Eco-Mobility 2013

Swedish strategies and research funding for a globalized Swedish automotive industry and to replace fossil fuels

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Sweden is full of resources

Biomass (forests, agriculture)

Electricity (hydropower, nuclear, wind)

Automotive industry (OEM, suppliers)

R&D institutions

Early demonstrations:

1991 biofuel demonstration program

- Biogas
- Ethanol
- RME

1994 electric and hybrid vehicle demonstration program

- Battery electric cars
- Battery heavy vehicles
- Electric hybrid heavy vehicles

Market support since 2000:

Incentives for electric and biofuel cars

- Reduced income tax for company cars of these types

Biofuel distribution obligation by law

- Ethanol or biogas

Economic support for biogas

Bonus for environmental cars (CO2 <120g/km)

Vehicle tax related to CO2 emissions

Zero road tax for 5 years for environmental cars.

Swedish government long term targets:

1: Swedish vehicle fleet not dependent on fossil fuels year 2030

2: Swedish transport system fossil free year 2050

Swedish Road map:

Government investigation report due in December 2013

Scope: A roadmap to make the Swedish transport system fossil free 2050

1. Bonus / Malus (CO_2) for cars + specific incentives
2. Support for biofuel production
   (transfer $ from fossil fuels to biofuels)

… and many more actions proposed

The Swedish Automotive industry

is today global!

Strategically important to keep
the Automotive cluster intact

Competition today is about excellence and know-how

Long term R&D linked strategically to industry is an effective tool in this game.

Strategic Vehicle Research and Innovation (FFI)

FKG VOLVO SCANIA VOLVO VINNOVA Energimyndigheten TRAFIKVERKET

FFI is a partnership between the Swedish government and automotive industry for joint funding of research, innovation and development concentrating on Climate & Environment and Safety.

Nearly €100 million per year will be invested in Swedish vehicle research and innovation within FFI.

FFI

The program has a four year planning horizon.
Decision on new period taken every second year.
Includes evaluation and adjustments of program.

FFI

Summary 2009-2012

Number of greenlighted projects	Of which number of concluded projects	Total budget (SEK millions)	Of which state funding (SEK millions)	Number of doctoral students
351	**80**	**3949**	**1710**	**233**

(84 ind. / 149 akademia)

FFI

Program overview (Energy & CO2 related):

- Electric drivetrains
- Internal combustion engines
- Hybrids
- Lightweight materials
- Production of new components
- Efficient transport solutions

FFI- project example

Slide-in technology for continual energy transfer to electric vehicles

Project description
Examining the technical possibilities of:
- Inductive electrical transfer.
- Conductivity electrical transfer.

Results
Prototype vehicles will be built in the project using:
- Inductive technology, Scania, ready winter 2012/2013
- Conduct of technology, Volvo, ready winter 2013
- System inspection to be done by Vattenfall, KTH, and LTH
- Enabling road transport with very low emissions for private cars, lorries and buses.

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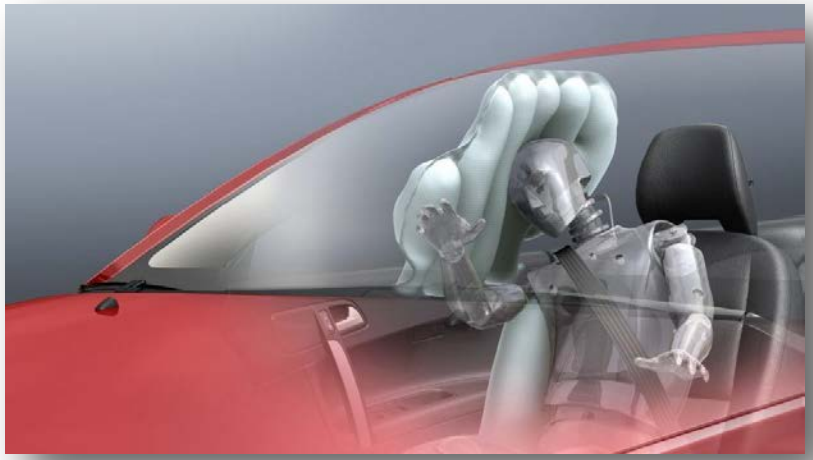
FFI- project example

SEVS - Safe Electric and hybrid novel VehicleS

The purpose of SEVS is to explore how safe, efficient and affordable future vehicles should be designed and what research needs to be performed, with special focus on safety and energy consumption.

Findings of project: It is technically possible to reduce both energy consumption as well as fatalities and severe injuries by 80%.



Project partners: Chalmers, SAFER, SHC, Lunds universitet, KTH, Volvo, Scania, Saab, Autoliv, VTI, SP, Swerea sicomp.

FFI

Industry and Authorities plan the R&D program together, based on societal needs to improve the road transport system.

It is a goal to have competence available to industry when it is time for product implementation.

Thank You