

# Current Situation: Sustainability

Q4 2020

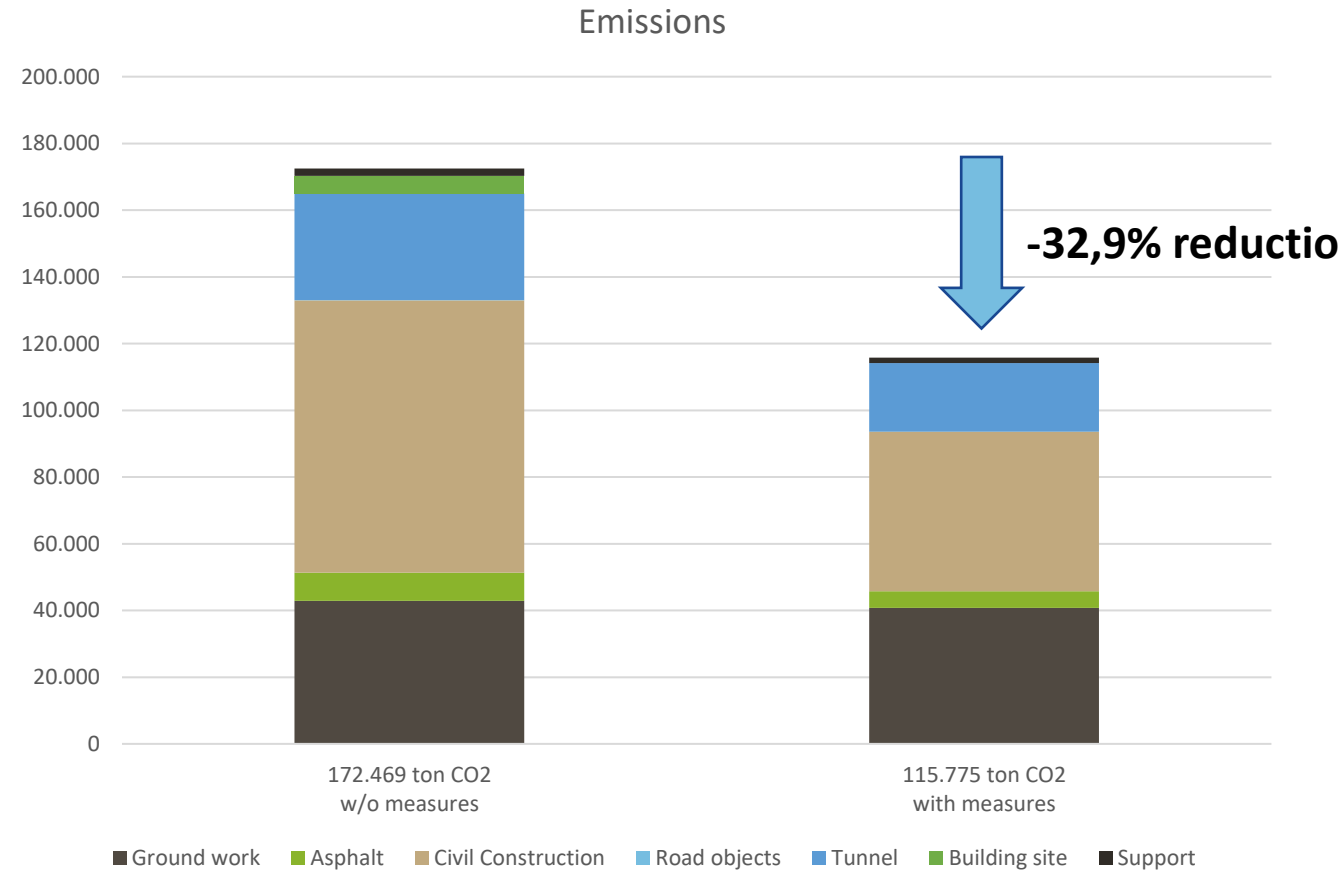


# CO<sub>2</sub> emissions

Emissions from start of work till Q4 2020

Goal: Reducing the emissions of the realisation phase with **23%\***

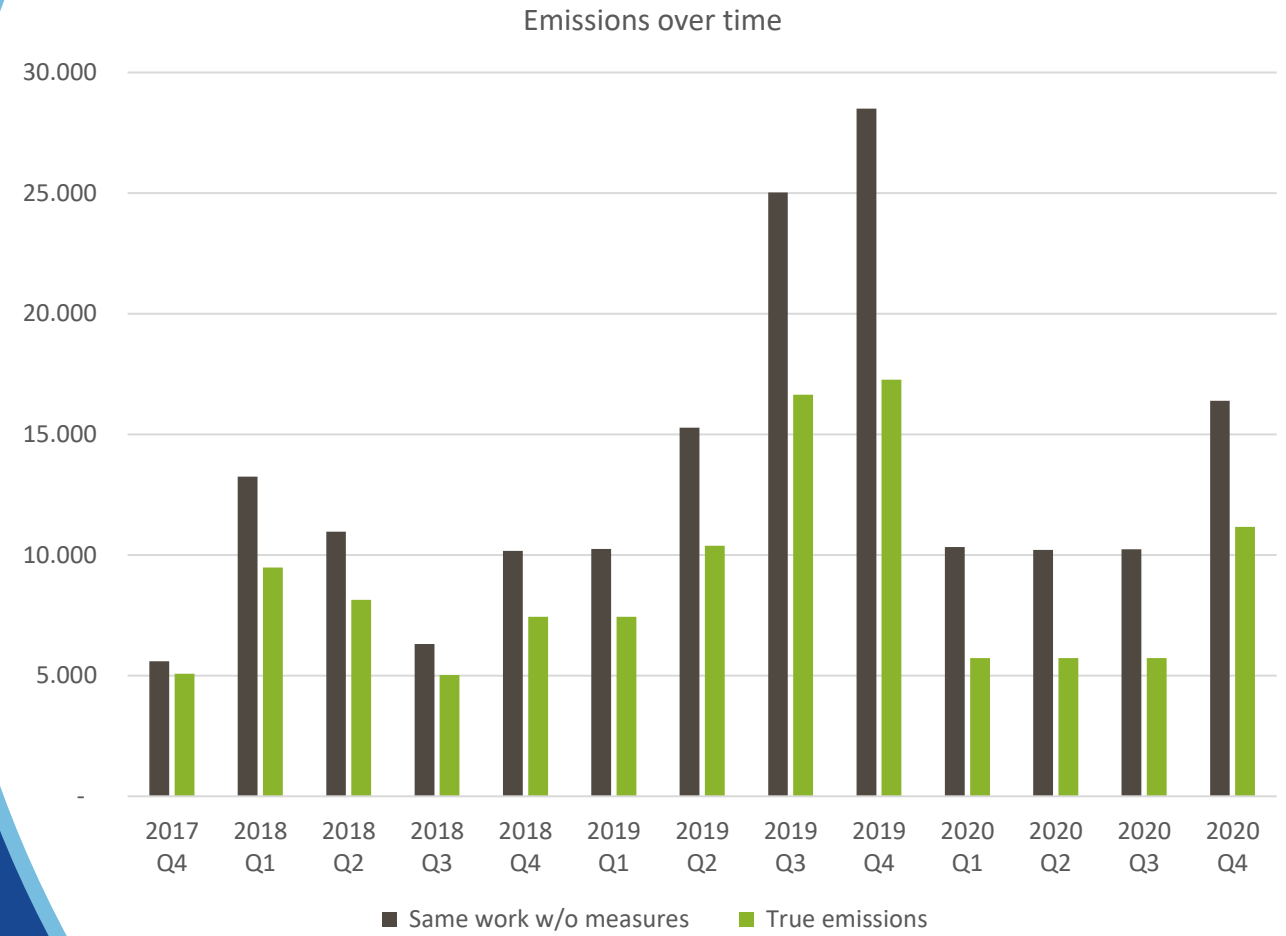
\*true emissions compared to the planning without reduction measures.



# CO<sub>2</sub> emissions

This figure shows the true emission and the same emissions with out measures over time.

We see that we have reduced every quarter.



# Energy use after build

The technical installation will be installed into the tunnel shortly and we have finalized the calculations of the energy use of the RijnlandRoute as a whole.

We have achieved our target for energy use. In the table below the proposed energy use and the achieved energy use for the different parts:

Part	Proposed	Achieved
Public lighting	168.645 kWh/year	153.314 kWh/year
Tunnel instalations	687.457 kWh/year	632.376 kWh/year
Instalations in sunken road	3.698 kWh/year	3.117 kWh/year
<b>TOTAL</b>	<b>859.800 kWh/year</b>	<b>788.807 kWh/year</b>



# A few CO<sub>2</sub> reduction measures

We compare the true emissions with the industry standard. With the RijnlandRoute we have implemented the following reduction measures:

- Alternative fuel for the foundation work
- Reusing sheet piling
- Use more sustainable cement, less CEM I
- Buy sustainable electricity
- Use local sand
- Use of EURO 5/6 trucks
- Different grout composition
- Instal solar optic fibre
- Pilot with innovative moss screen
- Prepare tunnel for future use
  - Extra solar optic fibre will be installed for future connections
  - Preparations to connect the tunnel tubes to 5G networks are made
  - Extra (car) charging point for the service buildings
  - Extra casing pipes for future connections will be installed



# CO<sub>2</sub> Performance Ladder

- Audit results November 2020:
- RijnlandRoute can be used as an example for other projects
  - We have good understanding of our carbon footprint
  - We strive to be a sounding board for the client and try to improve their sustainability goals
- To improve:
  - Communication, both external and internal could be more frequent
  - Update list of measures (together) more often (otherwise we 'forget' measures, such as the tubes in the fly-over)
  - Control with purchasers if we buy according to our LCAs



CO<sub>2</sub>-PRESTATIELADDER®

