



Project Acronym : ZERO REGIO

Project Title : Lombardia & Rhein-Main towards Zero Emission: Development and Demonstration of Infrastructure Systems for Hydrogen as an Alternative Motor Fuel

Coordinator : InfraserV GmbH & Co. Höchst Kg (Germany)

Website : <http://www.zeroregio.com>



ABSTRACT

With an overall objective of developing low-emission transport systems for European cities, the specific objectives of the project ZERO REGIO are:

- Use of hydrogen as an alternative motor fuel, produced as primary or waste stream in a chemical plant or alternatively through small "on-site" production facilities
- Development of infrastructure systems for hydrogen consisting of hydrogen production, compression, storage and distribution equipment and integration of these in conventional refueling stations
- Adaptation and demonstration of 700 bar refueling technology for hydrogen
- Demonstration of hydrogen as an alternative fuel via automobile-fleet field tests at two different urban locations in the EU, Rhein-Main, Germany, and Lombardia, Italy
- Showing ways and prospects for faster penetration of hydrogen as a zero-emission alternative motor fuel in the transportation market at short and medium term.

Zero Regio was launched in 2004. This being the final project year most of the above goals have been achieved. Conventional modern multi-energy public refueling service stations have been built in Frankfurt, Germany and Mantova, Italy. Hydrogen sources are available at locations near these refueling stations. The infrastructure for fuel transport from the source to the station have been realised in the project. Multiple solutions for infrastructure development for hydrogen are used: pipelining and trailers from a centralized production facility as well as local "on site" H₂ production. Car fleets have been implemented by the automobile manufacturers Daimler and Fiat. Field tests with the zero-emission fuel-cell

vehicles are being performed by city authorities in Lombardia and the airport authority and industrial park in the Rhein-Main region. The car fleets are employed for local deliveries, post distribution,



Hydrogen dispensers at the Agip service station in Frankfurt

work operations, passenger transfer etc. Technical as well as socio-economic evaluations of field tests will lead to suggestions and models for faster penetration of hydrogen as an alternative motor fuel over larger urban areas in the EU. Experience gained during the field tests and results obtained in this project will contribute to the objective of the European Commission of 5% substitution by hydrogen as an alternative motor fuel in the road transport sector by the year 2020.

PARTNERS

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