MITIGATION BASELINE

DUBLIN CITY COUNCIL'S ENERGY USE & EMISSIONS

Dublin City Council (DCC) is responsible for the energy use and emissions from its buildings and facilities, its public lighting, and also from its vehicle fleet. The information from the Sustainable Energy Authority of Ireland's (SEAI's) Monitoring and Reporting (M&R) database shows that DCC consumed a total of 186 gigawatt hours (GWh) of primary energy in 2017. The energy database also shows that DCC improved its energy performance by 29.8% between the baseline year (which is an average of between 2006 - 2008) and 2017, which represented a cumulative absolute saving of 39.9 GWh of primary energy during the same period.

This highlights a gap-to-target of 3.2%, meaning that DCC must improve its energy performance by a further 3.2% between now and 2020, in order to meet its 33% energy reduction target.

The buildings and facilities were the highest energy consumers, accounting for 63% of the Council's overall primary energy consumption. This is mainly due to the large number of Council-owned buildings. Public lighting was the second highest energy consumer, accounting for 25% of the total energy consumption, while the municipal fleet accounted for 12% of the total energy use.

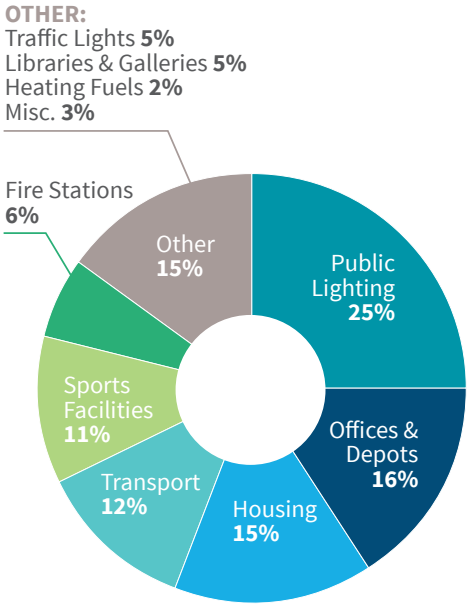


Figure 21 Significant Energy Users

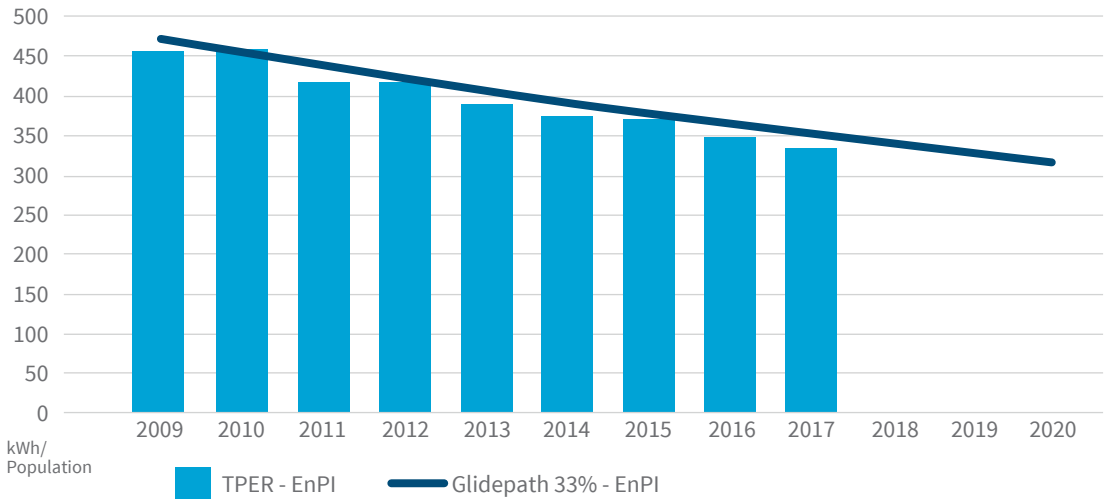


Figure 22 DCC's Annual Energy Performance Compared to the 33% Glidepath

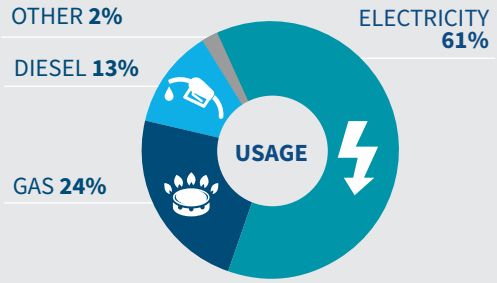
DCC EMISSIONS OVERVIEW

TOTAL EMISSIONS PRODUCED BY DCC IN 2017

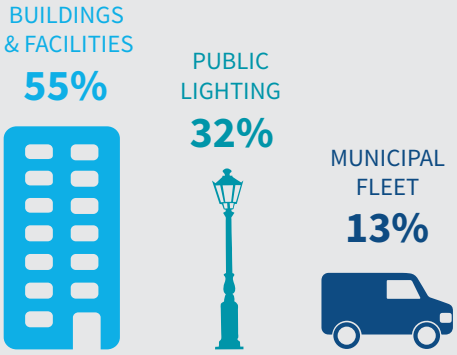
40,370

TONNES OF CO_2

DCC'S EMISSIONS PER FUEL TYPE



DCC'S EMISSIONS PER CATEGORY



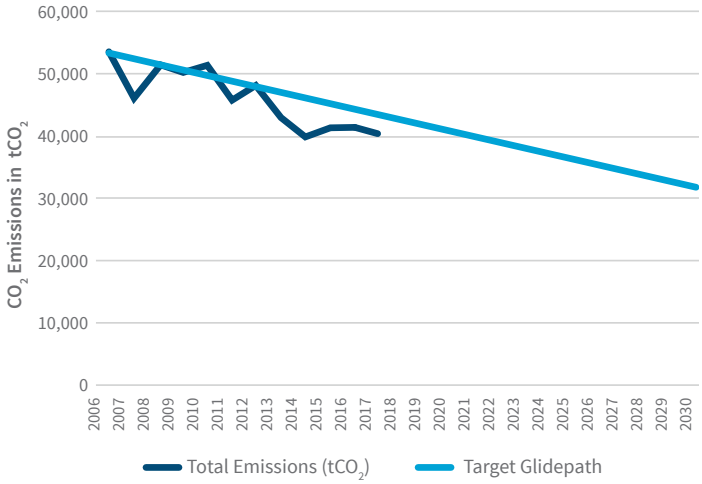


Figure 23 DCC's Emissions 2006-2017, with Projected Glide Path to the 40% Reduction Target by 2030

As a signatory to the Covenant of Mayors for Climate and Energy, DCC is committed to reducing its own carbon emissions by 40% by 2030, compared to the baseline year.

Figure 23 above shows that DCC's emissions decreased from 53,240 tonnes of CO_2 in 2006 to 40,370 tonnes of CO_2 in 2017. This means that DCC is now 8,430 tonnes of CO_2 (16%) away from the 2030 target of a 40% emission reduction from its baseline year.

In 2017, the Council's total emissions amounted to 40,370 tonnes of CO_2. Buildings and facilities were the highest contributors, accounting for 55% of total emissions. This was followed by public lighting and the municipal fleet, each contributing 32% and 13% to the Council's emissions, respectively.

Figure 23 shows DCC's emissions from 2006 to 2017, with a projected glide path to the 40% reduction target by 2030. In 2017, 61% of the Council's emissions came from electricity; this was mainly due to the large amount of electricity used in public lighting and in the Council's buildings and facilities. Natural gas was the second highest contributor of emissions at 24%. The majority of this gas was used for space heating in Council buildings and facilities. Diesel, which made up the majority of the energy used for the vehicle fleet, contributed 13% to the total emissions.

DUBLIN CITY COUNCIL'S SOCIAL HOUSING

Dublin City Council is responsible for the allocation, maintenance and refurbishment of its social housing stock, but not for the day-to-day energy use of its tenants. However, the Council can take steps to reduce these emissions, through energy efficiency upgrades.

The most recently-available information for DCC's social housing is based on the Council's social housing 2016 data and SEAI's Building Energy Rating (BER) Research Tool. A BER is a certificate of energy efficiency of a property. Properties that achieve an 'A1' rating are the most energy efficient, while properties with a 'G' rating are the least efficient. Figure 24 shows the Building Energy Ratings for all of DCC's social housing stock in 2016. The most common rating was F, which made up 21% of the total social housing stock in the City. The majority of buildings with an F rating were constructed between 1919 and 1970.

In 2016, seven social housing units in the City had an A rating, while 30% of the social housing stock was rated C3 or better. The social housing stock in Dublin City is ageing and as a result, newly-built or upgraded dwellings would typically perform better.

Figure 24 also depicts changes in the BERs over an eight-year period from 2009 to 2016. In June 2013, DCC initiated a Fabric Upgrade Programme and is continually upgrading the social housing stock to make it more efficient. Up to 2016, these actions have resulted in a 15% reduction in CO_2 emissions and have caused a shift away from E, F and G ratings, to better B and C ratings.

SOCIAL HOUSING EMISSIONS OVERVIEW

TOTAL EMISSIONS FROM SOCIAL HOUSING SECTOR IN 2016

94,040 tCO_2

30%
RATED C3 OR BETTER

30% OF SOCIAL HOUSING STOCK IN DUBLIN CITY WAS **RATED C3 OR BETTER**, WITH 'F' BEING THE MOST COMMON BER TYPE

15% REDUCTION

IN CO_2 EMISSIONS BETWEEN 2009 AND 2016 DUE TO CONTINUOUS RETROFITTING WORK

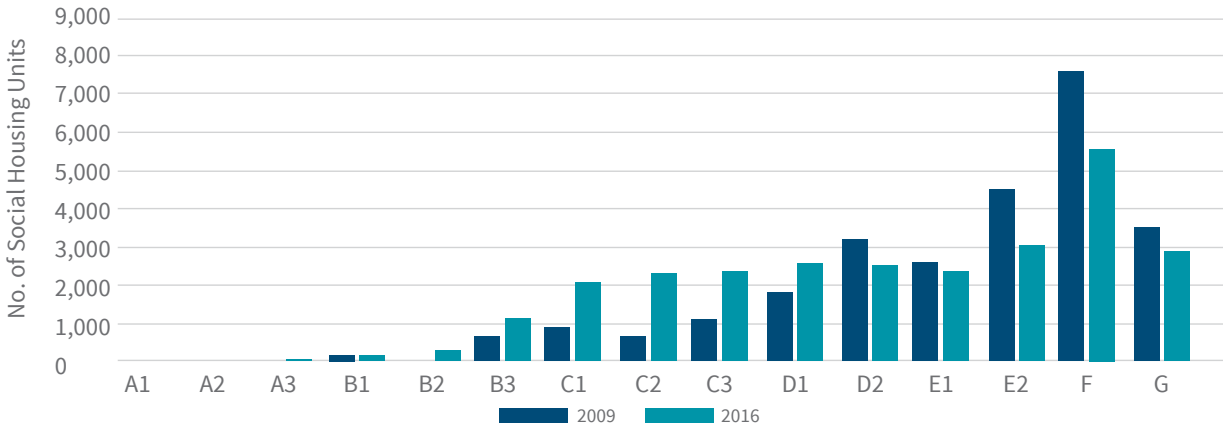


Figure 24 Building Energy Ratings for all the Dublin City Social Housing Stock in 2009 and 2016

TOTAL DUBLIN CITY EMISSIONS

The most recently-available information for total emissions in the entire Dublin City area is based on Census 2016 data. Using this data, Codema was able to calculate that the total emissions for the Dublin City area amounted to 2,810,880 tonnes of CO_2 equivalent in 2016. The sectors that produced the most emissions were the residential, commercial and transport sectors, accounting for 34.7%, 33.2%, and 24.8% of the total emissions, respectively. Dublin City Council's own emissions accounted for 1.4% of this total, with social housing contributing another 3.3%. This highlights the need for collaboration and action from all stakeholders to tackle the remaining 95.3% of emissions from public and private sector sources in Dublin City.

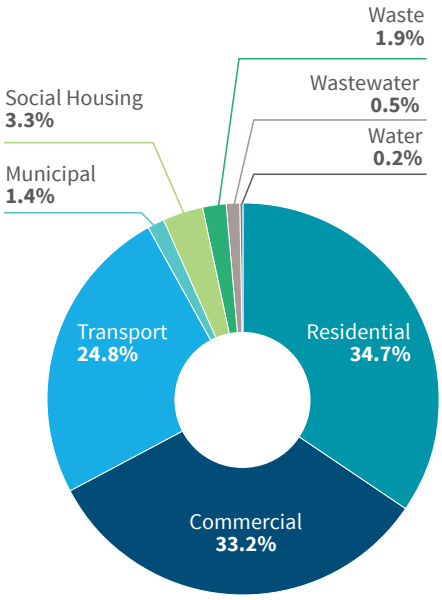
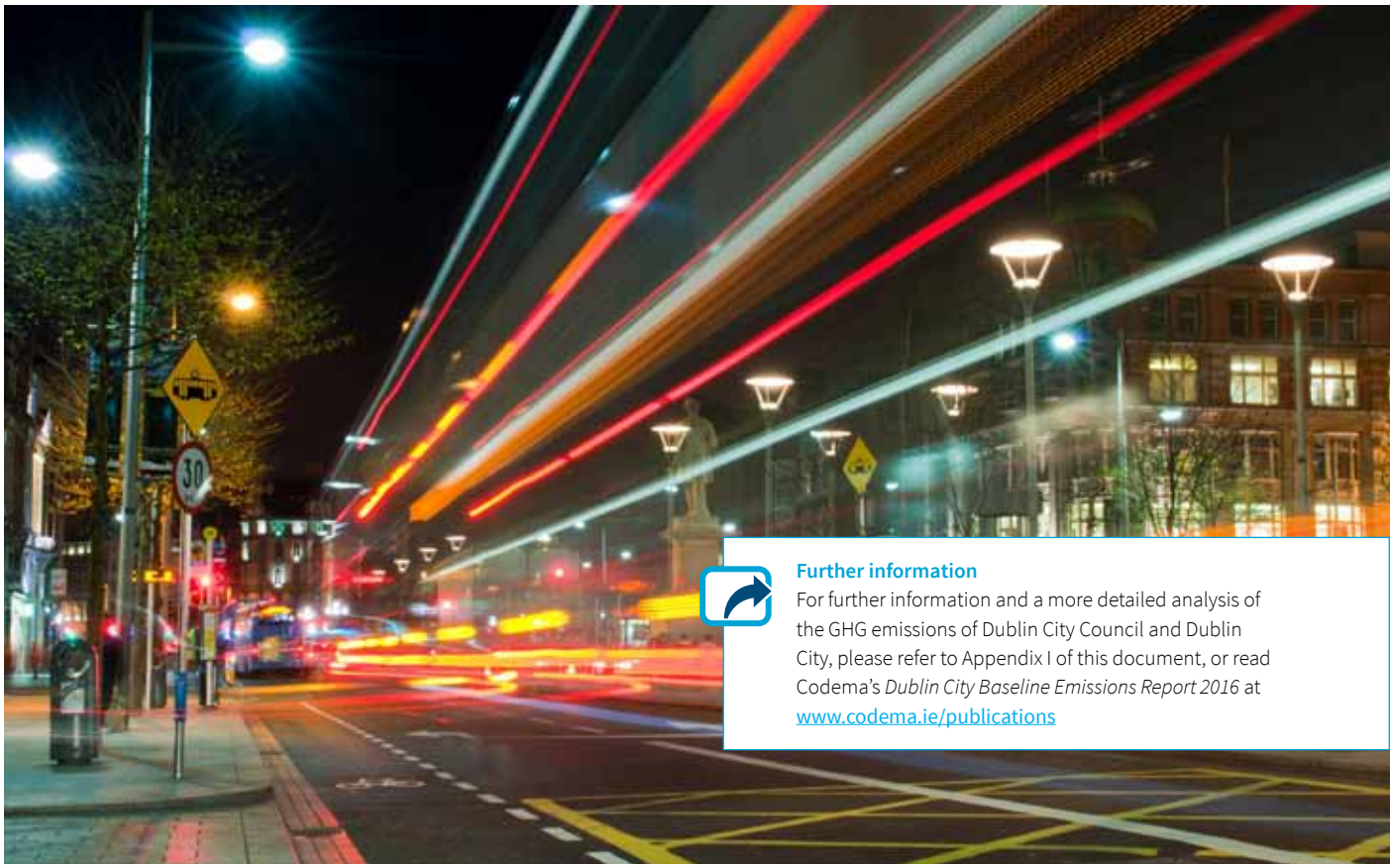


Figure 25 Total GHG Emissions for Dublin City per Sector



Further information
For further information and a more detailed analysis of the GHG emissions of Dublin City Council and Dublin City, please refer to Appendix I of this document, or read Codema's *Dublin City Baseline Emissions Report 2016* at www.codema.ie/publications