Procurement of environment- and energy efficient ferries:

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Content

- The history of Norwegian LNG ferries
- Battery ferries
The Norwegian Public Roads Administration

- Subordinated to the Ministry of Transport and Communication
- Responsible for planning, construction and operation of the national and county road network, including ferries
The history of Norwegian LNG ferries

- 1995, the parliament decided to fund a project for ferries fuelled with natural gas
- 2000, MF Glutra the first RORO / passenger ferry in the world to be powered by LNG entered service
Results

- 1.5.2014 - 19 LNG powered car ferries
- 18 new builds and one retrofitted
Procurement of a environmental friendly car ferry

- 2010 the government decided to procure a environmental friendly car ferry

- Goals
  - Reduce emissions with at least 20 %
  - Reduce energy consumption with at least 20 %
Procurement of an environmentally friendly car ferry—cont.

- The procurement was carried out as a competitive dialogue
  - Reduced risk
  - Increased environmental performance
- The evaluation criteria's were designed not to discriminate any technology
Procurement of a environmental friendly car ferry cont.

- The three ferry operators participating in the competitive dialogue, but not winning, got over 350 000 euro each in compensation.
- Strict sanction system for delivering less environmental friendly ferry.
All electric car ferry

- In 2012 we signed a contract for the world first 100% battery powered car ferry
- 120 cars
- 5 km long connection
Hybrid ferries

- Large battery systems are becoming cheap and efficient
- In the future we will have battery systems on all new builds
- Hybrid ferries have more even engine load and thereby lower consumption
Norwegian NOx-fund

- 80% of the extra LNG investment cost financed by the NOx-fund
  - Initiative from the Confederation of Norwegian Enterprise
The future

- Tier III requirements on all ferries (old and new) in areas with NO\textsubscript{x} problems
- Stricter Methane requirements
- Hybrid/plug-in hybrid