

Clean Fleets and Advanced Mobility Management

Jonas Ericson, city of Stockholm, Sweden

Background

As most European cities, Stockholm suffers from the traffic load, causing congestion, noise and emissions. Cars and lorries are responsible for approximately 70 % of the emissions of NO_x, Particulates and Hydrocarbons and some 30 % of CO₂.

One way of meeting this problem is the introduction of clean vehicles, i.e. electric, electric-hybrid, Biogas and Ethanol vehicles. Such vehicles has been available for some time but is still a very small part of the vehicle fleet.

Cities/Regions has a responsibility in increasing the share of clean vehicles, since they are the one responsible for the city environment. Cities are also often owners of vehicles and have the possibilities to give incentives through infrastructure, local regulations and information to the citizens.

When Stockholm analyzed what obstacles there are to increase the market share for clean vehicles, the following was regarded as the most important:

- High costs
- Inadequate infrastructure
- National barriers
- Lacking incentives
- User acceptance

In the European project Zeus - Zero and low Emission vehicles in Urban Society – Stockholm, together with Copenhagen, Helsinki, London, Coventry, Bremen, Luxembourg, Palermo and Athens, started to overcome some of these obstacles.

Clean vehicles

To reduce the high costs for new technology, an international procurement consortium was created in order to exploit the economy of scale in a procurement of electric vehicles. This procurement was very successful and resulted in a market breakthrough in most of the countries involved. In addition to maintenance service and 25-100 % discount on the additional price that normally comes to clean vehicles, the procurement also resulted in the innovative clause of 3rd part option right to buy additional vehicles. Another innovative solution was battery leasing as a way of always having fresh batteries.

Stockholm also initiated national procurement consortia in Sweden to procure biogas and electric hybrid vehicles. The total of all vehicle procurements in Zeus amounted to more than 1200 clean vehicles of different kinds.

To improve the inadequate infrastructure, Stockholm chose to co-operate with the fuel companies to be able to use an existing infrastructure and to underscore that clean vehicles are not different from ordinary vehicles. The investments were mainly made by the companies, though EU-funding also was used. As a result Stockholm now has 8 ethanol filling stations, 4 biogas stations, 6 fast charging stations and 40 stations for normal charging.

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National barriers are mostly due to side effects of legislation adapted for ordinary vehicles. An example of this is the vehicle taxation, which is proportional to the price of the vehicle, intending to put high taxes on luxury cars. Since clean vehicles are more expensive than ordinary cars, this led to heavy taxation on clean vehicles. A joint effort from the Swedish Clean Vehicle Cities made it possible to make an exemption from that rule for clean vehicles.

Most cities have the opportunity to give local incentives for clean vehicles, like

- Access to restricted areas
- Permission to use bus lanes
- Special designated parking spaces
- Reduced parking fees
- Subsidised conversions to CNG

These incentives were tested in the Zeus cities and proved to be successful.

Stockholm's objective is to increase the market for clean vehicles to 5 %, following the philosophy of other technology introduction: In the beginning, only the extreme technology fans will buy the new item, then a few curious people will buy it. However there will be no boom until the new technology reaches 5 % of the market. Once this market share is achieved, the introduction will be self-supporting.

Since the first generations of clean vehicles had obvious disadvantages – short range, technical errors, high costs etc., clean vehicles have a bad reputation among some groups. To counteract such opinions, Stockholm uses information campaigns, demonstration seminars and provide a calculation program at the web, which compares the total costs for clean and ordinary vehicles (buy, drive, taxation, fuel, parking etc). In co-operation with the car dealers, Stockholm also provide a test fleet where companies can borrow a car for a week to test it under their normal conditions.

Mobility Management

In the EU-project Trendsetter, Stockholm is continuing its work from Zeus. Trendsetter has however a much broader perspective. Together with Graz, Lille, Prague and Pécs Stockholm will show how cities can curb unsustainable traffic growth by using advanced mobility management schemes combined with clean vehicle fleets. Trendsetter aims to promote the use of public transport and other alternatives to private cars but also show new ways to improve goods logistics and efficiency. The project will increase the acceptance for bio-fuels among citizens and encourage operators, politicians and social groups to use innovative, low-noise and low emission technology by practical day-to-day operation. Trendsetter will prove that cities can achieve Kyoto and EU goals, e.g. by reducing fossil CO₂ by 5% through a combination of measures. The results are intended as inputs to European policy making and to set trends for a sustainable transport future in Europe.

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Some examples of Measures in Trendsetter are:

Access restriction

- Environmental restriction zones for lorries
- Environmentally oriented Parking zones

Advanced mobility

- Visitors web for optimal trip planning
- B&R improvements and extended suburban cycle lanes
- Car sharing/pooling
- 7 Improved intermodal links
- Several IT-based transport information systems and traffic management systems
- 1100 P&R parking places (Lille)

Public Transport

- 60 High customer friendly bus and tram stops
- Smart card systems for integrated ticketing
- 3 bus priority lanes
- 2 Bus priority signal systems
- Improved customer guarantee

Goods logistics

- Material logistic centre -to optimise freight deliveries at construction site
- Green city logistics Centre

Clean vehicles

- 120 taxis converted to biodiesel
- 107 bio-diesel buses
- 150 biogas buses and lorries
- 3 new biogas refuelling stations
- 320 new clean vehicles in city fleets
- 350 new biogas lorries and 180 electric-hybrid lorries
- 300 substituted clean vehicles in company fleets
- Free parking for clean vehicles

Trendsetter is a part of the Civitas-initiative, which is co-financed by the European Commission. 19 cities in Europe will demonstrate some 200 measures and strategies to curb unsustainable traffic growth and reduce emissions and energy use. The result will be an extensive catalogue of useful measures. The cities range from small, medieval towns like Graz and Pécs, to big cities like Rome, Barcelona, Stockholm and Prague.

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Recommendations

- Find your local opportunities
- Find the obstacles
- Work step by step
- Co-operate/network with other

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