

Public transport with electric buses

Mobility | Stavanger, NO



Photo source: Eilin Tvedt-Gundersen

The County Council of Rogaland and Kolombus AS run a demonstration project with 3 electric buses. The buses are used in ordinary routes. The main interests of the project are: (1) focus on state of the art technology, (2) learn how these buses can be used within the existing public transportation system the best way, (3) learn how today's system must be adjusted to the use of electric buses, including the installation of charging stations and maintenance of the buses. A design competition was organized in the county upper secondary schools to create awareness about the e-bus.

Measured Impacts

135 tCO₂ reduction
250 kg CO reduction
66 kg NO_x reduction

Benefits

- Reducing use of fossil fuels
- Improving air quality
- Reducing GHG emissions
- Supporting environmental transport
- Promoting emission free vehicles

 project scale **Regional level**
 development type **Upgrading**

Lessons learned

- E-buses mainly represent a robust technology.
- E-buses reduce diesel consumption and thus saves the environment and reduces fuel costs
- Customer focuses on comfort and services (punctuality) and not on technology (EV or not doesn't matter)
- Mixed fleets are more complicated to operate (e.g. different ranges and maintenance patterns). A continuous learning process is needed.
- Bus drivers are positive when buses are reliable. Range fear was just a problem in the beginnin.
- Experience and knowledge in handling e-buses was gained through the demonstration project and a training programme.

Challenges

- The inexperience of the bus manufacturer lead to major delay in delivery.
- The introduction of electric buses requires adjustments and investments in the existing infrastructure (e.g. charging points, power network).
- E-buses still are more expensive than standard diesel buses. For public bodies with limited budgets it is therefore a challenge to invest in electric buses and the necessary infrastructure.
- The lack of an existing service network in Norway and the lack of knowledge and experience in handling e-buses have been a challenge. The problem of not having a service/garage network will most likely be solved as more and more manufacturers of e-buses enter the market.

Supporting factors



legal

Norwegian National Transportation Plan states all City buses must be emission free by 2025.

Decision by the county council in 2019 to implement e-buses on all urban routes in the Northern part of the county which represents approximately 28 % of all route production in the Northern part of the county.
 In 2015 the county council decided that buses for the future BRT-system preferably to be electric.



infrastructural

Uses existing inner-city roads dedicated to public transport (and electric vehicles).



financial

Existing agreement between local, regional and state authorities on how to finance transportation infrastructure, including public transportation
 VAT waiver on e-buses (VAT : 25%).
 Electricity in Norway comparatively cheap.

Contacts

Rogaland County Council
 Joachim Weißer
 joachim.weisser@rogfk.no
 www.rogfk.no