Climate Smart City Distribution

- A SUCCESSFUL INITIATIVE TO REDUCE THE CLIMATE-CHANGE IMPACT OF DISTRIBUTION TRAFFIC IN THE GOTHENBURG REGION

WHAT IS CLIMATE SMART CITY DISTRIBUTION?

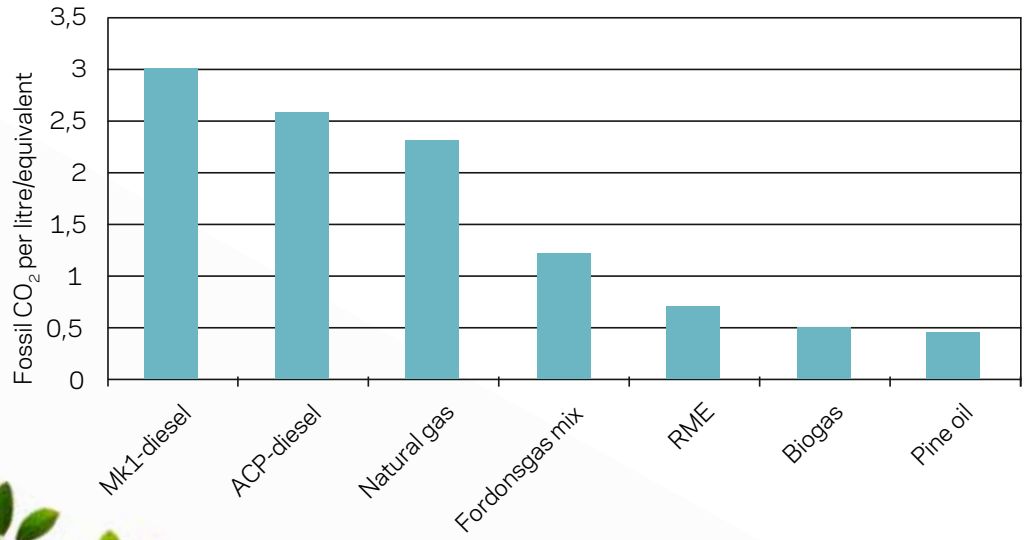
Climate Smart City Distribution is a collaborative sustainable transportation project led by Business Region Göteborg, with support from Region Västra Götaland. The project partners are the Swedish Transport Administration, Volvo Trucks, Preem, FordonsGas, Renova, Posten, DB Schenker, DHL, GLC and Fraktkedjan. The purpose of the project is, taking a broad approach, to develop more efficient and climate-friendly solutions for urban distribution.

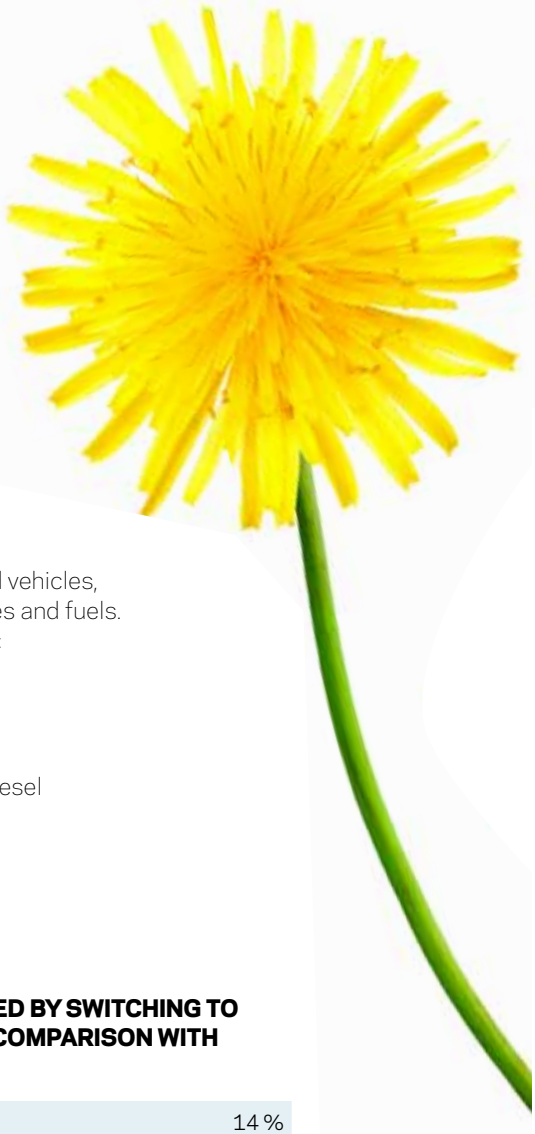
PROJECT OBJECTIVE

The major overall objective of the project is to demonstrate solutions for the reduction of the climate-change impact by distribution traffic in Gothenburg by 50 %.

In order to achieve this, a number of different vehicle types and fuels have been used. The environmental impact of the fuels used in the operations of the participating companies is shown in the diagram below:

CLIMATE-CHANGE IMPACT OF DIFFERENT FUELS





RESULTS

Through the use of renewable alternatives to diesel, gas-driven and hybrid vehicles, great improvements can be made in comparison with conventional vehicles and fuels. A number of different alternatives have been demonstrated in the project:

- ACP evolution diesel (up to 30 % renewable raw material)
- Rapeseed methyl ester
- Heavy vehicles with hybrid technology (electric/diesel)
- Heavy vehicles with methane diesel technology (these vehicles have a diesel engine which runs on a mixture of methane gas and diesel)
- Heavy vehicles running on gas (Otto engine)
- Light vehicles running on gas (Otto engine)

THE TABLE BELOW SHOWS THE SPECIFIC CLIMATE BENEFITS GAINED BY SWITCHING TO ALTERNATIVE VEHICLE TECHNOLOGY AND RENEWABLE FUELS (IN COMPARISON WITH STANDARD MK1 B5):

Switch to ACP diesel (average - 54 % summer quality and 46 % winter quality)	14 %
Switch to hybrid vehicle and ACP diesel	31 %
Switch to MDE vehicle with ACP diesel and vehicle gas	41 %
Switch to MDE vehicle with ACP diesel and biogas	55 %
Switch to RME	68 %
Switch to gas-driven light vehicles	83 %
Switch to hybrid vehicle and RME (result from use in waste management)	84 %

The participating transportation companies achieved a reduction in CO_2 emissions of between 16 and 65 % for all 393 vehicles used in the Gothenburg region. The average for all companies is 30 %. Currently, of these 393 vehicles, 48 are light gas-driven vehicles, 44 are heavy methane diesel vehicles and 4 are heavy hybrid vehicles.