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# Your budgeting companion

A photograph of two women sitting together, looking at a document. The woman on the left is wearing a maroon cardigan and has her hair pulled back. The woman on the right is wearing a blue plaid shirt and is holding a pen. They appear to be in a collaborative work environment.

April 2020

# Budget with confidence

This guide contains up-to-date information to help you forecast with confidence and develop your energy strategy.

As well as forecasts of commodity and non-commodity elements of your invoice for electricity and gas, we've also included more information on each cost component and the factors driving changes.

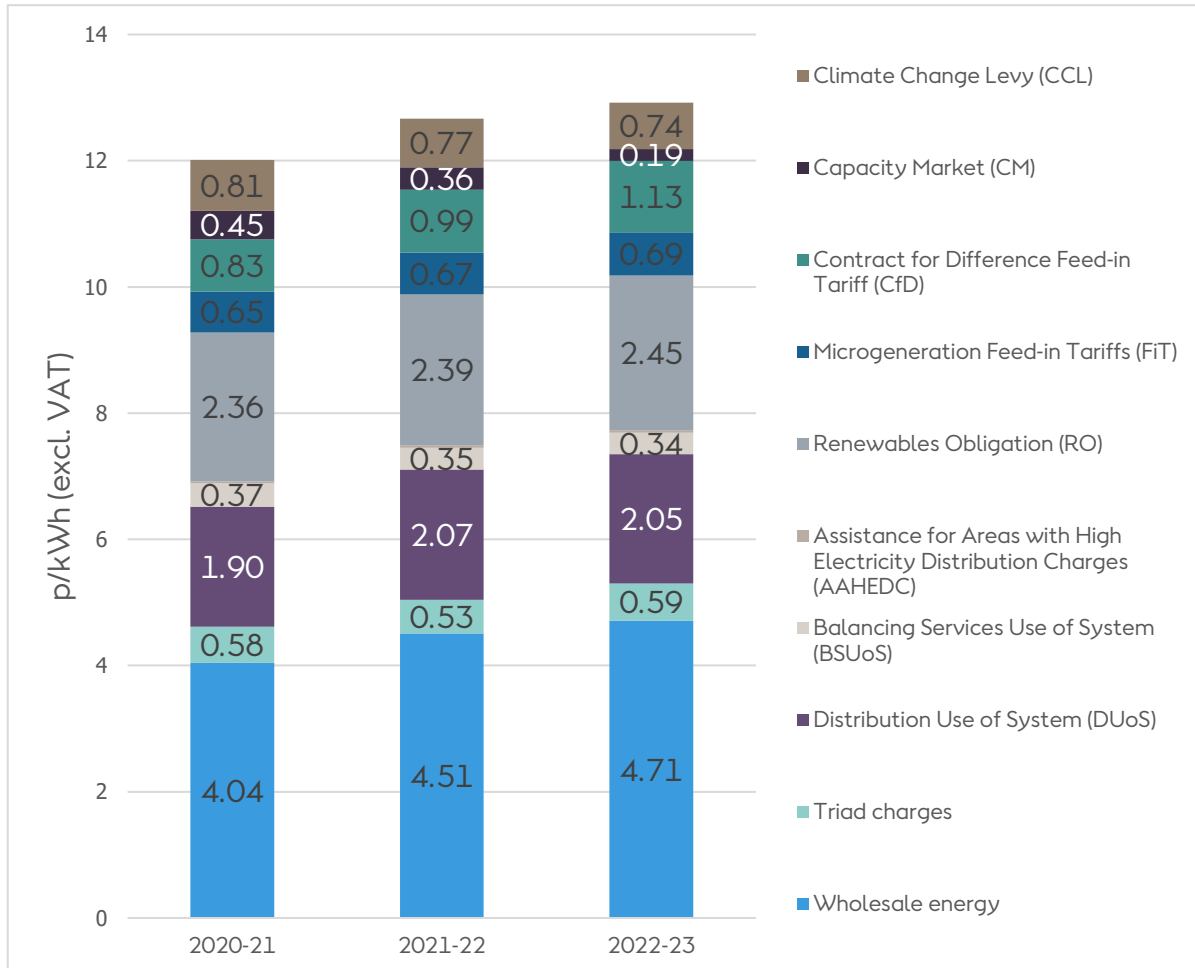
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# Your forecasts of electricity costs

# In a nutshell

Forecast delivered electricity costs 2021-22 to 2022-23



## The headlines

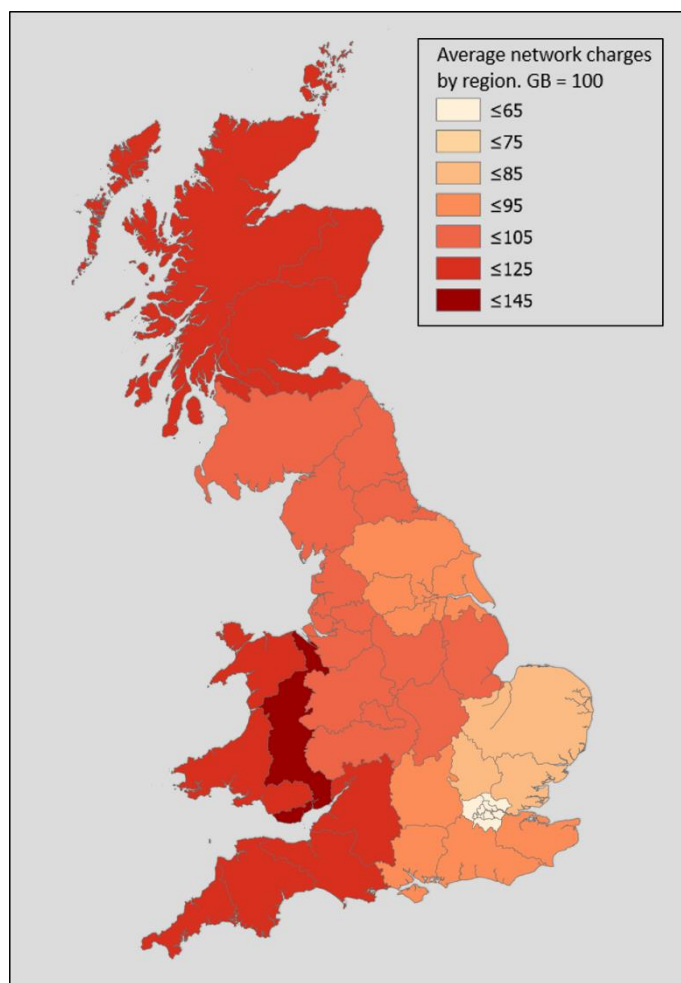
- Wholesale energy markets have slumped since October 2019, when we issued the last report. Wholesale electricity prices for 2020-21 have fallen by **20%** to 4.04p/kWh, contributing to a **7%** reduction in forecast delivered prices for 2020-21 compared with the previous report.
- Against this lower baseline, delivered electricity costs are now forecast to increase by **5%** in 2021-22 against 2020-21 figures. Wholesale costs are forecast to rise **12%** and non-commodity costs are set to increase by **2%**.
- If forward wholesale markets remain as they are today, delivered electricity costs are set to increase by another **2%** in 2022-23 against 2021-22. Wholesale markets are forecast to rise by **2%** and it is projected for total non-commodity costs to be similar in 2022-23 to 2021-22.

## Key drivers for 2021-22

- Network costs are projected to increase by **7%**. Within this headline figure there are regional variations and certain costs have increased above the line of inflation. This includes Triad transmission charges in Scotland and distribution charges in Southern Scotland, Southern England, Merseyside and North Wales.
- There will be a **2%** increase in policy costs. Lower costs for the Capacity Market (CM) and Climate Change Levy (CCL) will offset most of the increases expected for the Contracts for Difference (CfD) and Feed-in Tariff (FiT) schemes.
- In the medium term, there will be changes to the structure of network tariffs and policy costs as electricity demand and generation become more diverse. These changes include:
  - **Ofgem's Targeted Charging Review (TCR SCR)** which has seen a review of the long-term structure of network costs. This has now moved in to implementation. It is expected to prompt the introduction of new style Transmission and Distribution Use of System tariff structures from April 2022.
  - **Ofgem's Access Rights and Forward-Looking Charges SCR (ARFLC)** is coordinating significant reform of electricity access and charging arrangements across the GB network. Any reforms it introduces are currently also expected from April 2022.
  - **New investments** in long distance power links which aim to lower balancing Balancing Services use of System (BSUoS) costs.

## Network costs - regional trends 2020-21

Average network charges for large electricity users (expressed as a % of the GB average).



- Network costs for distribution and transmission average **2.88p/kWh**. This is equivalent to **24%** of the total invoice (before VAT).
- The distribution component of network costs averages **1.88p/kWh**. Such costs are highest in Wales, North Scotland and South West England.
- The transmission component of network costs averages **0.57p/kWh**. These are highest across Southern England.
- Merseyside and North Wales has the highest distribution costs, but Northern Scotland also have costs over **0.8p/kWh** above the GB average.
- Load switching can help mitigate network costs. However, major changes are coming which will cut the values available from this activity significantly. Summary information is included on page 12 and 13 of this report. Please also speak to your Account Manager for more information.

# Forecasts of electricity wholesale costs

Wholesale costs include the market value of electricity for a period, costs for system losses, plus the supplier's costs and margin.

## What's driving wholesale costs?

- The wholesale electricity market has seen prices fall around **20%** since the October 2019 issue of this report. The wholesale electricity market is currently **12% higher** for 2021-22 compared to 2020-21, with a rise of **4%** projected for 2022-23.
- Wholesale electricity markets have fallen sharply since October 2019 due to factors including plentiful supplies of gas internationally, a weakening global economy and a mild northern hemisphere winter.
- Wind output has also been particularly high in Great Britain during winter 2019-20, increasing the availability of electricity to the market.

## Forecast electricity wholesale costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
Wholesale costs (p/kWh)	4.04	4.51	4.71
Change (%)		12%	4%

# Forecasts of electricity network costs

- Transporting energy across electricity and gas public networks to a customer meter incurs a cost. Suppliers recover these costs from their customers, as 'network costs'.
- For electricity, network costs include:
  - Transmission Network Use of System (TNUoS or Triad)
  - Distribution Use of System (DUoS)
  - Balancing Services Use of System (BSUoS)
  - Assistance for Areas with High Electricity Distribution Costs (AAHEDC)
- Ofgem sets price controls for networks for future years. These controls are under review with new regimes for transmission from April 2021 and distribution from April 2023.
- As discussed below, the coming years will see significant changes to the structure of electricity network charges.
- These changes could well result in notable year-on-year changes for many users dependent on their consumption volumes, supply capacity, location and connection voltages. These changes could differ from the average values shown in this forecast.

## Forecast TNUoS/Triad costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
Triad costs (p/kWh)	0.58	0.53	0.59
Change (%)		-8%	11%

## Forecast DUoS costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
DUoS costs (p/kWh)	1.90	2.07	2.05
Change (%)		9%	-1%

## Forecast BSUoS costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
BSUoS costs (p/kWh)	0.37	0.35	0.34
Change (%)		-6%	-2%



**Forecast AAHEDC costs 2020-21 to 2022-23**

	2020-21	2021-22	2022-23
AAHEDC costs (p/kWh)	0.03	0.04	0.04
Change (%)		41%	2%

Note: AAHEDC costs will increase in line with inflation each year, but annual increases are not significant enough to affect the unit cost data.

# Forecasts of electricity policy costs

Policy costs include the following:

Subsidising renewable electricity	Ensuring security of supply	Reducing energy consumption
Renewables Obligation, Microgeneration Feed-in Tariff, Contracts for Difference	Capacity Market	Climate Change Levy

- The Levy Control Framework sets an annual figure for the 'subsidy of renewable electricity' policy costs through to 2021-22, to a final value of **£7.6bn** (in 2011-12 prices). This is equivalent to around **25%** of forecast consumer spend on electricity in 2021-22.
- Since 2018, many electricity suppliers have exited the market, leaving debts for policy schemes including the Renewables Obligation, Capacity Market and Microgeneration Feed-in Tariffs. These costs will need to be recovered by other suppliers, for electricity supplied in the years from 2017-18. Final figures where known for the Renewables Obligation are included in this forecast.

## Forecast RO costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
RO (p/kWh)	2.36	2.39	2.45
Change (%)		1%	3%

## Forecast Microgeneration FiT costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
FiT (p/kWh)	0.65	0.67	0.69
Change (%)		3%	3%

## Forecast CfD FiT costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
CfD FiT (p/kWh)	0.83	0.99	1.13
Change (%)		19%	14%

### Forecast CM costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
CM (p/kWh)	0.45	0.36	0.19
Change (%)		-20%	-46%

- The table below shows the main CCL rates at April 2020 and April 2021

Taxable commodity	Rate from 1 April 2020	Rate from 1 April 2021
Electricity	0.00811 (£/kWh)	0.00775 (£/kWh)
Natural gas	0.00406 (£/kWh)	0.00465 (£/kWh)
LPG	0.02175 (£ per kg)	0.02175 (£ per kg)
Any other taxable commodity	0.03174 (£ per kg)	0.03640 (£ per kg)

### Forecast CCL costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
CCL (p/kWh)	0.85	0.81	0.77
Change (%)	-	-5%	-5%

# More about electricity network costs

## Transmission use of system (TNUoS/Triad) costs

- TNUoS costs are for transmitting electricity around the country.
- Triad forms part of Transmission Network Use of System (TNUoS) costs. Each year, licenced suppliers must pay TNUoS costs to National Grid to cover its costs of delivering electricity across the network.
- For half-hourly meters, TNUoS costs have typically been directly passed through from suppliers as Triad charges.
- 'Triads' are the three half hour periods of peak system demand between November and February. The peaks typically fall between 4pm and 7pm on weekdays. This is the time that industrial consumption often coincides with higher domestic consumption. National Grid forecasts Triad charges up to five years in advance.

### What's driving them?

- Under current plans, 2021-22 will be the last year in which Triad charges will be exclusively used to recover TNUoS costs from half-hourly meter customers.
- Under Ofgem's Targeted Charging Review (TCR) the 'residual' element of transmission charges will be levied in the form of fixed charges for all households and businesses. Despite its title the residual element accounts for around 80% of TNUoS charges.
- The new TNUoS residual charge is to be based on a banded approach, grouping consumers by combinations of voltage of connection, agreed capacity and net consumption. Fixed charges will be set for each segment and will apply to all customers in that segment across Great Britain.
- The new charging structure is expected to apply to TNUoS charges from April 2021. Their impact is expected to vary by capacity band for non-domestic users. Those consumers that actively manage their loads under the Triad mechanism may expect to see significant increases in their TNUoS costs.

## Distribution Use of System (DUoS) costs

- DUoS costs relate to the cost of maintaining the regional networks that transport electricity from the local sub-station to the end customer. This infrastructure is owned and operated by the Distribution Network Operator (DNO) in your area.

- DUoS costs are charged to generators and suppliers, and then recovered from electricity users. Each DNO publishes a forecast of costs in its region and suppliers use this as a basis for DUoS calculations.

### What's driving them?

- DUoS costs are also subject to Ofgem's TCR with reforms to charging structures from April 2022.
- Charges for non-domestic users will be banded by voltage level and agreed capacity (or net consumption if agreed capacity data is not readily available) if further differentiation is needed within this.
- Ofgem has requested that the network companies develop detailed implementation plans. The Table below summarises the main changes expected to TNUoS and DUoS tariff structures up to 2022-23.

### Summary of TCR changes proposed to DUoS and TNUoS charge structures to 2022-23

Area	2020-21 practice	Proposed Reform (Final)	Implementation Date (Final Proposal)	Impacts on Triad (Final Proposal)
<b>TNUoS Demand Residual</b>	Applied to Triad demand charges ~£50/kW for customers across GB.	Creation of customer segments based on a combination of voltage of connection, agreed capacity and net consumption, with a fixed charge set for each segment and applying to all customers in that segment across GB.	April 2022	Reduced incentive to engage in Triad avoidance given effective loss of most of the current benefit associated with avoiding residual charges.
<b>DUoS Demand Residual</b>	Extra High Voltage (EHV) connected in addition to capacity charges, varying by site. High Voltage (HV) and Low Voltage (LV) connected – fixed addition to all unit charges varying by DNO -	Creation of a customer segment based on voltage of connection, agreed capacity and net consumption. This would be a fixed charge set for each segment which would apply to all customers in that segment with rates varying by DNO area.	April 2022	The value of on-site generation in reducing exposure to demand DUoS will decrease, but this will not be specifically Triad-induced.

	averages £10/MWh.			
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Source: Cornwall Insight

## Balancing Services Use of System (BSUoS) costs

- BSUoS is a charge that National Grid levies to balance the electricity system and recover the costs incurred. National Grid publishes BSUoS forecasts for the current and next charging year.

### What's driving them?

- BSUoS costs are forecasted to average around **0.35p/kWh** annually through to 2022-23.
- BSUoS costs have been rising recently due to increased constraints on the transmission network.
- A change to the volume measure on which suppliers pay BSUoS is pencilled in for April 2021. From that date, BSUoS will be charged on gross demand rather than demand net of embedded generation. The change should result in slightly lower BSUoS charges for final demand consumers.

## Assistance for Areas with High Electricity Distribution Costs (AAHEDC)

- The AAHEDC scheme is administered by National Grid and provides financial assistance to areas of the country with high distribution costs. Currently, North Scotland is the only area specified to receive assistance. All electricity suppliers are charged an amount by National Grid, and this is passed to Scottish Hydro Electric Power Distribution Ltd to allow a reduction in costs for this area.
- Suppliers must pay National Grid a published amount based on total supplied volume. The cost is then passed on to all customers as a £/MWh charge.
- Draft AAHEDC costs are published in March (ahead of the start of the charging year) and finalised in July.

### What's driving AAHEDC?

- In mid-February 2020, BEIS issued its outcome document Hydro Benefit Replacement Scheme and Common Tariff Obligation: government response to 3-year review consultation.
- This confirmed that the Shetland cross-subsidy would be funded from all consumers across GB from April 2021 through the Hydro Benefit Replacement Scheme (AAHEDC). This will transfer £27mn in costs annually from those in North Scotland to all consumers in GB. This adds £27mn (41%) to the costs of the scheme from 2021.

# More about electricity policy costs

## Renewables Obligation (RO)

- The RO is a government policy to encourage the development of renewable electricity generating capacity in the UK. It is now closed to new capacity.
- The RO places an obligation on electricity suppliers to source an increasing proportion of the electricity they supply from renewable sources. This is measured through the expected production of tradable Renewables Obligation Certificates (ROCs) each year.
- Suppliers can either purchase ROCs or pay a buy out fee to cover the ROCs they are unable to purchase.
- Exemptions are available for some energy intensive industry (EII) sectors.

### What's driving it?

- BEIS has set the target for the RO at **0.471 ROCs/MWh** in GB for 2020-21. This has fallen from **0.484 ROCs/MWh** in 2019-20. This is because rising demand has increased the charging base over which the costs of the RO can be recovered.
- The RO has been closed to new capacity since 2017, meaning that the volume of generation supported under the scheme should only be influenced by weather and operational factors.
- RO buy out values increase in line with inflation. ROC values are also affected by the relationship between forecast total availability of certificates and electricity consumption outside the EII sectors.

## Microgeneration Feed-in Tariff (FiT)

- FiT is a government programme to support the uptake of a range of small-scale renewable and low-carbon generation technologies. The tariff is then paid to anyone who installs a renewable energy system producing electricity. Tariffs are paid for electricity that is generated with a bonus for any electricity exported to the grid.
- The scheme closed to new capacity in 2019.
- FiT costs vary by quarter with unit rates typically higher in the summer than the winter. This reflects higher solar output and a lower demand base from which to recover costs.
- Exemptions are available for some EII sectors.

### What's driving it?

- Costs are linked to inflation increases only, because the scheme closed to new capacity on 31 March 2019.

## Contracts for Difference (CfD)

- CfD is a subsidy for large-scale low carbon generation projects introduced after 2015. It tops up wholesale electricity prices to a target level for different generation projects.
- Costs vary by quarter depending on the volume of generation to be subsidised and the amount needed for top-up payments.

### What's driving it?

- Unit costs rise as new capacity joins the scheme.
- As wholesale costs rise and fall, unit scheme costs trend in the opposite direction. This is because lower or greater top-up payments to the market electricity price will be payable to generators.

## Capacity Market (CM)

- Capacity Market is a government scheme to ensure security of electricity supply. It is intended to incentivise investment in more sustainable, low-carbon electricity capacity at the least cost for electricity consumers. This is needed to help secure electricity supplies for the future.
- Generators are paid a 'per MW price' for the capacity they can provide to the market. This capacity needs to be available when providers are called upon by National Grid at any time during the contracted period.
- Capacity is procured in technology neutral auctions normally for four years (T-4) and one year (T-1) ahead of delivery. Contracts are available for one year, three years for refurbishing work and 15-years for new build.

### What's driving it?

- The Capacity Market was suspended during 2018-19 but has now been reinstated following the conclusion of a European Commission investigation. During the period of suspension, suppliers accumulated CM charges, and these were paid when the scheme was reinstated.
- If suppliers did not invoice customers for Capacity Market charges during the suspension period, they will have needed to recover these costs from customers.
- During the period of suspension, 17 suppliers left the market and may have left debts of unpaid Capacity Market payments. These unpaid charges may need to be recovered through a mutualisation process.
- This forecast includes the outturn clearing prices and capacity procured in the latest T-1 (2020-21) and T-3 (2022-23) auctions.
- In the latest T-1 auction, 1.0GW of capacity was awarded agreements at a clearing price of £1.00/kW. Due to the suspension, the latest T-4 auction was held as a T-3 auction. It procured 45.1GW of capacity at a price of £6.44/kW/year.



## Climate Change Levy (CCL)

- CCL is a government environmental tax on energy delivered to non-domestic energy users.
- HMRC requires all suppliers to pay a levy to fund CCL. This cost is then passed on to all electricity customers through their invoices. The CCL rate goes up in line with inflation every year and is chargeable on a consumption basis per £/kWh.

### Who pays CCL?

- The following sectors must pay CCL:
  - Industrial
  - Commercial
  - Agricultural
  - Public services
- The following are excluded from paying CCL:
  - Business that use small amounts of energy
  - Domestic energy users
  - Charities engaged in non-commercial activities

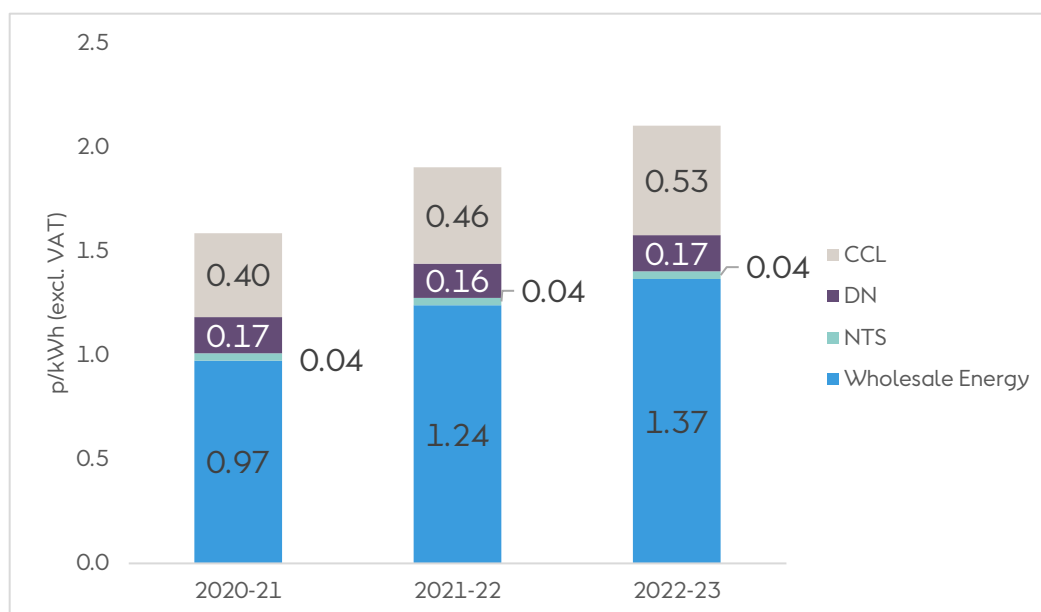
### Reduced rate

- You can get a reduction on the main rates of CCL if you're an energy intensive business and have entered into a Climate Change Agreement (CCA) with the Environment Agency.

# Your forecasts of gas costs

# In a nutshell

## Forecast delivered gas costs 2020-21 to 2022-23



## Headlines

- Since the October 2019 update of this forecast, wholesale gas prices have fallen sharply. Wholesale gas prices for 2020-21 are now **40%** lower than market values when the October 2019 forecast was issued.
- Delivered gas costs for 2020-21 are now **32%** lower than projected in the October 2019 edition of this report due to the lower wholesale prices. Against this updated baseline, a **20%** increase is forecast for delivered gas costs in 2021-22 on 2020-21.
- Such a large increase for 2021-22 is projected because wholesale costs are forecast to rebound **27%** and the CCL will increase **15%** while network charges will be broadly unchanged.
- If forward wholesale markets retain their current levels and National Transmission System (NTS), Distribution Network (DN) remain as forecast and there is another near **15%** rise in the CCL, delivered costs will rise **10%** for 2022-23 on 2021-22.

## Key drivers for 2020-21

- Wholesale gas prices have fallen sharply due to factors including plentiful supplies, a weakening global economy and a mild northern hemisphere winter.
- Network charges are broadly flat, in line with Ofgem’s long-term price controls.
- Above inflation increases in CCL are projected following a restructuring of this levy to focus on the carbon content of fuels burned.

# Forecasts of wholesale gas costs

Wholesale gas costs includes the market value of gas for a period, plus the supplier's costs and margin in providing it to the customer.

## What's driving it?

- As with electricity, wholesale gas markets have slumped since the autumn of 2019 to touch five-year lows.
- Market prices suggest this slump will be temporary and rates will rebound. The wholesale gas market is priced **27%** higher for 2021-22 than 2020-21 and **10%** higher for the year after.

## Forecast gas wholesale costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
Wholesale energy cost (p/kWh)	0.97	1.24	1.37
Change (%)		27%	10%

# Forecasts of gas transportation costs

- Transportation costs are levied on users of the gas public networks to transport volumes to the customer's meter. Gas transportation costs relate to National Transmission System (NTS) costs and regional Distribution Network (DN) costs. The latter are also sometimes referred to as Local Distribution Zone (LDZ) costs.
- Transportation costs have **fixed daily, commodity** and **capacity** components. In this report, figures are presented on a volumetric, averaged basis.
- Commodity costs are based on the volume of gas consumed while capacity costs are based on the maximum amount of gas expected to be used by a site on any day in the year.
- Price controls for networks are set to beyond 2020 by Ofgem. They are inflation-linked but can vary year-on-year depending on the investment profile of the network company, if tariffs are rebalanced or if other one-off events occur.

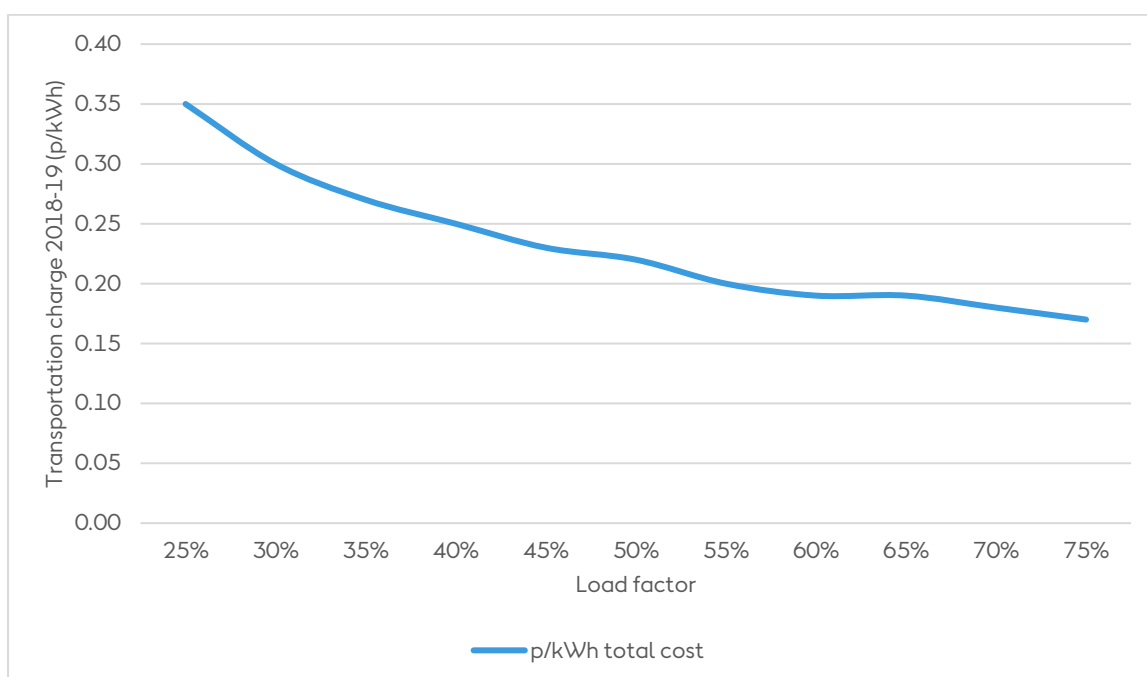
### Forecast gas NTS costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
NTS costs (p/kWh)	0.035	0.035	0.037
Change (%)		0%	6%

### Forecast gas DN costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
DN costs (p/kWh)	0.17	0.16	0.17
Change (%)		-6%	5%

### Average transportation costs by load factor



# Forecasts of gas policy costs

## Forecast gas CCL costs 2020-21 to 2022-23

	2020-21	2021-22	2022-23
CCL (p/kWh)	0.40	0.46	0.53
Change (%)		15%	14%

## More about gas transportation costs

### National Transmission System (NTS) costs

- NTS costs account for the costs of shipping gas in bulk around the country. They include **commodity** and **capacity** elements.
- National Grid Gas Transmission (NGGT) produces an annual statement of costs for the coming year and forecasts the revenues it expects to earn from its costs in the years thereafter.

### What's driving them?

- Negotiations are in progress for the April 2021 reset for the RIIO-2 price controls for gas transmission and gas distribution charges. This means there is less firm information than normal to forecast from.
- Where information is less firm, the forecasts for gas network cost reference the latest published future business plan information. This is from the network companies discounted for potential intervention by the regulator and is based on experience observed in the applying the RIIO-1 price controls.
- NTS costs are a relatively small element of the bill at around **2%** of delivered gas costs and are expected to remain so under RIIO-2.

## Distribution Network/Local Distribution Zone (LDZ) costs

- These costs are levied on suppliers, to cover the costs of the lower pressure gas Distribution Networks (DNs) to flow gas to the customer's meters.
- Each of the four distribution companies publishes annual charging statements covering the eight DNs they own collectively. They also provide annual forecasts of expected revenues in future years.

### What's driving them?

- As with gas transmission, there is uncertainty around gas distribution charges beyond 2021-22, as they fall in the next gas price control (RIIO-GD2) period. Allowed revenues for this period have not yet been set.
- Our forecast approach for distribution charges is similar to that applied for gas transmission charges. It suggests that gas distribution charges will be broadly stable during 2020-21 to 2022-23.

## Load factor and average transportation

- Gas transportation costs comprise capacity costs (related to peak daily consumption) and commodity costs (related to annual volume).
- The relationship between peak daily consumption and annual consumption is known as the 'load factor' and is expressed as a percentage. The higher the load factor, the more consistent the use of gas through the year: higher load factors tend to reflect a process use (heat to change the state of matter) while lower load factors tend to reflect space heating, where the requirement is primarily temperature related.
- Lower load factor sites tend to attract higher average costs for transportation, meaning that reducing gas consumption peaks may yield a saving in these costs on a unit basis.

# More about gas policy costs

## Climate Change Levy (CCL)

### What is it?

- CCL is administered by HMRC and is designed to incentivise businesses to consume less energy and therefore reduce greenhouse gas emissions.
- CCL is charged to most non-domestic consumers of energy in the UK.
- Discounts and exemptions are available for very small users and certain manufacturing processes.
- CCL costs are provided up to four years in advance by HMRC.

### What's driving it?

- CCL costs have increased in line with inflation since the scheme started.
- CCL costs for gas are rising as the overall scheme incorporates charges collected previously through the CRC energy efficiency scheme and it is refocused on the carbon content of the fuels being burned.



