Gas buses in the whole city of Tartu

Main sector

- Smart urban mobility

Overview

As an additional mobility measure, the City of Tartu will purchase 60 brand new biogas buses to serve the public transportation network. The aim is that by 2019, 100% of public transportation buses in Tartu will run on gas. As such, Tartu is moving towards becoming the first city in Estonia to transform its public transport into a more environmentally friendly system. Currently, there are 25 contractual bus lines and 2 commercial bus lines in Tartu. In 2013, the number of passengers using public transport in Tartu was more than 12.8 million.

Previously, the City of Tartu participated in the Baltic Biogas Bus project and as part of the project, five gas buses were taken into use in Tartu in 2011. Introducing the first gas buses has shown that gas buses pay up 3-4 years faster compared to diesel buses. As a result of the project, Tartu implemented modern technical solutions that enable to inform the passengers of the timetables, analyze the occupancy of the buses etc., and made preparations for implementing environmentally friendly biogas buses in the city.

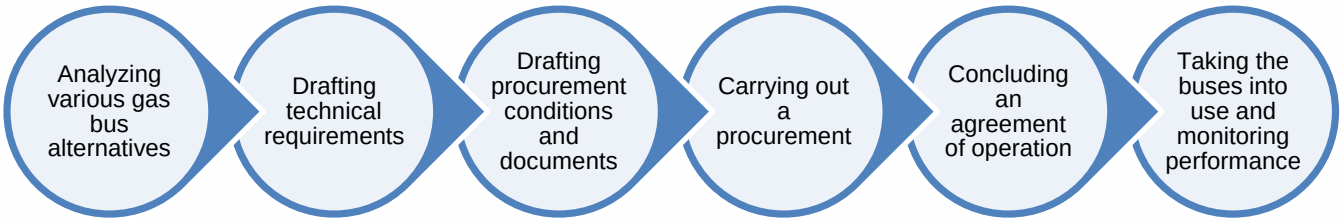
Business model

The gas buses will be funded 100% by the City of Tartu. It is expected that the gas buses will cost ca. 20-25% more than diesel buses and the fuel consumption of both bus types is more or less equal (39.1 kg/100 km of gas vs. 39.5 l/100 km of diesel), but the savings mainly come from fuel prices – if diesel costs 1.11 EUR/l and gas 0.65 EUR/kg, the fuel cost of gas buses is ca. 42% smaller. For each 80,000 kilometers covered, this means 10,000 EUR of savings per bus.

Citizen engagement

Citizens will be engaged in the form of awareness-raising – citizens will be invofrmed of the benefits of gas buses and how the use of gas buses will affect their living environment (less noise, less particulates, less GHG emissions etc.).

Process



Benefits

- Increasing demand for biogas, thus creating opportunities for local producers
- Fuel autonomy
- More stable user prices
- Increased resource efficiency
- Independence in energy supply
- Reduction of carbon and nitrogen emissions
- Improving the quality of air
- Reducing traffic noise
- New business opportunities

Stakeholders

Owner of the solution	City of Tartu
Service/technology provider	Tbc.
Users	Citizens, visitors
Investors	City of Tartu

Investment/Finance

Ca. 16,000,000

Potential for replication

Biogas buses are already widely used all over Europe. In order to replicate this solution, however, some aspects have to be taken into account:

- In order to achieve efficiency and savings, the gas fueling station needs to be in close proximity – it is not reasonable for a bus driver to get additional fuel from the other side of the city. This will count as working hours while no passengers are served.
- The engines of gas buses will not start without a warm-up procedure once temperatures drop below -10°. In colder climates, engine malfunctions can thus be expected.
- Securing long-term, sufficient and reliable fuel supplies is a prerequisite for introducing more biogas buses in a city.

Contact

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