

Procurement of green school transport services in the City of Stockholm

Clean Fleets case study

- Average CO₂ emissions set per kilometre driven, leaving operators to decide on the best strategy
- Average CO₂ emission limit set at 160 g/km for 6 passenger vehicles, and 190 g/km for 8 passenger vehicles
- Passenger cars to meet national clean vehicle definition



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Contract tendered

- Framework contract for the provision of green transport services for school children with special needs in the City of Stockholm. Tendered in 2013.
- Service to be provided by 311 special purpose vehicles and 101 passenger cars

Targets and planning considerations

The City of Stockholm has the long-term goal of being fossil fuel-free by 2040. The [Roadmap for a fossil fuel-free Stockholm 2050](#) describes how this will be accomplished. Since publication the target year for achieving this goal has been brought forward to 2040. An underlying goal relating to the city's transportation is that 55% of the transport services procured by the city should be green by 2015. One such service is the transportation of school children with special needs.

In Stockholm, only children with special needs are eligible for transport to school provided by the city if they cannot travel to school by themselves by foot, bicycle or public transport. Roughly 400 vehicles are needed for this purpose every day, driving about 1800 children to and from school.

During the latter part of 2013, the Service Management Administration held an open tender for a framework agreement regarding green transport services for school children with special needs.

Procurement approach

The procurement model had two main objectives:

1. To receive tenders from transport companies that could carry out green transport services for this group of school children, which are in line with the goal for transport



services and the overall goal of a fossil fuel-free city by 2040.

2. To award the most economically favourable bid.

There were both environmental and functional requirements for the vehicles. Environmental requirements were related to minimising the emissions of CO₂ from the vehicles used. When it comes to function, the vehicles had to be able to transport children with various physical, psychological and intellectual disabilities. Both passenger cars and special purpose vehicles in the form of modified light commercial vans or smaller buses were needed for the task.

However, it was not a simple case of just requiring only green vehicles to be used. This would most likely have resulted in no tenders at all, since most companies do not have enough vehicles conforming to the existing national definition of a green vehicle. This is especially the case for special purpose vehicles with modifications for wheelchairs, e.g. lifts, ramps etc. As there are hardly any special purpose vehicles classified as green vehicles on the market, few companies already have a fleet of these. Including such a strict requirement may have forced companies to invest in many new vehicles, thus raising the cost for the city and/or preventing healthy competition between bidders. Modifying a taxi into a wheelchair taxi is also done manually, which is expensive and with a long waiting time. Consequently, there would be a delay between the time for awarding the contract and possible start of providing the transport services. A company would be unlikely order perhaps hundreds of vehicles before being certain that they have been awarded the contract. Thus new companies would be discouraged from submitting tenders.

The procurement model was therefore carefully formulated to ensure that as many companies as possible would be able to submit tenders, whilst still ensuring environmental performance improvement. Companies should meet the vehicle requirements and at the same time have the most economically favourable bid.

Criteria used

- Passenger cars should be green vehicles according to the existing definition in Sweden at the time of each car's registration. (Current definition is Euro V, max 95 g CO₂/km, with 50 % discount for biogas and E85-vehicles to give credit to the lower climate effect from these fuels).
- Passenger cars that can use biofuels as well as fossil fuels must use biofuels for at least 80% of the distance driven
- The average emissions per kilometre travelled in carrying out the service for special purpose vehicles that take up to 6 passengers must not exceed 160 g/km or be approved to run on biofuels or electricity
- The average emissions per kilometre travelled in carrying out the service for special purpose vehicles that take up to 8 passengers must not exceed 190 g/km or be approved to run on biofuels or electricity
- If special vehicles use biofuels, the figures for CO₂ emissions can be reduced by 50% of the biofuel blending percentage. For example, if diesel with a 30% blend of HVO (advanced biodiesel) is used, the figure for CO₂ emissions can be decreased by 15%. (Biofuels in Sweden reduce CO₂ emissions by 65-85%, so the calculated reduction of 50% is a conservative estimate).



- During the course of the framework agreement, passenger cars cannot be older than five years and special purpose vehicles cannot be older than six years

It should be noted that currently a typical eight passenger special purpose vehicle emits 225 gCO₂/km, and a six passenger vehicle emits 190 gCO₂/km. Therefore the targets of 190 gCO₂/km and 160 gCO₂/km were quite ambitious.

The requirement is set so that it is impossible to reach it by just using the best low-blended fuels at the market (currently 30 % HVO+FAME in diesel). A bidding company has to go a little bit further – e.g. exchanging a few existing vehicles for ones using neat biofuels (biogas, HVO and FAME are the only available options for this kind of vehicles), or use a diesel with a much higher renewable content.

Note also that the requirement is set as an average of all kilometres driven. This means that the bidding companies are given free choice of strategy and fleet composition. They may keep some, all, or even none of their existing fleet of old vehicles, exchange a few or more, use very high low blend, neat biofuel or any mix of these measures - as long as the average km driven is not exceeding the set value. This should reduce the risk of hampering the competition.

Results

Only a few companies submitted tenders. All of them were appraised and the winning company with hauliers had to show that they met the environmental requirements by providing a list with the following data for all the vehicles to be used:

- Vehicle brand
- Type of vehicle: passenger car or special purpose vehicle
- Maximum number of passengers
- Registration number
- Age of vehicle
- Energy efficiency class of summer tyres used
- Emission of CO₂/km
- Percentage of fuel 1 used
- Percentage of fuel 2 used

In the end, the contractor was allowed to use 311 special purpose vehicles and 101 passenger cars. The City of Stockholm checked each vehicle and there were a handful of passenger cars and eleven special purpose vehicles that did not meet the requirements. During a dialogue between the city and the contractor, it was agreed that the contractor could use a couple of the passenger cars until they were going to be taken out of use while the remaining few were not allowed to be used. The eleven special purpose vehicles were registered in 2011 and would be taken out of use by early 2015.

The decision to allow a few passenger cars which did not fulfil the green vehicle definition was based on the fact that they were registered just before or after a new definition was adopted. It was therefore deemed fair to allow them be classified as green vehicles according to the older definition. The eleven special purpose vehicles were allowed until they were to be taken out of use. Otherwise it would prove difficult for the contractor to perform the stipulated tasks.



Contract Monitoring and Management

The City of Stockholm conducts random checks whereby they ask the contractor to provide a list of the vehicles and fuels used. Questions about usage have arisen on a few occasions, but have always been answered in a satisfactory manner by the contractor.

The contract stipulates that a meeting between the city and the contractor is to be held twice a year. The purpose is to discuss all aspects of the transport services and includes looking through the fuel usage, kilometres driven and co-transport performed for all vehicles. Prior to these meetings – also twice a year – an independent audit company should conduct an environmental audit primarily to see if the criteria regarding emission of CO₂ and fuel usage have been met.

Environmental impacts

The first meeting between the city and the contractor took place in March 2015. On average, the special purpose vehicles had achieved emissions of 150 g CO₂/km and 177 g CO₂/km for the vehicles that take up to six and eight passengers respectively. Thus the goals of 160 and 190 gCO₂ respectively had been exceeded. The passenger cars were, with a few exceptions as mentioned earlier, green vehicles according to the existing definition at the time of registration.

Lessons learned

Uniting two areas of such different requirements as environmental aspects and functional aspects has not been easy for the procurement process. These two sets of requirements have meant that only a few companies could submit bids. Moreover, the city had to be pragmatic in discussions with the winning contractor or they would most likely have had to find another one and this would have been difficult. It has been noted that the age requirement for the vehicles has not been of any value, but rather causes more work as it must be assessed.

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