



Green House Gas Emissions Report 2017/18

Baseline year 2009/10

Three Rivers District Council
Three Rivers House
Northway
Rickmansworth
Herts WD3 1RL

Date: 27th July 2018

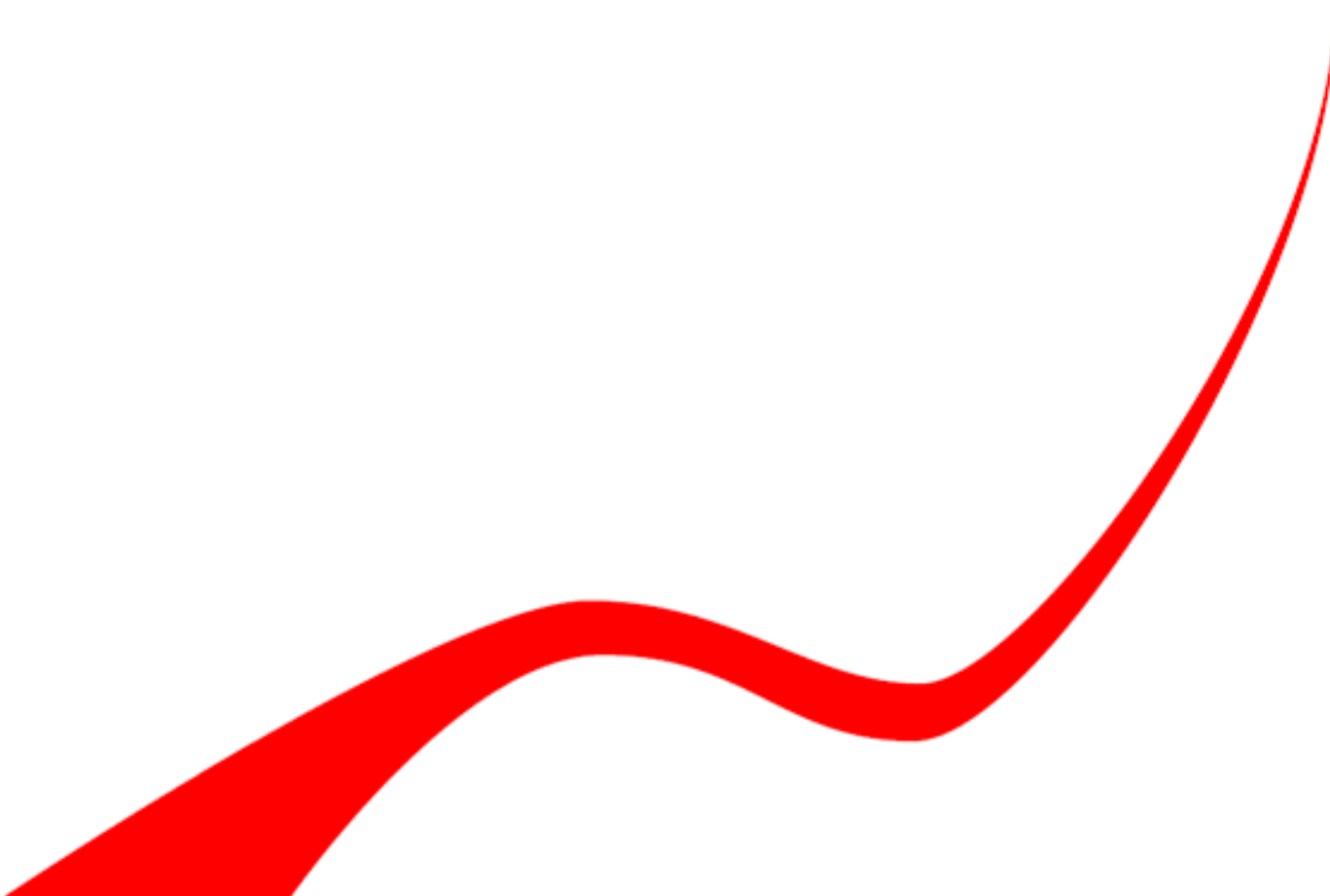
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CONTENTS

INTRODUCTION	3
GHG EMISSIONS - SUMMARY.....	4
SUPPORTING INFORMATION	5



INTRODUCTION

This report outlines the Greenhouse Gas (GHG) emissions resulting from Three Rivers District Council (TRDC) operations during the 2017/18 reporting period. Baseline year 2009/10 has been selected as the base year for the analysis.

All emissions are reported in tonnes of carbon dioxide equivalent (tCO_{2e}) and are based on the conversion factors defined by Department for Business, Energy & Industrial Strategy (BEIS) in "[Government emission conversion factors for greenhouse gas company reporting](#)", and BEIS (2017) *2017 Government GHG Conversion Factors for Company Reporting Methodology Paper for Emission Factors – Final Report*: Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/650244/2017_methodology_paper_FINAL_MASTER.pdf.

Emissions represent absolute values not corrected for weather difference.

The reporting incorporates the main GHG's covered by The Kyoto Protocol, namely carbon dioxide (CO₂); methane (CH₄); hydrofluorocarbons (HFCs); nitrous oxide (N₂O); perfluorocarbons (PFCs); sulphur hexafluoride (SF₆); and nitrogen trifluoride (NF₃). A carbon dioxide equivalent (CO_{2e}) index has been quantified per each GHG according to the global warming potential (GWP) estimated by the Intergovernmental Panel on Climate Change (IPCC).

TRDC reports on GHG emissions from council operations in the following sectors of activities; corporate buildings, leisure centres, business related travel and owned and contracted fleet. Emissions are calculated on the basis of consumption data provided for gas (heating fuel) and electricity supplied to buildings and leisure centres, amount of fuel used by waste and recycling collection, street cleansing and grounds maintenance activities from council-owned fleet and sub-contracted services where applicable, together with mileage claimed through legitimate staff business travel.

The GHG emissions, according to the BEIS reporting system, are categorised between Scopes 1 – 3, where;

Scope 1 (Direct emissions): Emissions from combustion in owned or controlled boilers, furnaces, vehicles. This includes natural gas or other type of liquid fuel to heat buildings for this guidance advises to calculate carbon dioxide emissions based on the gross calorific value (CV). This scope also includes travel undertaken in vehicles owned or controlled by TRDC (fleet).

Scope 2 (Indirect emissions): Emissions resulting from electricity used in for council-owned buildings. Compared with previous years this section has been divided into two different emissions one is reporting emissions from electricity generation which are reported within Scope 2 and a second one is reporting emissions from Transmission & Distribution which are counted within Scope 3.

Scope 3 (Indirect - labelled Well to Tank (WTT)): Emissions that are a consequence of council actions, which occur at sources which TRDC doesn't own or control and which are not classed as scope 2 emissions. This is now inclusive of the emissions from the Electricity Transmission and Distribution (T&D) and the WTT of electricity generation and T&D. Emissions from miles travelled for business purposes in staff owned vehicles, contracted services with no control and emissions from extracting, processing and transporting of fuel.

GHG EMISSIONS - SUMMARY**Table 1: Summary Scopes GHG emissions**

Tonnes of CO2e	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Variation from 2009/10	Variation from 2016/17
Scope 1	1007.4	951.8	906.0	943.0	1057.8	1061.2	955.6	1040.2	996.0	-1.1%	-4.2%
Scope 2	545.3	552.1	435.3	439.0	465.6	515.3	425.6	399.2	327.2	-40.0%	-18.0%
Scope 3	527.1	580.2	545.2	558.1	617.0	643.7	581.3	534.4	527.0	0.0%	-1.4%
TOTAL	2079.8	2084.1	1886.5	1940.1	2140.3	2220.2	1962.5	1973.7	1850.2	-11.0%	-6.3%
Carbon Offset		0.3	4.7	3.9	3.7	4.1	5.2	9.9	8.0		-19.4%
Green Tariff						96.8	155.5	58.7	114.2		94.5%
TOTAL	2079.8	2083.8	1881.9	1936.2	2136.6	2119.3	1801.8	1905.0	1727.9	-16.9%	-9.3%
<i>Out of Scope</i>					23.2	22.8	28.0	20.9	22.3		6.7%

SUPPORTING INFORMATION

1. **Organisation info:** Three Rivers District Council, Three Rivers House, Northway, Rickmansworth Hertfordshire WD3 1RL
2. **Reporting period:** 1 April 2017 - 31 March 2018.
3. **Reporting tool:** All emissions are reported in tonnes of carbon dioxide equivalent (tCO₂e) and are based on the conversion factors defined by Department for Business, Energy & Industrial Strategy (BEIS) in "[Government emission conversion factors for greenhouse gas company reporting](#)", and BEIS (2017) *2017 Government GHG Conversion Factors for Company Reporting Methodology Paper for Emission Factors – Final Report*: Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/650244/2017_methodology_paper_FINAL_MASTER.pdf.

Emissions represent absolute values not corrected for weather difference.

4. **Change in emissions:** This year 2017/18 has seen a decrease in GHG emissions of 6.3% (1,850.2tCO₂e during 2017/18 compared to 1,973.7tCO₂e during 2016/17, equating to a difference of 123.5tCO₂e), without the mitigation from carbon offset, and a decrease of 9.3% including mitigation (1727.9tCO₂e during reporting period 2017/18).

This saving in emissions exceeds the target to decrease emissions by at least 3%. The loss of benefit of Hertsme Leisure procurement of low carbon electricity from 2014 to 2016 has been offset in part with the implementation of TRDC procurement of low carbon electricity (green tariff) for TRDC buildings part way through the reporting year and solar PV electricity generation.

5. **Additional information:**

- a. **Buildings:** GHG emissions from TRDC buildings decreased by 13.8% during the reporting period 2017/18 compared with last year 2016/17 (270.58tCO₂e during 2017/18 compared with 314.0tCO₂e during 2016/17) and by 44.9% compared with baseline period 2009/10 (491.4tCO₂e).
- b. **Fleet:** GHG emissions have decreased by 4.6% compared to last year (853.59tCO₂e during 2017/18 compared to 894.74tCO₂e) which is the result of a reduction in fuel consumption (326,900 litres during 2017/18 compared to 341,300 litres during 2016/17). Overall there has been a 5.9% decrease compared to 2009/10 despite an increase in the fleet due to an expansion of recycling and composting collections.
- c. **Business mileage:** GHG emissions have decreased by 0.7% compared to 2016/17. This is a reduction of 3.16% in business mileage claimed during the reporting period compared with last year (i.e., 73,625 business related miles claimed compared to 76,028 miles during 2016/17). Small and Large sized vehicle mileage decreased during the year (-10.1% and -75.9% respectively) although Medium sized vehicle mileage increased during the year by 33% (9,115 business related miles claimed during 2017/18 compared with 7,334 miles claimed during 2016/17).

Overall GHG emissions from business mileage have seen significant reduction of 65.7% compared with the 2009/10 baseline year.

- d. **Leisure:** Overall GHG emissions from all leisure facilities decreased by 10.4% during the year compared with last year (1,197tCO₂e during 2017/18 compared with 1,336tCO₂e during 2016/17 [figures rounded]).

GHG emissions for Hertsme Leisure operated leisure facilities decreased by 12.1% during the year (949tCO₂e during 2017/18 compared to 1,080tCO₂e during last year [figures rounded]). This is due

mainly to decreases in gas consumption at Rickmansworth Golf Club due to heating issues (134,318kWh during 2017/18, compared to 353,588kWh last year 2016/17) and reduced gas consumption at Sir James Altham due to reduced heating availability (902,037kWh during 2017/18 compared to 1,186,187kWh last year 2016/17).

GHG emissions for TRDC operated leisure facilities decreased by 3.1% during the year (249tCO₂e during 2017/18 compared to 256tCO₂e during last year [figures rounded]).

- e. **Carbon Offset:** The solar photovoltaic (PV) system at Three Rivers House generated 12,186kWh and reduced emissions by 4.6tCO₂e during the reporting period 2017/18. The solar PV system installed at Watersmeet in 2010/11 generated 8,176kWh and reduced emissions by 3.1tCO₂e and at Basing Bowls pavilion generated 465kWh and reduced emissions by 0.18tCO₂e during the reporting period.

The loss of benefit of Hertsmere Leisure procurement of low carbon electricity during 2016/17 has been offset in part with the implementation of TRDC procurement of low carbon electricity (green tariff) for all TRDC buildings [i.e., for TRDC corporate buildings, 6 months green tariff benefit equated to an offset of 96.19tCO₂e during 2017/18).

- 6. **Approach:** TRDC has followed the Government's Guidance on how to measure and report greenhouse gas emissions.
- 7. **Operational scopes:** Council has measured its scope 1, 2 and scope 3 emissions as follows:
 - a. Council building portfolio energy consumption.
 - b. Council owned leisure facilities; Hertsmere Leisure who manage the larger facilities are responsible for consumption and paying the utility bills hence the energy consumption emissions have been included as non-controlled; under scope 3 only.
 - c. Fuel consumption from Council waste and recycling collection, street cleansing and grounds maintenance.
 - d. Council staff business mileage based on distance travelled in staff owned cars and used for legitimate business related purposes.
- 8. **Base year:** 2009/10 is selected as the base year for the analysis.
- 9. **Target:** The target decrease of **3%** total emissions during 2017/18 was actually exceeded across all sector activities apart from Business related mileage which still reduced but only by [0.7%].

The target for **2018/19** is to reduce Greenhouse Gas emissions by **5%**.

- 10. **Three Rivers District Council contact** is Katherine Frost, Sustainable Projects Officer;
Katherine.Frost@ThreeRivers.gov.uk
- 11. **External Assurance:** Three Rivers District Council GHG emission analyses have been carried out by an external organisation, the National Energy Foundation [NEF] (www.nef.org.uk) on behalf of TRDC.

Table 2: Detailed Scopes GHG emissions

Tonnes of CO ₂ e	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Variation from 2009/10	Variation from 2016/17
Scope 1											
Gaseous Fuel	124.0	114.4	139.1	180.8	136.6	116.4	119.0	138.0	135.2	9.0%	-2.0%
Liquid Fuel	883.4	837.4	767.0	762.2	921.1	944.9	836.6	902.2	860.8	-2.6%	-4.6%
Total scope 1	1007.4	951.8	906.0	943.0	1057.8	1061.2	955.6	1040.2	996.0	-1.1%	-4.2%
Scope 2											
Electricity generation	545.3	552.1	435.3	439.0	465.6	515.3	425.6	399.2	327.2	-40.0%	-18.0%
Total scope 2	545.3	552.1	435.3	439.0	465.6	515.3	425.6	399.2	327.2	-40.0%	-18.0%
Scope 3											
Liquid Fuel business	53.5	45.5	48.4	43.6	33.2	30.3	31.8	22.1	20.6	-61.4%	-6.6%
Electricity T&D	83.2	96.4	88.1	86.9	88.0	104.3	88.4	77.9	70.3	-15.5%	-9.8%
WTT Elect generation	142.4	160.2	146.6	164.9	162.5	181.6	159.6	129.3	119.8	-15.8%	-7.3%
WTT Elect T&D	11.3	12.9	12.5	13.0	13.9	15.9	13.2	11.7	11.2	-0.8%	-4.3%
WTT Gaseous fuel	43.5	66.9	66.5	68.7	108.1	95.6	93.8	97.5	94.4	116.8%	-3.2%
WTT Liquid Fuel	193.3	198.3	183.0	181.0	211.4	216.1	194.5	195.8	210.7	9.0%	7.6%
Total scope 3	527.1	580.2	545.2	558.1	617.0	643.7	581.3	534.4	527.0	0.0%	-1.4%
TOTAL EMISSIONS	2079.8	2084.1	1886.5	1940.1	2140.3	2220.2	1962.5	1973.7	1850.2	-11.0%	-6.3%
Carbon Offset		0.3	4.7	3.9	3.7	4.1	5.2	9.9	8.0		-19.4%
Green Tariff						96.8	155.5	58.7	114.2		94.5%
OVERALL TOTAL	2079.8	2083.8	1881.9	1936.2	2136.6	2119.3	1801.8	1905.0	1727.9	-16.9%	-9.3%
Liquid (bio) fuel out of scope					23.2	22.8	28.0	20.9	22.3		6.7%
<i>Out of Scope</i>					23.2	22.8	28.0	20.9	22.3		6.7%

Please note that figures may not add up due to rounding