

Norwich City Council - Carbon footprint report

Summary

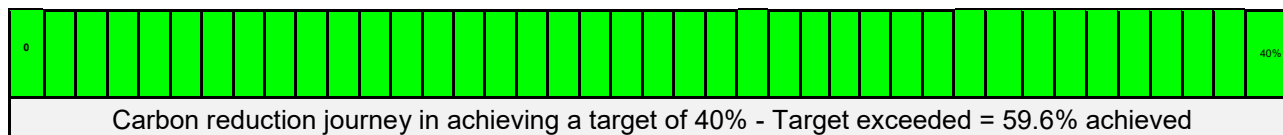
In 2008/09 the council produced its first Carbon Management Plan and set a target to achieve a 30% reduction in carbon emissions by 2013/14 (using a 2007/08 baseline). In total over the 5 year period a reduction of 24% (29% when weather corrected) was achieved using previous conversion factors. Following the production of the council's second Carbon Management Plan in 2014/15, this target was re-set to achieve a total reduction of 40% in carbon emissions over the next 5 years against the same baseline.

In 2013/14 the council's carbon reduction figures were negatively impacted by the re-baselining of our electricity data in line with the requirement of the Department for Environment, Food and Rural Affairs (Defra)/ Department of Energy and Climate Change (DECC) 2013 conversion factor. However, for the year 2018/19, using the 2018 DEFRA conversion factors, Norwich City Council has made an additional 2.5% reduction in its carbon emissions taking the total reduction to 59.6% saving against its target of 40% by 2019.

We are currently in the process of writing the council's third Carbon Management Plan and re-setting our carbon emissions reduction target to more accurately reflect: our successes to date in reducing carbon emissions on our estate, the national net-zero by 2050 target and a recognition that finding new and cost effective carbon reduction opportunities is becoming increasingly challenging the more projects that we deliver.

This report has been compiled in accordance with the guidelines originally set by the DECC. The requirements are that the council publish this report on its website using the standard template, dividing emissions into 3 categories. At the time DECC also requested that a link of this report be sent to them containing totals for all the scope 1, 2 and 3 emissions enabling them to collate all local authority figures centrally.

GHG emission data for period 1 April 2018 to 31 March 2019 (restated)												
	Global kg of CO ₂ e											
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Scope 1	2,576,804	2,714,763	2,593,049	2,499,724	2,640,453	3,121,775	3,446,651	3,136,959	3,549,707	3,745,825	3,873,933	1,682,048
Scope 2	2,012,976	2,239,942	2,462,896	3,432,985	3,836,556	3,478,538	3,644,381	3,774,122	3,972,326	4,311,715	4,691,648	6,603,828
Scope 3	1,499,753	1,579,869	1,897,304	1,131,715	1,261,406	1,480,944	1,449,823	1,800,339	1,821,824	2,173,565	2,167,385	2,355,434
Total gross emission	6,089,533	6,534,574	6,953,249	7,064,424	7,738,416	8,081,257	8,540,855	8,711,420	9,343,857	10,231,105	10,732,966	10,641,310
Carbon offsets	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Green tariff	1,792,138	1,959,434	920,543	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total annual net emissions	4,297,395	4,575,140	6,032,706	7,064,424	7,738,416	8,081,257	8,540,855	8,711,420	9,343,857	10,231,105	10,732,966	10,641,310



1. Company information

Norwich City Council is a local authority based in the East of England.

2. Reporting period

The reporting period is 1 April 2018 to 31 March 2019.

3. Changes in emissions

In the year 2018-19 a further reduction of 277,746 kg in net carbon emissions was achieved, compared to the previous period. This includes electricity provided under the OFGEM certified Green Tariff. If the Green Tariff carbon reduction is disregarded (to continue to enable direct comparisons with years 2007 to 2015) then total gross carbon emissions (including all scopes) fell by 455,041 kg, or 455 tonnes, of CO₂e over the reporting period.

The following is an outline of sources of change in emissions from the previous year:

Main emissions reductions:

- Second full year of the council's OFGEM certified Green Tariff for electricity supplied to all council assets. Since 1 October 2016 all the electricity supplied to council assets has been sourced from renewable sources. The reporting period of 1 April 2018 to 31 March 2019 includes a full year of green tariff reduction on electricity-related carbon emissions from council assets. This means that the council is only reporting the carbon emissions created by the transmission element of our electricity supply which is significantly lower than the factor applied to our electricity supply pre-green tariff.
- Following the switch to the green electricity tariff the impact of the 'greening of the grid' effect at a national level is less applicable to Norwich city council's carbon footprint. However, it does continue to impact contractor's electricity use and the transmission factor for the council's assets. In relation to the 'greening of the grid' the Department of Business, Energy and Industrial Strategy (DBEIS) have stated; *"The UK electricity factor is prone to fluctuate from year to year as the fuel mix consumed in UK power stations (and auto-generators) and the proportion of net imported electricity changes. These annual changes can be large as the factor depends very heavily on the relative prices of coal and natural gas as well as fluctuations in peak demand and renewables.*
- At a grid level, the principal trend over time has been a move away from coal to renewable sources of electricity production. Over the decade 2008 to 2018, electricity generation from coal decreased from 124 TWh to 17 TWh, a decrease of 86%. Over the same period, electricity generation from renewable sources increased from 22 TWh to 111 TWh, an increase of 400%. (Source: DBEIS – Energy Trends March 2019).

- Essentially, this means that electricity is less 'dirty', or carbon intensive, and this is partly reflected in the drop in carbon emissions reported for Scope 2, which this year is equivalent more than 226 tonnes.
- Demolition of the Mile Cross Depot site.
- Reduction in fuel used by council fleet. It is now smaller and cleaner with electric hybrid vehicles replacing some petrol and diesel vehicles.
- Due to an ongoing programme of implementing energy efficiency measures and building rationalisation, gas and electricity use in council assets continues to decrease. This has resulted in a 4% drop in gas use (kWh) and an 8% drop in electricity use (kWh) against a 5 year average.
- This year contractor's fuel use has seen a drop of over 5% when compared to the 5 year average figure.

Main emission increases:

- Carbon emissions associated with contractor vehicles have increased by 2.6%, against a 5 year average. This is likely to be due to additional construction and demolition projects during the reporting period.

4. Measuring and reporting approach

All information is stored and processed in Microsoft Excel spreadsheets. Reporting will be on an annual basis, using the Defra/DECC method (based on GHG protocol). Internal reporting on carbon reduction targets will be using the NI 185 (Defra) method. The following scopes are included in the footprint:

Scope 1

Process emissions (owned buildings)

- Data obtained from utility bills (kWh)

Process emissions (contractor-operated buildings)

- Data obtained from contractor's energy records (kWh)

Fuel use (owned vehicles)

- Data obtained from fuel invoices (litres)

Scope 2

Electricity emissions (own buildings)

- Data obtained from utility bills (kWh)

Electricity emissions (contractor-operated buildings)

- Data obtained from contractor's energy records (kWh)

Scope 3

Business travel (grey fleet and contractor)

- Data taken from officer and member business mileage claim forms (km)
- Data taken from contractor business mileage records (km)

Public transport

- Data taken from officer and member business mileage claim forms (km)
- Data for train journeys taken from rail account invoices (km)

Fuel use in contractor vehicles

- Data obtained from contractor fuel records (litres)

5. Organisational boundary

The approach chosen to identify the operations we have collected data from was based on the original guidance for the National indicator 185, which stated that:

“The indicator is to include all CO₂ emissions from the delivery of local authority functions. It covers all an authority’s own operations and outsourced services. Even if the services are being provided by an external body (e.g. a private company) they remain the function of the authority... the definition of a local authority’s function includes outsourced services (eg a private company, third sector organisation), as they remain a function of the authority. CO₂ emissions arising from the buildings and transported related to these outsourced services should be measured and included in the authorities return.”

Following an assessment of the main outsourced services associated with the Council’s functions, leisure centres, street services and housing support services were included.

6. Operational scopes and emissions – net emissions (Green Tariff reductions applied to council asset electricity use)

Scope 1 - Direct emissions (e.g. onsite fuel consumption; gas/vehicles)		CO ₂ (kg)	Exclusions and %
Gas from buildings (council) – kwh		2,553,836	n/a
Gas from buildings (contractors) – kwh		20,452	n/a
Fuel in fleet vehicles (council) - km diesel		454	n/a
Fuel in fleet vehicles (council) – km petrol		2,062	
TOTAL SCOPE 1		2,576,804	n/a
Scope 2 - Energy Indirect		CO ₂ (kg)	Exclusions and %
Electricity in buildings (council) – kWh		152,769	n/a
Electricity in buildings (contractor) – kwh		68,069	n/a
TOTAL SCOPE 2		220,838	n/a
Scope 3 - Other indirect (e.g. business travel)		CO ₂ (kg)	Exclusions and %
Grey fleet eg private cars		11,838	n/a
Taxis		882	n/a
Flights		286	n/a
Trains		1,327	n/a
Contractors vehicle use		1,485,419	n/a
TOTAL SCOPE 3		1,499,753	n/a
Grand total (CO₂ (kg))			
		4,279,395	

7. Geographical breakdown

All operations occur within the city council boundary except for contractor/staff transport related activities

8. Base year

The base year for emissions is January to December 2007.

9. Target

The target for reduction in overall (i.e. all scopes) CO₂ emissions is 40%, from a 2007/08 baseline following the completion of the first phase of the council's carbon management plan. This target exceeds the national target of a 34% reduction in carbon emissions by 2020. Norwich city council's next phase carbon management plan and environmental strategy are due to be published in 2020 and our carbon reduction target will be re-set accordingly, to factor in our success to date in achieving a 59.6% carbon emissions reduction.

This target will be measured using the emissions factors required for reporting on the old National Indicator 185.

10. Intensity measurement

No intensity measurement has been used, as this is generally more relevant for private sector businesses who wish to compare CO₂/turnover.

11. External assurance statement

PWC audit carried out in 2009. The process was considered to be sound.

12. Carbon offsetting

No carbon offsetting was carried out.

13. Green tariffs

In October 2016 Norwich city council switched its electricity supply to a 100% Renewable Energy Tariff which meets stringent OFGEM Green Supply Guidelines and enables the council to claim the CO₂ reduction for our electricity consumption.

14. Electricity generation

144 solar photo voltaic (pv) panels were installed on the roof of City Hall in March 2012. During the period 1 April 2018 to 31 March 2019 the pv panels produced 19,826 kWh of electricity. This is a reduction of 13,143 kWh on the previous reporting period. This reduction is due to the array being taken offline to allow for insulation work on the roof of City Hall to be completed. At the time of reporting the array is fully functional.

A solar pv array, on the roof of Rose Lane car park, became operational at the end of December 2018, and is now contributing to offsetting the electricity use at this asset. Between December 2018 and April 2019 5,100 kWh of electricity were produced.

15. Heat generation

There was no heat generation from owned or controlled sources.

16. Opportunities in 2019-20

We are due to publish the third phase of the council's Carbon Management Plan. The plan will detail opportunities, across our portfolio of assets, where we can further reduce energy consumption. Our carbon emissions target will be re-set accordingly.

We are also due to publish the council's 2020-2024 Environmental Strategy which further details our ambitious plans to reduce both the council's and the city's carbon emissions over this period.

A copy of our current environmental strategy can be found at:

www.norwich.gov.uk/downloads/20195/council_policies_and_strategies

On completion of this reporting period, a 59.6% carbon emissions reduction has been achieved against a 2007/08 baseline. This is against a target reduction of 40%.

The reduction has been achieved through a combination of factors including both the greening of the grid at a national level and more latterly the switch to an OFGEM certified Green Tariff, both of which have significantly reduced the amount of electricity emissions the council reports.

We recognise the impact of the Green Tariff on reducing Scope 2 carbon emissions for electricity consumed in council owned assets. We understand this is a purchasing choice, and should the decision be taken in future years to revert back to a tariff which does not qualify for the OFGEM accreditation, or should the accreditation scheme be revoked, then this would have a negative impact on Scope 2 emissions and the council's overall carbon footprint.

In order to reduce carbon emissions still further, and to help mitigate this risk, we continue to seek further opportunities to reduce our kWh use of both electricity and gas across council's assets. We work closely with our asset management team, and have employed additional resources to help profile areas of highest energy use across our estate, with a view to implementing technologies which maximise the opportunity to reduce energy consumption. We also recognise the need to work closely with our major contractors in order to continue to reduce their fuel use, whilst delivering council contracts.

Having successfully reduced our emissions over a ten year period, it is becoming increasingly challenging to continue to reduce carbon emissions each year, particularly in straitened economic times. However, we seek to introduce energy saving technologies across our assets, wherever possible, and in the year 2019-2020 have plans to implement the following projects which are fully or partly-funded by Salix loans:

- Server room upgrade investigation
- Sheltered Housing plant room upgrades – including boilers, pumps, building management system
- LED lighting upgrade and smart fittings at St Andrew's car park
- Landlord lighting LED upgrade
- District lighting LED upgrade