



**Carbon Audit:**  
**2020/2021**

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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. The council restarted its annual carbon audit programme in 2018/2019.

This 2020/2021 audit highlights that the BCKLWN has achieved a 33% reduction in emissions from 2019/2020 levels, emitting 2,997.0 tCO<sub>2</sub>e. Additionally, this is a 59% reduction from the 2009/2010 base year.

These carbon audits are developed 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 are 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.

<b><i>BCKLWN tCO<sub>2</sub>e Emissions</i></b>					
<b><i>Year</i></b>	<b><i>2009/2010</i></b>	<b><i>2014/2015</i></b>	<b><i>2018/2019</i></b>	<b><i>2019/2020</i></b>	<b><i>2020/2021</i></b>
Scope 1	2,109.2	1,894.6	1,720.5	1,676.6	1,595.0
Scope 2	3,235.4	2,721.5	1,488.6	1,324.7	829.5
Scope 3	2021.5	1,632.6	1,499.6	1,454.5	1,243.8
Total gross emissions	7,366.1	6,248.7	4,708.7	4,455.8	3,668.3
Carbon offsets	n/a	n/a	n/a	n/a	n/a
Scope 2 renewable tariffs	n/a	n/a	n/a	n/a	671.3
Total net emissions	7,366.1	6,248.7	4,708.7	4,457.2	2,997.0

### 3. Emissions breakdown

Emissions Sources	Consumption		Emissions Data	
	Activity Data	Unit	t CO <sub>2</sub> e	kg CO <sub>2</sub> e
<b>Scope 1</b>				
Gas Consumption	6,637,253.0	kWh	1,220.4	1,220,391.7
LPG Consumption	1.5	tonnes	4.4	4,420.0
Oil Consumption	0.0	litres	0.0	0.0
<b>Council Vehicle Fleet</b>	-	-	-	-
Petrol Vehicle	2,931.3	litres	6.4	6,355.2
Diesel Vehicle	118,555.8	litres	301.8	301,846.5
Red Diesel	22,487.7	litres	62.0	62,015.7
<b>Total Scope 1</b>	-	-	<b>1,595.0</b>	<b>1,595,029.1</b>

Scope 2	Activity Data	Unit	t CO <sub>2</sub> e	kg CO <sub>2</sub> e
Electricity Consumption	3,557,782.0	kWh	829.5	829,461.3
<b>Total Scope 2</b>	-	-	<b>829.5</b>	<b>829,461.3</b>

Scope 3	Activity Data	Unit	t CO <sub>2</sub> e	kg CO <sub>2</sub> e
Transmission & Distribution Losses	3,557,782.0	kWh	71.3	71,333.5
Water Supply	47,877.5	m <sup>3</sup>	16.5	16,469.9
Water Treatment	39,263.9	m <sup>3</sup>	27.8	27,798.8
<b>Business Travel</b>	-	-	-	-
Small Petrol Car	29,697.6	miles	7.1	7,090.9
Medium Petrol Car	10,381.3	miles	3.1	3,117.4
Large Petrol Car	695.7	miles	0.3	311.3
Small Diesel Car	33,483.7	miles	7.4	7,393.9
Medium Diesel Car	18,157.9	miles	4.9	4,861.8
Large Diesel Car	5,454.5	miles	1.8	1,792.5
Bus	128.0	passenger km	0.0	15.3
Taxi	-	passenger km	-	-
Rail	1,173.9	passenger km	0.0	43.4
Ferry	0.0	passenger km	0.0	0.0
Plane	0.0	passenger km	0.0	0.0
<b>Contractor Travel</b>	-	-	-	-
Refuse Collection Vehicles	433,438.5	litres	1,103.5	1,103,547.4
<b>Total Scope 3</b>	-	-	<b>1,243.8</b>	<b>1,243,776.1</b>

<b>BCKLWN Gross Emissions Total</b>	-	-	<b>3,668.3</b>	<b>3,668,266.5</b>
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Carbon Offsets / Renewable Tariffs	Activity Data	Unit	t CO <sub>2</sub> e	kg CO <sub>2</sub> e
Renewable Electricity Tariff	2,879,339.0	kWh	671.3	671,289.1
<b>Total</b>	-	-	-	-

<b>BCKLWN Net Emissions Total</b>	-	-	<b>2,997.0</b>	<b>2,996,977.4</b>
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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 01/04/2020 to 31/03/2021.

## **6. Changes to emissions**

### **6.1. The trend**

There has been a 33% reduction in the council's emissions compared to last year's audit. Overall CO<sub>2</sub>e emissions decreased from 4,457.2 tCO<sub>2</sub>e in 2019/2020 to 2,997.0 tCO<sub>2</sub>e in 2020/2021. This is a reduction of 1,460.2 tCO<sub>2</sub>e.

Scope 2 (electricity consumption) was the source of the largest emissions reduction (88% reduction), whilst scope 1 and 2 saw 5% and 14% reductions respectively.

### **6.2. Scope 1**

Scope 1 emissions totalled at 1,595 tCO<sub>2</sub>e, compared to 1,681 tCO<sub>2</sub>e in 2019/2020. This is a reduction of 86 tonnes, which equates to a 5% reduction in scope 1 emissions.

Gas consumption contributed 1,220.4 tCO<sub>2</sub>e, with LPG emitting 4.4 tCO<sub>2</sub>e and the BCKLWN vehicle fleet contributing 370.2 tCO<sub>2</sub>e. Oil consumption was recorded at 0 tCO<sub>2</sub>e for the audit reporting period. The BCKLWN stopped using oil across its estates.

Scope 1 was identified as the largest contributor to BCKLWN emissions (53% of total emissions). This is a change compared to 2018/2019 where it contributed 32% of overall BCKLWN emissions.

### **6.3. Scope 2**

Scope 2 emissions totalled at 158.2 tCO<sub>2</sub>e compared to 1,324.7 tCO<sub>2</sub>e in 2019/2020. This is a reduction of 1,166.53 tonnes, which equates to an 88% reduction in scope 2 emissions.

Scope 2 was identified as contributing 5% to BCKLWN overall emissions. This is a change compared to 2018/2019 where it contributed 30% of overall BCKLWN emissions.

The BCKLWN's electricity consumption reduced by 1,624,957 kWh, from 5,182,739 kWh in 2019/2020 to 3,557,782 kWh in 2020/2021 (31% reduction). This large reduction in electricity consumption can be attributed to the impact of the COVID-19 pandemic and the council's work on energy efficiency improvements.

Most of the council buildings are now on a renewable electricity tariff, which therefore, reduced emissions from electricity consumption by 671.29 tCO<sub>2e</sub> from 829.5 tCO<sub>2e</sub> to 158.2 tCO<sub>2e</sub>. Once all sites are on this tariff, then total electricity consumption emissions will be 0 tCO<sub>2e</sub>.

Additionally, smaller decreases can also be explained by further greening of the national grid between 2019/2020 and 2020/2021. Greening of the national grid results in less carbon intensive electricity production. Consequently, the amount of CO<sub>2e</sub> emitted from electricity production has decreased.

The Department of Business, Energy and Industrial Strategy explained the decrease in scope 2 emissions in their 2020 emissions factor update:

*"In this 2020 update, the CO<sub>2e</sub> factor has decreased (compared with 2019) by 9%, again, due to a decrease in coal generation and an increase in renewable generation."* (BEIS, 2020).

#### **6.4. Scope 3**

Scope 3 emissions totalled at 1,243.8 tCO<sub>2e</sub> compared to 1,451.5 tCO<sub>2e</sub> in 2019/2020. This is a reduction of 207.7 tonnes, which equates to a 14% reduction in scope 3 emissions.

Transmission and distribution losses contributed 71.3 tCO<sub>2e</sub>. Water supply contributed 16.5 tCO<sub>2e</sub>, whilst water treatment contributed 27.8 tCO<sub>2e</sub>. Business travel contributed 24.6 tCO<sub>2e</sub>. Finally, contractor travel contributed 1,103.5 tCO<sub>2e</sub>.

Scope 3's emissions contribution was 42% of overall BCKLWN emissions, becoming the second largest contributor.

#### **6.5. Emissions decreases**

The reductions seen in scope 3 can largely be attributed to the effects of the COVID-19 pandemic and subsequent national lockdowns. Business travel saw a yearly reduction of 41.6 tCO<sub>2e</sub> from 66.3 tCO<sub>2e</sub> in 2019/2020 to 24.6 tCO<sub>2e</sub>

in 2020/2021 (a 63% reduction). Water supply and water treatment saw 29% and 30% reductions respectively, whilst refuse collection emissions also saw a 9% reduction.

## 6.6. Emissions increases

There have been no emissions increases across the council's individual emissions sources.

## 7. Measuring and reporting

Reporting takes 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.

## 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>	<u>Data Source</u>
Scope 1	Gas Consumption	Used to heat our buildings and sites.	Data obtained from council utility bills
	Oil Consumption	Used to heat our buildings and sites	Data obtained from council utility bills
	Vehicle Fleet	The council's operational vehicle fleet.	Data obtained from council fuel invoices
Scope 2	Purchased electricity	Electricity purchased from the national grid to power the council's buildings and sites.	Data obtained from council utility bills
Scope 3	Transmission and Distribution Losses	These are indirect emissions from the transmission and distribution of our purchased electricity. It is considered best practise	Data obtained from council utility bills



		to include these in scope 3 emissions.	
	Water Supply	The supply of water to our buildings and sites.	Data obtained from council utility bills
	Water Treatment	The water we return to the system (90% return to sewer rate).	Data obtained from council utility bills
	Business Travel	Staff and member travel in their own vehicles on business grounds.	Obtained using employee mileage claims
	Contractor Travel	Travel by contractors to carry out work commissioned by the council, e.g. waste collection.	Obtained through contractor fuel records.

## **9. Organisational boundary**

The council's organisational boundary follows the data collection guidance from the previous National Indicator 185.

*"The indicator is to include all CO<sub>2</sub> 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.

## **10. Geographical breakdown**

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

## **11. Base year**

The council's base year is: 01/04/2009 to 31/03/2010.

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

## **12. Recalculation**

This 2020/2021 carbon audit has not been or needed recalculation.

## **13. Target**

The BCKLWN net-zero target is 2035.

## **14. Intensity measurement**

No intensity measurement has been carried out.

## **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**

Most of the council buildings are now on a renewable electricity tariff, which therefore, reduced emissions from electricity consumption by 671.29 tCO<sub>2</sub>e for the 2020/2021 financial year. This leaves 158.2 tCO<sub>2</sub>e being emitted in 2020/2021 from electricity consumption

Once all sites are on this tariff, then total electricity consumption emissions will be 0 tCO<sub>2</sub>e

## **18. Electricity generation**

The BCKLWN has solar PV panels on Lynnsport Leisure Centre, King's Court, Alive Downham Leisure Centre and St James Swimming Pool, which generated 62,721.9

kWh of clean electricity in 2020/2021. This electricity is directly used by the BCKLWN, which helps reduce electricity consumption from the national grid.

## **19. Heat generation**

There were no heat generation facilities used by the BCKLWN for the 2020 – 2021 financial year.

## **20. Reducing our emissions**

The BCKLWN is following a broadly phased approach to reducing emissions and combating climate change. Phase one focuses on corporate emissions reporting and reduction. The monitoring and reporting the council's own emissions form the basis of the council's journey by establishing a baseline for reductions to be monitored against. Phase two looks at the reduction of our district's emissions. The council is initially focusing on phase 1 work, but will and has looked to influence the reduction of district emissions simultaneous to phase 1 work, as and when opportunities arise.

The BCKLWN adopted a corporate climate change policy in October 2020, setting out climate change commitments for the future. Further to this work a climate change strategy and action plan was adopted in September 2021. This details how the council will reach net-zero by 2035, looking specifically at how each scope's emissions will be reduced. This strategy and action plan is split into the council's two work phases, focusing heavily on phase one, and reaching net-zero by 2035 for the council's corporate emissions. However, the strategy and action plan does cover district emissions and where the council is best placed to influence and lead emissions reductions on this scale. The council is still working towards the 2050 net-zero target for the district.

Recently the council has been successful in obtaining a £3.8 million grant through the public sector decarbonisation scheme for heat decarbonisation on 11 high emitting council buildings. This forms our second retrofit project, having previously conducted a Re:fit project in 2018/2019 to improve energy efficiency across the building portfolio, saving approximately 400 tCO<sub>2e</sub>.

## **21. Background documents**

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

## **22. References**

- Department for Business Energy and Industrial Strategy (BEIS)., 2020. *UK Government GHG Conversion Factors for Company Reporting*. Available at: <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020>. Last accessed 11/08/2021.
- 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.

## **23. Appendix 1: Detailed emissions statement**

*Please see page 13 for our complete emissions statement, detailing carbon dioxide equivalent (CO<sub>2</sub>e), carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) emissions from scopes 1, 2 and 3 for the financial year 2020/2021.*

Emissions Sources		Consumption		Emissions (tonnes)				Emissions (kilograms)			
Scope 1		Activity Data	Unit	t CO <sub>2</sub> e	t CO <sub>2</sub>	t CH <sub>4</sub>	t N <sub>2</sub> O	kg CO <sub>2</sub> e	kg CO <sub>2</sub>	kg CH <sub>4</sub>	kg N <sub>2</sub> O
Gas Consumption	6,637,253.0	kWh		1,220.4	1,218.1	1.7	0.7	1,220,391.7	1,218,068.7	1,659.3	663.7
LPG Consumption	1.5	tonnes		4.4	4.4	0.0	0.0	4,420.0	4,414.0	3.2	2.8
Oil Consumption	0.0	litres		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Council Vehicle Fleet</b>	-	-		-	-	-	-	-	-	-	-
Petrol Vehicle	2,931.3	litres		6.4	6.3	0.0	0.0	6,355.2	6,318.0	19.6	17.6
Diesel Vehicle	118,555.8	litres		301.8	297.7	0.0	4.2	301,846.5	297,660.3	29.6	4,156.6
Red Diesel	22,487.7	litres		62.0	61.3	0.1	0.7	62,015.7	61,260.3	63.4	128.3
<b>Total Scope 1</b>	-	-		<b>1,595.0</b>	<b>1,587.7</b>	<b>1.8</b>	<b>5.5</b>	<b>1,595,029.1</b>	<b>1,587,721.3</b>	<b>1,775.2</b>	<b>5,532.7</b>
<b>Scope 2</b>		<b>Activity Data</b>	<b>Unit</b>	<b>t CO<sub>2</sub>e</b>	<b>t CO<sub>2</sub></b>	<b>t CH<sub>4</sub></b>	<b>t N<sub>2</sub>O</b>	<b>kg CO<sub>2</sub>e</b>	<b>kg CO<sub>2</sub></b>	<b>kg CH<sub>4</sub></b>	<b>kg N<sub>2</sub>O</b>
Electricity Consumption	3,557,782.0	kWh		829.5	822.0	2.6	4.9	829,461.3	821,990.0	2,561.6	4,909.7
<b>Total Scope 2</b>	-	-		<b>829.5</b>	<b>822.0</b>	<b>2.6</b>	<b>4.9</b>	<b>829,461.3</b>	<b>821,990.0</b>	<b>2,561.6</b>	<b>4,909.7</b>
<b>Scope 3</b>		<b>Activity Data</b>	<b>Unit</b>	<b>t CO<sub>2</sub>e</b>	<b>t CO<sub>2</sub></b>	<b>t CH<sub>4</sub></b>	<b>t N<sub>2</sub>O</b>	<b>kg CO<sub>2</sub>e</b>	<b>kg CO<sub>2</sub></b>	<b>kg CH<sub>4</sub></b>	<b>kg N<sub>2</sub>O</b>
Transmission & Distribution Losses	3,557,782.0	kWh		71.3	70.7	0.2	0.4	71,333.5	70,693.1	213.5	426.9
Water Supply	47,877.5	m <sup>3</sup>		16.5	n/a	n/a	n/a	16,469.9	n/a	n/a	n/a
Water Treatment	39,263.9	m <sup>3</sup>		27.8	n/a	n/a	n/a	27,798.8	n/a	n/a	n/a
<b>Business Travel</b>	-	-		-	-	-	-	-	-	-	-
Small Petrol Car	29,697.6	miles		7.1	7.1	0.0	0.0	7,090.9	7,058.5	14.8	17.5
Medium Petrol Car	10,381.3	miles		3.1	3.1	0.0	0.0	3,117.4	3,106.1	5.2	6.1
Large Petrol Car	695.7	miles		0.3	0.3	0.0	0.0	311.3	310.6	0.3	0.4
Small Diesel Car	33,483.7	miles		7.4	7.3	0.0	0.1	7,393.9	7,294.4	0.3	99.1
Medium Diesel Car	18,157.9	miles		4.9	4.8	0.0	0.1	4,861.8	4,807.8	0.2	53.7
Large Diesel Car	5,454.5	miles		1.8	1.8	0.0	0.0	1,792.5	1,776.3	0.1	16.1
Bus	128.0	passenger km		0.0	0.0	0.0	0.0	15.3	15.2	0.0	0.1
Taxi	-	passenger km		-	-	-	-	-	-	-	-
Rail	1,173.9	passenger km		0.0	0.0	0.0	0.0	43.4	43.0	0.1	0.3
Ferry	0.0	passenger km		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plane	0.0	passenger km		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Contractor Travel</b>	-	-		-	-	-	-	-	-	-	-
Refuse Collection Vehicles	433,438.5	litres		1,103.5	1,088.2	0.1	15.2	1,103,547.4	1,088,242.7	108.4	15,196.4
<b>Total Scope 3</b>	-	-		<b>1,243.8</b>	<b>1,183.3</b>	<b>0.3</b>	<b>15.8</b>	<b>1,243,776.1</b>	<b>1,183,347.7</b>	<b>342.9</b>	<b>15,816.8</b>
<b>BCKLWN Gross Emissions Total</b>	-	-		<b>3,668.3</b>	<b>3,593.1</b>	<b>4.7</b>	<b>26.3</b>	<b>3,668,266.5</b>	<b>3,593,058.9</b>	<b>4,679.7</b>	<b>26,259.2</b>
<b>Carbon Offsets / Renewable Tariffs</b>		<b>Activity Data</b>	<b>Unit</b>	<b>t CO<sub>2</sub>e</b>	<b>t CO<sub>2</sub></b>	<b>t CH<sub>4</sub></b>	<b>t N<sub>2</sub>O</b>	<b>kg CO<sub>2</sub>e</b>	<b>kg CO<sub>2</sub></b>	<b>kg CH<sub>4</sub></b>	<b>kg N<sub>2</sub>O</b>
Renewable for Business Tariff	2,879,339.0	kWh		671.3	665.2	2.1	4.0	671,289.1	665,242.5	2,073.1	3,973.5
<b>Total</b>	-	-		-	-	-	-	-	-	-	-
<b>Total Net Emissions</b>	-	-		<b>2,997.0</b>	<b>2,927.8</b>	<b>2.6</b>	<b>22.3</b>	<b>2,996,977.4</b>	<b>2,927,816.5</b>	<b>2,606.5</b>	<b>22,285.7</b>

## 24. Appendix 2: Emissions changes from base year

