

New Non-polluting and Energy Efficient Vehicles

Joint Procurement of Clean Vehicles



Policy notes

What is it about?



A Ford Focus FFV – a result of a joint procurement

Photo: Kristina Birath

Good practice: Coordinated procurement of FFV in Sweden

In 1998 the City of Stockholm among others organised a joint procurement of a car that should be able to use E85 fuel (FlexiFuel Vehicle, FFV). A list of requirements on the car was developed by a large number of buyers. An information campaign about the FFV got more buyers interested and resulted in an interest to buy a total of 4,000 cars.

This led to the introduction of Ford Focus FFV to the Swedish market in late 2001.

In 2004 Saab and later Volvo have also presented ethanol vehicles (Saab 9-5 BioPower and Volvo V50F). By the end of 2006 44,000 ethanol vehicles had been sold.

Examples of ongoing joint procurements:

- Ethanol buses (SE);
- Ethanol driven transport vehicles (< 3,5 tonnes) (SE);
- CNG/Biogas heavy vehicles (DE).

Characteristics

One of the most common problems when starting the introduction of Alternatively Fuelled Vehicles (AFVs) is to find vehicles. For AFVs there is an uncertainty of the demand and many times the car dealers abstain from introducing a model in a country. By gathering a substantial amount of buyers it is possible to overcome this. By giving the vehicle sellers a proof of the extent of the demand it may also be possible to lower the price per unit.

The market for cars, vans, minibuses and transporters is more or less pan-European. The total European fleet consists of about 200 million vehicles. This means that it is hard for any single actor to influence this market. By gathering a larger number of customers it is however possible to get the manufacturers interested.

Joint procurement can be used for introducing new technologies on the market, introducing more models and/or get a lower price on new technology. A joint procurement can be done within one country or as an international project.

Key benefits

A Joint Procurement for Clean Vehicles...

- shows the vehicle manufacturers the demand of AFVs;
- supports the introduction of new models of AFVs on the market;
- speeds up the market introduction of new technology;
- can also be a way to reduce the price of AFVs.

"The municipality of Växjö took part in the joint procurement of FFVs with the aim to actively support the introduction of alternatively fuelled vehicles."

Lennart Lundberg, transport planner at Växjö municipality



Fuel choice at fuel station

Photo: Kristina Birath

Is this something for us?

A joint procurement is a useful tool for introducing new models of AFVs on a market or reduce the price of an existing AFV.

The Concept is suitable under the following circumstances:

- Large interest among potential car buyers;
- New or emerging technology;
- Immature market;
- Low purchasing volume per individual purchaser;
- Essentially the same performance requirements for all purchasers.

Check list

City size	No restriction, but joint procurements create a larger demand. To work with others increases the momentum.
Costs	Low cost for the procurement project and a possibility for lower prices of vehicles.
Implementation time	Short term (<3 years).
Stakeholders involved	<ul style="list-style-type: none"> • Public authority • Private business • NGOs
Undesirable secondary effects	None

Benefits & Costs

Benefits

- Joint procurement is an efficient tool to overcome two of the main barriers for the development of AFVs: lack of models and high prices on the few existing models;
- A consortium may gather both small and large customers, giving also small stakeholders a chance to obtain AFVs;
- Lower the price for AFVs;
- Speed up market introduction for new technologies close to the market.

Costs

Joint procurement is a tool that can be used to reduce the cost for Alternatively Fuelled Vehicles. AFVs are often more expensive than conventional vehicles.

The cost for the project is mainly connected to the set up of a separate project organisation. A joint procurement involves a large amount of stakeholders during the project period.

The main costs are:

- Mapping of the market interest (including information campaign to reach as many potential buyers as possible);
- Forming a buyers' consortium;
- Setting up the requirements for the procurement;
- An international procurement consortium requires translation and knowledge about differing national legislation. This can mean additional costs.

Ford won the joint procurement of Flexi Fuel Vehicles (FFVs)

"The application of interests for FFVs, which was generated through the joint procurement, had great significance for us at Ford when we decided to start the FFV project. It was certainly important for the environment but also a risk because of a number of questions concerning the long term perspectives of regulations and technology development. The procurement gave us the certainty of a higher volume to spread the development costs. Therefore it was crucial for breaking a deadlock where no other vehicle producer dared to take the first step."

Nils Lekeberg, Ford Sweden

Joint procurement - a tool

Joint procurements have in common that they increase the buyers' influence on the purchase but this power can be used for different objectives. The approaches can follow one or several of the following categories:

- Technology driving procurements;
- Procurements with the main objective to introduce new models;
- Procurements with the main objective to lower the price.

It is not necessary to go all the way and perform a procurement; it is also possible to gather interested buyers by letters of intent. This can sometimes be enough for the automotive industry to see the demand.

Users & Stakeholders



Logotype for joint procurement of ethanol transport vehicles

City of Stockholm

Users and target groups

The procurement will target owners of large fleets (both municipal, regional, national and private) in order to get a sufficiently strong demand.

Potential buyers:

- Owners of large fleets: Local and regional authorities, private companies, leasing companies, public transport companies;
- Vehicle producers: The vehicle producers have to be informed about the project at an early stage;
- Fuel producers and distributors: An interest of the fuel distributors is important in order make a broader introduction of the vehicles possible.

Key stakeholders for implementation

Joint Procurement of Clean Vehicles can be performed by any organisation. Examples are:

- Local authorities;
- NGOs;
- National authorities with commission to reduce emissions of greenhouse gases.

Joint procurement of ethanol transport vehicles - ongoing

There is a lack of light transport vehicles running on ethanol on the Swedish market. The City of Stockholm has initiated a joint procurement of ethanol driven transporters.

A survey for the interest for the vehicle type was done in a first step. All registered owners of 5 or more transporters were given the opportunity to send in a letter of interest, the type and number of vehicles.

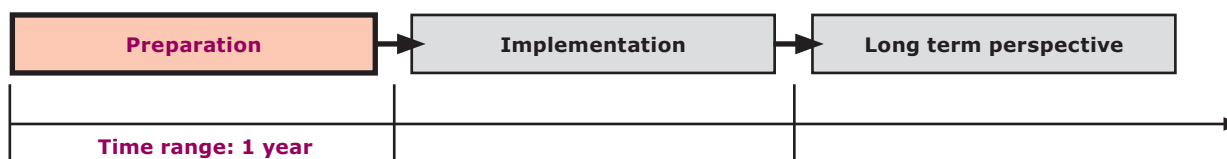
Information meetings were held around the country. A first list of requirements of an ethanol driven transporters was developed and the group of interested buyers gave their feedback.

Three types of vehicles are asked for: a pick up/delivery van of 2-5 m³ and 6-18 m³. The procured volume is 3,000 vehicles altogether.

The vehicles shall be available in the whole country and the distributor shall also be able to provide service in the whole country. The vehicle manufacturers had until 10th of January 2007 to give a tender.

From concept to reality

Preparation



A committed actor has been the driving force behind the procurement.

Key aspects at this stage

Market analysis. The first step of the preparation is to make a market analysis through a survey of demand and technological frontiers. This gives a picture of the available alternative propulsion technologies on the market.

The objective for the procurement has to be identified. On the basis of the market analysis the objective can be defined:

- To introduce new vehicle technology?
- To introduce new models of AFVs on the market?
- To gather buyers in order to get a better price on an existing AFV?

The prerequisites for the AFV have to be clear: How is the refuelling situation now and in the near future? Is the technology available at other markets or is it close to market introduction? How large a demand is needed to get a manufacturer interested in introducing the defined vehicle? This figure depends on the type of vehicle.

Map the market interest for the type of vehicle that is the subject of the joint procurement:

- Contact large users of the vehicle concerned;
- Cooperate with interested organisations and authorities in order to reach as many potential buyers as possible;
- Send out surveys to potential buyers to get a picture of the size of the interest;
- The potential buyers then form a buyers' consortium.

Ethanol bus buyers' Consortium

The ethanol bus buyers' consortium has been working since 2004. The objective of the project is to get at least two producers of ethanol buses on the European market. Scania is the only producer today. This is a standard bus with a slightly modified diesel engine. The fuel consists of 95% ethanol and 5 % ignition improver. Ethanol for fuel is not well known in Europe; that is why the project is performed in two steps:

1. Initiate demonstration of ethanol bus fleets in cities in Europe;
2. Based on their own experience the bus buyers (public transport authorities or operators) decide to take part in the buyers' consortium.

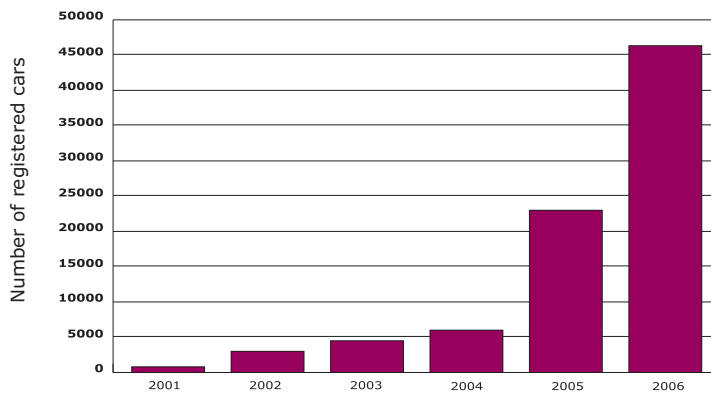
The required number of buses needed in order to succeed with the joint procurement is approximately 1,000. Today ethanol buses are demonstrated in Słupsk (PL), La Spezia (IT), Madrid (ES), Stockholm (SE) and on the way in Nanyang (China) and Sao Paulo (Brazil).



First ethanol bus in Poland

Photo: Oleg Lomonos, MZK Słupsk

Ethanol cars in Sweden



After the introduction of flexi fuelled vehicles (FFVs) in Sweden through a joint procurement the number of vehicles has increased rapidly.

Source: BioAlcohol Fuel Foundation (BAFF)

Organise seminars. At this stage it may be necessary to organise seminars to inform about the planned joint procurement. Most buyers want to know more before they promise to buy an unseen vehicle.

Joint procurement or gather interested buyers? After the first surveys of the interest, a decision has to be taken on how the buying process will be performed. Should it be a procurement according to the regulations or can it be enough to gather letters of interest or intent from the buyers to get the vehicle producers to offer a new model?

Inform the vehicle manufacturers. It is important to inform the vehicle manufacturers about the project. They are the ones to decide about a tender and production of a new vehicle model. Keep the manufacturers updated about the procurement. A decision to introduce a new type of vehicle on the market has to be taken at a high level in the manufacturing companies. This can take time.

Public procurement. If municipalities are among the buyers it is necessary to make the procurement according to the rules of public procurement. Otherwise the municipalities can be inhibited to buy the vehicles that are the result of the joint procurement.

PROCURA

PROCURA is an EU funded project that aims at facilitating large-scale procurement of Alternatively Fuelled Vehicles (e.g. natural gas and biofuels) by lowering traditional market barriers. PROCURA's strategy to overcome these barriers consists of developing models for large-scale procurement of Alternatively Fuelled Vehicles. Procurement models will be developed with a focus on centralised buyer pools (e.g. private and public fleets, rental agencies), permitting centralised infrastructure, maintenance and repair and stronger purchase power (lower costs).

PROCURA will assess and develop incentive systems to compensate for higher purchase prices. PROCURA will try new ways of facilitating green fleet procurement via GreenLease schemes, organising second-hand market development, and designing a certification system for Alternatively Fuelled Vehicles. Altogether 200 AFVs will be purchased in five fleets.

The project is funded by the EU in the framework of Intelligent Energy Europe. It started in September 2005 and will continue until September 2008. Partners from five countries are participating: the Netherlands, Portugal, Italy, Spain and Poland.

Ready for implementation?



Clear objective

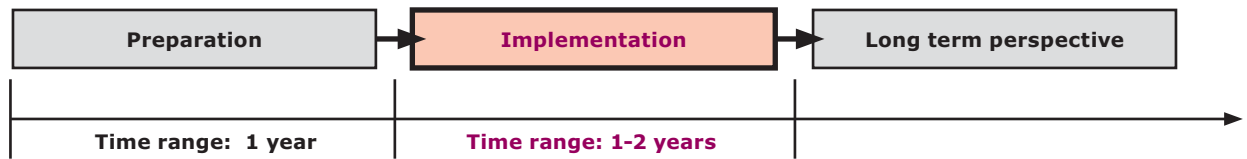
Are there sufficient incentives for alternative fuels to make them competitive with conventional fuels?

Is the technology available on other markets or close to market introduction?

Enough interest from the market (demand depends on vehicle type)

Is there alternative fuel available?

Implementation



In the implementation step the joint procurement is carried out.

Key aspects at this stage

Set up a buyers' consortium: The potential buyers form a buyers' consortium. Credible and leading buyers are strong success factors for the joint procurement. The buyers should do a clear declaration of intent to buy a number of vehicles. It can be hard to get a binding commitment to buy unseen vehicles.

Specification or requirements:

The consortium decides on the vehicle requirements. Examples are:

- The vehicle shall be available in the whole country;
- Service and maintenance shall be available all over the country;
- The price offered shall apply at all points of sale;
- Sanctions should be applied in case of late deliveries;
- Obtain an option transfer mechanism for third parties;
- The vehicle shall be at least as energy efficient as the same conventional vehicle;
- The emissions shall be at least in the level of the comparable conventional vehicle;
- Safety performance shall be the same as the conventional vehicle.

It is important to keep the requirement specification short and simple with focus on the wanted technology. A list of requirements that covers too many areas can significantly limit the chances for success.

Invitation to tender: When the list of requirements is ready it is presented together with the interested buyers and instructions on how the tender will be evaluated. The buyers' consortium can send out the tender itself or through a company working with tenders.

The procedure is important if public authorities are among the buyers.

The invitation to tender has to be done within the public procurement system (Official Journal). It is also important to make sure that the vehicle producers have received the tender.



Ford Focus FFV

Photo: Magnus Kristensson



CNG car

Photo: SUGRE EU projet, www.sugre.info

Evaluation of tenders: The tenders are evaluated in order to select one or more winners. Agreements are signed with the winning supplier regarding product delivery.

Possible barrier: The buyers' consortium can consist of many different stakeholders. It can therefore be difficult to agree on a common product and on the requirements of the vehicle. It is important to mainly focus on the propulsion system. Other requirements and equipment have to be handled separately.

Joint procurement of Electric vehicles

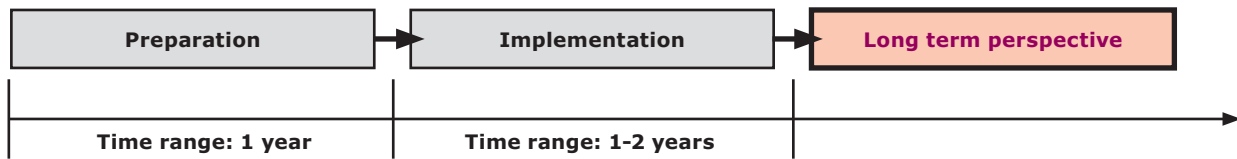
In 1992, the then National Board for technology and innovation in Sweden initiated a procurement of electric or hybrid electric vehicles that should have a range in electric mode of at least 100 km. In 1994 a consortium was founded, a specification was ready and a call for tender was launched. As the technology was new it was important to include service agreements and a grid of service locations in the specifications. The evaluation showed that only two battery vehicles were suitable. Other offers were not economically viable or did not fulfil the specifications. Peugeot withdrew its offer and negotiations started with Renault. The vehicle did not fulfil the entire specification and Renault offered the individual consortium members to withdraw, which only a few did. A delivery was made in 1996 with 150 vehicles to 35 users at a cost that was about three times higher than a petrol version of the same model.

With the short range, fast charging was essential and fast charging devices had to be developed and installed before the development was finished, which led to some problems.

The main buyers were cities, although some energy companies and private citizens also purchased the vehicles. Some cities implemented free parking for electric vehicles which increased the uptake.

About 100 of the 200 vehicles totally delivered were still in operation in 2005.

Long term perspective



Key aspects at this stage

The procurement is finalised at this stage.

The next step is market introduction. In some cases it can be valuable to offer time for pilot deliveries of the winning vehicle. The project should also offer support to the buyers and users, both before and after the delivery of the vehicles.

To facilitate the introduction the project can contribute with marketing of the winning vehicles. Information and awareness campaigns in order to increase the interest of the new AFV is an efficient way to build up the knowledge about the project as well as of the vehicle. Inauguration ceremonies, press releases etc will put focus on the new AFV.

A close dialogue with the winning vehicle manufacturer is vital in order to keep the time plan for the introduction.



Incentives for clean taxis

Photo: Magnus Kristensson

International joint procurement of electric vehicles

In 1996, seven of the partners in the ZEUS project decided to form a procurement consortium in order to jointly procure electric vehicles. The cities were Athens and Amaroussion, Greece; Copenhagen, Denmark; Coventry and the London Boroughs of Camden, Southwark and Sutton, UK; Palermo, Italy, and Stockholm, Sweden.

The aim was to purchase one passenger car and one transporter and to introduce electric vehicles in the UK. Furthermore, drawing from the experiences made in the Renault Clio procurement, the goals were to:

- Reduce price;
- Put a limit price on spare parts;
- Be able to provide fast-charging device;
- Include maintenance preparedness;
- Sanctions in case of late deliveries;
- Obtain an option transfer mechanism for third parties.

In June 1997, 9 tenders were received, whereof 4 were from France. Several tenders had restrictions and could not fulfil all the requirements. The main difficulties were to provide right-hand steering for the UK market or batteries that could work in cold climate. In the end 2 passenger cars were selected (Fiat 600 Elettra, Peugeot 106 Electric (UK only)) and one van (Citroën Berlingo Electric).

In total, the consortium bought 278 vehicles. Prices were reduced by 25-50 %. Maintenance and spare part service filled the requirements, and there was an option for third party to buy more than 150 vehicles.

Further information & contacts

Further information

Clean vehicles in Stockholm

Information about the first FFV procurement and also ongoing joint procurements.

www.miljobilar.stockholm.se (Swedish)

Ethanol buses

The joint procurement of ethanol buses is an ongoing project. In a first step demonstrations of ethanol buses will be performed and in the next a procurement of ethanol buses, with the aim to get more producers of ethanol buses at the European market.

www.ethanolbus.com (English)

PROCURA

PROCURA, a type 1 action of the Intelligent Energy Europe Program, aims at facilitating large-scale procurement of Alternatively Fuelled Vehicles (e.g. natural gas vehicles, biofuels) by lowering traditional market barriers.

www.fast.mi.it/procura (English)

Clean Vehicle Procurement – a rear view and guideline. Report 2005, Trendsetter, CIVITAS EU project.

www.trendsetter-europe.org (English)

NICHES - further documents with more details

Reports on the state of the art, analysis of success factors and barriers for implementation, transferability potential and integrated strategies are available on the NICHES websites (English):

www.niches-transport.org

www.osmose-os.org

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The mission of NICHES is:

to stimulate a wide debate on innovative urban transport and mobility between relevant stakeholders from different sectors and disciplines across Europe.

NICHES promotes the most promising new concepts, initiatives and projects, to move them from their current 'niche' position to a 'mainstream' urban transport policy application.

NICHES team

The NICHES consortium is composed of a variety of experts in the field of urban transport, ensuring the knowledge of the academic sector (Warsaw University of Technology), the experience of cities (Stockholm), the expertise of consultants (Rupprecht Consult, PTV Planung Transport Verkehr AG) and the multiplier effect of the networks (POLIS, EUROCITIES, CEMR).



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