

# The Roastery Sustainability Report 2018

**ORIGIN**

## ENVIRONMENTAL AUDIT 2018

Sustainability is a critical part of our ethos, which is why we follow a Direct Trade sourcing model, ensuring a high level of corporate responsibility in sourcing and supply chain management.

Our pursuit of sustainable working practices is, of course, key here at home in the UK too (which is why we employ a qualified Sustainability Officer – we're not just about lip service, we're serious about being a sustainable business). As Origin grows, so too does our energy consumption and emissions so it's really important to us to have clear intentions for their management and reduction. That's the purpose of this document. Here we establish our current energy usage and emissions and put in place measures to reduce them.

Following a first audit at the Roastery in 2016, we've collected data for 2017 and 2018. 2016 has been used as a base year for comparison. We show how our usage of various aspects has changed since 2016, likely reasons and recommendations for the next year. It aims to provide a summary of where we are in terms of using natural resources and emitting Carbon Dioxide. A 'Carbon Footprint' has been calculated to quantify our impact on the environment.

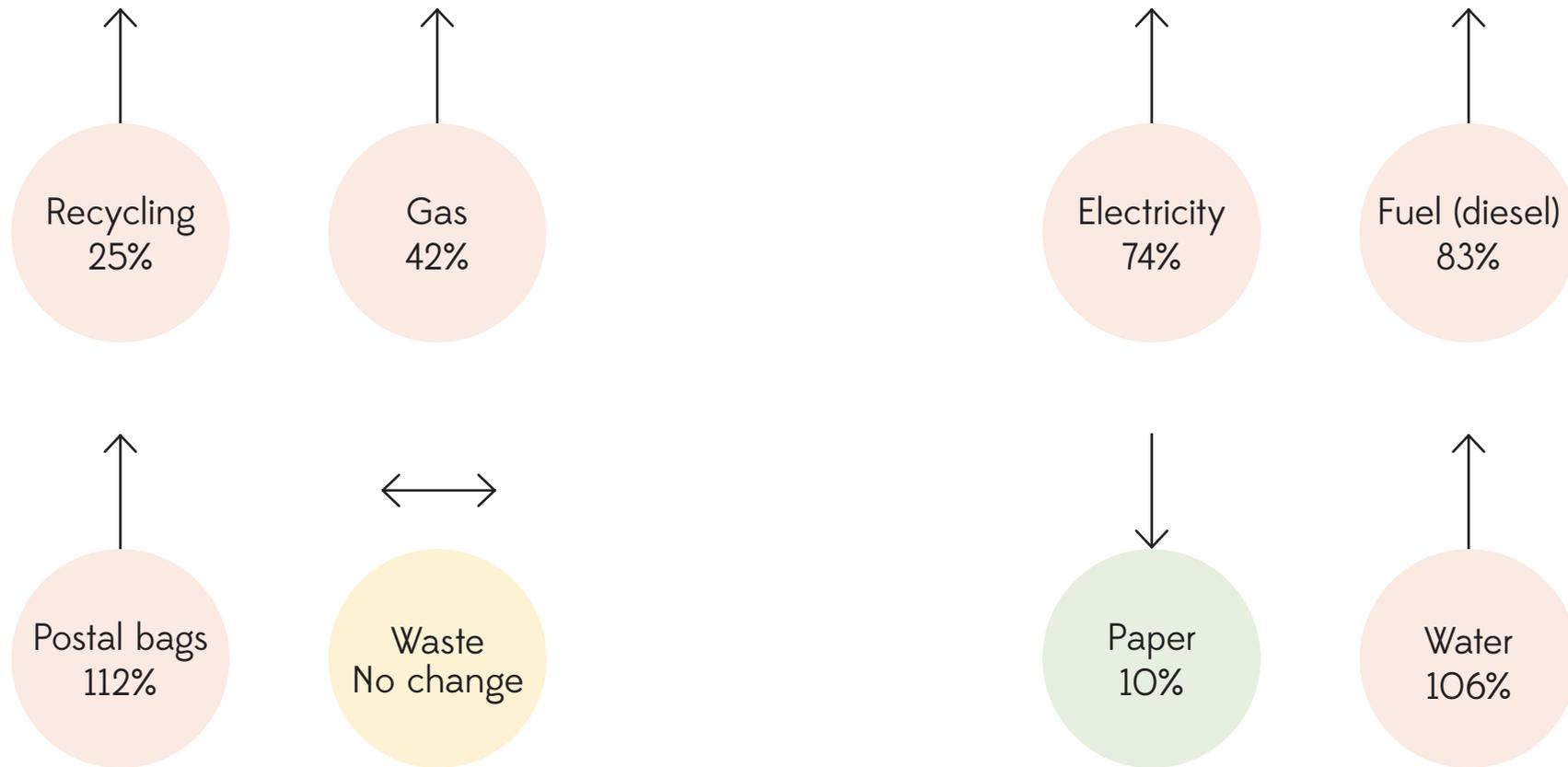
It's not fully comprehensive – we'll keep adding to it over time – but it's a marker in the ground, clearly demonstrating what we're working to achieve. We plan to update this on an annual basis, keeping a close eye on consumption and emissions and keeping on track to ensure management and reduction.

## SUMMARY

- Origin is now zero to landfill. All of our waste is either recycled or sent to waste to energy plants. This is true across all sites.
- The Roastery has kept the same number of waste collections by finding ways to reduce waste and increasing recycling collections.
- We buy 100% green electricity across all sites except Charlotte Road and Harbour Head which are in long contracts (they will be changed over at the end of their contractual periods).
- We support the development of green gas in the UK by purchasing our gas for The Roastery from Ecotricity who are building the UK's first large scale green gas plants.
- Since introducing "2Op off" coffees in our shops when using a reusable cup, we have used 21% less single use takeaway cups at Charlotte Road.
- We sold 2.5 x more KeepCups in 2018 than 2017.
- We offer compostable takeaway cups and food containers along with paper straws, where applicable.
- Business travel is responsible for 60% of our carbon footprint.
- Our carbon footprints for our domestic (UK) flights is equal to half the total of all other operations at The Roastery including fuel cards – 41 tonnes of CO<sub>2</sub>e.
- Using the train instead of a plane would produce 7 x LESS CO<sub>2</sub>e.
- Our spend on fuel cards has doubled in 2 years, prices have not changed, we are using twice as much diesel (11,000 litres in 2018), responsible for 29 tonnes of CO<sub>2</sub>e.

# FIGURE 1

HOW HAS OUR DEMAND CHANGED BETWEEN 2016 AND 2018?



## CARBON FOOTPRINT

### WHAT IS A CARBON FOOTPRINT?

A carbon footprint measures the total greenhouse gas emissions caused directly and indirectly by a person, organisation, event or product<sup>1</sup> and is measured in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e)<sup>2</sup>.

This environmental audit is an “Organisational Carbon Footprint” which encompasses emissions from all the activities across an organisation, including the Roastery’s energy use, the roasting process and company vehicles. There are some exceptions and limitations to this which are highlighted throughout the report.

A future aim would be to produce a “Product Carbon Footprint” which would assess emissions of the whole life cycle of the coffee. From the growing of the raw materials, to the roasting through to its use and final reuse, recycling or disposal.

<sup>1</sup> The Carbon Trust, <https://www.carbontrust.com/resources/guides/carbon-footprinting-and-reporting/carbon-footprinting> (Accessed 26/9/16)

<sup>2</sup> As defined by the UK Government as “A universal unit of measurement used to indicate the global warming potential of a greenhouse gas, expressed in terms of the global warming potential of one unit of carbon dioxide. It is used to evaluate the releasing (or avoiding releasing) of different greenhouse gases against a common basis”. [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69282/pb13309-ghg-guidance-0909011.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69282/pb13309-ghg-guidance-0909011.pdf) (Accessed 14/11/16)

## THE GREENHOUSE GAS PROTOCOL STANDARD

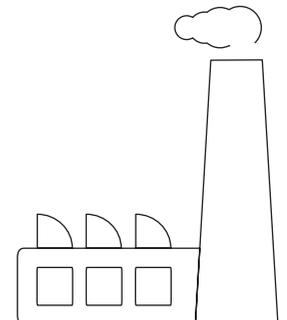
This guidance sets out how an organisation should account for their emissions and categorises them into 3 groups or ‘scopes’.

**SCOPE 1:** Direct activities resulting from activities within Origin’s control for example on-site fuel combustion (eg. Roasters, boilers), manufacturing and process emissions and company vehicles.

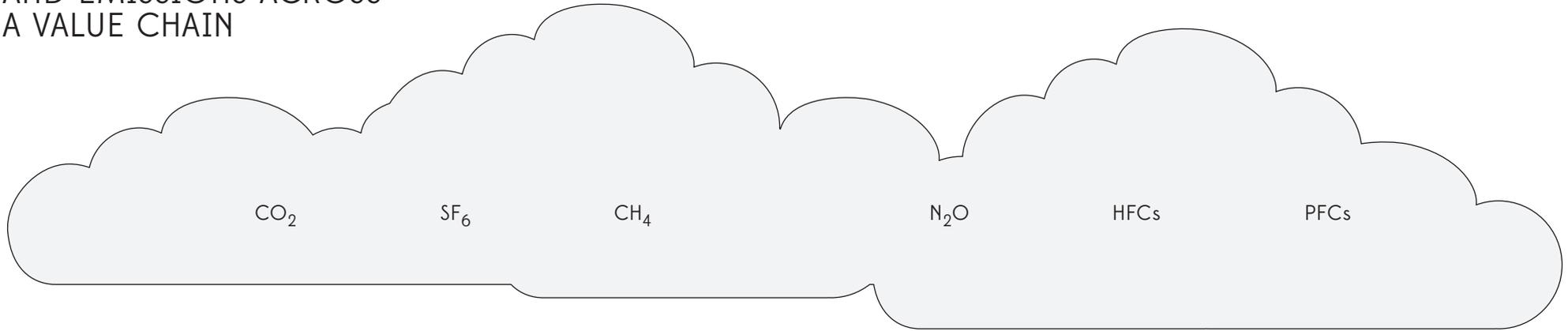
**SCOPE 2:** Indirect emissions from any electricity or heat used. Although we are not directly in control of the emissions, by using the energy we are indirectly responsible for the release of CO<sub>2</sub>.

**SCOPE 3:** Any other indirect emissions from sources outside of our control for example business travel by means not owned or controlled by Origin, outsourced transportation, purchased materials, waste disposal and water consumption.

All organisational footprints must include scope 1 and 2 emissions, it is optional to include relevant scope 3 emissions.



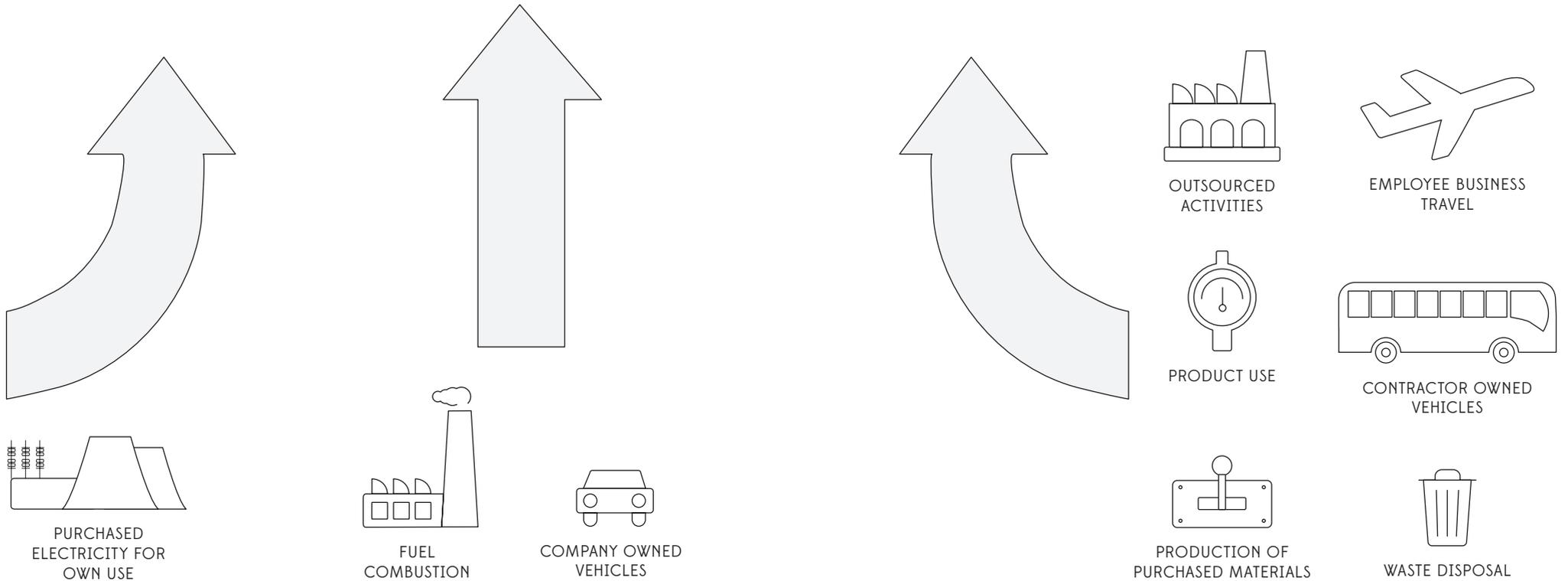
# OVERVIEW OF SCOPES AND EMISSIONS ACROSS A VALUE CHAIN



**SCOPE 2**  
INDIRECT

**SCOPE 1**  
DIRECT

**SCOPE 3**  
INDIRECT



## WHAT IS A TONNE OF CO<sub>2</sub>?

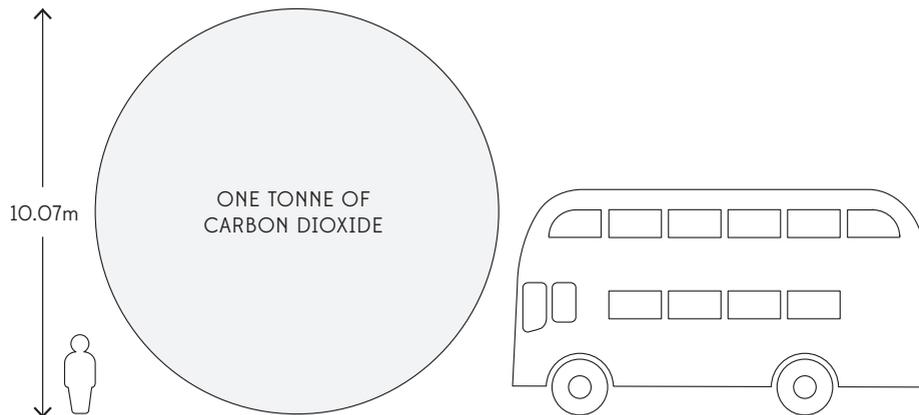
1 tonne of CO<sub>2</sub> is produced by driving a car for 3,001 miles or travelling by train for 10,321 miles.

Our total annual emissions of CO<sub>2</sub> at The Roastery is 120 tonnes (a detailed breakdown of this is provided in the next section of the report).

## WHY CALCULATE OUR CARBON FOOTPRINT?

Quantifying our greenhouse gas emissions sources will help us to understand what impact our organisation is having on climate change.

By calculating our carbon footprint we can take steps towards reducing it. It will enable us to identify and prioritise areas for reducing emissions.



## THE SCOPE OF THIS AUDIT

This audit aims to quantify the direct and indirect emissions resulting from the processing of green coffee along with the head office activities based at The Roastery in Helston. The reporting period spanned January to December 2018.

### TABLE 1

ORIGIN'S ACTIVITIES INCLUDED IN EACH SCOPE AS DEFINED BY THE GREENHOUSE GAS PROTOCOL

SCOPE 1 EMISSIONS	SCOPE 2 EMISSIONS	SCOPE 3 EMISSIONS
Fuel used by company vehicles	Electricity purchased	General Waste
	Gas purchased	Recycling collected
		Copier paper
		Water & sewerage
		Domestic air travel

## TABLE 2

ONSITE ACTIVITIES AT THE ROASTERY AND THEIR ASSOCIATED CARBON DIOXIDE EQUIVALENT EMISSIONS

ACTIVITY/SERVICE/PRODUCT	USAGE/PRODUCTION PER YEAR	EMISSIONS (tCO <sub>2</sub> e)
Domestic Air Travel		41
Gas	227 MW/hs	37
General Waste	104 Large bins	0.1
Fuel Cards (Diesel)	11,000 litres	29
Electricity	47 MW/hs	13
Recycling	65 Large Bins	0.04
Water & Sewerage	192 m <sup>3</sup>	0.2
Copier Paper	57,000 sheets	0.2
		<b>TOTAL - 120</b>

## KEY PERFORMANCE INDICATORS

TONNES OF CO<sub>2</sub>e PER EMPLOYEE

In 2018 there are 21.5 FTE at The Roastery. As shown in Table 2 the total emissions from The Roastery were 120 tCO<sub>2</sub>e.

### TABLE 3

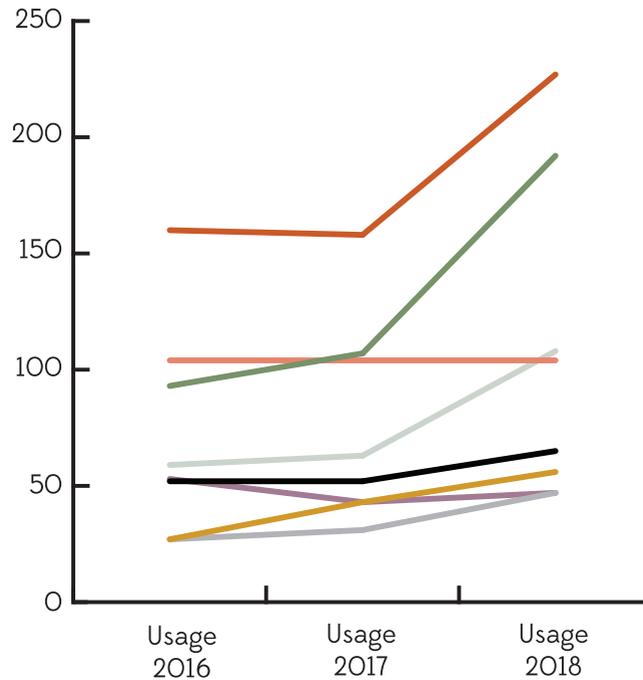
TONNES OF CO<sub>2</sub>e PER FTE (FULL TIME EMPLOYEE)

2016	2018	2018 INC AIR TRAVEL
4.4	3.7	5.5

Comparing 2016 and 2018 totals excluding air travel shows a reduction of 19% in tCO<sub>2</sub>e per FTE, however as is discussed later in the report this is less to do with actions of Origin and more to do with the change in the UK electricity supply and the way our waste is disposed of in Cornwall.

# FIGURE 2

CHANGE IN USAGE 2016 TO 2018



	USAGE 2016	USAGE 2017	USAGE 2018
● Gas (MWH)	160	158	227
● Water (cubic metres)	93	107	192
● Waste (no. of bins)	104	104	104
● Fuel Cards (100 litres diesel)	59	63	108
● Recycling (no. of bins)	52	52	65
● Postal Bags	27	43	56
● Electricity (MWH)	27	31	47
● Paper (1000s of copier sheets)	53	43	47

## DISCUSSION

There has been a significant increase in the amount of gas, electricity and diesel consumed between 2017 and 2018. Our consumption of water has doubled since 2016.

This correlates with the growth of the business and the increased number of staff in the office and on the road (engineers, sales reps and trainers).

To help mitigate the increased use of gas and electricity, as of 2019, we have switched our supplier to Ecotricity who provide us with 100% green electricity and 14% green gas.

## RECOMMENDATIONS

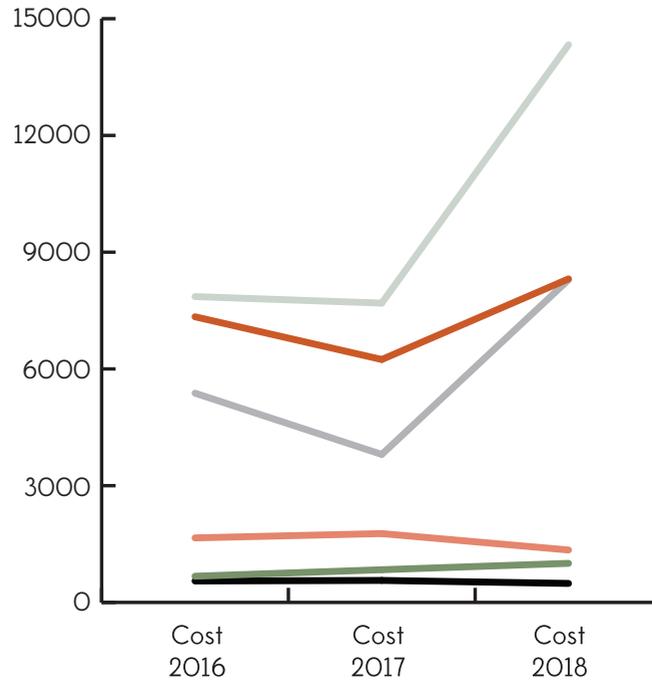
As the company grows we will continue to increase our use of fuels. It is important to evaluate options to generate our own electricity, more efficiently use the gas (for example use the heat from the roasters to warm the office space) and move our vehicle fleet to electric powered vehicles. We must continue to work hard to reduce the waste we put in the General Waste Bin, favouring the food waste and recycling bins (or not producing the waste in the first place). Paper is the only resource which we have used slightly less of.

Water shortage warnings are increasingly in the media, within 25 years England will not have enough water to meet demand. Origin should consider water saving devices and technology for all taps and toilets and use eco settings as a default on glass and dishwashers. Implementing rainwater harvesting would be worth investigating further.

\*See appendix A for more details\*

# FIGURE 3

CHANGE IN SPEND 2016 TO 2018



	COST 2016	COST 2017	COST 2018
● Fuel Cards	£7,859	£7,691	£14,330
● Gas	£7,340	£6,242	£8,314
● Electricity	£5,337	£3,803	£8,290
● Waste	£1,658	£1,769	£1,347
● Water	£673	£840	£1,004
● Recycling	£551	£565	£488

## DISCUSSION

Predictably, as our usage has increased so have our costs, apart from Waste and Recycling which have reduced due to changing waste provider. We have worked hard to divert our waste away from incineration/landfill by increasing our recycling collections (which are a fraction of the cost of a waste collection). The most significant increases are seen in Diesel, Gas and Electricity. Our fuel cards are now costing over £14,000 per year, double what we spent in 2017. Most costs decreased between 2016 and 2017 due to contracts/suppliers changing.

## RECOMMENDATIONS

We must continue to find more ways to reduce what we consume and divert rubbish away from the general waste bin. We have a food waste bin to collect coffee chaff and grounds (if they have not been collected by keen gardeners), along with any food waste from staff.

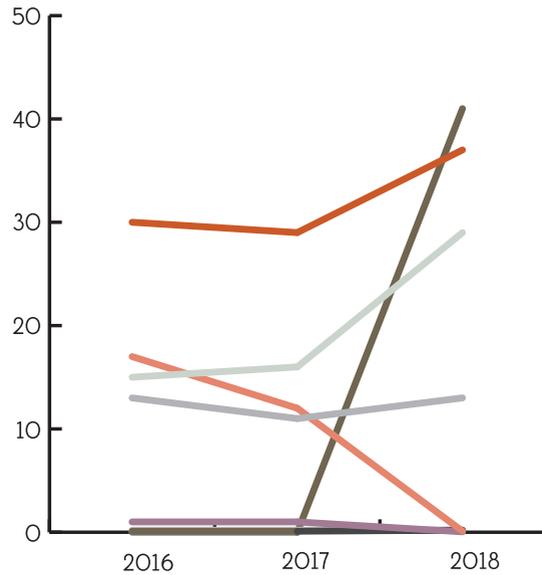
We will work towards finding alternative ways to generate gas and electricity to supplement the amount bought from the grid. This is likely to be a long-term project and there will be upfront costs required.

Once our current vehicle leases are up we will look to move towards electric vehicles. This is particularly relevant for London where journeys are likely to be frequent but short and where the infrastructure of charging points is greater.

\*See appendix A for more details\*

# FIGURE 4

CHANGE IN tCO2e<sup>1</sup> 2016 TO 2018



	2016	2017	2018
Gas	30	29	37
Fuel Cards	15	16	29
Electricity	13	11	13
Waste	17	12	0.1
Recycling	1	1	0.04
Water	0.1	0.1	0.2
Paper	0.2	0.2	0.2
Air Travel	0	0	41

## TOTAL ANNUAL tCO2e

2016	2017	2018	2018 EXC AIR TRAVEL
76	68	120	79

<sup>1</sup>t CO2e stands for tonnes of Carbon Dioxide equivalent

## DISCUSSION

Air travel has been included for the first time in 2018 and represents the greatest amount of tCO2e produced, however, this is based on an estimate of the number of domestic flights we use as a company and excludes sourcing trips. Data is hard to collect due to most staff booking their own flights, which we'll change.

Emissions from our waste have fallen sharply due to the Energy from Waste plant opening in Cornwall in 2017, all waste is now sent there rather than landfill. Recycling is still more than half as polluting as this so should be favoured. Disposal of anything in the general waste bin should be a last resort.

Although our electricity consumption has almost doubled since 2016 our emissions have remained unchanged due to the closure of a number of old coal fired power stations in UK so the UK's electricity supply as a whole is cleaner.

## RECOMMENDATIONS

We will avoid flying where possible. Book trains well in advance to get the cheapest tickets at peak times or car share. Look at making better use of video conferencing facilities. Video calling and e-communications are effective ways to reduce the impacts of paper manufacturing and travel.

The difference in CO2e produced by different modes of transport is shown below in Table 4.

TABLE 4:  
COMPARISON OF CO2e EMITTED BY DIFFERENT MODES OF TRANSPORT

TRAVEL	KGCO2e PER KM
Domestic Air travel	0.29
Car (Large)	0.21
National Rail	0.04

\*See appendix B for further details\*

## FIGURE 5

CHANGE IN TAKE AWAY CUPS USED COMPARED WITH KG BAGS OF COFFEE RECEIVED AT EACH SITE

	CHARLOTTE ROAD			BL ENTRANCE HALL				BL EUSTON ROAD		
	2017	2018	CHANGE	2017	2018	CHANGE		2017	2018	CHANGE
Cups	72,000	57,000	-21%	103,500	106,500	+3%		71,500	65,400	-9%
KG Coffee	1783	1981	+11%	1642	1620	-1%		1163	1188	+2%
Cups per KG coffee	40	30		63	66			61	55	

### DISCUSSION

Figure 5 helps to demonstrate the impact introducing money off for customers bringing their own reusable cup has had on Origin’s use of single use take away cups. There is no data for Southwark and Penryn as these were not open before

the incentive came in. The data for The Aircraft Factory and Harbour Head are unfortunately unreliable. We are now researching options for a truly recyclable take away cup and are continuing to promote reusable cups.

## FIGURE 6

CHANGE IN NUMBER OF KEEP CUPS SOLD AT EACH SITE

	CHARLOTTE ROAD			HARBOUR HEAD				BL ENTRANCE HALL			BL EUSTON ROAD			TAF		
	2017	2018	CHANGE	2017	2018	CHANGE		2017	2018	CHANGE	2017	2018	CHANGE	2017	2018	CHANGE
KeepCup 8oz Cork	117	241	+106%	11	26	+136%		117	241	+106%	27	110	+307%	11	15	+36%
KeepCup Small	41	72	+76%	0	9			41	72	+147%	7	48	+586%	0	5	

### DISCUSSION

The significant increase in KeepCup sales in 2018 helps to indicate the increasing public awareness of the impact of single use products and a willingness to change behaviours.

## WHAT WE HAVE ACHIEVED

- All Origin sites are now zero to landfill.
- Despite increased staff numbers and increased coffee production we have not changed the number of waste collections we have at The Roastery, this is promising, but we should go further than this and aim to reduce the number of general waste collections we have on a weekly basis. Our waste and recycling costs are set to increase significantly as of April 2019.
- We have introduced a food waste collection for chaff and grounds at the Roastery, this was previously going in the general waste bin and will now be disposed of in a more environmentally friendly way.
- We support the development of green gas in the UK by purchasing our gas for The Roastery from Ecotricity who are building the UK's first large scale green gas plants.
- We now collect our used coffee bags and send these for recycling from all sites rather than them going in the general waste bin. Since December 2018 we have ordered 20 recycling boxes for our coffee bags each of which holds approximately 120 bags.
- The introduction of the 2Op off for bringing a reusable cup has reduced the number of single use cups we have used, most notably at Charlotte Road where we used 20% less take away cups in 2018 compared to 2017. KeepCup sales have significantly increased.
- Comparing 2016 and 2018 totals excluding air travel shows a reduction of 19% in tCO<sub>2</sub>e per FTE, however this is less to do with actions of Origin and more to do with the change in the UK electricity supply and the way our waste is disposed of in Cornwall.

## TARGETS AND AIMS

- Reduce domestic flights in favour of taking the train/car sharing, and increase the use of video conferencing.
- Reduce, Reuse, Recycle, putting waste in the general waste bin should be a last resort. We should evaluate the environmental credentials of the raw materials we buy and suppliers we use.
- Opt for an hybrid or fully electric vehicle when new company vehicles are required.
- In Harbour Head and Penryn, advertise our coffee chaff, grounds and sacks as available for collection.
- Get staff involved and engaged, considering events such as a beach clean or tree planting day.
- Aim to reduce the tCO<sub>2</sub>e per FTE by 10% by the end of 2019 from 5.5tCO<sub>2</sub>e to 4.95tCO<sub>2</sub>e per FTE.

## APPENDIX A

RAW DATA: COSTS AND USAGE 2016 – 2018

ENVIRONMENTAL ASPECT	USAGE 2016	USAGE 2017	USAGE 2018	COST 2016	COST 2017	COST 2018
Waste (no of bins)	104	104	104	£1,658	£1,769	£1,347
Recycling (no of bins)	52	52	65	£551	£565	£488
Gas (MWh)	160	158	227	£7,340	£6,242	£8,314
Electricity (MWh)	27	31	47	£5,377	£3,803	£8,290
Fuel Cards (Diesel (100 Litres))	59	63	108	£7,859	£7,691	£14,330
Water (Cubic Metres)	93	107	192	£673	£840	£1,004
Sewerage (Cubic Metres)	93	107	192			
Paper (copier) (1000s)	53	43	47	£212	£349	£384
Postal Bags (100s)	27	43	56	£292	£495	£700

### KEY

- Increase on previous year
- Reduction on previous year

## APPENDIX B

TONNES OF CO<sub>2</sub>e 2016 - 2018

TCO <sub>2</sub> e	2016	2017	2018
Waste	17	12	0.1
Recycling	1	1	0.04
Gas	30	29	37
Air Travel			41
Electricity	13	11	13
Fuel Cards (Diesel (Litres))	15	16	29
Water & Sewerage	0.1	0.1	0.2
Paper (copier)	0.2	0.2	0.2
<b>TOTAL</b>	<b>76</b>	<b>68</b>	<b>120</b>

### KEY

- Increase on previous year
- Reduction on previous year

**ORIGIN**