

# **Amsterdam 2013 - 2025 Electrification of all canal traffic**



**2013** In the Fall of 2013 a Zero emission status was declared by the City of Amsterdam requiring all private and smaller sighting boats to go electric by 2020, and the larger 20 meter (65ft.) ones to be emission free by 2025 at the latest.

**2015** More than 150 exhibitors were on display at the Electric & Hybrid Marine World Expo 23-25 June 2015 at Amsterdam RAI. Each showcased the very latest ideas, concepts, technologies and components for electric and hybrid marine applications.

This resulted in the City of Amsterdam deciding to ban 2-stroke engines on private boats from 2017 and for commercial vessels operating in the city (530 canal boats yearly transporting some 3 million passengers for sightseeing) achieve "zero emission" target on its 60 miles of canals by 2020.

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## Private Boats • Commercial Boats • Ferries



*Skoon floating battery terminal to charge electric boats in Amsterdam canals*

The City License will not be renewed unless the boat is electric.

This included retro-fitting historic vessels. To help push along the move to electricity among smaller boat owners, the city is also working with contractors to install 100 boat charging stations by the end of 2021.

Concerning the regulations and cost for Amsterdam (pleasure craft) for mooring in the canals, a 'Groen Vignet' (green license) is about 0.3 times the cost of a red license. Green is for pleasure craft with an electric motor, or no motor. Red is for petrol or diesel engines.

They calculate length x width to get to m<sup>2</sup>. The average cost is about 60 euro per m<sup>2</sup> per year for a red license so for a launch of 7 x 2.5 m = 17.5 m<sup>2</sup>, the license fee is 1050 euro per year, while electric boats of the same size pay only 315 euro per year, or in other words a 67% discount.

**2020** Corvus Energy announced that it had been selected by Holland Ship Electric to supply lithium-ion battery-based energy storage systems (ESS) for five new all-electric ferries being built by the shipyard group for Amsterdam's municipal public transport provider, GVB.

The first, 41 m LOA by 13.9 meters Beam and able to carry 20 cars, four trucks and 400 passengers, will enter service by 2021. It will feature a superstructure and aluminium railings instead of steel to reduce maintenance.

This and its sisters will operate on three of the North Sea Canal routes, replacing the current fleet built in the 1930s. The routes in the North Sea

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*Battery electric ferries by Damen*

Canal are among the busiest routes, transporting more than 350,000 cars each year.

**2021** The replacement of the ferries is in line with the sustainability goals set by GVB and the Municipality of Amsterdam to provide zero-emission public transportation in the Municipality of Amsterdam and surroundings. The aim of GVB's extensive new building and retrofit program is that the entire fleet will be hybrid or fully electric by 2025.