

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 2006/07 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, this target was re-set to achieve a total reduction of 40% in carbon emissions over the next 5 years (from the 2007/08 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, this year, using the 2017 DEFRA conversion factors, Norwich City Council has made an additional 2.9% reduction in its carbon emissions taking the total reduction to 57% saving against its target of 40% by 2019.

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 2017 to 31 March 2018 (restated)											
Global kg of CO ₂ e											
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Scope 1	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	2,239,942	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	1,579,869	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	6,534,574	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
Green tariff	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	4,575,140	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 2017 to 31 March 2018.

3. Changes in emissions

In the year 2017-18 a further reduction of 1,457,566 kg of CO₂e in net carbon emissions was achieved. This includes a further 6 months of electricity provided under the OFGEM certified Green Tariff (a full year, as opposed to 6 months in 2016-17) . If the Green Tariff carbon reduction is disregarded then gross carbon emissions fell by 148,675 kg of CO₂e over the 2017-18 reporting period.

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

Main emissions reductions:

- First 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 2017 to 31 March 2018 includes a full year of green tariff reduction on electricity related carbon emissions from council assets; an additional 6 months on the last reporting period. 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.

Given the importance of this factor, the explanation for fluctuations will be presented here henceforth.

For the year 2017-18 specifically, DBEIS have stated: *“In the 2016 GHG Conversion Factors, there was a 11% decrease in the UK electricity CO₂e factor compared to the previous year because there was a decrease in coal-powered electricity generation in 2014 (the inventory year for which the 2016 GHG Conversion Factor was derived). In this 2017 update, the CO₂e factor has decreased again (compared with 2016) by 15%. This is due to a significant decrease in coal generation, and an increase in gas and renewables generation in 2015 (the inventory year for which the 2017 GHG Conversion Factor was derived).* In essence, 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 even before the green tariff savings are applied, which this year is equivalent to 222 tonnes.

- Reduction in fuel used by council fleet. The council’s fleet has been reviewed and rationalised, it is now smaller and cleaner with electric hybrid vehicles replacing some petrol and diesel vehicles.

Main emission increases:

- Contractor mileage
- New assets – e.g. Rose Lane multi-storey car park
- Reporting anomalies – e.g. change of one energy contractor to another where previous provider reconciled their figures at contract end. Contractor emissions change annually dependent on the number and type of contracts being delivered during a reporting period, some contractors have changed and some contracts deliver more comprehensive data than others.

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)	CO₂ (kg)	Exclusions and %
Gas from buildings (council) – kwh	2,689,917	n/a
Gas from buildings (contractors) – kwh	22,574	n/a
Fuel in fleet vehicles (council) - km diesel	1,197	n/a
Fuel in fleet vehicles (council) – km petrol	1,075	
TOTAL SCOPE 1	2,714,763	n/a
Scope 2 - Energy Indirect	CO₂ (kg)	Exclusions and %
Electricity in buildings (council) – kWh	144,401	n/a
Electricity in buildings (contractor) – kwh	136,107	n/a
TOTAL SCOPE 2	280,508	n/a

Scope 3 - Other indirect (e.g. business travel)	CO₂ (kg)	Exclusions and %
Grey fleet eg private cars	14,817	n/a
Taxis	1,044	n/a
Flights	393	n/a
Trains	1,871	n/a
Contractors vehicle use	1,561,744	n/a
TOTAL SCOPE 3	1,579,869	n/a
Grand total (CO₂ (kg))		
	4,575,140	

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. The council's carbon management plan will be updated in the next 12 months and this target will be re-set accordingly.

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. This is reflected in the large decrease in CO₂ emissions in Scope 2 this again year.

14. Electricity generation

Solar Photo Voltaic (pv) cells were installed on the roof of City Hall in late March 2012. During the period 1 April 2017 to 31 March 2018 the pv cells have produced 19,579 kWh of electricity. This reduction is due to the array being taken offline to allow for insulation work on the roof of City Hall to be carried out. This is a reduction of 13,143 kWh on the previous reporting period when the array was fully functional. At the time of reporting the array is fully online.

There have been delays to the implementation of the solar array on the roof of Rose Lane car park, but these issues are being worked through and we expect the panels to contribute to offsetting the electricity use at this asset in the next reporting period.

15. Heat generation

There was no heat generation from owned or controlled source

16. Opportunities in 2018-19

In 2014 the council produced the second phase of its Carbon Management Plan. The plan details opportunities across our assets and services where we can further reduce energy consumption. In 2015 we published the 2015-2019 Environmental Strategy which further details our ambitious plans to reduce both the council's and the city's energy consumption and resulting carbon emissions over this period.

A copy of the environmental strategy can be found at www.norwich.gov.uk/downloads/20195/council_policies_and_strategies

On completion of this reporting period a 57% carbon emissions reduction has been achieved against a 2007/08 baseline. This is against a target of a 40% reduction. Both the council's Carbon Management Plan and the Environmental Strategy will be rewritten during the next reporting period and the carbon emissions target updated accordingly.

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 and the council's carbon footprint in total. We also understand that 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 then this would have an immediate negative impact on Scope 2 emissions and the council's carbon footprint. In order to continue to reduce carbon emissions still further, and to help mitigate this risk, we continue to seek opportunities to reduce our kWh use of both electricity and gas across the council's portfolio. We are working closely with our asset management team and have employed additional resources to help profile areas of highest energy use across our portfolio with a view to implementing the most effective energy saving technologies. We also recognise the need to work more closely with our contractors 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 continue to introduce energy saving

technologies across our assets wherever possible and in the year 2018-19 have plans to implement the following technologies which are fully or partly-funded by Salix loans:

- Landlord lighting projects at various assets – replacement of compact fluorescent fittings with LED fittings
- District lighting projects at various sites – upgraded to LED lighting
- Investigating the possibility of further solar pv arrays on council assets
- Boiler upgrades at Sheltered Housing schemes and the introduction of VSD's where possible
- Further insulation work at Sheltered Housing schemes