

Understanding the UK Energy Market

Part Two: A Focus on Non-Commodity Charges

Making sense of energy policy charges –
what they are, how much they cost and
what's set to change

Introduction

Non-commodity charges traditionally account for up to 60% of the total invoiced cost of energy. Or at least they did until the huge rises in commodity costs we've seen since last September reduced their overall share to around a third. But either way, they still add around £80 to every megawatt hour (MWh) of electricity that businesses consume, and around £10 to gas.

In our last report, we looked at all the different third-party network charges that appear on invoices. Now we turn our attention to the various 'green' levies that stem from government policies to support our transition to low-carbon generation – and how these have increased in number and are set to increase in value too over the coming decades.

In the UK, rather than funding these environmental policies out of general taxation, the government instead passes them onto energy suppliers to add to energy costs.

Other than the Climate Change Levy (CCL) and the new Green Gas Levy (GGL), all these policy costs are applied to electricity rather than gas invoices (but see our penultimate section for how this might change).

For domestic consumers, non-commodity charges are added to the overall unit rate of energy they pay. But businesses can choose to either fix these costs at a certain amount per MWh of energy consumed, or accept the actual published rates, which can be higher or lower than the fixed rate.

In this report, we look at what these policies and levies are – and what they are designed to do. We'll also explore how these are calculated and charged to consumers.

We hope you find it useful.

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Driving the biggest change in energy since the Industrial Revolution

Changing the energy supply of 67 million people – plus all the nation’s businesses, industry and services – from one source to another is no easy task. Yet the UK, like much of the developed world, is doing just that, as we work towards achieving a net zero emissions goal by 2050.

Fossil fuels have dominated our energy landscape for almost two centuries. The Industrial Revolution (1760-1840) was powered by coal, and we relied almost exclusively on coal right through the first half of the 20th century, until nuclear started being generated. The first commercial scale nuclear power station opened at Calder Hall, the precursor to Sellafield, in 1956.

Although a tiny amount of hydroelectric power started contributing to the UK’s energy mix in the 1930s, we didn’t see any other renewable energy being generated for another 60 years. Then in 1991, the UK’s first onshore wind farm was completed in Cornwall, providing enough energy to power 2,700 homes.

But Britain only began to embrace renewable energy in earnest at the start of this century, after the government introduced the Renewables Obligation (RO) in 2002 to incentivise new installations (of which you’ll find more information below).

Focus on energy efficiency

Initially however, as politicians started to heed warnings about the impact of greenhouse gases, the focus was on reducing emissions by encouraging greater energy efficiency among business consumers.

So, in 2001, the Climate Change Levy (CCL) was introduced. This added a tax onto every kilowatt hour (kWh) of energy consumed by businesses, with the aim of reducing the UK's annual emissions by 2.5 million tonnes by 2010.

The cost to business consumers (domestic consumers are exempt) started at £4.30/MWh of electricity and £1.50/MWh of gas. This has increased over time, and reached £8.11 for electricity and £4.06 for gas by 2020.

Then in 2021, legislation was introduced to rebalance rates to achieve parity between electricity and gas. Therefore from 2021, the electricity rate reduced to £7.75/MWh and increased to £4.65/MWh for gas, with the aim of achieving price equality by 2025.

Businesses classified as energy intensive users can claim CCL exemptions of up to 90% by signing up to a Climate Change Agreement (CCA), which obligates them to make annual reductions in energy consumption and emissions.

In its first year of operation (2001/2), the CCL raised £585 million. Revenues hit £2004 million in 2019/20, falling to £1745 million in 2020/21. Initially, the proceeds from the CCL funded energy efficiency initiatives such as the Carbon Trust. But since 2010, all revenues instead go straight back to the Treasury.



Supporting renewable investment

The introduction of the RO in 2002 triggered a big rise in renewable installations, as this subsidy provided a premium to generators on top of the wholesale market price, to incentivise investment.

This took the form of issuing Renewables Obligation Certificates (ROCs) to generators for every MWh of energy produced.

Suppliers are then legally obliged to secure and evidence an increasing percentage of their power from renewable sources. In the launch year (2002/3), this started at 3%, rising steadily to 24.5% by 2014/15 and it now stands at 49.1% for 2022/23. This percentage is set in advance by the government to reflect the number of ROCs it forecasts will be generated in the following year.

To satisfy this obligation each year, suppliers can either purchase ROCs from generators or pay an index-linked ROC buy-out price set by the government.¹ The cost of this to suppliers is then passed back to consumers and appears on business invoices as a 'Renewables Obligation' charge.

Energy intensive businesses can qualify for up to 85% exemption on RO charges, but all other consumers – including domestic – pay.

RO charges on energy invoices have increased considerably each year, from lows of £0.9/MWh in 2002/3 to £18.64/MWh in 2017, when the RO scheme closed to new participants. Costs have continued to rise with inflation, currently standing at £26.32/MWh for 22/23 – and will increase each year until 2027, when the subsidy periods for some generators start to come to an end. But RO payments will carry on until 2037, when the final subsidy period concludes.

At present, suppliers are only required to pay their RO invoice once per year. This means that a struggling energy supplier could use RO revenue they have collected from customers to keep themselves afloat, at least until their annual RO invoice becomes due.

For this reason, many suppliers ended up going out of business when the RO payment deadline hit – and they were unable to pay it. This left a large shortfall in RO revenues which remaining suppliers had to pick up through a process known as mutualisation.

For example, for the RO year April 2020 to March 2021, an industry deficit of £218 million was 'mutualised' to remaining suppliers, who had little choice but to pass these costs onto customers.

"We are actively lobbying the Department for Business, Energy and Industrial Strategy (BEIS) to increase the frequency of RO payments to avoid a future repeat of this – and our lobbying has led to a new consultation from BEIS seeking views to change this (see: [Consultation on addressing supplier payment default under the Renewables Obligation](#))," explains Stephen Evans, Head of our Industry Charging Team.

In 2014, a new scheme to replace the RO – Contracts for Difference (CfD) – was introduced as part of the government's wider package of Electricity Market Reform (EMR).

1. Initially by the Department for Energy and Climate Change (DECC) and now the Department for Business, Energy and Industrial Strategy (BEIS).



Driving a small-scale green revolution

While the RO was designed to incentivise investment in large-scale renewable generation – onshore and offshore wind, biomass technologies and so on – the Feed-in Tariff (FIT) was introduced by the government in 2010 to encourage greater uptake of small-scale renewables (less than 5 megawatts). For example, solar photovoltaic (PV) panels on household roof tops.

The FIT obligates suppliers to pay participants for every unit they generate and provides another payment for any units exported to the grid. As with the RO, the cost of this scheme is then passed back to consumers via a 'Feed-in Tariff' charge on energy invoices.

Again, energy intensive businesses can qualify for up to 85% exemption, but all other consumers pay. For businesses, the charge has increased yearly from £0.05/MWh in 2010/11 to £6.98/MWh in 2020/21.

The scheme closed for most entrants in 2019. But as for the RO, FIT rates will generally rise with inflation until the first subsidy periods start to come to an end in 2025, and will continue for remaining installations until 2037. Unlike the RO, however, this rate is not known ahead of time and is dependent on the amount of electricity generated by FIT generators. Therefore it can vary year to year, depending on how sunny or windy it is.

The FIT has been now replaced by a new scheme called the Smart Export Guarantee (SEG). Introduced in 2020, this initiative requires energy suppliers to offer a tariff to small-scale generators (again, mostly householders) for every kWh they export to the grid. The rate is determined by individual suppliers, and no subsidy payments are added. So, unlike the FIT, the SEG doesn't incur any additional costs that are then passed back to consumers.

Electricity Market Reform

In 2014, the government introduced Electricity Market Reform (EMR) legislation in the biggest-ever shake-up of the energy industry. The aim was to support the further development of secure and sustainable energy generation, while also helping the UK to meet its increasing environmental commitments.

Two key elements of EMR resulted in new levies being added to energy invoices: the Capacity Market (CM) and Contracts for Difference (CfD).

The CM was introduced in December 2014 as a mechanism to help ensure the UK has sufficient power available to meet our future needs. This was becoming important at the time – and even more so now – as older, dependable fossil-fuel plant close and the volume of intermittent renewable generation grows.

The CM operates as an annual auction to secure the majority of the UK's required energy capacity four years in advance, with a top-up auction one year ahead of delivery to enable Demand Side Response (DSR) to participate and to fine tune the amount of capacity required.

The cost of running the CM is met by consumers, with two charges appearing on invoices:

- A Capacity Mechanism Operational charge, which covers the administration of the scheme. This is currently around 3p/MWh.
- A Capacity Mechanism Obligation charge, which covers the auction costs. This is charged to suppliers based on consumption during the peak winter periods of 4:00pm and 7:00pm on working days from November through to the end of February. Customers are then charged according to their expected consumption during these periods.

Like other non-commodity charges, the CM is index linked. With inflation expected to rise above 7% by the end of 2022, this is another blow in a sea of rising costs.



The other main EMR mechanism is CfD, which was created to replace the RO and support continued investment in large-scale, low-carbon generation from November 2014 – but at a much lower cost to consumers.

The RO heavily incentivised investment in very new, high-cost technologies, which brought the cost of these technologies down.

But while the RO pays a subsidy to generators regardless of wholesale price, a CfD contract only provides a top up to guarantee a 'strike price'. It's essentially a contract for the difference between the current wholesale price and the strike price.

In the early years, the strike price was set well above wholesale price levels. But in the last year, wholesale prices have risen above most strike prices, meaning the subsidy has become a negative (i.e. the generator pays the difference back).

Certainly, for quarter 4 2021, CfD charges became a benefit for consumers – i.e. a credit rather than a debit added to invoices (although this happens a quarter in arrears). A small ray of sunshine!

The first CfD contracts will end in April 2027. However, CfD is expected to be allocated to generators for several years to come with a standard contract length of 15 years.

CfD charges/credits appear on invoices as one line item marked Contracts for Difference. They started off as only £0.3/MWh in 2016/17 climbing to £8.65/MWh in 2020/21.

The government has learned the lessons of RO mutualisation and in creating the CfD scheme, has required much more frequent supplier payments, drastically reducing the cost of any mutualisations – and ultimately, further costs being passed onto consumers.

In addition to the CM and CfD, EMR introduced two new taxes applied directly to generators:

- The Carbon Price Floor (CPF) sets a minimum price for carbon emissions released by power generators and was introduced in April 2013
- The Emissions Performance Standard (EPS) limits emissions on new power stations and came into force in autumn 2014

Generators reflect these taxes in the price they sell energy into the wholesale market, so consumers pay more, albeit not as directly as with the other non-commodity charges.



The rise in 'greener' energy

So what has – and is – the impact of introducing these policies on UK renewable generation and emissions?

By 2008, six years after the RO came into operation, 551 additional large-scale renewable sites had joined our solo windfarm in Cornwall, supplying 6% of the UK's total electricity. Wind was the main 'fuel', with Britain becoming the world leader in offshore wind by the end of 2008.

Following the introduction of the FIT in 2008, small-scale renewable installations surged dramatically, increasing from around 5,000 in 2009 to 27,000 in 2010, around 200,000 by 2011 – and more than 800,000 by 2018. By the time it closed in 2019, more than 6 gigawatt (GW) of renewable capacity had been installed – that's double what's expected from the new Hinkley Point nuclear power plant.

Today, around 43% of the UK's electricity comes from renewable sources, an enormous increase in just over a decade. Emissions have also fallen dramatically. In 2008, we produced 495g of CO₂ for every kWh generated. By 2020, this decreased to 181g – a drop of more than 60%.

But rather than insulating us from the sky-high gas prices we are seeing cause pain all over Europe, we are still paying exorbitant rates for our energy, including the large percentage of renewable supply (see our previous report [here](#) - where we discuss why electricity prices track the gas market).

Renewable generators receiving RO or FIT subsidies are paid these regardless of the value of wholesale market prices. So, despite the current dramatic increases in electricity commodity costs, wind, solar and other renewable generators are still being paid up to £53 on top of the current £200+ wholesale price for every MW they export.

Of course, the schemes that replaced the RO and FIT – CfD and the SEG – do not offer subsidies regardless of wholesale market price, if at all. Therefore, the longer-term cost to consumers should decrease in time.

Shifting green levies to gas?

In addition to moving to gas and electricity parity with the CCL, the government is also considering rebalancing the way in which green levies are shared between fuels, as currently, electricity carries all the cost.

While a larger share of renewable generation and a huge drop in coal is making electricity 'greener', gas still remains the dominant fuel in the UK. 87% of homes rely on gas for heating, and it's widely used for industrial heating and manufacturing processes.

Not only is this hampering us reaching the 2050 net zero target, but as the political situation with Russia has highlighted, it leaves us vulnerable to imports and international market turbulence.

A report from the UK Energy Research Centre back in 2020 found that at the current rate, it will take the UK 700 years to transition to low-carbon heating – unless more is done to encourage the uptake of heat pumps.

We are awaiting more information about how this transition of green levies could take place – if at all. But we will keep customers updated with any news as soon as we become aware of any developments.

In addition, a new Green Gas Levy (GGL) is being introduced to gas invoices, with charges appearing retrospectively from April 2022. This levy is designed to fund the government's Green Gas Support Scheme (GGSS), which provides financial incentives for new anaerobic digestion biomethane plants to increase the proportion of green gas in the gas grid.

The GGL will initially be applied at meter supply point level and will apply to all consumers, including domestic customers. The government has published the first two levy rates – 0.484p per meter per day for the period 30 November 2021 to 31 March 2022, then 0.576p per day from 1 April 2022 to 31 March 2023. BEIS will then announce future levy rates by 31 December in the preceding year.





Mitigating rising energy costs

As with wholesale gas and electricity costs, non-commodity charges are based on consumption, so the more you use, the more you pay. With energy costs so high currently, the business case for investing in energy efficiency (as a means to consuming less) therefore grows ever stronger.

Being flexible around when you use energy is also worth considering, as charges such as the CM are based on consumption during peak periods of national demand. Looking at load managing options, investing in on-site generation – for example, solar panels or biodiesel generators – or installing battery storage can therefore help reduce energy costs and enhance site self-sufficiency.



How we can help

If you have any questions or concerns about your energy invoices or the charges contained within them, please do get in touch.

Contact us:



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