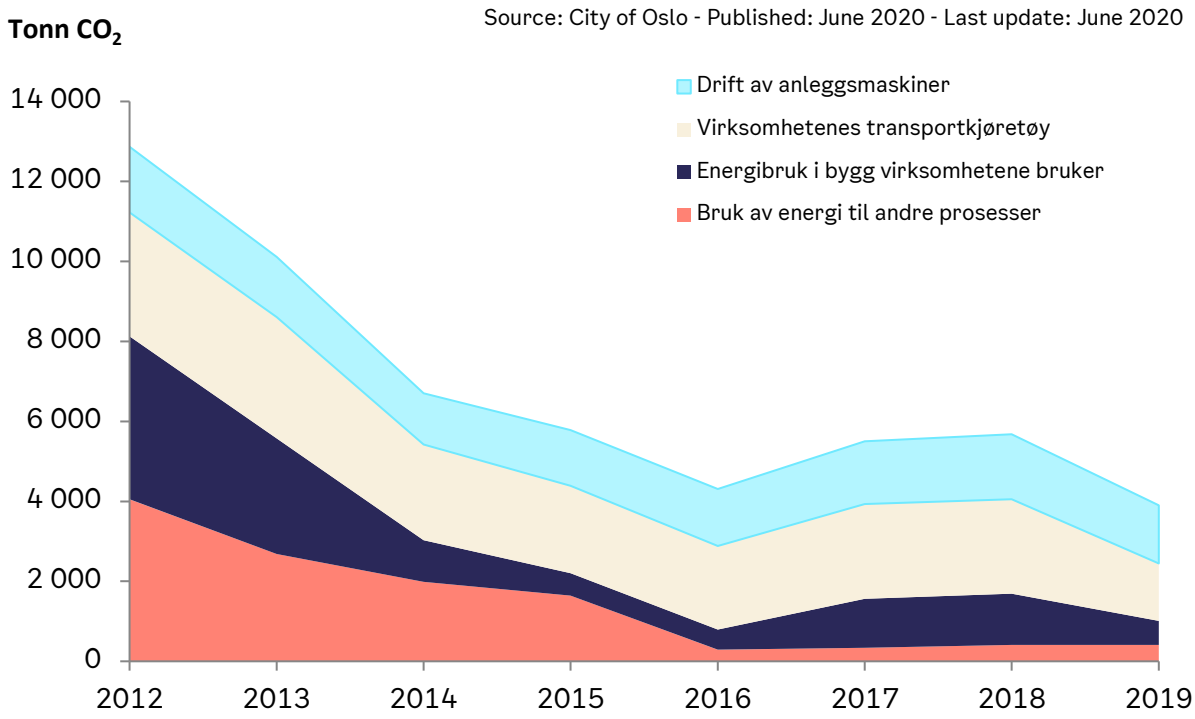
Greenhouse gas emissions from municipal agencies in Oslo



Greenhouse gas emissions (tonnes CO_2 eqv)

Emissions category	2012	2013	2014	2015	2016	2017	2018	2019
Emissions from energy use in buildings	4 076	2 889	1 035	560	502	1 229	1 285	595
Energy use for other processes	4 050	2 687	1 991	1 645	292	336	410	412
Municipal transport equipment	3 098	3 030	2 392	2 180	2 091	2 370	2 355	1 440
Operation of construction equipment	1 644	1 508	1 281	1 397	1 427	1 565	1 628	1 455
Total	**12 868**	**10 114**	**6 699**	**5 782**	**4 313**	**5 500**	**5 677**	**3 902**

Change in Greenhouse gas emissions

Emissions source	2019	% i 2019	Change 2018-2019	Change 2012-2019
Emissions from energy use in buildings	595	15 %	-53,7 %	-85,4 %
Energy use for other processes	412	11 %	+0,6 %	-89,8 %
Municipal transport equipment	1 440	37 %	-38,9 %	-53,5 %
Operation of construction equipment	1 455	37 %	-10,6 %	-11,5 %
Total	**3 902**	100 %	-31,3 %	-69,7 %

Emissions from construction equipment

Reporting from the municipal agencies shows that the emissions from fossil fuel used for construction equipment has decreased from 1 628 tonnes CO_2 eqv in 2018 to 1 455 tonnes CO_2 eqv in 2019. This corresponds to a reduction in GHG emissions of 10 percent.

This category includes many different types of equipment: boats, excavators, forestry equipment, snowploughs, tractors, leaf blowers and others.

Development in emissions 2012 to 2019:

In 2012, all of the City of Oslo's construction equipment was running on fossil fuels. The use of diesel was about 600 000 litres, while the use of gasoline was about 20 000 litres. The construction activity has increased in the City of Oslo, but despite of increased activity have the emissions have decreased. This is due to a larger share of bio diesel. In 2019, the use of diesel was about 620 000 litres, gasoline was about 19 000 litres and bio diesel (B100) about 128 000 litres.

The annual reporting from the municipal agencies of Oslo is subject to some uncertainty. The most important uncertainty factor for construction equipment is that when the agencies do not have their own fuel consumption data some of the consumption figures are estimated. This could be in the case of shared equipment with other organisations.

Emissions from transport equipment

Emissions from transport equipment, which include the municipal agencies' own and leased cars for the transport of persons or objects, have decreased from 2 355 tonnes CO_2 in 2018 to 1 440 tonnes CO2 eqv tonnes in 2019. This corresponds to a reduction of almost 40 percent.

Development in emissions 2012 to 2019:

The share of zero emission vehicles in Oslo municipality's total fleet is increasing. The change in consumption varies among the municipal agencies. In 2012 the use of diesel and gasoline was respectively 765 000 l and 446 000 l. In 2019, the consumption was reduced to 456 000 litres of diesel and 108 000 litres of gasoline. The consumption of fossil fuels is replaced with electricity, bio diesel and biogas. In 2019 786 of the 1049 light vehicles were electric or hydrogen vehicles. The city of Oslo owned 573 electric bikes. Over 60 % of heavy duty vehicles were running on non-fossil fuels, mainly bio-fuels.

For reporting on transport equipment, the most important uncertainty factor is that some of the consumption figures are estimated, as the agencies do not have fuel consumption data.

Emissions from energy use in buildings

This category includes all energy used by municipal agencies for heating, ventilation, lighting etc. Buildings that the municipality owns, but rents out or does not use, are not included in this report.

The results from 2019 show that CO_2 emissions have decreased from 1 280 tonnes CO_2 eqv in 2018 to 595 tonnes in 2019. This corresponds to a decrease of 54 percent. This is mainly related to reduced consumption of oil, kerosene and gas for heating.

Development in emissions 2012 to 2019:

In 2012, the City of Oslo had 34 of buildings heated with fossil oil. The consumption of fossil oil was then 140 000 litres, representing emissions of 3 700 tonnes CO_2 eqv. In 2019, the consumption of fossil oil was reduced to 64 000 litres, equivalent to about 170 tonnes CO_2 eqv.

There is an increase in emissions from this category from 2016 to 2017. The increase is due to a change in method in the report. The year 2017 was the first year that the municipal agencies reported their gas consumption for heating in buildings. Gas consumption was not reported in the previous years since it is a rarely used energy source for heating in Norway. We assume that the real emissions from energy use in buildings is higher in 2012 to 2016 than the figure shows.

Emissions from other processes

This category includes all energy consumption not included in other categories. This can be energy used for water purification plants, pumping stations, charging stations for electric cars, etc. Emissions have been stable with 410 tonnes CO_2 in 2018 and 412 tonnes in 2019.

The uncertainties for this category relate to the fact that it is a collection of several processes, and it could be that some emissions should have been allocated to other categories, e.g. emissions from transport.