



Carbon Audit
Recalculation: 2018/2019

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1. Summary

In accordance with National Indicator 185 guidance the Borough Council of King's Lynn & West Norfolk (BCKLWN) developed and published greenhouse gas reports, which continued until 2014/2015. This allowed the BCKLWN to manage and track its greenhouse gas emissions over time. The Borough Council had a 5% yearly greenhouse gas emissions reduction target, which was met in 2010/2011, 2011/2012 and 2013/2014. However, emissions did increase in the years in between. The last greenhouse gas report published was for the period 2014/2015, which showed the BCKLWN to have emitted 6,183.4 tonnes of carbon dioxide equivalent (tCO₂e). This was an 8% increase on the previous year.

This report has been compiled in accordance with the 'Environmental Reporting Guidelines' set by The Department of Business, Energy and Industrial Strategy (BEIS) and HM Government. The Greenhouse Gas Protocol 'Corporate Accounting and Reporting Standard' and the Carbon Trust 'Carbon Footprinting Guide' have also been used to inform our reporting procedure. Official BEIS greenhouse gas reporting conversion factors were used to calculate the BCKLWN's emissions.

2. Scope emissions

Scope 1: Gas consumption, oil consumption and vehicle fleet.

Scope 2: Electricity consumption.

Scope 3: Transmission and distribution losses, water supply, water treatment, business travel and contractor travel.

<i>BCKLWN tCO₂e Emissions</i>		
<i>Year</i>	<i>2014/2015</i>	<i>2018/2019</i>
Scope 1	1,829.3	1,720.5
Scope 2	2,721.5	1,488.6
Scope 3	1,632.6	1,499.6
Total gross emissions	6,183.4	4,708.7
Carbon offsets	n/a	n/a
Green tariffs	n/a	n/a
Total net emissions	6,183.4	4,708.7

3. Emissions breakdown

Emissions Sources	Consumption		Emissions Data	
	Activity Data	Unit	t CO ₂ e	kg CO ₂ e
Scope 1				
Gas Consumption	7,175,310.0	kWh	1,320.0	1,319,970.0
Oil Consumption	0.0	litres	0.0	0.0
Council Vehicle Fleet	-	-	-	-
Petrol Vehicle	3,546.0	litres	7.8	7,812.0
Diesel Vehicle	125,794.1	litres	330.5	330,453.4
Red Diesel	20,960.1	litres	62.3	62,261.8
Total Scope 1	-	-	1,720.5	1,720,497.3

Scope 2	Activity Data	Unit	t CO ₂ e	kg CO ₂ e
Electricity Consumption	5,258,833.0	kWh	1,488.6	1,488,617.9
Total Scope 2	-	-	1,488.6	1,488,617.9

Scope 3	Activity Data	Unit	t CO ₂ e	kg CO ₂ e
Transmission & Distribution Losses	5,258,824.0	kWh	126.9	126,895.4
Water Supply	77,795.0	m ³	26.8	26,761.5
Water Treatment	63,583.2	m ³	45.0	45,016.9
Business Travel	-	-	-	-
Small Petrol Car	69,278.5	miles	17.4	17,353.6
Medium Petrol Car	34,010.8	miles	10.6	10,611.4
Large Petrol Car	7,525.9	miles	3.4	3,441.1
Small Diesel Car	54,622.4	miles	12.8	12,775.6
Medium Diesel Car	76,965.2	miles	21.5	21,494.1
Large Diesel Car	26,956.2	miles	9.3	9,336.0
Bus	174.8	km	0.0	19.5
Train	40,523.3	km	1.8	1,792.7
Ferry	239.6	km	0.0	31.0
Plane	5,545.7	km	1.2	1,178.8
Contractor Travel	-	-	-	-
Refuse Collection Vehicles	465,521.1	litres	1,222.9	1,222,896.0
Total Scope 3	-	-	1,499.6	1,499,603.6

BCKLWN Emissions Total	-	-	4,708.7	4,708,718.7
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4. Company information

The Borough Council of King's Lynn & West Norfolk is a Norfolk local authority in the East of England.

5. Reporting period

This reporting period is from 01/04/2018 to 31/03/2019.

6. Changes to emissions

There has been a significant reduction in our emissions when compared to our last published audit (2014/2015). Overall CO₂e emissions decreased from 6,183.4 tCO₂e in 2014/2015 to 4,701.5 tCO₂e in 2018/2019. This is a reduction of 1,481.9 tCO₂e, which equates to a 24% reduction.

6.1. The trend

Overall, the BCKLWN's emissions have decreased by 24% in 2018/2019, compared to the last available data in 2014/2015. Scope 2 (electricity consumption) was the source of the largest emissions reduction (45.3% reduction), whilst scope 1 and 3 saw modest reductions (6% and 8% reductions, respectively).

6.2. Scope 1

Scope 1 emissions totalled at 1,720.5 tCO₂e, compared to 1,829.3 tCO₂e in 2014/2015. This is a reduction of 108.8 tCO₂e, which equates to a 6% reduction in scope 1 emissions.

Gas consumption contributed 1,320 tCO₂e and the BCKLWN vehicle fleet contributed 400.6 tCO₂e. Oil consumption was recorded at 0 tCO₂e for the audit reporting period. The BCKLWN stopped using oil across its estates, saving the 33 tCO₂e emitted in 2014/2015.

Scope 1 was identified as the largest contributor to BCKLWN emissions (36% of total emissions). Scope 1 increased its share of emissions from 30% in 2014/2015 to 36% in 2018/2019.

6.3. Scope 2

Scope 2 emissions totalled at 1,488.6 tCO₂e compared to 2,721.5 tCO₂e in 2014/2015. This is a reduction of 1,232.9 tonnes, which equates to a 45% reduction in scope 2 emissions.

Scope 2 was identified as contributing 32% to BCKLWN overall emissions. This is a large change compared to 2014/2015 where it was the largest contributor, contributing 44% of overall BCKLWN emissions.

However, the BCKLWN's electricity consumption only decreased by 247,345 kWh, from 5,506,178 kWh in 2014/2015 to 5,258,833 kWh in 2018/2019 (a 4% decrease). Our emissions decrease is explained by the increased greening of the national grid between 2014 and 2019, which results in less carbon intensive electricity production. Consequently, the amount of CO₂e emitted from electricity production has decreased. Thus, we consume a similar amount of electricity, but emit 45% less CO₂e. If emissions from our consumption in 2014/2015 were calculated with 2018 emissions factors, then the emissions would be 1,558.6 tCO₂e. Our current scope 2 emissions are only 4% less than this recalculated figure.

The Department of Business, Energy and Industrial Strategy explained the decrease in scope 2 emissions:

“In this 2018 [emissions conversion factor] update, the CO₂e factor has decreased again (compared with 2017) by 19% due to a decrease in coal generation and an increase mainly in natural gas and to a much lower extent renewable generation” (BEIS, 2018).

6.4. Scope 3

Scope 3 emissions totalled at 1,499.6 tCO₂e compared to 1,632.6 tCO₂e in 2014/2015. This is a reduction of 133 tonnes, which equates to an 8% reduction in scope 3 emissions.

Transmission and distribution losses contributed 126.9 tCO₂e. Water supply contributed 26.8 tCO₂e, whilst water treatment contributed 45 tCO₂e. Business travel contributed 76.7 tCO₂e. Finally, contractor travel contributed 1,222.9 tCO₂e.

Scope 3's emissions contribution was the same as scope 2's (32% of total emissions), increasing from its 26% of total emissions in 2014/2015.

6.5. Emissions increases

Emissions increases have occurred in a few areas within the 3 scopes.

- Petrol vehicle use in council fleet.
- Petrol vehicle use in business travel.
- Water supply.

7. Measuring and reporting

Reporting will take place annually, using the BEIS environment reporting guidelines. All information is calculated using up to date BEIS emissions conversion factors and is stored and processed using Microsoft Excel. The below scopes are measured for our audit.

Scope 1

Gas Consumption

- Data obtained for council utility bills

Oil Consumption

- Data obtained for council utility bills

Vehicle Fleet

- Data obtained from council fuel invoices

Scope 2

Electricity Consumption

- Data obtained from the council utility bills

Scope 3

Transmission and Distribution Losses

- Obtained using electricity consumption data

Water Supply

- Obtained using council utility bills

Water Treatment

- Obtained using the water supply data

Business Travel

- Obtained using employee mileage claims

Contractor Travel

- Obtained through contractor fuel records

8. Scope explanation

This table provides a description of what each activity includes from each scope.

<u>Scope</u>	<u>Activity</u>	<u>Description</u>
Scope 1	Gas Consumption	Used to heat our buildings and sites.
	Oil Consumption	Used to heat our buildings and sites
	Vehicle Fleet	The council's operational vehicle fleet.
Scope 2	Purchased electricity	Electricity purchased from the national grid to power the council's buildings and sites.
Scope 3	Transmission and Distribution Losses	These are indirect emissions from the transmission and distribution of our purchased electricity. It is considered best practise to include these in scope 3 emissions.
	Water Supply	The supply of water to our buildings and sites.
	Water Treatment	The water we return back to the system (90% return to sewer rate).
	Business Travel	Staff and member travel in their own vehicles on business grounds.
	Contractor Travel	Travel by contractors to carry out work commissioned by the council, e.g. waste collection.

9. Organisational boundary

Our organisational boundary follows the data collection guidance from the previous National Indicator 185.

“The indicator is to include all CO₂ emissions from the delivery of local authority functions. In terms of the meaning of the word in legislation “function” covers both the duties and powers of an authority. It covers all an authority’s own operations and outsourced services” (DEFRA, 2008, p.3).

BEIS refers to this as an organisation that has financial and operational control. Therefore, we include functions that we as a local authority have the above control over.

10. Geographical breakdown

All of the BCKLWN activities occur within King’s Lynn and West Norfolk, except for some staff and member business transport activities.

11. Base year

This carbon audit reporting year will form our base year. Due to the length of time between our last report as well as errors in past reports it has been decided that rolling our base year to this reporting period is the most sensible option.

Our base year will be recalculated following any significant structural changes or methodological changes. If it is not possible to recalculate for the base year on the basis of a lack of data, then the following year will be recalculated.

Our base year is therefore: 01/04/2018 to 31/03/2019.

12. Recalculation

This is the first recalculation of the BCKLWN’s base year. Since 2018/2019 the council has acquired the King’s Lynn Innovation Centre. Consumption data from the acquisition year (2019/2020) has been identified during the 2019/2020 audit and included in the consumption data for 2018/2019. Slight methodological changes have also occurred, which have had influence over the new figures.

Emissions have therefore increased by 76.3 tCO₂e from 4,632.4 tCO₂e to 4708.7 tCO₂e for the base year 2018/2019.

13. Target

The BCKLWN's previous target was a 5% year on year decrease in CO₂e emissions. We currently have no yearly target for emissions reductions.

14. Intensity measurement

No intensity measurement has been carried out as this is more applicable to private sector businesses.

15. External assurance statement

No external assurance has been carried out; therefore, no external assurance statement is provided.

16. Carbon offsetting

No carbon offsetting has been carried out for the corresponding financial year.

17. Green tariffs

The BCKLWN is not using a green tariff.

18. Electricity generation

The BCKLWN has solar PV panels on some of its properties, which generated 35,815 kWh of clean electricity in 2018/2019. This electricity is directly used by the BCKLWN, which helps reduce electricity consumption from the national grid.

19. Heat generation

There are no heat generation facilities used or owned by the BCKLWN.

20. Current strategies

A background paper was written detailing a phased approach to our work on climate change. Phase 1 has included an officer working group being set up, an intern being appointed to conduct this audit, work on collating existing and future council policies and practises, as well as work looking into the district emissions bubble. Phase 2 will continue to look at the district emissions bubble, review our policies further and make

recommendations, as well as engage with other stakeholders on future climate change work. The internship has now been extended from the initial 4-month period to a 12-month period, to further aid ongoing climate change work.

Within the BCKLWN's corporate business plan, there are key priorities outlined with equal weight, one of which refers to tackling climate change. The BCKLWN has also commissioned Ameresco to complete a Re:fit of the borough council's estate. The Re:fit includes a number of projects that once implemented will help to reduce CO₂ emissions and energy costs. This Re:fit is expected to reduce emissions by roughly 450 tonnes CO₂ per year.

21. Future opportunities

A work plan is to be drawn up for the 2020/2021 financial year. This will detail the scope of our climate change work for the next year, including key projects and work streams to be completed throughout the year. The climate change officer working group will be feeding into this new work plan and the subsequent ongoing work streams. A county group has been set up to look at bettering the work being done on climate change over the whole of Norfolk. This group will provide an opportunity for different partners to work together to achieve a common goal.

Over the 2020/2021 financial year we will be developing a climate change policy as well as a climate change strategy and action plan.

22. Glossary

- Carbon Trust: Carbon Footprinting Guide.
- Greenhouse Gas Protocol: Corporate Accounting and Reporting Standard.
- HM Government: Environmental Reporting Guidelines.

23. References

- Department for Business Energy and Industrial Strategy (BEIS)., 2018. *UK Government GHG Conversion Factors for Company Reporting*. Available at: <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2018>. Last accessed 11/08/2020.
- Department for Environment, Food and Rural Affairs (DEFRA)., 2008. *Guidance to local authorities and Government Offices on National Indicator 185*. London, UK: DEFRA. pp. 3.

24. Appendix 1: Detailed emissions statement

Please see page 13 for our complete emissions statement, detailing carbon dioxide equivalent (CO₂e), carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) emissions from scopes 1, 2 and 3 for the financial year 2018/2019.

Emissions Sources	
Scope 1	
Gas Consumption	7,175,310.0
Oil Consumption	0.0
Council Vehicle Fleet	
Petrol Vehicle	3,546.0
Diesel Vehicle	125,794.1
Red Diesel	20,960.1
Total Scope 1	-

Consumption	
Activity Data	Unit
7,175,310.0	kWh
0.0	litres
-	-
3,546.0	litres
125,794.1	litres
20,960.1	litres
-	-

Emissions Data (tonnes)			
t CO ₂ e	t CO ₂	t CH ₄	t N ₂ O
1,320.0	1,317.5	1.7	0.7
0.0	0.0	0.0	0.0
-	-	-	-
7.8	7.8	0.0	0.0
330.5	325.7	0.1	4.7
62.3	57.1	0.1	5.1
1,720.5	1,708.1	1.9	10.5

Emissions Data (kilograms)			
kg CO ₂ e	kg CO ₂	kg CH ₄	kg N ₂ O
1,319,970.0	1,317,530.4	1,722.1	717.5
0.0	0.0	0.0	0.0
-	-	-	-
7,812.0	7,763.6	24.5	23.9
330,453.4	325,724.8	52.8	4,675.8
62,261.8	57,098.9	62.5	5,100.6
1,720,497.3	1,708,117.8	1,861.9	10,517.9

Scope 2	
Electricity Consumption	5,258,833.0
Total Scope 2	-

Activity Data	Unit
5,258,833.0	kWh
-	-

t CO ₂ e	t CO ₂	t CH ₄	t N ₂ O
1,488.6	1,477.1	3.5	8.0
1,488.6	1,477.1	3.5	8.0

kg CO ₂ e	kg CO ₂	kg CH ₄	kg N ₂ O
1,488,617.9	1,477,101.0	3,470.8	8,046.0
1,488,617.9	1,477,101.0	3,470.8	8,046.0

Scope 3	
Transmission & Distribution Losses	5,258,824.0
Water Supply	77,795.0
Water Treatment	63,583.2
Business Travel	
Small Petrol Car	69,278.5
Medium Petrol Car	34,010.8
Large Petrol Car	7,525.9
Small Diesel Car	54,622.4
Medium Diesel Car	76,965.2
Large Diesel Car	26,956.2
Bus	174.8
Train	40,523.3
Ferry	239.6
Plane	5,545.7
Contractor Travel	
Refuse Collection Vehicles	465,521.1
Total Scope 3	-

Activity Data	Unit
5,258,824.0	kWh
77,795.0	m ³
63,583.2	m ³
-	-
69,278.5	miles
34,010.8	miles
7,525.9	miles
54,622.4	miles
76,965.2	miles
26,956.2	miles
174.8	km
40,523.3	km
239.6	km
5,545.7	km
-	-
465,521.1	litres
-	-

t CO ₂ e	t CO ₂	t CH ₄	t N ₂ O
126.9	125.9	0.3	0.7
26.8	n/a	n/a	n/a
45.0	n/a	n/a	n/a
-	-	-	-
17.4	17.3	0.0	0.0
10.6	10.6	0.0	0.0
3.4	3.4	0.0	0.0
12.8	12.6	0.0	0.2
21.5	21.3	0.0	0.2
9.3	9.3	0.0	0.1
0.0	0.0	0.0	0.0
1.8	1.8	0.0	0.0
0.0	0.0	0.0	0.0
1.2	1.2	0.0	0.0
-	-	-	-
1,222.9	1,205.4	0.2	17.3
1,499.6	1,408.7	0.6	18.6

kg CO ₂ e	kg CO ₂	kg CH ₄	kg N ₂ O
126,895.4	125,896.2	315.5	683.6
26,761.5	n/a	n/a	n/a
45,016.9	n/a	n/a	n/a
-	-	-	-
17,353.6	17,269.7	37.4	46.4
10,611.4	10,570.2	18.4	22.8
3,441.1	3,432.0	4.1	5.0
12,775.6	12,611.8	1.1	162.8
21,494.1	21,263.2	1.5	229.4
9,336.0	9,255.1	0.5	80.3
19.5	19.3	0.0	0.2
1,792.7	1,776.1	3.2	13.4
31.0	30.6	0.0	0.4
1,178.8	1,172.9	0.1	5.8
-	-	-	-
1,222,896.0	1,205,397.1	195.5	17,303.4
1,499,603.6	1,408,694.3	577.4	18,553.5

BCKLWN Emissions Total	-
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4,708.7	4,593.9	5.9	37.1
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4,708,718.7	4,593,913.1	5,910.0	37,117.4
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