Teignbridge District Council

Carbon Footprint 2018/19

# Introduction

Teignbridge District Council (TDC) declared a Climate Emergency in 2019 and has set an ambition to become carbon neutral by 2025. The following carbon footprint for TDC local authority has been developed to quantify carbon emissions over the financial year 2018/19 and serves as a baseline for supporting low carbon policies, energy efficiency programmes and carbon reduction schemes.

# Methodology

## Emissions Boundary

A financial control boundary has been used to determine the extent of TDC’s influence on greenhouse gas emissions. This is in alignment with methodologies used by Devon local authorities at district and county level.

## Emissions Factors

Unless otherwise stated, emissions factors have been sourced from *“Greenhouse gas reporting: conversion factors 2018”* and in alignment with *“Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance (2019),”* as published by the Department for Business, Environment & Industrial Strategy (BEIS) and the Department for Environment, Food and Rural Affairs (DEFRA).

This carbon footprint assessment considers the collective impact of seven greenhouse gases, as listed in Table 1 below; the impact of greenhouse gases has been expressed in equivalent units of carbon dioxide emissions (CO2e), where carbon dioxide has a Global Warming Potential of 1 over a 100 year period.

Table 1: Scope of Greenhouse Gases

| **Name**  | **Chemical Formula** |
| --- | --- |
| Carbon Dioxide | CO2 |
| Methane | CH4 |
| Nitrous Oxide | N2O |
| Hydrofluorocarbons | HFCs |
| Perfluorocarbons | PFCs |
| Sulphur Hexafluoride | SF6 |
| Nitrogen Trifluoride | NF3 |

## Emissions Scopes

Greenhouse gas emissions have been expressed in terms of scope 1, 2 and 3 emissions to differentiate emissions according to asset ownership and control influence. The following provides a summary of emissions scopes:

**Scope 1:** Emissions arising directly from assets owned or controlled by the reporting organisation, for example, the combustion of natural gas within a boiler owned by TDC.

**Scope 2:** Emissions arising indirectly from energy consumption supplied by third-party-owned generation assets, for example, electricity.

**Scope 3:** Emissions not included in scope 2 and arising from assets not owned or controlled by the reporting company, for example, purchased goods and services.

# Overview of Emissions Activities

## Scope 1 Emissions

TDC’s Scope 1 carbon footprint was 1,280 tonnes CO2e over the 2018/19 financial period. Heating and commercial vehicles share the vast majority of Scope 1 Emissions, as shown in Table 2 and Figure 1.

Emissions associated with natural gas consumption account for 498 tonnes of CO2e and have been split into two categories to highlight the areas TDC has the greatest influence over; this includes *“Sites Owned by TDC and Operated by TDC,”* and *“Sites Owned by TDC and Leased Out.”*

Fugitive emissions of 38 tonnes of CO2e from heating and ventilation equipment have been calculated in accordance with DEFRA guidance. No refrigeration leaks were recorded over the 2018/19 reporting period.

Passenger transport emissions of 53 tonnes of CO2e cover the use of TDC’s single pool car and all claimed mileage including staff mileage and electoral canvassing mileage.

Commercial vehicle emissions of 670 tonnes of CO2e cover emissions from TDC’s fleet of leased light and heavy goods vehicles including warden vans and waste collection vehicles.

| Table 2: Summary of Scope 1 Emissions |
| --- |
| **Emissions Activity** | **Emissions****(tonnes CO2e)** |
| **Heating** |
| Fuel Oil | 10.9 |
| Natural Gas (Sites Owned by TDC and Operated by TDC) | 484.2 |
| Natural Gas (Sites Owned by TDC and Leased Out) | 13.4 |
| Bioenergy | 10.8 |
| **Total** | **519.4** |
| **Fugitive Emissions** |
| Refrigerant | 38.0 |
| **Total** | **38.0** |
| **Passenger Transport** |
| Pool Cars | 0.8 |
| Claimed Mileage | 52.2 |
| **Total** | **53.0** |
| **Commercial Vehicles** |
| Light Goods Vehicle (Van) | 139.4 |
| Heavy Goods Vehicle (>3.5 - 7.5 tonnes) | 19.0 |
| Heavy Goods Vehicle (>7.5 tonnes-17 tonnes) | 242.3 |
| Heavy Goods Vehicle (>17 tonnes) | 269.0 |
| **Total** | **669.7** |
| **GRAND TOTAL** | **1,280.1** |

Figure 1: Scope 1 Emissions

## Scope 2 Emissions

TDC’s Scope 2 Emissions were 719 tonnes CO2e over the 2018/19 reporting period and consist solely of emissions from electricity consumption.

Emissions associated with electricity consumption have been split into three categories to highlight the areas TDC has the greatest influence over; this includes *“Top 20 Sites - Sites Owned by TDC and Operated by TDC,”* *“Top 20 Sites - Sites Owned by TDC and Leased Out,”* and *“All Other Sites.”*

Offset grid electricity consumption by on-site renewable energy generation has been accounted for within the underlying energy consumption data. In the absence of export metering, all renewable energy is assumed to have been consumed on site; this has broadly been observed energy consumption profiles.

|  |
| --- |
| Table 3: Summary of Scope 2 Emissions |
| **Emissions Activity** | **Emissions****(tonnes CO2e)** |
| **Grid Electricity Consumption** |
| Grid Supplied Electricity (Top 20 Sites - Sites Owned by TDC and Operated by TDC) | 596.8 |
| Grid Supplied Electricity (Top 20 Sites- Sites Owned by TDC and Leased Out) | 64.5 |
| Grid Supplied Electricity (All Other Sites) | 57.6 |
| **GRAND TOTAL** | **718.9** |

Figure 2: Scope 2 Emissions

## Scope 3 Emissions

TDC’s Scope 3 Emissions were 6,735 tonnes CO2e over the 2018/19 reporting period. The vast majority (>91%) of emissions arise from procured goods and services, as shown in Figure 3. The breakdown of scope 3 emissions activities is shown in Table 4 and Figure 4.

Figure 3: High-Level Summary of Scope 3 Emissions (units: tonnes CO2e)

| Table 4: Summary of Scope 3 Emissions |
| --- |
| **Emissions Activity** | **Emissions****(tonnes CO2e)** |
| **Heating** |
| Fuel Oil WTT | 2.1 |
| Natural Gas (Sites Owned by TDC and Operated by TDC) WTT | 67.3 |
| Natural Gas (Sites Owned by TDC and Leased Out) WTT | 1.9 |
| Bioenergy WTT | 27.2 |
| **Total** | **98.4** |
| **Passenger Transport** |
| Pool Cars WTT | 0.2 |
| Claimed Mileage WTT | 13.3 |
| **Total** | **13.5** |
| **Commercial Vehicles** |
| Light Goods Vehicle (Van) WTT | 33.3 |
| Heavy Goods Vehicle (>3.5 - 7.5 tonnes) WTT | 4.5 |
| Heavy Goods Vehicle (>7.5 tonnes-17 tonnes) WTT | 57.6 |
| Heavy Goods Vehicle (>17 tonnes) WTT | 64.1 |
| **Total** | **159.5** |
| **Grid Electricity Consumption** |
| Grid Supplied Electricity (Top 20 Sites - Sites Owned by TDC and Operated by TDC) WTT | 50.9 |
| Grid Supplied Electricity (Top 20 Sites - Sites Owned by TDC and Leased Out) WTT | 5.5 |
| Grid Supplied Electricity (All other Sites) WTT | 4.9 |
| **Total** | **61.3** |
| **Accommodation** |
| Hotel Stay | 118.4 |
| Private Sector Housing | 67.0 |
| **Total** | **185.4** |
| **Waste & Water** |
| Water Supply (Top 20 Sites - Sites Owned by TDC and Operated by TDC) | 11.9 |
| Water Supply (Top 20 Sites - Sites Owned by TDC and Leased Out) | 2.2 |
| Water Supply (All Other Sites) | 1.3 |
| Wastewater (Top 20 Sites - Sites Owned by TDC and Operated by TDC) | 23.2 |
| Wastewater (Top 20 Sites - Sites Owned by TDC and Leased Out) | 4.3 |
| Wastewater (All Other Sites) | 2.6 |
| Solid Waste Disposal | 9.2 |
| **Total** | **54.6** |
| **Supply Chain** |
| Goods & Services | 6,162.4 |
| **Total** | **6,162.4** |
| **GRAND TOTAL** | **6,735.1** |

Figure 4: Scope 3 Emissions (Excluding Goods & Services)

### Well to Tank Emissions

Well to Tank (WTT) emissions account for 333 tonnes of CO2e and arise from the production, transmission and distribution of fuel oil, natural gas, bioenergy, electricity and transport fuel.

### Water and Waste

Emissions associated with water supply and wastewater account for 45 tonnes of CO2e and have each been split into three categories to highlight the areas TDC has the greatest influence over; this includes *“Top 20 Sites - Sites Owned by TDC and Operated by TDC,”* *“Top 20 Sites - Sites Owned by TDC and Leased Out,”* and *“All other Sites.”*

Emissions from solid waste disposal account for 9 tonnes CO2e and are based on accurate waste disposal data provided from TDC’s major sites including Broadmeadow Leisure Centre, Dawlish Leisure Centre, Newton Abbot Leisure Centre, The Depot, Forde House and Teignmouth Lido.

### Accommodation

Provision of accommodation through the private sector accounts for 185 tonnes CO2e. Emissions covered under “Hotel Stay,” relate to short term accommodation involving hotels and B&Bs. Short term accommodation provided within sites owned by TDC such as Albany House is accounted for within Scope 1 emissions for gas, Scope 2 emissions for electricity and Scope 3 for water.

Emissions covered under Private Sector Housing relate to social housing provided by private landlords. These emissions include natural gas heating and electricity consumption.

### Goods and Services

Emissions arising from the procurement of goods and services account for 6,162 tonnes CO2e and have been based on TDC’s total expenditure of £21.5 million over the 2018/19 financial period.

Emissions have been calculated by assigning emissions factors, as provided in Appendix E of the “*Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance (2019)”.* The top five goods and services activities in terms of emissions include:

1. Contractor Services (construction of buildings)
2. STRATA contract (provision of IT services and equipment)
3. Contributions (payments to local authorities)
4. Leasing and rental of vehicles
5. Disabled facilities (installation of disabled facilities)

It should be noted that the provided emissions factors are out-of-date and can account for a broad range of emissions activities. Despite best efforts to match expenditure categories with emissions factors, there is considerable uncertainty in the provided supply chain emissions factors. As such, as new methodologies become available, supply chain emissions may be subject to considerable change in future years.

## Overview of Scope 1, 2 & 3 Emissions

Scope 1 represents the second largest source of emissions and accounts for 15% of all emissions, of which the majority of emissions are associated with the combustion of fuel in commercial vehicles.

Scope 2 represents the smallest source of emissions and accounts for 8% of all emissions, of which all emissions relate to electricity consumption.

Scope 3 represents the largest source of emissions and account for 77% of all emissions, of which the vast majority of emissions are associated with goods & services.

Figure 5: High-level Summary of Scope 1, 2 & 3 Emissions (tonnes CO2e)

# Progress Report

This report represents the first carbon footprint reporting year. As such, no comparison can be made with previous years.

A year-on-year net emissions reduction of 333 tonnes of CO2e will be required to meet the ambition of becoming carbon neutral by 2025 under scope 1 and 2 emissions.

A year-on-year net-emissions reduction of 1,456 tonnes of CO2e will be required to meet the ambition of becoming carbon neutral by 2025 under scope 1, 2 and 3 emissions.

Figure 6: Required Emissions Trajectory to meet 2025 Carbon Neutral Ambition