



# Demonstration of a garbage truck on hydrogen in Eindhoven, Best and Son (the Netherlands)

April 2019 - December 2020

The truck is owned by waste collection company Baetsen

## Results

The vehicle drove more than **23.000 kms** during the **20 months** of operation. It collected multiple waste fractions such as residual, biomass and PMD in the municipalities of Veldhoven, Best and Son in the South of the Netherlands.

In total Baetsen operated the vehicle **213 days**, in a regime of 4 out of 5 working days. Occasionally the trucks was also used for paper collection during weekends.



### Refuelling:

Throughout its lifetime in the project the vehicle refuelled **142 times**. On average it refuelled **17 kilograms** of hydrogen and this within **17 minutes**<sup>1</sup>. The refuelling time of a hydrogen truck is therefore comparable to a conventional Diesel truck. The truck refuelled a total of **2434 kgs of hydrogen**.

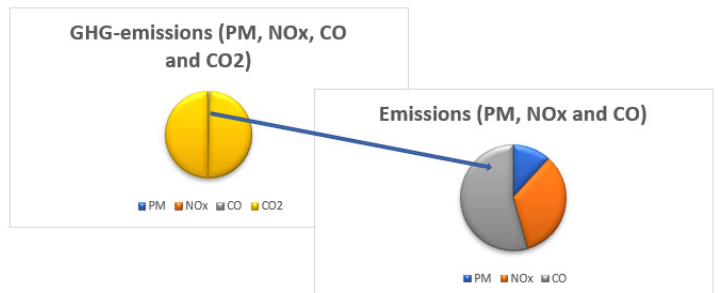
<sup>1</sup>This is the long year average, refuelling goes faster in winter than in summer.

## Impact

### Green house gases:

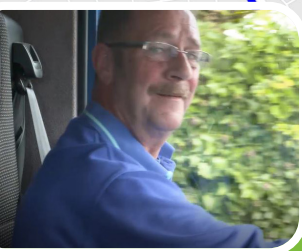
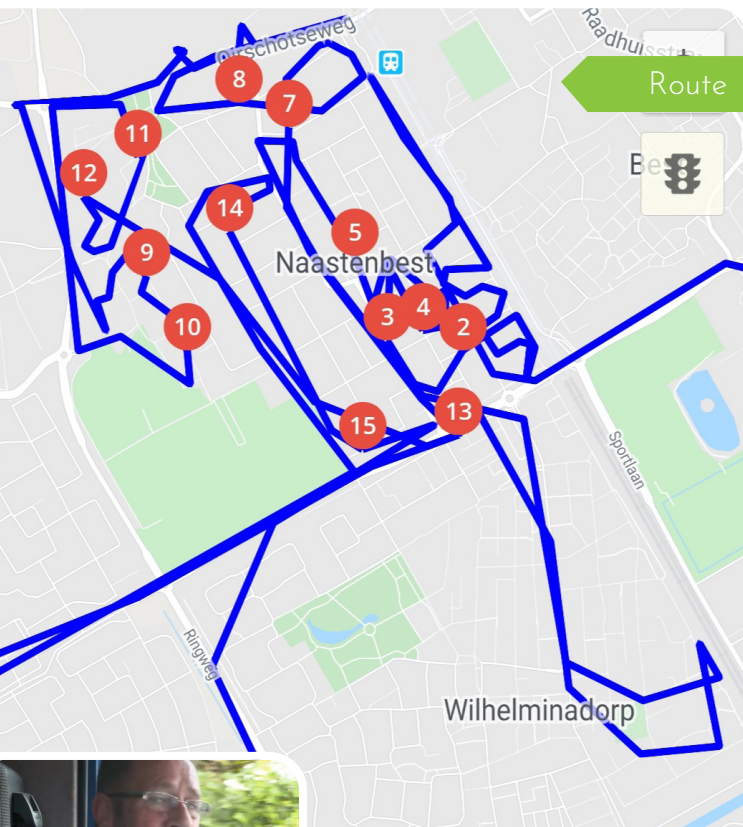
During its operation the truck saved 9500 liters of Diesel (equivalent of the hydrogen refuelled) and 1535 liters of Diesel (equivalent of the electricity of the night charging), significantly reducing the Green House Gas-Emissions<sup>2</sup>.

GHG-Emissions <sup>3</sup>			
PM	NOx	CO	CO2
17.4 kgs	50.1 kgs	79,7 kgs	38,7 Tons



<sup>2</sup>Tank to wheel emissions have been taken into account.

<sup>3</sup> kgs of GHG saved compared to EURO 3 Diesel (compared to 2014 at project start)



### Comfort

Beside the green house gas emissions that were saved, the vehicle operated with lower noise. This remarkably bettered the working conditions of the drivers and the loaders. Both were really enthusiastic about the trucks. In the meanwhile the trucks also emitting less noise to the environment.