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## **LIFE enables EU's first zero-emissions waste collections** [1]



In a European first, 2 hydrogen powered bin lorries have been approved for road use and are being rolled out on the streets of Eindhoven, Best and Veldhoven in the Netherlands. With this inauguration, the municipalities are raising the game on zero-emissions waste collection and making their streets quieter and their air cleaner.

The new hydrogen fuel cell lorries are the work of [LIFE 'n Grab Hy!](#) [2], which has been working to develop and trial the service. The lorries have been road tested for some months and have now been given the go-ahead to be put into public service.

The lorries were inaugurated in Veldhoven on 11 April at a ceremony with 21 aldermen from the metropolitan region of Eindhoven.

This marked a significant step towards one of the main goals of the project: to convince waste collection services and municipalities that hydrogen is a viable solution for the future of transport. This is important because it can support an expansion of the network of hydrogen refueling stations and overcome the 'chicken and egg' relationship between demand and supply.

One of the last hurdles for the lorries was an Electro Magnetic Compatibility (EMC) test. Passing this test confirmed that the vehicles do not generate electromagnetic disturbance which can have

unwanted effects on other vehicles or machinery.

“It took a while to have a full dry day for testing, without any rain, thunder or snow that would interfere with the very sensitive measurements,” explained Stefan Neis, project coordinator from WaterstofNet which develops [sustainable hydrogen projects](#) [3] in Flanders and the Netherlands. “The lorries have now been given license plates by the Dutch road administration office and are ready for service.” LIFE is helping to bridge the gap from approval for use to market introduction, he believes.

## Roll-out in cities around Europe

Authorities in the Netherlands, France, Germany, Belgium, UK (Scotland), Italy and Spain are all lined up to test the new model, while the cities of Oslo (Norway), Copenhagen (Denmark) and Zagreb (Croatia) are also interested.

Operations will be launched in phases, with Cologne and Rotterdam next. Roll-out will continue in the second quarter of 2019 in Bolzano and Merano in northern Italy, and onwards into other cities across Europe.

Barriers to this technology are falling all the time. Increasing numbers of buses and cars use hydrogen fuel cells thanks to improvements in efficiency and range and lower production costs.

To maximise the distance they can cover, the lorries manufactured for the LIFE ‘n Grab Hy! project have a hydrogen range extender where the fuel cell charges the battery while the vehicle is operating. This allows operators to use the lorries for a full day without recharging.

[More on how the technology works](#) [4]

## Advantages

Hydrogen fuel cells have many benefits over traditional combustion engines, including

- efficiency: they convert chemical potential energy (from hydrogen and oxygen) directly into electrical energy, unlike combustion engines which are less efficient because of their moving parts and the amounts of heat they produce
- direct emissions are only water and a small amount of heat
- no moving parts, meaning much less maintenance and noise

Emissions and noise reduction benefits are felt even more clearly in built-up town and city centres, and this is what makes this LIFE project so attractive.

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## Links

[1] <https://ec.europa.eu/easme/en/news/life-enables-eu-s-first-zero-emissions-waste-collections>

[2] <http://www.lifeandgrabhy.eu/>

[3] <https://www.waterstofnet.eu/en/projects-roadmaps>

[4] <http://www.lifeandgrabhy.eu/garbage-trucks-hydrogen>