



HyER

Hydrogen, fuel cells and electro-mobility in European regions

**Hydrogen sector: opportunities for cities
and regions in Europe**

Norway House

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About HyER



Representing the interests of European regions and cities active in the field of hydrogen, fuel cells and electro mobility



- Membership based network / political organisation
- 16 members in 10 countries
- **Aim:** help our members to develop their hydrogen and electro-mobility activities

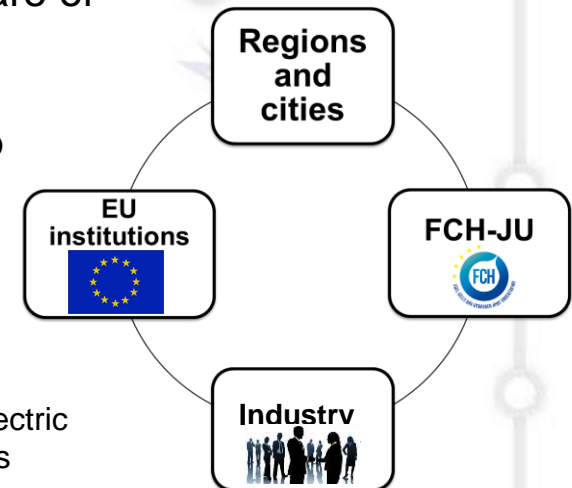
↳ Enabling the share of knowledge

↳ Bridging the gap

Electro-mobility

Battery electric vehicles

Fuel cell electric vehicles



What is hydrogen?



Renewable electricity



Hydrogen production

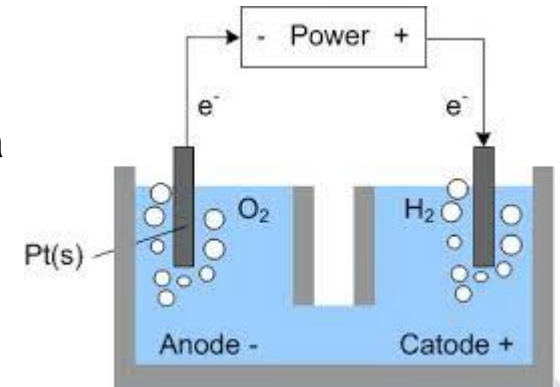


Hydrogen applications



A zero emission fuel

- Hydrogen is a gas which is used as a fuel: the fuel cell converts hydrogen into electricity in the vehicle
- Hydrogen can be produced from renewable electricity → zero emissions during energy production + during use



Potential for complete decarbonisation of the transport system – well to wheel

Medium & light duty transport



Heavy duty transport



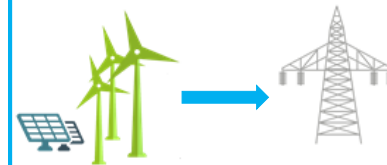
Maritime applications



Stationary applications



Energy systems



Why is hydrogen interesting for cities and regions?



- Cities and regions are operating fleets: buses, garbage trucks, vans...
- Economic development opportunities – hydrogen can become a strategic area for economic growth
- Growing regulatory push for decarbonisation of transport and energy sectors
- Cities and regions are the ones who will have to implement solutions!



European cooperation

How can it help?

- Transnational interoperability, transnational customer information are essential for the development of zero-emission transport and energy systems → European cooperation is essential in these sectors
- Successful demonstration projects in Europe → learnings can be shared, many local authorities are facing the same challenges
- Local authorities have a purchasing power
- Funding available at EU level



Interreg



How can HyER help?



Contact: secretariat@hyer.eu / www.hyer.eu

Involvement in projects



- One of HyER's main objective is to facilitate project development for the members – bringing together regions & the industry
- Involved as direct project partner when relevant for the membership



www.eafo.eu

Project examples – fuel cell buses



Fuel cell buses: towards clean public transport



ONLY EMIT WATER
VAPOUR



REDUCED NOISE AND
VIBRATION LEVELS



LARGE RANGE WITH ONLY 1
REFILL A DAY (<12 MINUTES)



READY FOR MARKET
DEPLOYMENT

- Around 100 buses already deployed in Europe, around 300 more planned in next few years
- Moving towards larger fleets reduce prices and encourage the large scale deployment of clean buses
- Joint procurement exercises launched in several countries

**Aberdeen – 10 buses in
operation + 10 planned**

**Oslo/ Akershus – 5 buses in
operation + 20 planned**

Project examples:
www.highvlocity.eu
www.chicproject.eu
www.3emotion.eu

Studies:
[Joint Procurement](#)
Large scale refuelling: [here](#)
and [here](#)



Project examples – fuel cell buses



WWW.FUELCELLBUSES.EU

KNOWLEDGE BASE FOR
FUEL CELL BUSES IN EUROPE

FUEL CELL ELECTRIC BUSES KNOWLEDGE BASE

All you want to know about fuel cell electric buses in Europe.

FUEL CELL ELECTRIC BUSES



HYDROGEN REFUELLING STATIONS



PERFORMANCE DATA



START TO IMPLEMENT



FRAMEWORK



HYDROGEN AND FUEL CELLS



Project examples – fuel cell trains



Fuel cell trains: an alternative to electrification

- Economically viable
- Creates large demand for hydrogen
- First trains to be deployed in real life operation conditions in 2018 in Germany



More information:

[Alstom](#)

[News article – Germany](#)

[News article – UK](#)

Project examples – captive fleets

Looking at captive fleets to encourage uptake

Garbage trucks

REVIVE project

Will deploy 15 fuel cell garbage trucks (Antwerp, Breda, Groningen, Helmond, Roosendaal, South Tyrol)



Taxis

HYPE project

15 taxis already deployed in Paris, aiming 600 vehicles by 2020



Car sharing

In Aberdeen or Hamburg for instance, hydrogen vehicles are integrated in car sharing fleets



Useful resources for all applications: <http://www.fch.europa.eu/page/presentations-2>
Fuel Cell and Hydrogen Joint Undertaking

Thank you for your attention

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