

Locally produced biogas as transport fuel – Gotland, Sweden

<p>Title</p> <p>Biogas project/process to establish a locally produced renewable fuel for cars, trucks and in the future also for ships</p>	<p>Partners involved</p> <ul style="list-style-type: none"> - Region Gotland (politicians and technical departments) - Local Biogas Association - Urban bus operator - Local stakeholders and investors - Taxi companies - Ship companies
<p>Theme of Collaboration</p> <p>Financial mechanisms</p>	
<p>Contact persons</p> <p>Bertil Klintbom, Region Gotland Bertil.Klintbom@gotland.se</p> <p>Bengt-Olof Grahn, Region Gotland bengtlof.grahn@gotland.se</p>	<p>Cluster of Sweden</p> <p>Gotland</p>

Description

The former Municipality of Gotland, now Region Gotland, decided to have biogas buses in the city of Visby when a new procurement for the entire public transportation had to be executed. The procurement also included the possibility to move over to biogas buses on the country side later during the contract period.

The Municipality guaranteed to buy a certain amount of locally produced biogas each year to enable the contractor to make the necessary investments. The winning company was also allowed to buy “raw” biogas from the city’s sewage plant to start the upgrading before a new biogas plant could be built. A new local company won the contract for the biogas delivery. A company formed of 10 local bus companies won the contract for the operation of the city buses and in 2010 the new buses were introduced in the transport system.



The biogas production plant, Gotland

Since then the biogas company has built a new biogas plant 8 km outside the city that produces biogas from manure and waste from local farming residuals. The city buses now run on locally produced biogas and in the coming years the sub-urban buses are expected to run on biogas too. In addition to that a new procurement for collecting waste on the entire island has led to the introduction of a new fleet of vehicles running on biogas. For the moment 60 % of the company’s vehicles run on biogas from January 2013.



Biogas powered public vehicle in Visby, Gotland

Biogas is now also provided to the Region's leasing car fleet, to taxi companies and to private cars at the filling station in the main city of Visby. Lately the biogas company has already developed three new filling stations in Hemse, in Lärbro and a second in Visby.

Also, on April 2014 the new contract between the State and the Region of Gotland for the operation of the ferry connection with the mainland was signed after a procurement and the shipping company that won the contract pledged to run one of its large ships on LNG with the possibility to add biogas from 2017-2027. This opens up for a larger production of biogas on Gotland. The port of Visby will be the refuelling point for the vessel as the time factor makes it impossible to refuel in main Sweden.



Biogas powered bus and Region's car in Visby, Gotland

Several parties were involved in the realisation of the project; the Region providing political support, the Municipal departments of procurement, security, service and technical issues moving fast forward with environmental, building, and security permits, the Local Biogas association that gathered farmers and other interested entrepreneurs to make study visits in other areas and finally local stakeholders such as farmers and private investors ready to start biogas production or consume biogas in their business or private vehicles. And of course the project is an ongoing process with new potentials opening up on the way.

By using MLG a successful process could be reached and obstacles were overcome easier. Examples of potential bottlenecks in this process were to reach success in the procurement processes, issue permits according to the environmental act, have a plan b to find other gas supply than local biogas if needed, issue fast building permits, permits on safety issues, create a market for biogas fuel for private cars and not only for buses.

Results related to MLG processes

Added value regarding Energy Performance Contracting

The procurement strategy used is partly new and has enabled the organisation to take more control over the process. The tenders has also experienced new demands and had to broaden their thinking to be able to contend in the tender process. This has resulted to better knowledge within the working groups about how to prepare, execute and follow-up on EPC.

Locally produced transportation fuel

The introduction of a new locally produced fuel for transportation became available and the demand for new sustainable ways for transports could be met and growing.

Successful procurement strategy

The procurement strategy made it possible for new profitable business opportunities for local companies without public investments. MLG used shows how bottlenecks can be reduced by choosing the procurement strategy and also provide help for new company structures to overcome obstacles in the initial phase. Without MLG help the business opportunities are difficult to foresee and that probably means that the risk factor is too high and the chance of a successful procurement is reduced.

Lessons learnt on MLG processes

Good procurements need political commitment and technical support

A series of complicated procurements to accomplish strategies set-up requires political commitment and technical know-how to be successful.

Efficient MLG structures can facilitate decision making

Multi-level governance is needed in the process where collaboration between different governance levels is needed. Bottlenecks can be overcome when different levels of governance actually meet and discuss facts compared to impressions. This means that viable decisions can be taken that can help development. In addition to that legislation and local restrictions have to be considered to reach systems and solutions that also fit in the legislative frameworks.

Participatory vision making reassured the creation of demand before the offer

New fuels for vehicles were among the things that were discussed when the "Vision 2025" was established. Several meetings all over the island were held to incorporate ideas from companies and the public in the vision. So a demand was



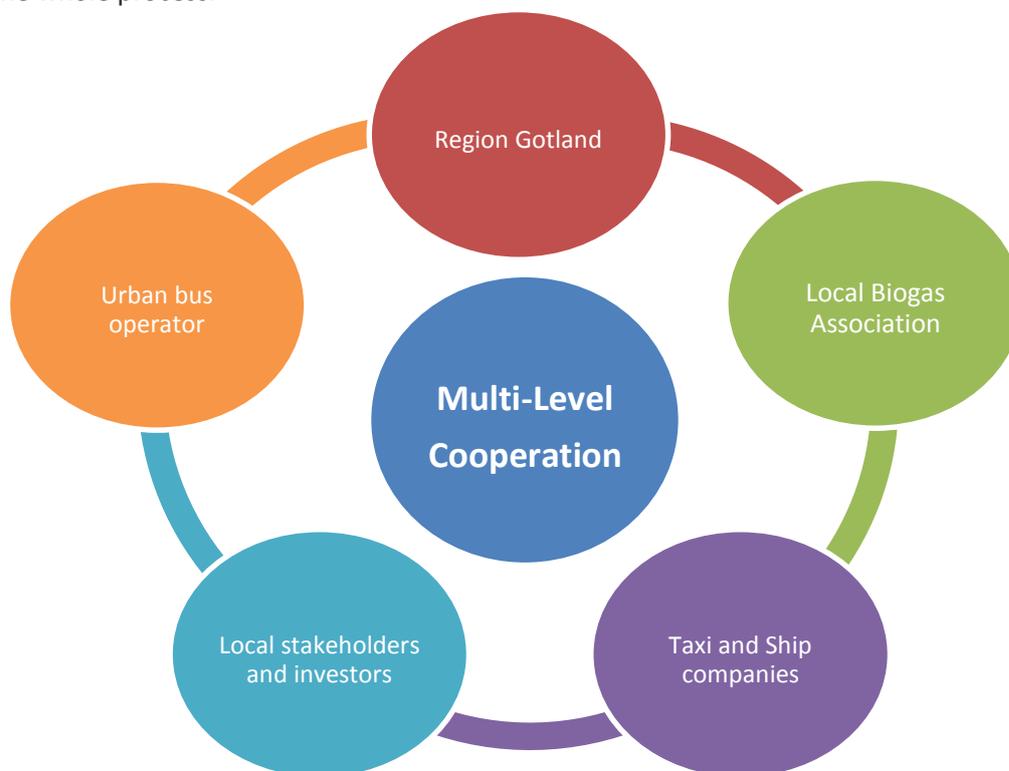
created before an alternative fuel was introduced. Biogas was the logical fuel as there are good sources of biological waste on the island.

The role of local authorities can be very active in setting up new markets

When the procurement was done one of the paragraphs for the tenders to take in consideration were filling stations both for the Region's vehicles as well as for public cars and lorries. This meant that by ordering city buses using biogas the introduction of an alternative fuel for public vehicles also were secured.

The MLG cooperation structure

The following diagram demonstrates the different governing structures and stakeholders involved in the whole process.



Logical diagram of Multi-Level Governance model used for the Gotland biomass project

