

■ NET ZERO AND RENEWABLES • THE BILL TO THE UK PUBLIC

The bill: what it has cost the UK public, and what is still to come

Paid for by the public: as electricity billpayers, and as taxpayers standing behind the loans.

Almost every figure on this page is from a government body, a regulator or the national auditor. The few that come from company accounts, a company, the press or a secondary source are labelled. Where this site has added figures up, the arithmetic is shown. Where official figures conflict, or a forecast turned out wrong, that is shown too.

Labels: OFFICIAL a government, regulator or audit-body figure; COMPUTED this site's arithmetic on official figures, shown in full; PRESS a company or news report. Price years differ between sources and are stated where the source gives one, not converted.

Four figures

PAID THROUGH BILLS
SO FAR

£97bn

At least. Three lines only:
the Renewables
Obligation, Contracts for
Difference, and the cost of
the grid bottleneck.

COMPUTED

PAID EACH YEAR NOW

£12.2bn

The same three lines in
their latest year. About
£420 for every household
in the UK. COMPUTED

COST TO THE PUBLIC
FINANCES TO 2050-51

£803bn

The Office for Budget
Responsibility's central
estimate. About £27,700
for every household.

OFFICIAL; PER
HOUSEHOLD, COMPUTED

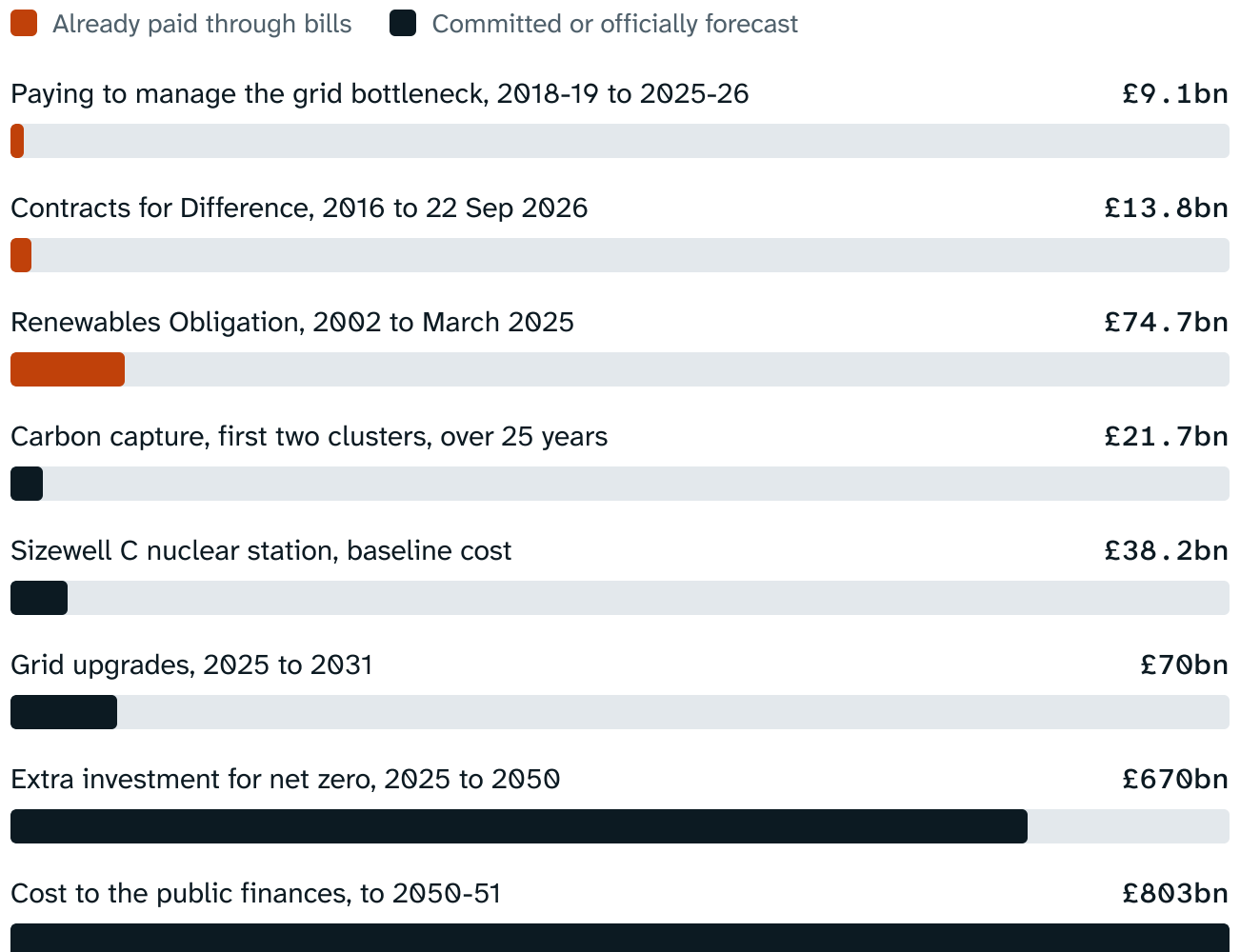
EXTRA INVESTMENT
NEEDED, 2025 TO 2050

£670bn

The Climate Change Committee's own figures, added up. Its headline is the net cost, around £4bn a year; its data sheet sums to a net £108bn.

OFFICIAL, SUMMED

The sums, drawn to scale



Each bar is the same scale: £803bn is the full width. The bars overlap and are not added together. The investment figure includes the grid, and the public-finance figure counts lost tax as well as spending. Price

years differ and are given in the tables below, where the source states one.

What the public has paid so far

CHARGE ON ELECTRICITY BILLS	PAID	PERIOD	SOURCE AND BASIS
Renewables Obligation, the older subsidy scheme	£74.7bn	April 2002 to March 2025	OFFICIAL, SUMMED Ofgem's own "scheme value" for each of 23 years. Money of the day. £0.25bn in the first year, £7.70bn in the latest.
Contracts for Difference, the current subsidy scheme	£13.8bn	June 2016 to 22 September 2026	OFFICIAL, SUMMED Every daily payment in the Low Carbon Contracts Company's data, 117,196 rows. Net of money paid back: in 2022, when gas prices spiked, generators paid back £0.81bn and received £0.47bn, a net £0.35bn back.
Managing the grid bottleneck: paying some generators to turn down and others to turn up	£9.1bn	2018-19 to 2025-26	OFFICIAL, SUMMED National Audit Office, from the system operator's figures. 2024 prices. £0.56bn in the first year, £1.90bn in the latest.
Total of these three lines	£97.5bn		COMPUTED 74.67 + 13.81 + 9.07. Two lines are in the money

CHARGE ON ELECTRICITY BILLS	PAID	PERIOD	SOURCE AND BASIS
of the day and one is in 2024 prices, so read it as "at least £9.7bn" Not in that total, because no single official figure for each is held here: the Feed-in Tariff scheme, the Capacity Market, the Renewables Obligation since March 2025, the carbon price paid by gas power stations and passed into bills, and the charges for the grid itself. Grid charges were £5.1bn in 2025-26. Each would raise the total. The auditor on the bottleneck: "The majority goes to generators to increase output at short notice. These are mainly gas power stations in England, with costs linked to global gas prices. The remainder goes to generators to reduce output. These are often wind farms in Scotland." OFFICIAL, NAO			
What it costs each year now			
CHARGE	LATEST YEAR	SOURCE	
Renewables Obligation	£7.70bn	OFFICIAL Ofgem, year to March 2025	
Contracts for Difference	£2.64bn	OFFICIAL, SUMMED LCCC, calendar 2025	
Managing the grid bottleneck	£1.90bn	OFFICIAL NAO, 2025-26, 2024 prices	
Total	£12.2bn	COMPUTED Divided by 29.0 million UK households, about £420 each. Two lines are in the money of the day and one is in 2024 prices. Households pay part of this directly on their bills. Businesses pay the rest.	

On a typical household bill of £1,641 a year in April 2026, £83 went to the transmission grid, up from £51 the year before, and £40 to balancing the system. OFFICIAL, NAO Ofgem forecasts the grid part alone at £104 by 2030-31, up from £44 in 2025-26, both in 2025-26 prices. Of the £51, £44 was for the onshore grid itself; the rest covers offshore connections and interconnectors. OFFICIAL

What is still to come

COMMITMENT OR OFFICIAL FORECAST	AMOUNT	SOURCE AND BASIS
Cost of reaching net zero to the public finances, to 2050-51	£803bn	OFFICIAL OBR central estimate, 2024-25 prices, 21% of GDP, £30bn a year on average. Two-thirds is tax that stops coming in, mainly fuel duty. One-third is extra public spending.
Extra investment across the economy, 2025 to 2050	£670bn	OFFICIAL, SUMMED Climate Change Committee, 2023 prices. Its report gives "£26 billion per year". Its data sheet adds up to £670.1bn. Most of it is private money, recovered from bills and prices.
The same, after forecast savings on fuel and running costs	£108bn	OFFICIAL, SUMMED The net of the Committee's data sheet; its report gives "around £4 billion per year". It rests on £562bn of forecast savings. <u>The real cost</u> tests those savings.
Grid upgrades, 2025 to 2031	about £70bn	OFFICIAL Ofgem's estimate, 2023-24 prices, reported by the NAO, "quadrupling the

COMMITMENT OR OFFICIAL FORECAST	AMOUNT	SOURCE AND BASIS
		current rate of investment". Recovered from bills with a regulated return.
Managing the bottleneck in 2030	£1bn to £12.7bn a year	OFFICIAL System operator, 2024 prices. £1bn to £1.9bn if eight upgrades are brought forward, £2.8bn to £3.6bn if three are, £6.6bn to £7.8bn if upgrades are not accelerated, £12.7bn with no upgrades at all.
Carbon capture, first two clusters	£21.7bn	OFFICIAL Government announcement, October 2024, over 25 years. No price year stated.
Sizewell C nuclear station	£38.2bn	OFFICIAL NAO, May 2026, 2024-25 prices. The state holds 44.9% and its National Wealth Fund lends up to £36.6bn.
These rows overlap and are not added together.		

What it has bought

RESULT	FIGURE	SOURCE
Share of UK electricity generated from renewables, 2025	52.1%	OFFICIAL DESNZ. Wind and solar alone were 36.3%.
Change in UK greenhouse gas emissions, 2015 to 2025	-26.9%	OFFICIAL EU Joint Research Centre, EDGAR. The largest

RESULT	FIGURE	SOURCE
		fall of the 17 countries compared on <u>The real cost</u> .
UK share of world emissions, 2024	0 . 65%	COMPUTED 373 million tonnes (DESNZ) of 57.7 billion (UN Environment Programme). The UK's share of all fossil carbon dioxide since 1750 is about 4.3% SECONDARY.
Subsidy paid per tonne of emissions avoided, Contracts for Difference	£442	COMPUTED £13.8bn paid for 31.2 million tonnes avoided, both from the scheme operator's own data. Offshore wind alone: £545.
The government's own value of a tonne of carbon, 2025	£260	OFFICIAL Central value for policy appraisal, 2020 prices. Range £130 to £390.
On the cost per tonne. The figure counts the subsidy top-up only, not the price of the power. The scheme operator's avoided-emissions factor falls from 0.36 tonnes per megawatt-hour in 2016 to 2018 to about 0.11 since 2022, as the grid gets cleaner. Had the early factor applied throughout, the figure would be about £180 a tonne, below the government's central value. On the operator's own figures it is above it.		

Where the money goes

FINDING	FIGURE	SOURCE
UK-listed shares owned from abroad, 2024	58 . 8%	OFFICIAL Office for National Statistics, a record high.
Dividends to owners outside the UK from two Moray Firth wind farms, latest year	£139 . 9m	COMPUTED From the farms' filed accounts. See <u>Money leaving the UK</u> .

FINDING	FIGURE	SOURCE
Electricity price for large industrial users, UK, 2025	24.35p per kWh	OFFICIAL DESNZ. The median of 14 EU countries and the UK is 11.04p. The UK is the dearest of the 15.
UK crude steel output	10.9Mt in 2015, 4Mt in 2024	OFFICIAL The government's Steel Strategy, from World Steel figures. It names energy cost as one cause among several.
Emissions from producing gas: imported liquefied gas against UK gas, 2024	85 against 28	OFFICIAL North Sea Transition Authority, kilograms of CO ₂ equivalent per barrel of oil equivalent. Burning the gas is not included.
Oil and gas output, UK against Norway, 2025	1.09 against 4.12	OFFICIAL Each regulator's own data, million barrels of oil equivalent a day. Both peaked near 4.5. See The options .

How the official figures are presented

Each of these is a matter of record. None is a claim about anyone's motive.

The headline is the net figure. The gross is not added up.

The Climate Change Committee's chapter on costs gives a cost of "around £4 billion per year". The same report says investment of "£26 billion per year" is needed. It does not state the 26-year total. Its own data sheet adds up to £670.1bn.

One policy, two official costs.

The same OBR report gives two figures. The net cost "to the economy", £116bn in 2025 prices, is the Climate Change Committee's figure. The cost to the public finances, £803bn, is the OBR's own; two-thirds of it is tax no longer collected.

Prices are quoted in old money.

Hinkley Point C's guaranteed price is quoted as £92.50 per megawatt-hour. That is in 2012 prices. The auditor puts it at £129 in 2025 prices. Beatrice's price was set at £140 in 2012 prices and is £205.70 now.

The headline cost of wind leaves out the system around it.

The government's cost report puts out of scope, for every technology, "Wider system costs beyond those faced by the developer, and wider system benefits of deploying generation assets", which it says "cannot be assessed without whole power system modelling". The grid, the bottleneck payments and backup are billed separately.

Savings are measured against a worst case the policy itself creates.

Ofgem says grid upgrades will save a household £30 a year. The comparison is with bottleneck costs that, in the auditor's words, "assume that all planned renewable generation is added to the grid ... regardless of whether the grid is ready to accommodate it". The grid charge on the bill still rises by £60.

Known risks are left out of the model.

The 2010 assessment behind "connect and manage" did "not account for possible market power being exercised behind constrained boundaries, which was estimated to account for over half of constraints in 2008/09". The Climate Change Committee publishes no case in which fossil fuels are cheap. Its savings leave out fuel duty, which the OBR counts as lost.

Costs are withheld as commercially sensitive.

The government's 2025 cost report publishes no nuclear figure: the costs "cannot be made available in this report because of their commercial sensitivity". Ofgem on early funding for three fast-track grid projects, December 2025: "For commercial reasons, ECF and PCF figures

are not published at this stage and only percentages of budgets are published". No capital cost has been published for Shetland HVDC Link 2. See [The missing figures](#).

Charges on bills are called levies, and counted as taxes.

The OBR: "The government also taxes carbon more directly through environmental levies and taxes."

Price years shift inside one document.

The auditor's text gives bottleneck costs "in 2024 prices". The note under its own chart says they were adjusted "to 2023-24 prices".

Forecast against what happened

SUBJECT	THE FORECAST	WHAT HAPPENED
Extra bottleneck cost from "connect and manage"	About £24m a year, central estimate. Government impact assessment, July 2010.	£121.7m in the year to September 2015, measured by Ofgem.
The same, looking ahead from 2015	To fall to "nearly zero in 2017/18" (National Grid's forecast, reported by Ofgem, December 2015; under one scenario it expected costs to rise again from 2018/19). The auditor records a forecast of "zero by 2023-24".	All bottleneck costs were £1.54bn in 2023-24 and £1.90bn in 2025-26. That is the total from every cause, not the rule's share alone.
Hinkley Point C, cost	£17.9bn early estimate, 2015 prices.	£35bn to £36bn, 2015 prices. NAO, May 2026.
Hinkley Point C, first power	2025.	2030 to 2031.
Proposed offshore wind east of Shetland, reported with the	2.8GW in 2024.	2.3GW in 2026, with a 500MW lease option set to be handed back. PRESS, COMPUTED

2024 recommendation for
Shetland HVDC Link 2

Kintyre to Hunterston link,
cost

£197.43m allowed by Ofgem,
November 2013.

Completed "on time and on
budget" at £197m, per the

The auditor's own finding: "DESNZ has allowed renewable electricity generation to connect to the grid, which has led to increased constraint costs. Successive governments 'connect and manage' approach has allowed new generation projects to connect before the network was ready." OFFICIAL, NAO, SEPTEMBER 2026

company's own forecast that
held.

What this page does not claim

- **The sums paid are gross.** Wind and solar also push the wholesale price of power down when they are generating. No official estimate of that effect is held here, so nothing has been taken off for it. The true net cost to billpayers is below the £97bn by an amount this page cannot state.
- **Nobody can know what would have happened instead.** The options and Wind or nuclear set out the alternatives at their documented costs, including their own overruns. They do not prove a different path would have been cheaper.
- **Subsidy and investment are not added together.** Investors put up the money to build. Subsidies and power sales pay them back. Adding the two would count the same pound twice.
- **The forward figures are other people's forecasts.** The £803bn, the £670bn and the £70bn are quoted as their authors give them. The table above sets earlier forecasts for other projects beside what happened.
- **Price years are not converted.** Each figure keeps the price year of its source. Where figures in different price years are added, the page says so.
- **This is not a page about climate science.** It takes no position on it. It asks what was spent, what it bought, and who was paid.

The detail

The real cost

Scotland's share, the 2010 rule, public services and 17 countries compared

Wind or nuclear

Two ledgers and a debt calculator

The options

What else the money could have done

The counter

Subsidy paid to Moray Firth farms, live

Money leaving the UK

Dividends, interest and fees abroad

The missing figures

What the public pays for but cannot see

SOURCES, WITH FILE AND LINE IN THIS PROJECT'S ARCHIVE

Renewables Obligation. Ofgem, Renewables Obligation Annual Report, Scheme Year 23, 30 March 2026, dataset sheet "Figure 5.12", 23 yearly scheme values summed; text at RO_24-25_SY23_Annual_Report.txt:3200-3203.

Contracts for Difference. Low Carbon Contracts Company, "Actual CfD Generation and avoided GHG emissions", 60 saved pages under sources/crawl/dp.lowcarboncontracts.uk/full_actual/, fields CFD_Payments_GBP and Avoided_GHG_tonnes_CO2e; 2025 total £2,640,168,618.27. **Grid bottleneck, grid charges, household bill, Ofgem forecasts.** National Audit Office, Upgrading the electricity transmission network, HC 589, 11 September 2026, sources/nao.txt:179-181, 262-269, 284-291, 297-299, 305-308, 732-735, 750-755, 770-773, 1022, 1176-1183, 2455; yearly series 0.56, 0.52, 0.65, 1.21, 1.04, 1.54, 1.65, 1.90.

Public finances. Office for Budget Responsibility, Fiscal risks and sustainability, July 2025, sources/crawl/obr.uk/Fiscal-risks-and-sustainability-report-July-2025.txt:932-934 (£803bn), 6012-6015 (£116bn), 6394 (levies). **Investment and net cost.** Climate Change Committee, Seventh Carbon Budget, February 2025, The-Seventh-Carbon-Budget.txt:4626-4641, and its costing data sheet "Whole economy charts", rows 165 and 166.

Carbon capture. GOV.UK news release, major-carbon-capture-project-to-deliver-jobs-and-growth.txt:100; GOV.UK carbon capture collection page, uk-carbon-capture-usage-and-storage-ccus.txt:104. **Sizewell C and Hinkley Point C.** National Audit Office, Sizewell C, 20 May 2026, sizewell-c.txt:174-176, 184-185, 418, 1010-1023.

What it bought. DESNZ, UK Energy in Brief 2026, UK_Energy_in_Brief_2026.txt:939-941. EU JRC, EDGAR 2026 report. DESNZ, final UK greenhouse gas emissions 2024, 5 February 2026. UN Environment Programme, Emissions Gap Report 2025, from a UN-hosted copy. ONS, Families and households in the UK: 2025. DESNZ, Valuation of greenhouse gas emissions for policy appraisal, Annex 1, saved 5 October 2026. **Where the money goes.** ONS, Ownership of UK quoted shares: 2024. DESNZ, international industrial energy prices, table 5.4.1, table_541.xlsx.txt:206. The UK Steel Strategy, the-uk-steel-strategy-web-version.txt:989. North Sea Transition Authority, emissions intensity factsheet, September 2025, lines 11 and 18; production projections, February 2026. Norwegian Offshore Directorate production data via norskipetroleum.no.

Presentation and forecasts. DECC, Improving grid access impact assessment, July 2010, 253-improving-grid-access-ia.txt:64-74 and the market-power passage; Ofgem, sixth connect and manage report, December 2015, lines

30 and 426; DESNZ, Electricity Generation Costs 2025, lines 266-268 and 1200-1202; Ofgem press release on early construction funding; Ofgem Kintyre to Hunterston decision, November 2013. Working files: research/CONNECT-AND-MANAGE.md, CCC-SAVINGS-TEST.md, NUCLEAR-COMPARISON.md, UK-SHARE-OF-EMISSIONS.md, COUNTRY-CLIMATE-SPEND.md, UK-NORWAY-OIL-GAS.md, ALTERNATIVE-OPTIONS.md. Compiled 5 October 2026.

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