



IEA Advanced Fuel Cells Annex 26: Fuel Cells for Transportation
Swedish Activities
Grenoble, 14-12-03

Azra Selimovic

Group Trucks Technology

Swedish Energy Agency

- Finances a project for technology watch and pre-studies within the area of fuel cells
 - The project is carried out as part of The Swedish Hybrid Vehicle Centre (SHC) and it is led by Elforsk.
 - From 2014 to October 2016. Total budget 3.6 MSEK
 - Steering Committee: Göran Lindbergh (KTH), Anders Hedebjörn (VCC), Azra Selimovic (AB Volvo), Annika Ahlberg-Tidblad (Scania), Bengt Ridell (Grontmij), Bertil Wahlund (Elforsk)
- Through FFI (Strategic Research for Automotive Industry) funds few research projects.
 - Total budget
- Finances also two research projects led by two Universities, KTH and CTH.

Swedish Energy Agency

Pre-studies 2014

Left over hydrogen quality and cost

Technology status of Direct Ethanol Fuel Cells

Requirements of power electronics for fuel cells in electric vehicles

Future fuel cell vehicle costs

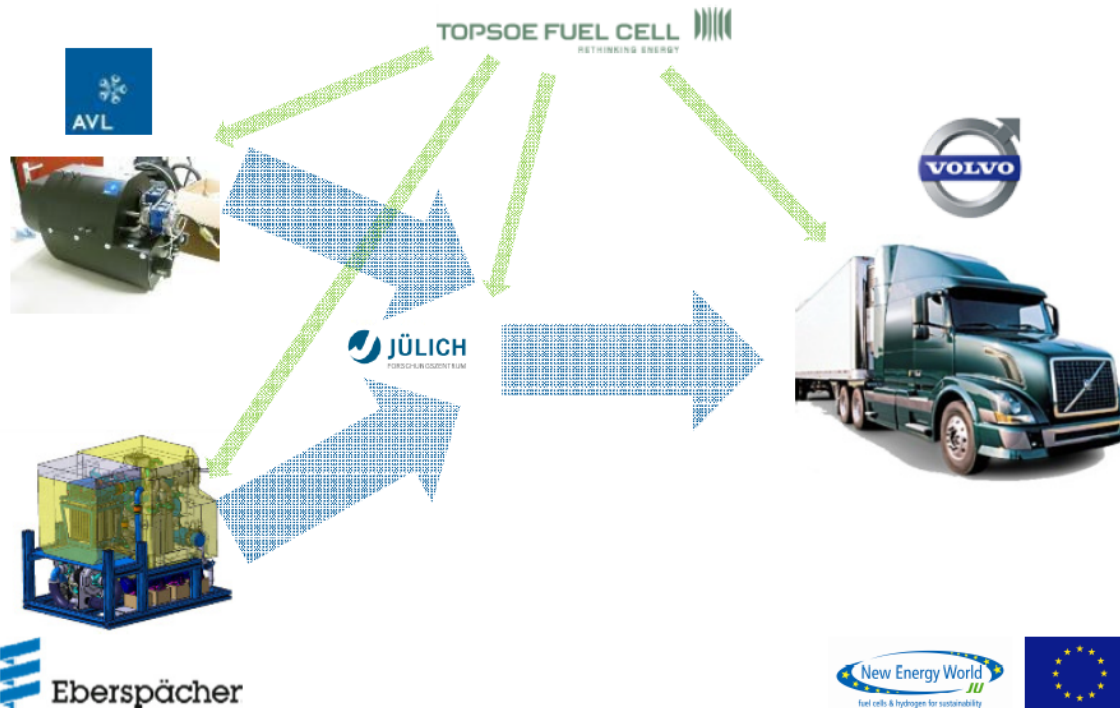
< 1MSEK

Research projects	Period	Budget, MSEK	Partners
New components and concepts for polymer fuel cells in vehicle applications	2014-2016	11	AB Volvo, Volvo Cars, Scania, Sandvik, Cell Impact, PowerCell, myFC, Intertek, Grontmij, Hydrogen Sweden, KTH, CTH, LTH
Improving Lifetime and Performance of SOFC for Truck APUs	2014-2016	8.4	AB Volvo, Haldor Topsoe, Sandvik, CTH

Swedish Automotive Industry

VOLVO

DESTA Project



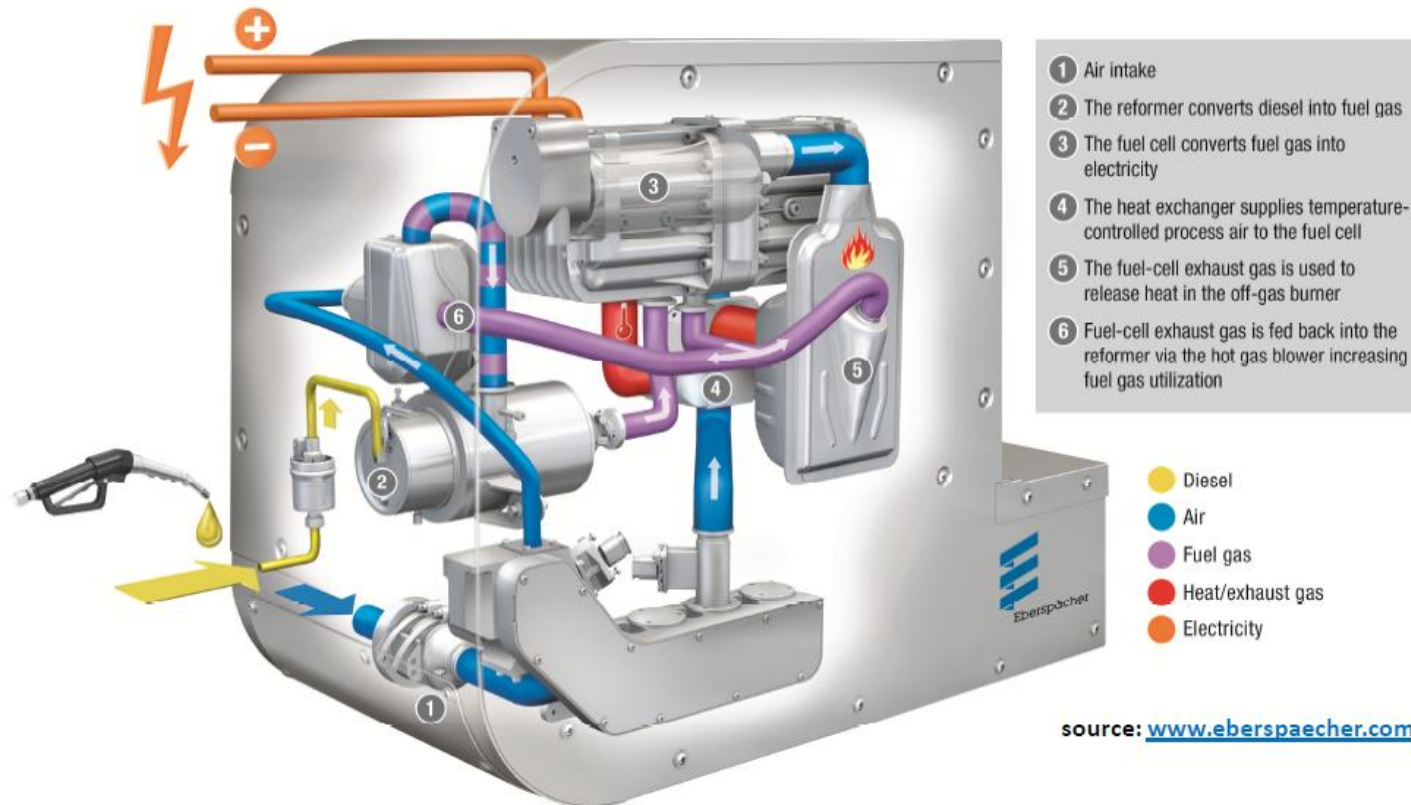
Rechberger, AVL, DESTA Coordinator

<http://www.esta-project.eu/esta-project/>

VOLVO

Swedish Automotive Industry

DESTA



Swedish Automotive Industry

VOLVO

DESTA





IMMEDIATE, Innovative autoMotive MEa Development – implementation of Iphe-genie Achievements Targeted at Excellence

- Development of a medium temperature PEM membrane electrode assembly (MEA) for automotive application .
- Operation at $>100\text{ C}$ at minimal RH and , Pt-loadings $<0.15\text{ g/kW}$ at $>55\%$ efficiency and $>5,000\text{ h}$ lifetime at dynamic operation.



NanoCat, Development of advanced catalysts for PEMFC automotive applications

- Development of innovative Pt-free catalysts
- Exploring the route of nanostructured Pt alloys with very low Pt content
- Development of representative testing procedures at cell level. and validation of the performances on a short stack



AUTOSTACK, Automotive Fuel Cell Stack Cluster Initiative for Europe II

- Development of the best-of-its-class automotive stack hardware with superior power density and performance while meeting commercial target cost.
- Applications with H_2 as fuel.
- Stack efficiency: High power: 54% ,Low power: 64% .

Swedish Automotive Industry



- No activities available to share with public.

Swedish Automotive Industry

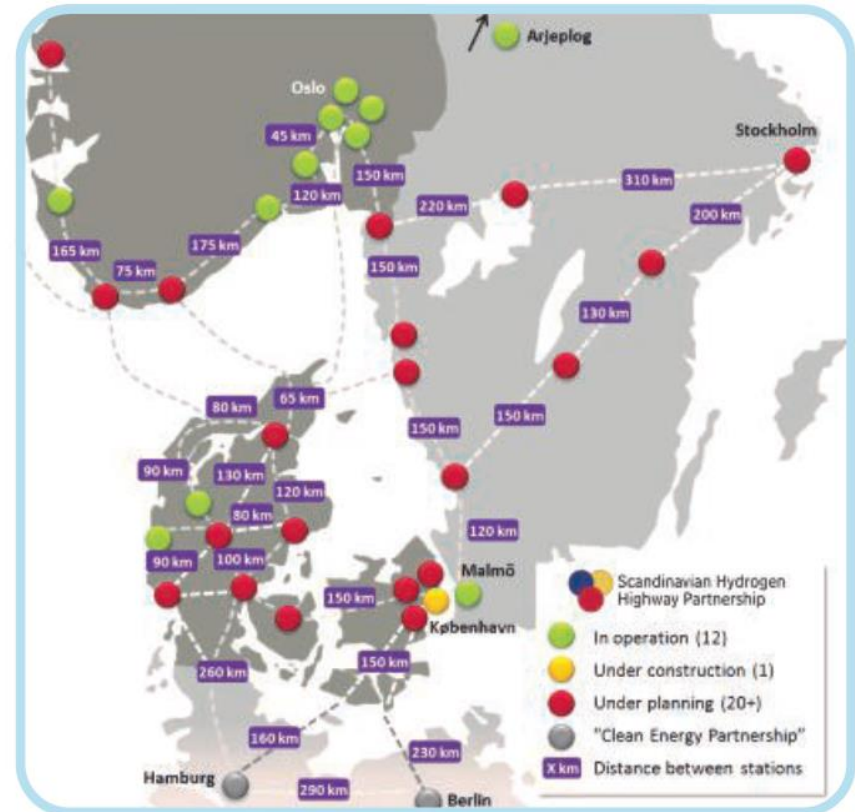


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Scandinavian Hydrogen Highway Partnership

"Making the Scandinavian Region one of the first regions in Europe where hydrogen is available and used in a network of refueling stations."

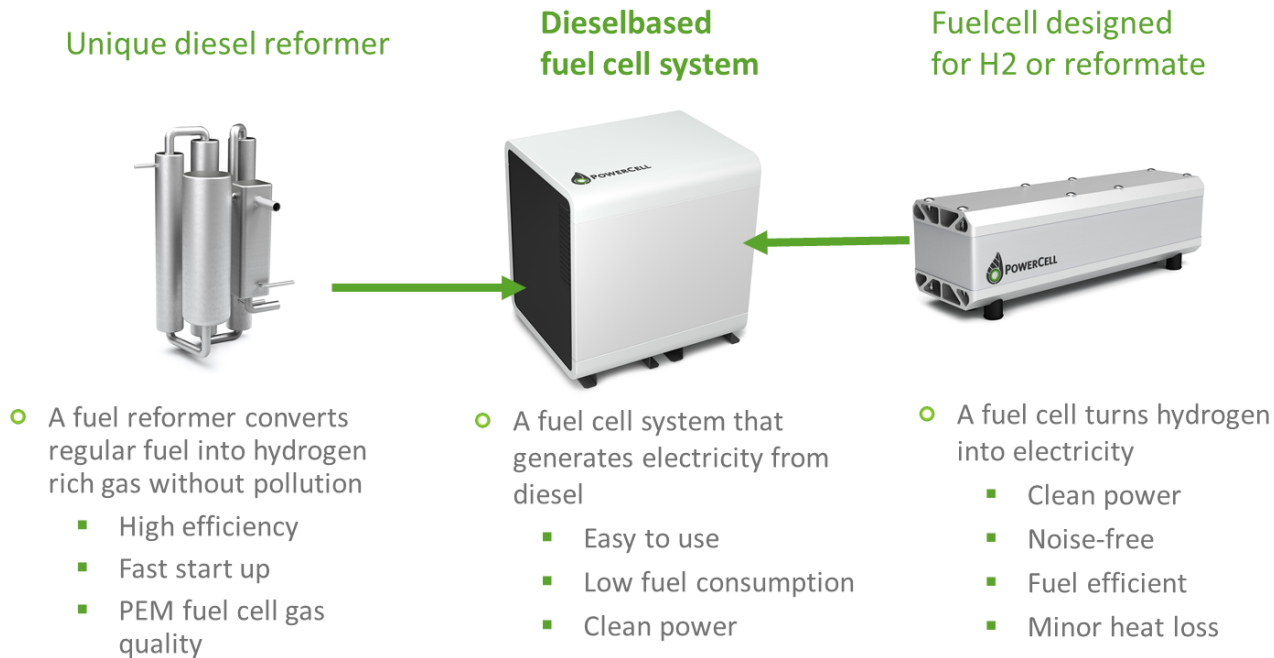
- Coordinated by HyNor (N), Hydrogen Link (DK) and Hydrogen Sweden (SE).
- Targets by 2015
 - 15 stations
 - 30 satellite stations
 - 100 buses
 - 500 cars
 - 500 speciality vehicles



Other activities related to transport



Fuel cell system for truck APU



Other activities related to transport

MoRE Zero: Hydrogen Modular Range Extender for Electric Vehicles:

