

PUBLIC

utilita 
life with power

Carbon Footprint Report

1 April 2020 –
31 March 2021



This is Utilita's second annual carbon footprint report. It was created to monitor our progress towards net zero by 2030 and to be completely transparent about it. This report has been externally verified. The results are contained [here](#).

WHAT IS NET ZERO?

Net zero means achieving an overall balance between greenhouse emissions produced, cutting greenhouse emissions where possible and taking the rest out of the atmosphere.



UNDERSTANDING EMISSIONS

A company categorises its different kinds of carbon emissions into three scopes.



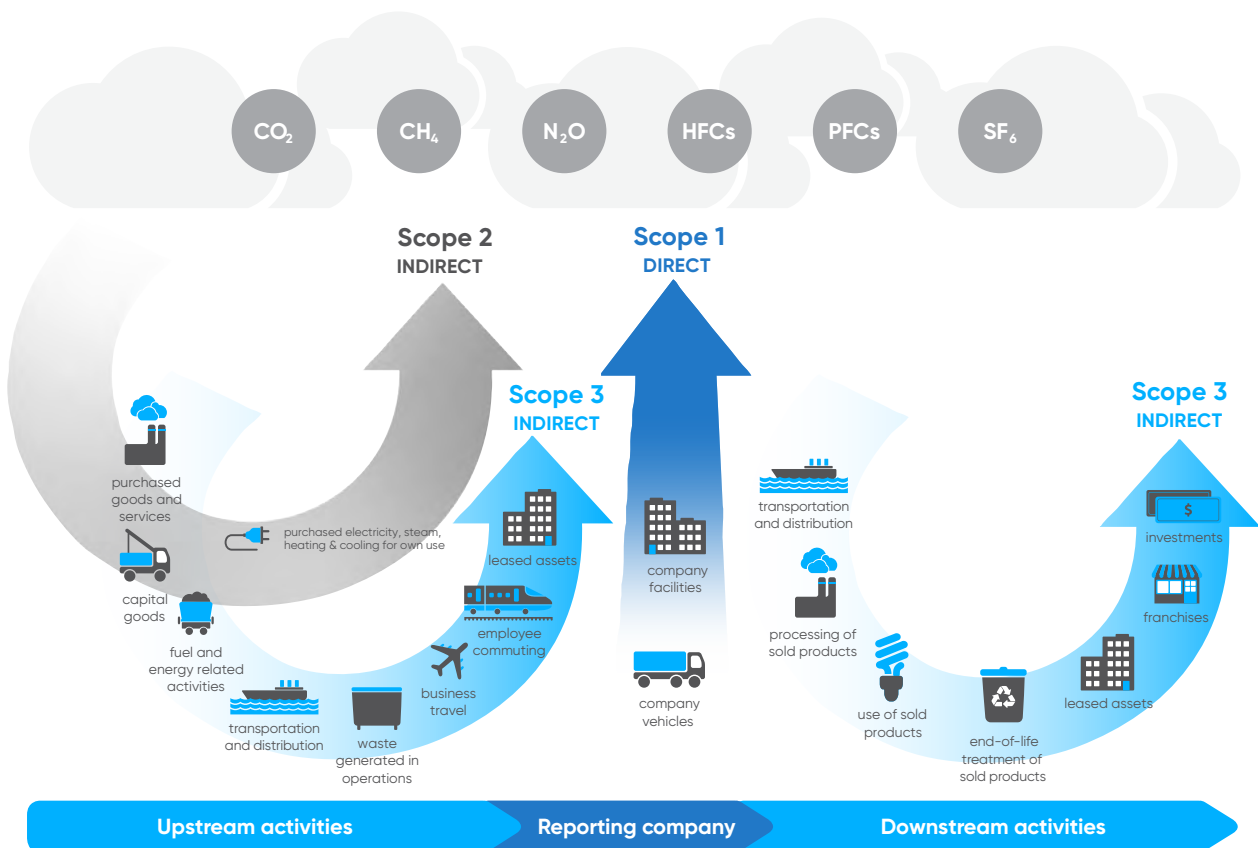
Scope 1: The greenhouse gases a company makes directly by burning fuel, such as running vehicles

Scope 2: The emissions a company makes indirectly – like buying electricity for lighting and computers, where emissions are being produced indirectly but, on its behalf

Scope 3: All other emissions that the company is indirectly responsible for that are not included in scope 2. This includes the supply chains and life cycles of products its customers use (the gas and electricity they buy from us), as well as the products it buys from its suppliers.

METHODOLOGY

To calculate our carbon footprint, we have used the internationally recognised Greenhouse Gas Protocol standard. The below diagram and fact box describes how this standard works. More information about this standard is available [here](#) and a full breakdown by category of emission sources used in the standard is available in appendix 1.



> 2020 Carbon Footprint: The highlights

Between April 1st 2020 and March 31st 2021 Utilita was responsible for 2.3 million tonnes of carbon dioxide or equivalent (mtCO₂e) – roughly equivalent to 1.26m average size passenger cars driven for one year. Of this 2.3 mtCO₂e:

- ✓ 225 tCO₂e were Scope 1
- ✓ 454 tCO₂e were Scope 2
- ✓ 2,312,253 tCO₂e were Scope 3

- ✓ Total emissions fell by 5.85% compared to 2019
- ✓ Scope 1 & 2 emissions fell by 68%, meeting our Scope 1 & 2 target for 2020 by 180%
- ✓ The carbon intensity measure for our Scope 3 emissions of tCO₂e/MWh-sold fell by 9.53%, overachieving our Scope 3 target for 2020 by 0.48%

The Scope 3 emissions from electricity generated are calculated using the current [Fuel Mix Disclosure](#) rules. We do not think these rules are fit for purpose. There is a loophole which leaves the door open for companies to greenwash. Utilita believes it has a solution. In appendix 2 we suggest two alternative methods for calculating the emissions from electricity sold and associated Fuel Mix Disclosures. We hope that showing how these rules lead to greenwashing and providing solutions will help close the loopholes.

WHAT IS GREENWASHING?

Greenwashing is lying or misleading people into thinking you're more environmentally friendly than you actually are.



> 2020 Carbon Footprint

The detail

SCOPE 1 & 2 EMISSIONS IN 2020 AND PROGRESS TO NET ZERO

The COVID-19 pandemic had a dramatic effect on our scope 1 & 2 emissions in 2020. The largest footprint came from the electricity we used in our buildings, which saw a reduction of 40% compared to 2019. This was due to an increase in home working. The net effect of home working, from the likely increase of energy used at home, would have been incorporated where employees are also Utilita customers. However, where they are not, this likely increase in emissions was not measured due to the challenges of collecting that data in the time frame of this reporting cycle.

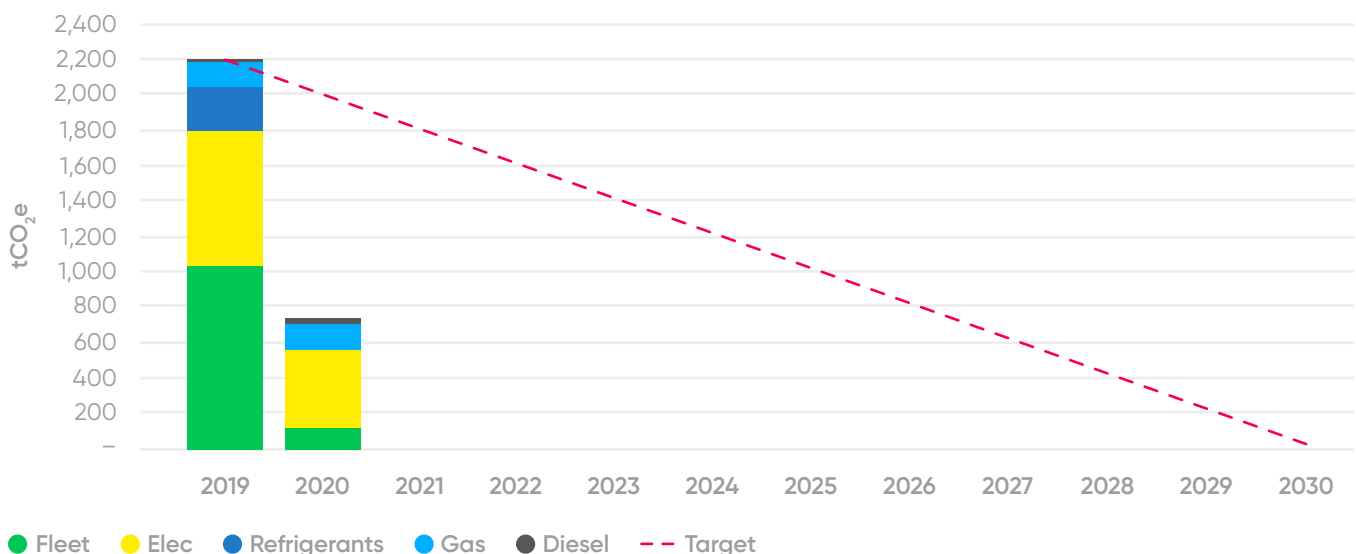
Although it is a smaller proportion of Scope 1 & 2 emissions, an even bigger decrease of 88.4% compared to 2019 was seen in emissions resulting from the fuel used in the vehicles our engineers and sales force use.

This can be attributed to fewer journeys because we installed fewer meters and face-to-face selling was significantly hampered. We also used 9% less natural gas in our buildings compared to 2019.

The only Scope 1 & 2 emission source to increase was the use of diesel in our buildings. We introduced a more rigorous testing regime for our backup diesel generator in our headquarters. This increase was negligible, adding just 0.5tCO₂e compared to 2019, about 0.00002% of our total carbon footprint in 2020.

These reductions meant we overachieved the 2020 Scope 1 & 2 target by 180%. The challenge for 2021 and beyond will be instilling these more environmentally friendly behaviours for the long term without detriment to the health and wellbeing of our staff and customers.

2020 SCOPE 1 & 2 EMISSIONS & NET ZERO PROGRESS

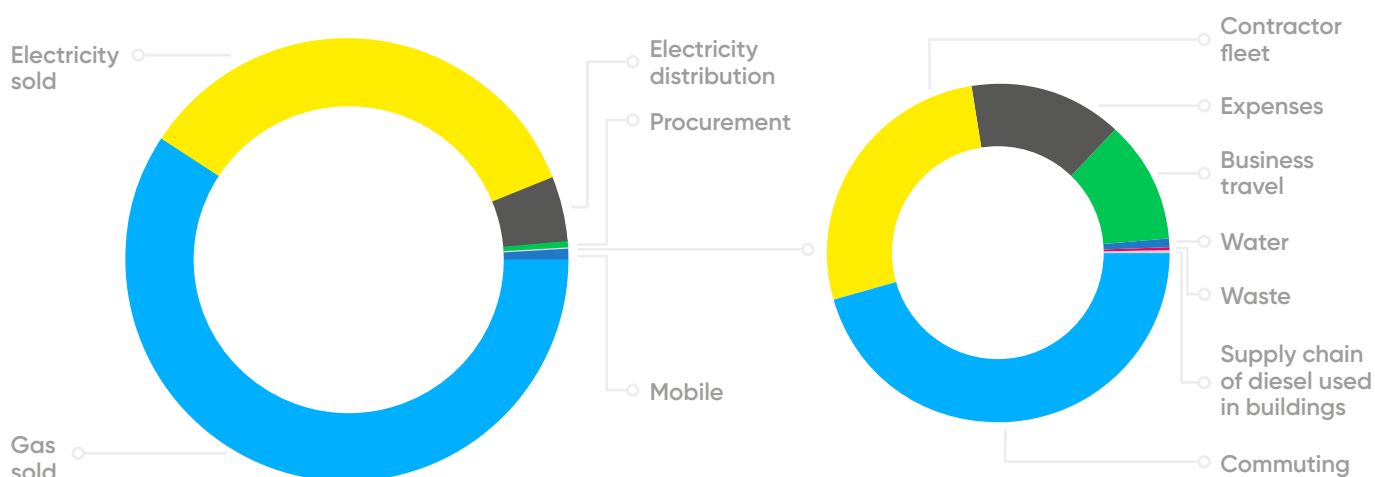


SCOPE 3 EMISSIONS IN 2020 AND PROGRESS TO NET ZERO

Scope 3 emissions comprised 99.97% of total emissions in 2020; 94.1% of these Scope 3 emissions came from the gas and electricity we sold to our customers, 34.9% from electricity, 59.2% from gas. The other material sources came from distributing electricity around the country on the national and local networks

of overhead cables and the procurement of products and services we need to run Utilita day-to-day, from stationery to datacentres and our new Utilita Mobile product. Together these five sources of emissions made up 99.97% of Scope 3 emissions.

2020 SCOPE 3 EMISSIONS



Scope 3 emissions source	tCO ₂ e	Change from 2019
Gas sold	1,369,226	6.01%
Electricity sold	806,938	-21.71%
Electricity distribution	106,983	8.20%
Procurement	14,512	-49.53%
Mobile	13,987	-
Commuting	278	-70.35%
Contractor fleet	164	-91.59%
Expenses	88	-50.97%
Business travel	71	-90.12%
Water	5	-50.26%
Waste	2	-55.11%
Supply chain of diesel used in buildings	0.3	58.45%
Total	2,312,254.3	-5.77%

The most material reduction in emissions came from electricity sold. We initially emitted 1,079,128 tCO₂e. However, we purchased 886,000 Renewable Energy Guarantees of Origins (REGO) and under the current Fuel Mix Disclosure rules were able to report a reduction of 364,270 tCO₂e.

Under the current rules, purchasing these certificates enables us to claim we have offset enough emissions to meet our target. Utilita is challenging these rules as we believe they lead to greenwashing across the industry. Our views on these issues are available on [our website](#). Appendix 2 provides two detailed alternative methodologies for calculating Fuel Mix Disclosures which would close this greenwashing loophole.

Procurement activity saw a decrease of nearly 50%. This was largely due to the COVID-19 pandemic as reduced purchasing activity occurred across the business. Likewise, for the less material Scope 3 sources. For example, emissions from subcontractor engineers, employee commuting, expenses, business travel all saw reductions because of lockdowns. The production of waste and consumption of water across our buildings also reduced because

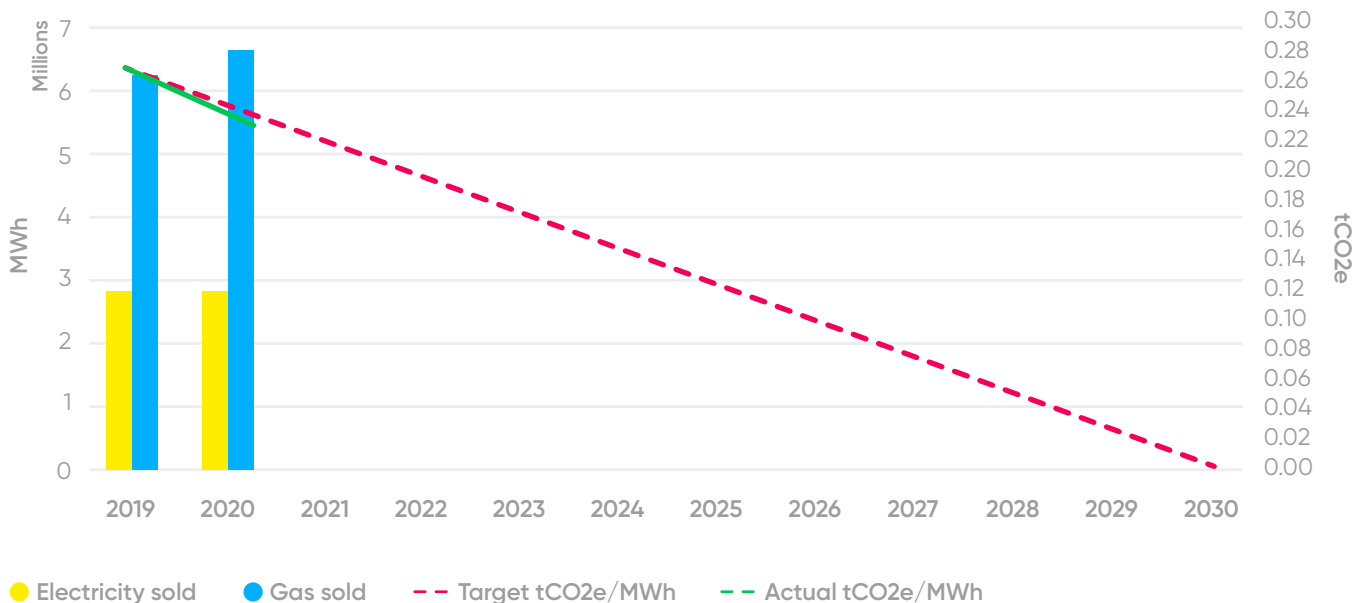
average occupancy across all our buildings was 13% of full capacity. Emissions from the supply chain of diesel increased due to more diesel used in buildings and emissions from gas sold increased as we sold more gas in 2020 compared with 2019.

As with Scope 1 & 2 emissions the challenge in 2021 and beyond is going to be sustaining these reductions and balancing staff and customer wellbeing. Nevertheless, by purchasing REGOs and the impact of the COVID-19 pandemic meant we overachieved the 2020 scope 3 target on the road to net zero by 0.48%.

In 2020 we sold 9,451,924 MWh (gas and electricity combined) and produced 2,298,555 tCO₂e of Scope 3 emissions. We sold 4.16% more energy, but our Scope 3 emissions reduced by 6.33%. This means the amount of carbon per MWh sold (tCO₂e/MWh), or carbon intensity was lower in 2020 than in 2019.

In 2019 our Scope 3 emissions had a carbon intensity of 0.2704 tCO₂e/MWh. To meet our 2020 target this needed to reduce by 9.1%, to 0.24582 tCO₂e/MWh. In 2020 our Scope 3 emissions resulted in a carbon intensity of 0.24463 tCO₂e/MWh of energy sold, a 9.53% decrease from 2019.

2020 SCOPE 3 EMISSIONS: CARBON INTENSITY OF ENERGY SOLD



> 2020 Carbon Footprint

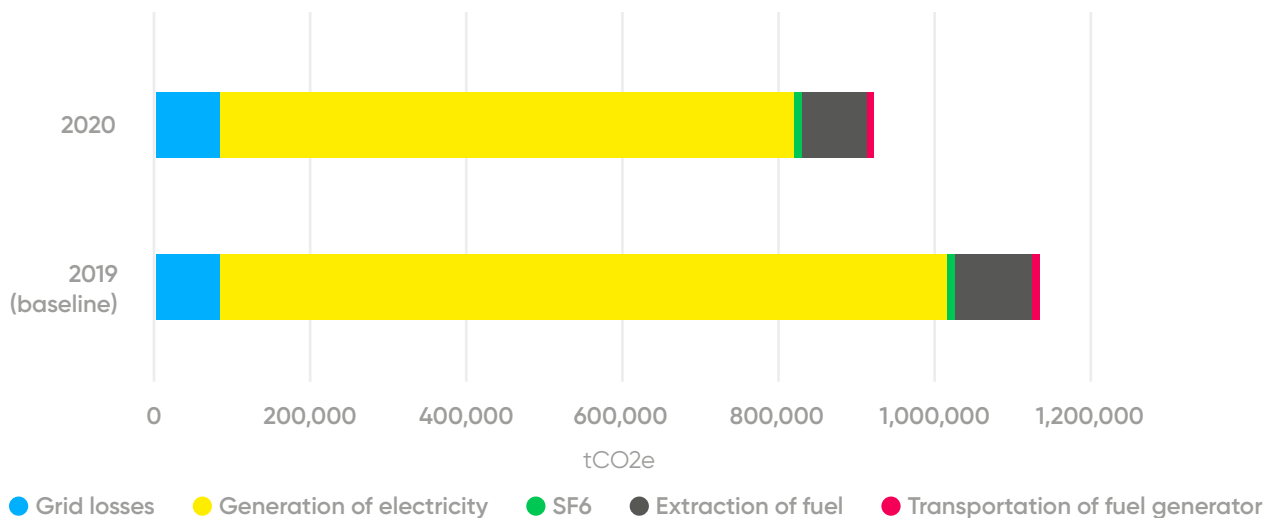
Even more detail

In this section we delve into some sources of emissions in even greater detail. We look at the supply chain of our new mobile offering, different modes of transport for employee commuting and business travel, the emission sources per building, and a breakdown for employee expenses and procurement activity. We also look at the supply chain of the energy we sell. This transparency helps us to target specific parts of a supply chain when creating plans to meet our net zero targets.

For example, it is possible to see the proportion of emissions from gas sold that occur when pumping Natural Gas out of the ground and transporting it to customers' homes compared with burning it in the home. Likewise for electricity, we can see what proportion of emissions come from producing the fuel used to generate the electricity or transporting the electricity on overhead cables from the generation stations to our homes.

ELECTRICITY

ELECTRICITY SUPPLY CHAIN EMISSIONS



Emission source	2019 (baseline)	2020	Change %
Grid losses	86,845	95,752	10%
Generation of electricity	928,861	714,858	-23%
Extraction of fuel	101,889	92,080	-10%
Transportation of fuel to generator	8,660	7,929	-8%
SF6	3,283	3,260	-1%
Total	1,129,537	913,879	-19%

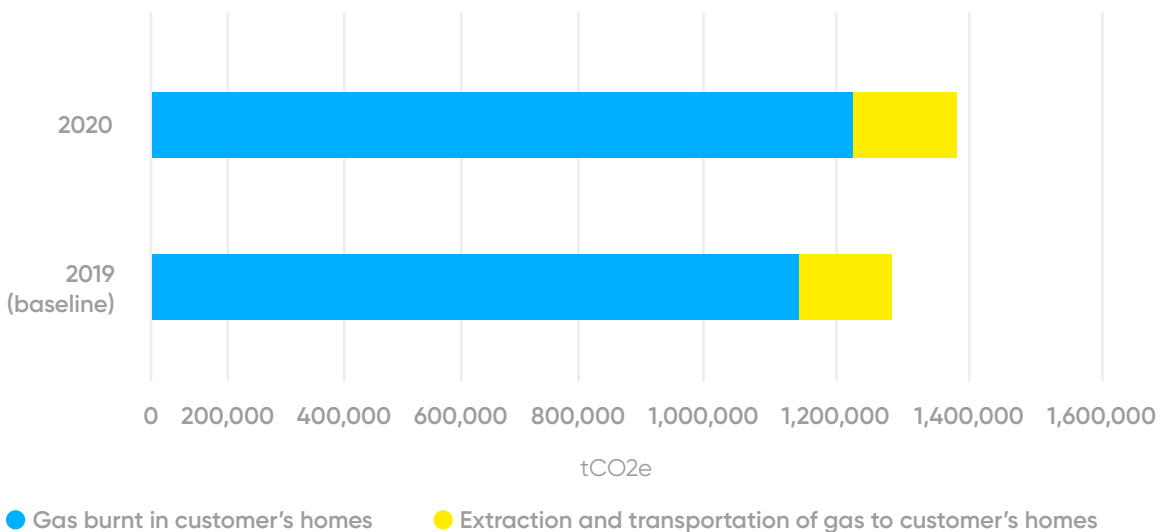
CONTINUED →

The largest part of the electricity supply chain is the generation of electricity, caused by the combustion of fuels such as natural gas to generate electricity. In 2020, REGOs offset some emissions from generating electricity. More electricity was sold in 2020 than in 2019, so grid losses grew proportionately, being the only part of the supply chain to increase in 2020 compared to 2019. More renewable electricity was 'purchased' through REGOs

in 2020 than in 2019, so less fuel was extracted and transported. Sulphur Hexafluoride (SF6) is a gas used in overhead transportation electricity cables to reduce grid losses. However, a proportion of it escapes each year. It is 23,500 times more powerful at causing global warming than Carbon Dioxide. Although a small amount is emitted each year it is an important part of the supply chain to monitor.

GAS

GAS SUPPLY CHAIN EMISSIONS



Emission source	2019 (Baseline)	2020
Gas burnt in customers' homes	1,142,920	1,211,649
Extraction and transportation of gas to customers' homes	148,639	157,560
Total	1,291,559	1,369,208

The largest part of the gas supply chain is the burning of gas in the homes of our customers, mostly in gas boilers to heat homes and in cooking. Getting the gas out of the ground, refining, and transporting it to households is around 13% of the total footprint. Emissions from gas sold increased by 6% in 2020. As emission from the supply chain are contingent on the volume sold, the supply chain element also increased by 6%.

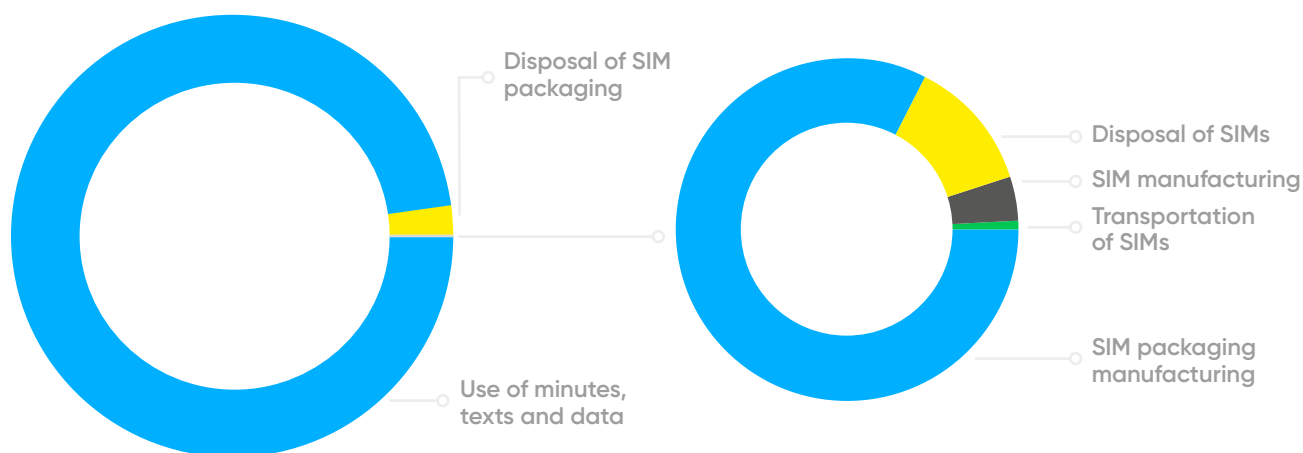


UTILITA MOBILE

Utilita Mobile is included for the first time in this report, as 2020 was the first year this new service was offered. The most significant source of emissions was minutes, texts, and data we sold. These emissions occur from the electricity used by datacentres and from BT Openreach’s physical network. The second largest source was the packaging used to send the SIMs to customers. This used virgin

cardboard and is laminated. It goes to landfill as it cannot be recycled, composted, or anaerobically digested. Further emissions came from manufacturing SIMs and SIM packaging, transporting SIMs from manufacturer to customer and the disposal of SIMs at the end of their life. SIMs end up in landfill because they are made of multiple materials and require specialist recycling facilities.

2020 UTILITA MOBILE BREAKDOWN



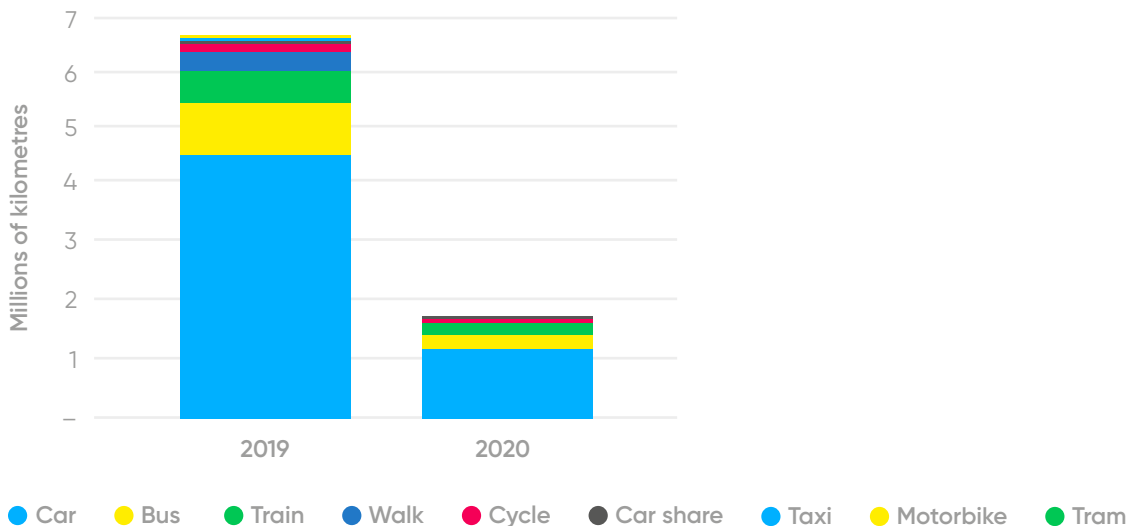
Source	tCO ₂ e
Use of minutes, texts and data	13,711
Disposal of SIM packaging	275
SIM packaging manufacturing	0.20
Disposal of SIMs	0.03
SIM manufacturing	0.01
Transportation of SIMs	0.002
Total	13,986.242



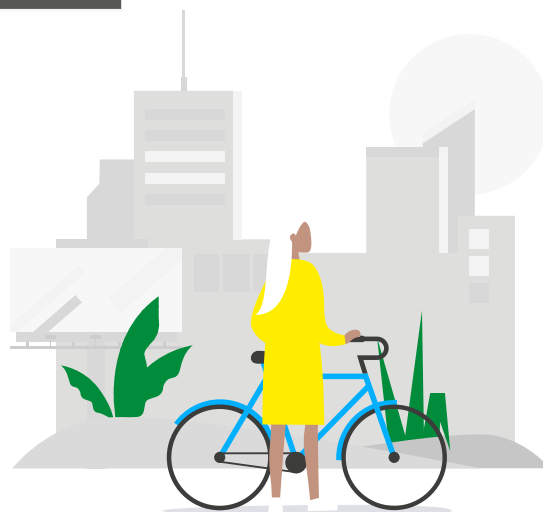
EMPLOYEE COMMUTING

As expected, COVID-19 had a large effect on emissions from commuting as flexible home working removed the need to commute. Overall, total kilometres commuted fell by 74%, with resulting emissions falling by 70%. Car was still the largest mode of transport.

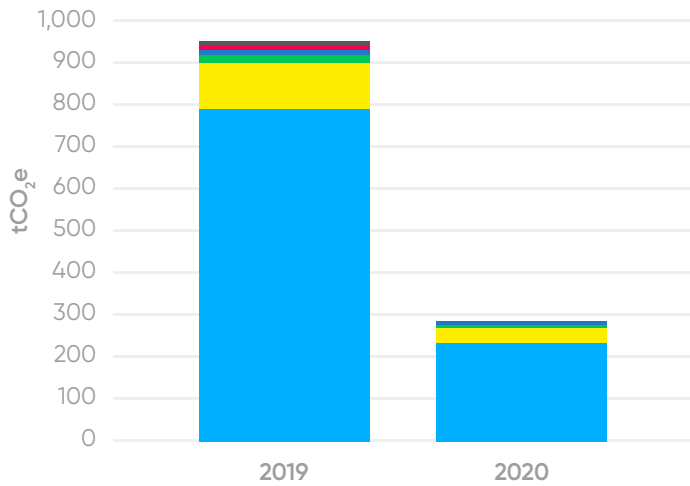
KILOMETRES COMMUTED



Mode of transport	2019	2020	Change
Car	4,479,477	1,084,016	-76%
Bus	1,070,800	242,636	-77%
Train	406,324	230,478	-43%
Walk	246,646	55,179	-78%
Cycle	98,080	27,690	-72%
Car share	64,842	513	-99%
Taxi	40,827	13,781	-66%
Motorbike	39,919	5,000	-87%
Tram	5,764	64	-99%
Tube	-	2,884	-
Total	6,452,679	1,662,242	-74%



EMISSIONS FROM COMMUTING



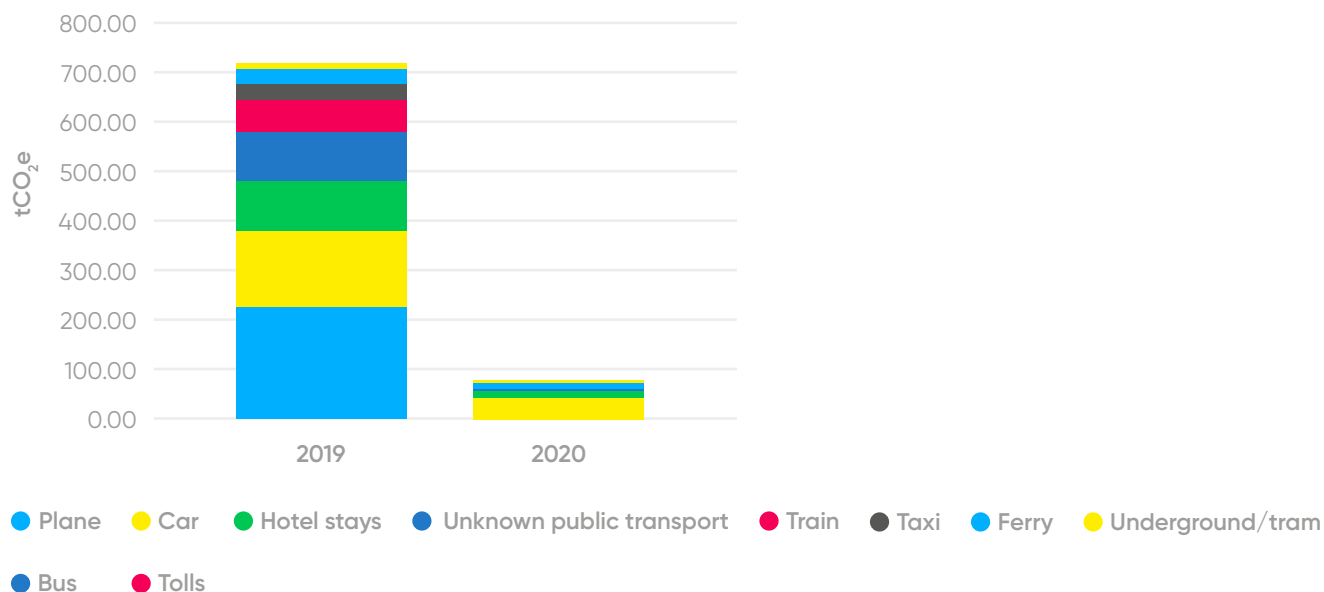
● Car
 ● Bus
 ● Train
 ● Taxi
 ● Car share
 ● Motorbike
 ● Tram

Mode of transport	2019	2020	Change
Car	793	234	-71%
Bus	112	31	-72%
Train	17	10	-39%
Taxi	6	2	-59%
Car share	6	0.1	-98%
Motorbike	5	0.7	-84%
Tram	0.2	0.002	-99%
Tube	-	0.097	-
Total	939	278	-70%



BUSINESS TRAVEL

As with commuting, business travel saw a large decrease in emissions resulting from the COVID-19 pandemic. Overall, total emissions fell by 90%.

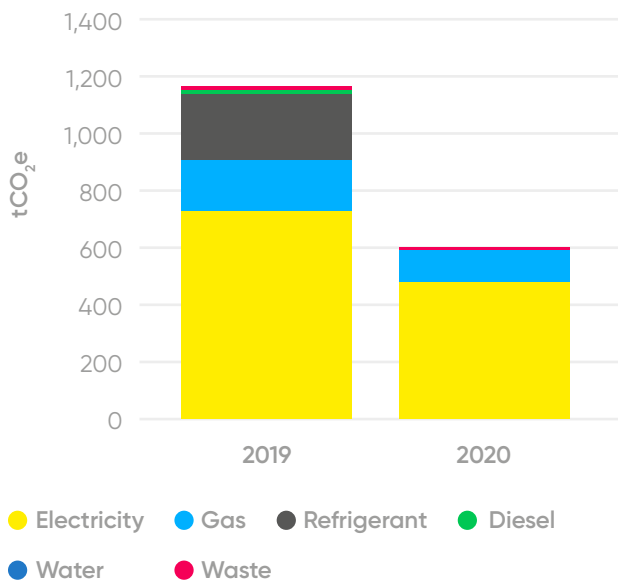


Mode of transport	2019	2020	Change
Plane	238.57	1.86	-99%
Car	140.78	38.03	-73%
Hotel stays	112.12	12.73	-89%
Unknown public transport	102.34	2.36	-98%
Train	69.69	0.01	-100%
Taxi	25.21	3.75	-85%
Ferry	22.46	10.33	-54%
Underground/Tram	1.79	0.34	-81%
Bus	0.82	1.09	32%
Tolls	0	0.07	100%
Total	713.8	70.6	-90%

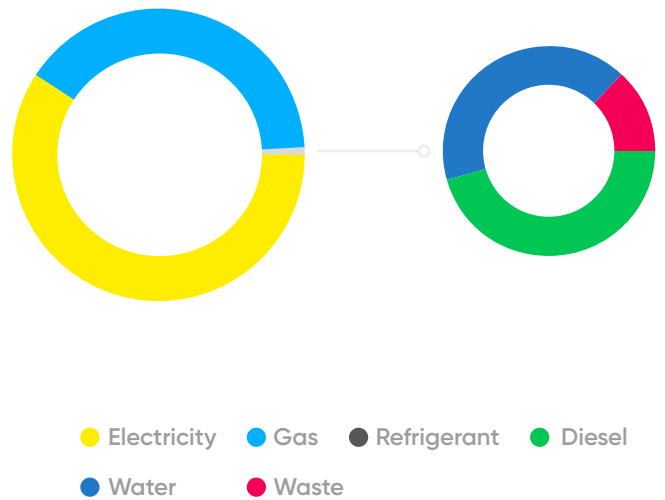


EMISSIONS BY BUILDING

EMISSIONS FROM BUILDINGS

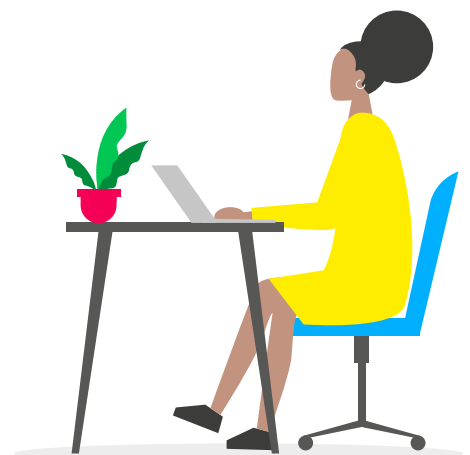


HUTWOOD COURT EMISSIONS



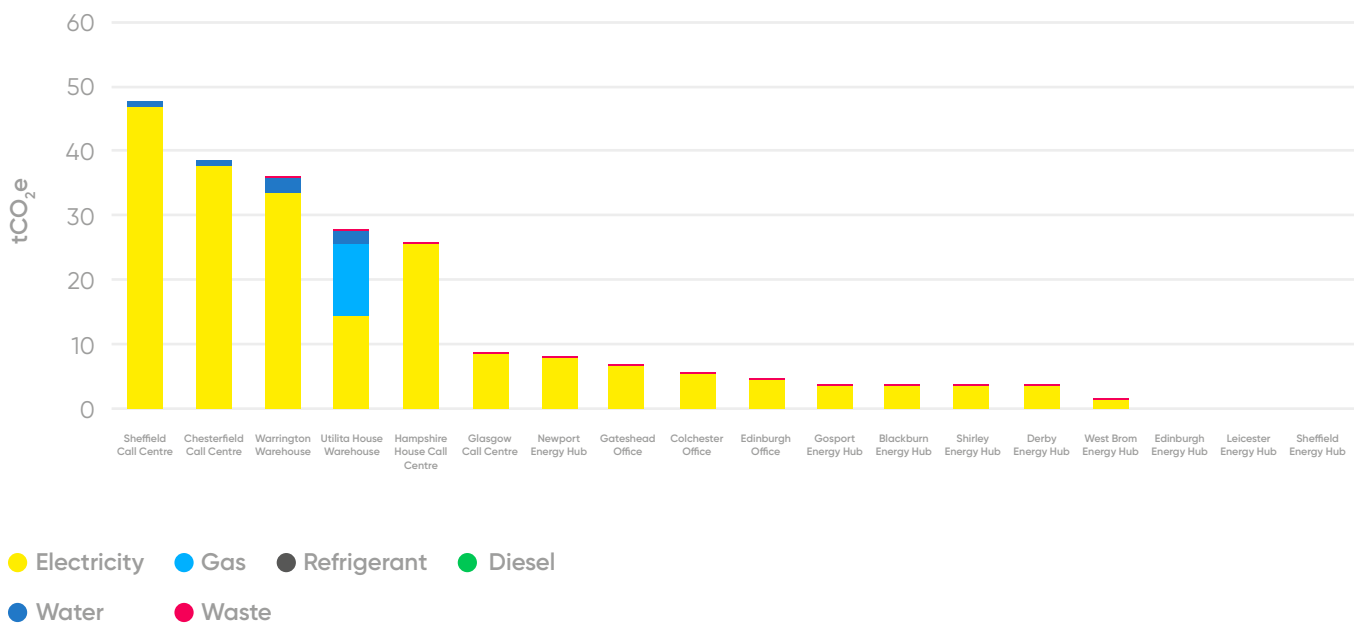
Our headquarters, Hutwood Court made up 62% of all emissions from buildings. In all sources apart from water, Hutwood Court accounted for more than 50% of emissions.

Emission source	Hutwood court share of total emissions from buildings	tCO ₂ e
Electricity	53%	242.4
Gas	92%	122.1
Refrigerant	0%	0
Diesel	100%	1.3
Water	22%	1.0
Waste	52%	0.7
Total	62%	367.5



Building	Emission Source (tCO ₂ e)						Total
	Electricity	Gas	Water	Waste	Diesel	Refrigerants	
Hutwood Court Office	242	122	1	1	1	0	367
Sheffield Call Centre	48	0	0	0	0	0	48
Chesterfield Call Centre	47	0	0	0	0	0	47
Warrington Warehouse	32	0	2	0	0	0	34
Utilita House Office	14	10	1	0	0	0	26
Hampshire House Call Centre	25	0	0	0	0	0	25
Glasgow Call Centre	10	0	0	0	0	0	10
Newport Hub	7	0	0	0	0	0	7
Gateshead Office	6	0	0	0	0	0	7
Colchester Office	5	0	0	0	0	0	5
Edinburgh Office	4	0	0	0	0	0	4
Gosport Hub	3	0	0	0	0	0	3
Blackburn Hub	3	0	0	0	0	0	3
Shirley Hub	3	0	0	0	0	0	3
Derby Hub	3	0	0	0	0	0	3
West Bromwich Hub	1	0	0	0	0	0	1
Edinburgh Hub	0	0	0	0	0	0	0
Leicester Hub	0	0	0	0	0	0	0
Sheffield Hub	0	0	0	0	0	0	0
Total	454	133	5	2	1	0	594

EMISSIONS PER BUILDING (NOT INCLUDING HUTWOOD COURT)



EXPENSES AND PROCUREMENT

Below are the emissions from employee expenses and procurement activity once expenditure related to emissions already accounted for is removed. This was calculated by categorising each supplier we spent with

into a DEFRA emissions category, available [here](#). Each DEFRA category has a tCO₂e/£ emissions factor associated to it. Total spend in each category was multiplied by the relevant emissions factor to return total emissions.

DEFRA emissions category	tCO ₂ e	Share
Road transport	184.6	22%
Libraries, archives, museums and other cultural services	150.9	18%
Architectural and engineering services; technical testing and analysis services	126.8	15.1%
Postal and courier services	57.8	6.9%
Other food products	49.8	5.9%
Electrical equipment	49.3	5.9%
Advertising and market research services	41.0	4.9%
Other manufactured goods	24.0	2.9%
Food and beverage serving services	15.3	1.8%
Legal services	14.9	1.8%
Computer programming, consultancy and related services	14.8	1.8%
Social care services	13.7	1.6%
Gas distribution ³	11.8	1.4%
Paper and paper products	11.4	1.4%
Wearing apparel	9.5	1.1%
Office administrative, office support and other business support services	8.8	1.0%
Other transport equipment - 30.2/4/9	8.6	1.0%
Computer, electronic and optical products	8.3	1.0%
Rest of repair; Installation - 33.11-14/17/19/20	7.9	0.9%
Services of head offices; management consulting services	5.4	0.6%
Telecommunications services	4.2	0.5%
Wholesale and retail trade and repair services of motor vehicles and motorcycles	2.9	0.3%
Natural water; water treatment and supply services	2.5	0.3%
Printing and recording services	2.5	0.3%
Accounting, bookkeeping and auditing services; tax consulting services	2.4	0.3%
Construction	1.8	0.2%
Education services	1.2	0.1%

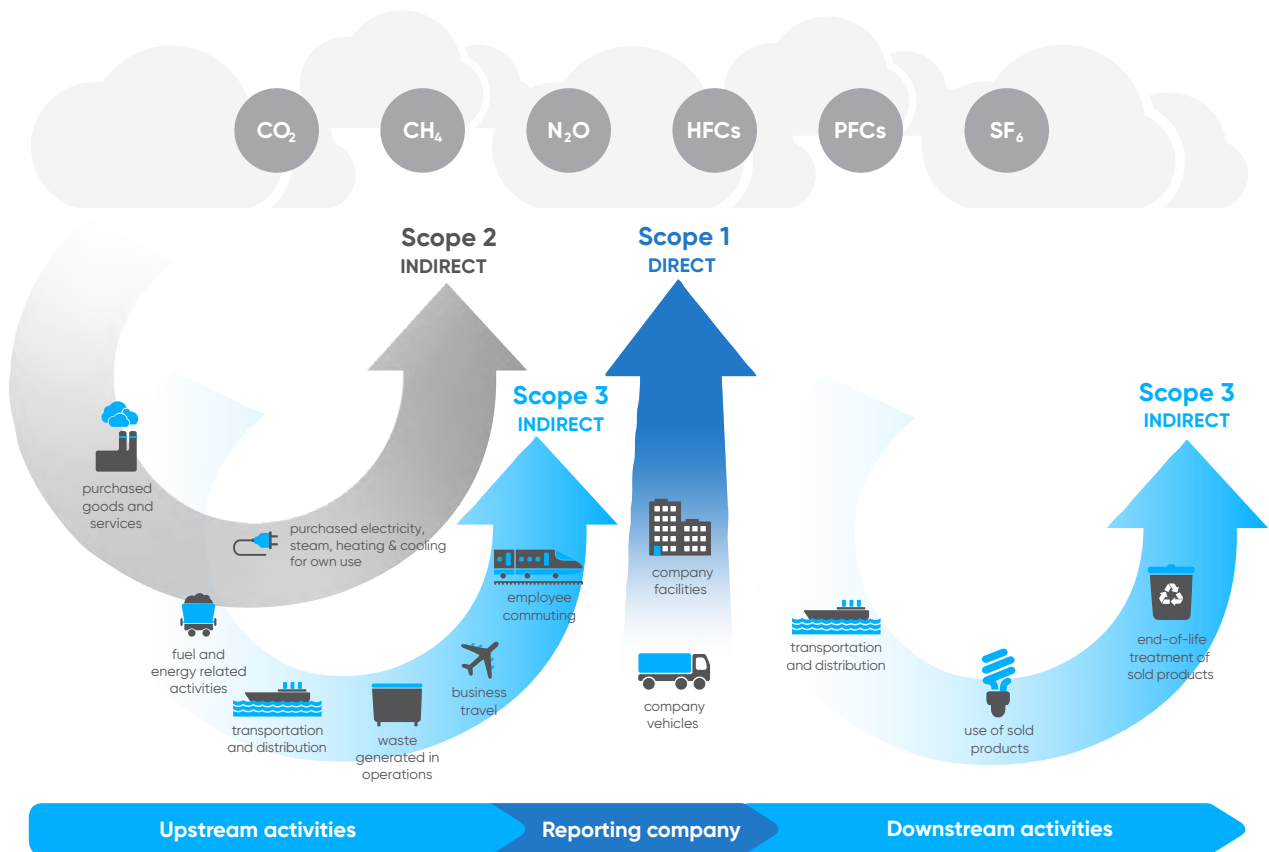
CONTINUED →

DEFRA emissions category	tCO ₂ e	Share
Motion picture, video and TV programme production services, sound recording & music publishing & programming and broadcasting services	0.9	0.1%
Services furnished by membership organisations	0.9	0.1%
Services to buildings and landscape	0.8	0.1%
Other professional, scientific and technical services	0.7	0.1%
Retail trade services, except of motor vehicles and motorcycles	0.7	0.1%
Human health services	0.7	0.1%
Other personal services	0.6	0.1%
Machinery and equipment n.e.c.	0.5	0.1%
Accommodation services	0.5	0.1%
Public administration and defence services; compulsory social security services	0.5	0.1%
Sports services and amusement and recreation services	0.4	0.1%
Security and investigation services	0.3	0.03%
Services auxiliary to financial services and insurance services	0.3	0.03%
Financial services, except insurance and pension funding	0.2	0.03%
Waste collection, treatment and disposal services; materials recovery services	0.1	0.02%
Wholesale trade services, except of motor vehicles and motorcycles	0.1	0.02%
Information services	0.1	0.01%
Furniture	0.1	0.01%
Publishing services	0.04	0.01%
Real estate services on a fee or contract basis	0.03	0.004%
Repair services of computers and personal and household goods	0.01	0.001%
Real estate services, excluding on a fee or contract basis and imputed rent	0.01	0.001%
Total	840.59	100%

> Appendix 1: Emission by Greenhouse Gas Protocol categories

Not all categories are relevant to Utilita's operations. We simply don't do some of the activities of upstream and downstream Scope 3 emissions. So, before we start calculating

emissions, we must rule out some of the categories. The below diagram shows which categories remain relevant to Utilita:



Scope 3 category	tCO ₂ e	Comments
Category 1 - Purchased Goods and Services	14,605	
Category 2 - Capital Goods		Capital goods purchased were already included in Category 1. The procurement data provided by Utilita to ecoact for category 1 contained expenditure on capital goods.
Category 3 - WTT and T&D	972,485.5	
Category 4 - Upstream Transportation and Distribution	164.11	
Category 5 - Waste	1.7	
Category 6 - Business Travel	70.5	
Category 7 - Employee Commuting	278.33	
Category 8 - Upstream Leased Assets		Upstream leased assets were already included in Category 1. The procurement data provided by Utilita to ecoact for category 1 contained expenditure on upstream leased assets.
Category 9 - Downstream Transportation and Distribution	99,012.77	
Category 10 - Processing of Sold Products		Utilita's products are not processed downstream, so this category is not relevant.
Category 11 - Use of Sold Products	1,225,360.01	
Category 12 - End-of-Life Treatment of Sold Products	275.09	
Category 13 - Downstream Leased Assets		No assets leased by Utilita that have not already been included in Scope 1 and 2.
Category 14 - Franchises		Utilita does not have any franchises.
Category 15 - Investments		Utilita does not have any investments.

> Appendix 2: Alternative Calculations for Scope 3 Category 3: Electricity Sold

Instead of offsetting emissions by purchasing REGOs, Utilita believes there are two alternative calculations for these emissions. We believe these are more equitable and closer to the true environmental impact of electricity used by customers.

2.1 THE SUBSIDY METHOD

Electricity customers pay a levy of about £0.24 of every £1 spent on electricity. This levy gets paid to renewable electricity generators to make them more competitive than fossil fuels. Utilita and its customers pay for this green electricity so they should be getting it. Not doing this is inequitable and doesn't represent the true environmental impact of electricity used by our customers.

We calculated how much renewable electricity is generated by Utilita and its customers paying these subsidies, then calculated the resulting carbon footprint and compared it to the footprint in the main body of this report, which uses the current rules.

There are three subsidy schemes which total the £0.24 of every £1. The Renewables Obligation (RO), Feed in Tariff (FiT), and Contracts for Difference (CfD). Each one has a different calculation to determine the total electricity supplied.

2.11 RO

Using the publicly available report from [Ofgem's Renewable and CHP Register](#) we multiplied the number of RO certificates issued per generator by the MWh per certificates to derive MWh of RO backed renewable electricity generated per generator. Then multiplied the sum of MWh per generator by the average of Utilita's market share (average of market share from FiT and CfD schemes, see section 2.12 below). This resulted in Utilita's share of RO backed generation. Dividing this by the loss factor

taken from the most recent [BEIS Fuel Mix Disclosure Table](#) results in total MWh used by Utilita's customers back by the RO scheme:

- ✓ RO MWh = 75,711,436
- ✓ Utilita market share = 1.13%
- ✓ Utilita RO MWh generation = $853,095 \times 1.12511$ loss factor
- ✓ Utilita RO MWh supplied = 758,233

2.12 FIT & CFD

First, we calculated Utilita's market share for FiT and CfD separately by taking Utilita's total eligible demand as a percentage of total eligible demand for each scheme, FiT and CfD.

We multiplied the market share figure by the total amount of electricity supplied for each scheme separately. Then factored for energy lost during transmission and distribution (T&D).

Total eligible demand is sourced from [Annex 4 of Ofgem's Default Tariff Price Cap model](#). Total amount of electricity supplied by FiT and CfD accredited generators is sourced from the [annual FiT reports](#) and [The Low Carbon Contracts Company's Dashboards](#), respectively. The loss factor is taken from [BEIS Fuel Mix Disclosure Table](#) for the relevant period.

- ✓ Total FiT eligible demand = 260,700,000 MWh
- ✓ Utilita FiT eligible demand = 2,859,822 MWh
- ✓ Utilita FiT market share = $2,859,822 \text{ MWh} / 260,700,000 \text{ MWh} = 1.1\%$
- ✓ Total FiT electricity generated = 9,133,000 MWh
- ✓ Utilita FiT electricity generated = $9,133,000 \text{ MWh} \times 1.1\% = 100,187 \text{ MWh}$
- ✓ Loss factor adjustment = $100,187 \text{ MWh} / 1.12511\% \text{ loss factor}$
- ✓ Utilita FiT electricity supplied = 89,046.42

- ✓ Total CfD eligible demand = 272,268,063 MWh
- ✓ Utilita CfD eligible demand = 3,148,959 MWh
- ✓ Utilita CfD market share = 272,268,063 MWh / 3,148,959 MWh = 1.16%
- ✓ Total CfD electricity generated = 23,191,036 MWh
- ✓ Utilita CfD electricity generated = 23,191,036 MWh x 1.16% = 268,220 MWh
- ✓ Loss factor adjustment 268,220 MWh / 1.12511% loss factor
- ✓ Utilita FiT electricity supplied = 238,394 MWh

- ✓ **Total green electricity Utilita and its customers have paid for: 758,233 MWh (RO) + 89,046 MWh (FiT) + 238,394 MWh (FiT) = 1,085,673 MWh**

2.13 RESULTING CARBON FOOTPRINT

What is 1,085,673 MWh as a share of Utilita total supply?

$$1,085,673 \text{ MWh} / 2,862,294 = 38\%$$

So Utilita and its customers paid for 38% of its electricity to come from renewable sources. This would result in the below fuel mix, assuming all other electricity sources fall proportionately based on the [BEIS Residual Fuel Mix](#):

Source	Share %
Coal	4.26%
Natural gas	48.68%
Nuclear	5.54%
Renewables	38%
Other fuels	3.52%

Using the g/kWh figures contained in [BEIS Residual Fuel Mix](#), the carbon intensity for this fuel mix would be 255gCO₂/kWh.

Then multiply 255gCO₂/kWh by total kWh of electricity sold and divide by 1,000,000 to convert from grams of CO₂ to tonnes of CO₂, resulting in total tCO₂ from electricity sold.

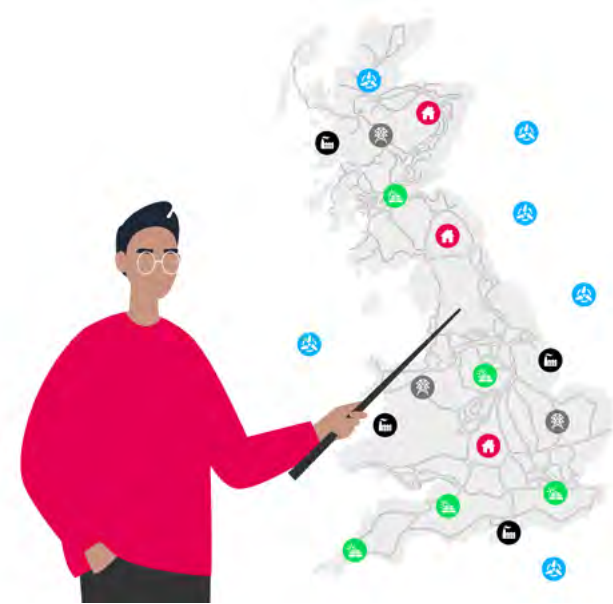
$$(255 \times 2,862,293,831) / 1,000,000 = 729,617 \text{ tCO}_2$$

This is 32.4% lower than the figure reported in the main body of this report of 1,079,128.

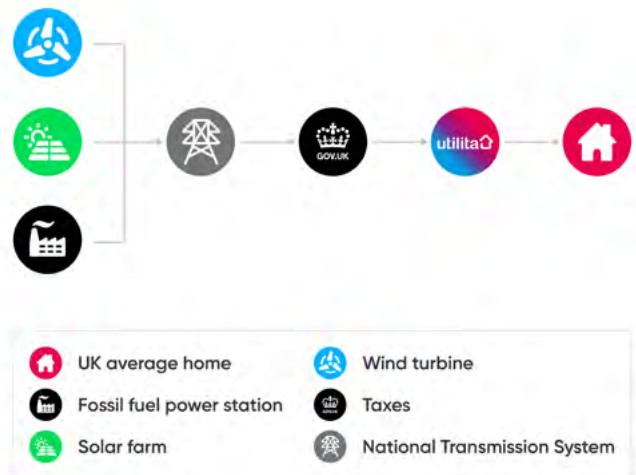
This shows that customers are not seeing the true positive influence of the green electricity they are paying for through subsidies. It also shows using subsidised renewable electricity to present a greener fuel mix does not result in the additional decarbonisation often claimed. Renewable electricity used to decarbonise supply beyond what has been generated because of subsidies must be unsubsidised to be truly additional. If it is not, each customer decision to buy a green tariff is undermined because each "green" tariff has half the positive environmental impact claimed.

2.2 THE SUPPLY METHOD

The subsidy method and the method used in the main body of this report are both net zero calculations. They quantify the carbon intensity and resulting initial environmental impact of a fuel mix if no renewable electricity were supplied. Subsequently, the volume of renewable electricity generated from buying REGOs or paying for subsidies is applied to offset the initial environmental impact.



But this isn't what happens in the real world. Minute by minute electricity is being generated from fossil fuel power stations, wind turbines, solar panels, and hydroelectric dams. This all gets mixed up, transported along the National Transmission System, and eventually supplied to our homes:



Previously it wasn't possible to know the final mix of electricity supplied to homes. But thanks to innovation by [National Grid](#), now we can. So, rather than assuming no renewable electricity has been supplied and then offsetting the environmental impact later we can understand the true mix of electricity sources consumed by our customers and therefore its true environmental impact. This means we can more accurately reduce our carbon footprints.

To complete this calculation Utilita took the half hourly electricity grid carbon intensity data available from [National Grid](#) and multiplied it by Utilita's half hourly allocation data to provide a total carbon footprint for every half hour of every day of the year.

The total carbon footprint resulting from this method is 588,660 tCO₂. This is 45.5% lower than the figure reported in the main body of this report. This shows that customers are not seeing an electricity fuel mix reflective of the real world.