Clean Vehicle Strategy in the City of Stockholm

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City of Stockholm
Clean vehicle !!!?

- Global effects - CO2
- Local emissions - NOx, HC, PM
- Energy efficient
- Silent

Introduction of new technologies
How and Why?

- Transport important
- Vehicles are the largest polluters
- Clean Vehicles are not controversial
- Cheap and suitable way to reduce negative impact
- Biogas-waste problem to solve and money to make
- Local and national production of fuel possible
  - creates jobs
- Clean vehicles are just like other conventional vehicles

Clean Vehicle Strategy

- Local authorities are key players to start a market development
- Use your procurement power
- Introduce step-by-step
- A long term perspective is necessary
- Incentives are very helpful
- Subsidies and tax relieves may be needed initially
1) Start with heavy vehicle fleets
   - limit number of fuelling stations
   - large environmental impact
   - possible to exchange a whole fleet in only a few years

2) Demand clean vehicles in the city fleet
   - The Stockholm City council has decided:
     - All new vehicles that are bought to the city fleet in Stockholm should be clean
     - 100% clean vehicles in the city fleet by 2010
3) Work to overcome market obstacles

- vehicles
- fuelling stations
- service & maintenance
- national and local regulations
- incentives
  - free parking
  - no congestion charging
- information
  - web-site
  - newsletter
  - test fleet
  - sales promotion

4) Demand clean transport in PROCUREMENTS of ALL transport services

- i.e. taxi, goods distribution
Political support important

- Political Steering Group
  - Established in 1994
  - Help and support the introduction of clean vehicles
  - Short cut for fast decisions required in EC projects
  - One from each political party
  - Gives media attention
  - Pushes National politicians

Economical benefits!

- No tax on renewable fuels - 2013
- Lower tax on company cars if they are clean - 2011
- Lower vehicle tax for clean cars

- Free parking
  - (No congestion charging)

- Clean taxi cars "cut the line" at Arlanda Airport
- Clean cars are demanded in various procurements
- Marketing values
- Spread your risks!

- State funding programs and EC funding for fuel production and investments in vehicles
- 85% of all vehicles bought by state administrations should be "clean"
- 10 000 Skr for private users buying a new clean car.
Ethanol cars in Sweden

- Ford Focus 1.8 FFV sedan: 169,900 kr
- Ford Focus 1.8 FFV kombi: 173,900 kr
- Ford Focus C-max FFV: 174,900 kr
- Ford S-max and Mondeo – on its way
- Saab 9 3 Biopower: 237,000 kr
- Saab 9 5 Biopower Sedan: 249,000 kr
- Saab 9 5 BioPower Combi: 259,000 kr
- Volvo S40 1.8F: 203,900 kr
- Volvo V50 1.8F: 213,900 kr
- Volvo C30 1.8F: 217,000 kr
- Volvo V70 2.0 – on its way
- Peugeot 307, Citroën C4, VW Golf, Renault Megané – on its way in 2007

Biogas vehicles in Sweden

- Volvo V70 Bi-fuel: 289,000 kr / 270 + 320 km
- Volvo S60 Bi-fuel: 264,900 kr / 290 + 340 km
- VW Caddy Ecofuel: 169,900 kr / 400 + 150 km
- VW Touran Ecofuel: 234,000 kr / 300 + 190 km
- VW Transporter bus: 360,000 kr / 150 + 370 km
- Opel Combo CNG: 163,900 kr / 330 + 170 km
- Opel Zafira CNG: 210,000 kr / 350 + 160 km
- Mercedes E200 NGT: 400,000 kr / 300 + 720 km
- Fiat Punto Bi-Power: 166,000 kr / 260 + 740 km
- IVECO Daily CNG: ? / 330 + 0 km
Electric hybrids in Sweden

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<th>Bilmodell</th>
<th>Pris</th>
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<tr>
<td>Toyota Prius HSD</td>
<td>260 000 kr</td>
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<tr>
<td>Honda Civic Hybrid</td>
<td>237 900 kr</td>
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City cars in Sweden
- maximum 120 g CO2/km

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<th>Bilmodell</th>
<th>Pris</th>
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<td>Citroen C1</td>
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Growing number of fuelling stations!

**Sweden**
Gas  80  
Etanol  792

**Stockholm**
Biogas  10  
Etanol  110

From April 2006 all large fuelling stations need to provide one renewable fuel.
- 2 400 (out of 4 000) stations in 2009

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Filling stations for E85 in Sweden 2001-2006

![Graph showing the increase in filling stations for E85 in Sweden from 2001 to 2006.](image-url)
Happy drivers

- 94% recommend others to drive clean
- Few of no technical problems
- Same need for service as conventional vehicles
- Environmental policy in a company important for the purchase

New clean vehicles sold in Sweden and Stockholm
Clean Cars registered in Stockholm

What is next?

- European co-operation necessary to get a large market
- More production capacity of clean fuels in Europe
- National and European definition of clean vehicles
- Biofuel directive should be compulsory
- Hybrid vehicles running on biofuels
- Heavy Vehicles
Seeing is believing!

Welcome to Stockholm for Clean Vehicles and Fuels 2007!

- European Symposium
- Exhibition
- Study tours
- 8-9 November 2007

Thank You!

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In theory the FFVs in Sweden filled up with 106% E85 during 2006. This might be due to the fact that other cars also filled up with E85 when the petrol was at its highest price.

In December there were 68% E85, on average, in the FFVs. There is probably a large variation between the different cars.

The number of FFVs and the amount of E85 sold have both doubled during 2006.

The number of E85 cars on the road and the amount of E85-fuel sold has doubled during 2006.
Så här stor andel E85 tankade FFV bilarna
(teoretiskt, volym-%)

In theory the FFVs in Sweden filled >100% E85 during 2006. This might be due to the fact that other cars also filled up with E85 when the petrol was at its highest price.

In December there was 68 % E85, in average, in the FFVs.

There is probably a large variation between the different cars.