amongst all reporting countries in 2024,⁵⁰ due largely to the UK's comparatively high use

43 High cost of living: Impact on households (HoC Library, 2025)

44 See reference tables 9 and 37 of CPI Inflation Dataset (ONS, 2025)

45 Energy Expenditures and CPI Inflation In 2022: Inflation was Even Higher than We Thought (NIESR, 2023)

46 The energy intensity of the Consumer Prices Index: 2022 (ONS, 2023)

47 Climate, Fossil Fuels and UK Food Prices: 2023 (ECIU, 2023)

48 Business energy bills forecast to stay 70% above pre-crisis rates (Cornwall Insight, 2024)

49 The impact of higher energy costs on UK businesses: 2021 to 2024 (ONS, 2025)

50 International industrial energy prices (DESNZ, 2025)

of gas for power generation and the market designs that allow gas power plants to set the electricity prices on most occasions.

Lower profit margins driven by high energy costs also impact productivity figures – an effect compounded by the deferral of investment due to input cost volatility and reduced business confidence⁵¹ – and undermine the competitiveness of UK exports, damaging the UK's balance of trade.⁵²

The wider growth impacts of persistently high energy prices will also be felt through lower household discretionary spending as domestic consumers are forced to spend a higher proportion of their incomes on necessities. Public sector expenditure on energy bill support incurs not only an opportunity cost in terms of other investments which could be made with the same public funds, but the increase in overall public sector debt as a percentage of GDP reduces the flexibility available to the government in meeting its own fiscal rules.

These secondary effects that are not captured in the detailed numerical analysis suggest that the estimates of overall costs are likely to be very conservative. While the overall direct costs stemming from the UK's reliance on fossil fuels during the crisis are quantified at £183 bn – already a vast sum – the true cost is much higher.

51 Reducing non-domestic electricity prices to drive economic growth (Energy UK, 2025)

52 How are rising energy prices affecting the UK economy? (Economics Observatory, 2022)

Data and methodology

Details of the data sources and methodology are discussed in the main body of the report. In summary, the main data sources were:

- Digest of UK Energy Statistics (DUKES) data series published by the Department for Energy Security and Net Zero (DESNZ), in particular DUKES Tables 1.3 A and B for sectoral breakdowns of total energy expenditure and unit costs used in analysis of gas and electricity costs; and volumes in tables 5.1 and 4.1 were used for data validation purposes
- Additional DESNZ data from the Energy Trends and Energy Consumption in the UK data series for the analysis of road fuel costs
- Sources from the Office for National Statistics (ONS), Office for Budget Responsibility (OBR), National Audit Office (NAO) and HM Treasury for calculations relating to public sector expenditure
- CPIH inflation data from the ONS

As noted in the report, taxes on energy and other purchases were not included, on the grounds that they are transfers within the UK economy. Indeed, most businesses can claim back VAT costs. However, domestic consumers cannot claim back VAT on energy and road fuels, and so VAT does represent a cash cost which impacts household budgets. By contrast, extra income for energy producers is not treated as a transfer, for several reasons: some of the higher income was to cover higher costs (e.g. buying gas for power generation); some of the profits exit the UK to overseas owners; and there is a need to avoid double-counting as some of the income has been explicitly made into a transfer by windfall taxes levied on energy producers.