

Ferry Shipping Summit, Malmö 20-21 September 2023

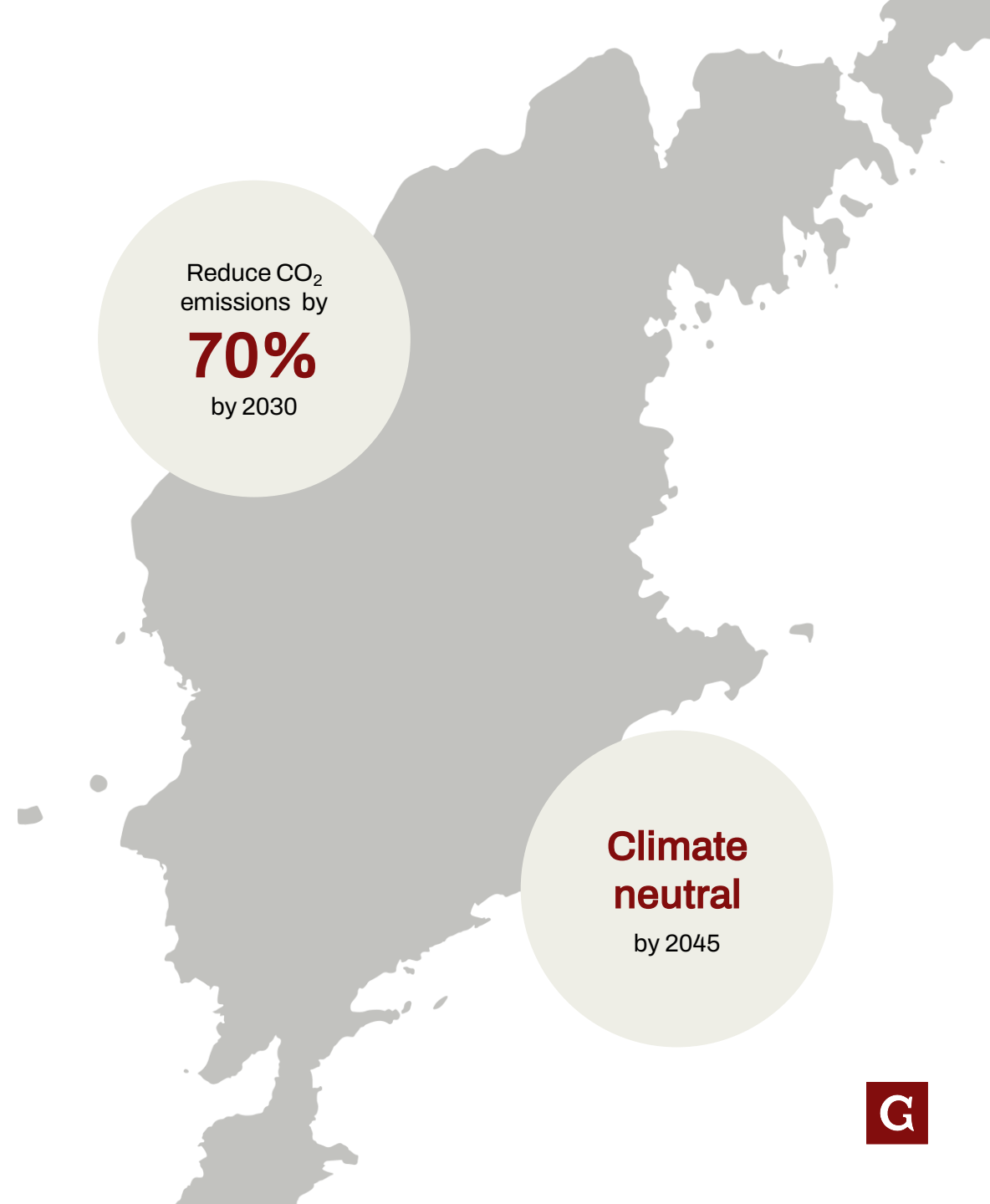
Solutions for Fit for 55



Destination Zero

Towards fossil free crossings

- EU's Fit for 55 has a goal of 55 % reduction of CO₂ until 2030, with the ultimate goal of achieving climate neutrality by 2050. Our goal is to be climate neutral five years earlier, 2045, and to reduce our CO₂ emissions by 70 % by 2030.
- Gotland has, like many islands, unique conditions, and the ferry service is Gotland's main connection to mainland Sweden.
- High capacity and high-speed crossings with zero emissions are requirements that needs to be met when developing the next generation vessels.
- Next generation vessel – key factor to achieve climate neutral crossings while optimizing service and capacity.
- Gotland Tech Development is developing and designing the next generation vessels – our Horizon Series.



The Horizon Series

- A line of hydrogen-powered ships designed for the transportation of passengers and cargo - setting the new standard for the use of hydrogen in the maritime industry.
- The designs of the two vessels, is rooted in our desire to continue offering a short crossing time without a negative impact on the environment.
- **Gotland Horizon:** launched in 2021 is Sweden's first large-scale hydrogen-powered transport vessel
- **Gotland Horizon X:** the world's first large-scale hydrogen-powered catamaran.



GOTLAND HORIZON X





Gotland **Horizon**

The ship is designed for transportation of both goods and passengers and optimized for distances up to approximately 100 nm.

Cargo Capacity: 600 cars

Passenger Capacity: 1900 passengers

Speed: 28 knots



Gotland **Horizon X**

The world's first large-scale hydrogen powered catamaran

Top speed 35 knots.

Waterjet – compact propulsion with low fuel consumption at high speed.

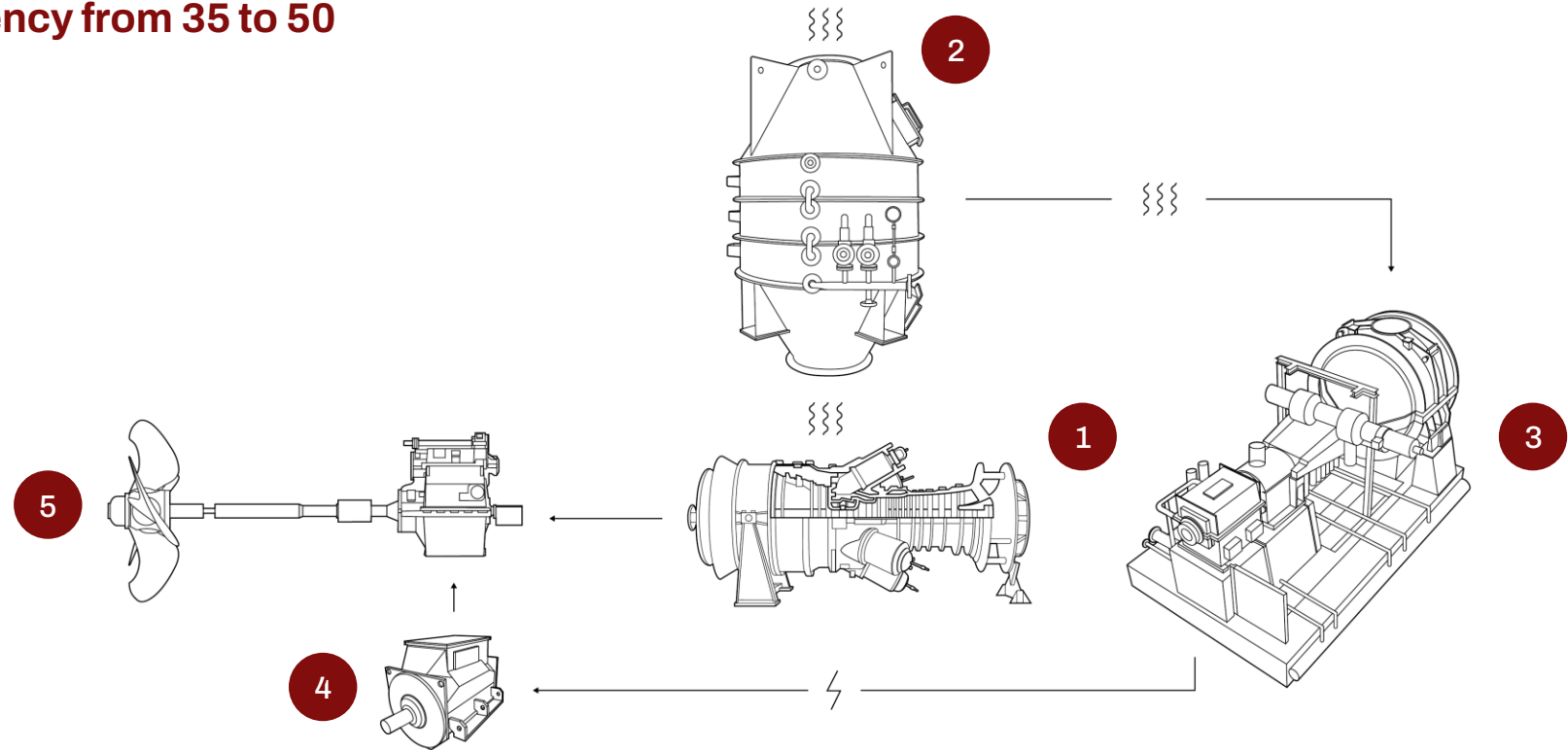
Water vapor as primary emission.

Capacity: 1 650 passengers, 450 cars.

Length: 130 m, width 30 m.

Combined Cycle

A system with a combined steam and gas turbine - increases efficiency from 35 to 50 per cent.





GOTLAND HORIZON

est. number of trips per year: 2300

GOTLAND HORIZON X

est. number of trips per year: 700

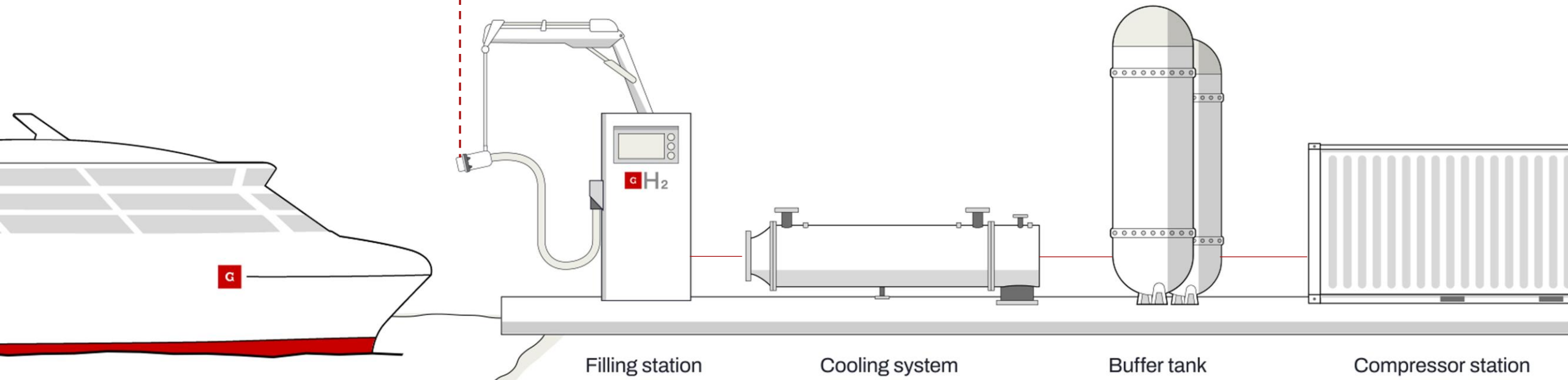
Estimated total need of hydrogen: 20 000 tons

For 100% hydrogen powered operations at 3 000 trips per year

Estimated energy needed: 1 TWh

1 TWh* = 50 000 average households in Sweden

Hydrogen refilling in 50 minutes



Filling station

Cooling system

Buffer tank

Compressor station

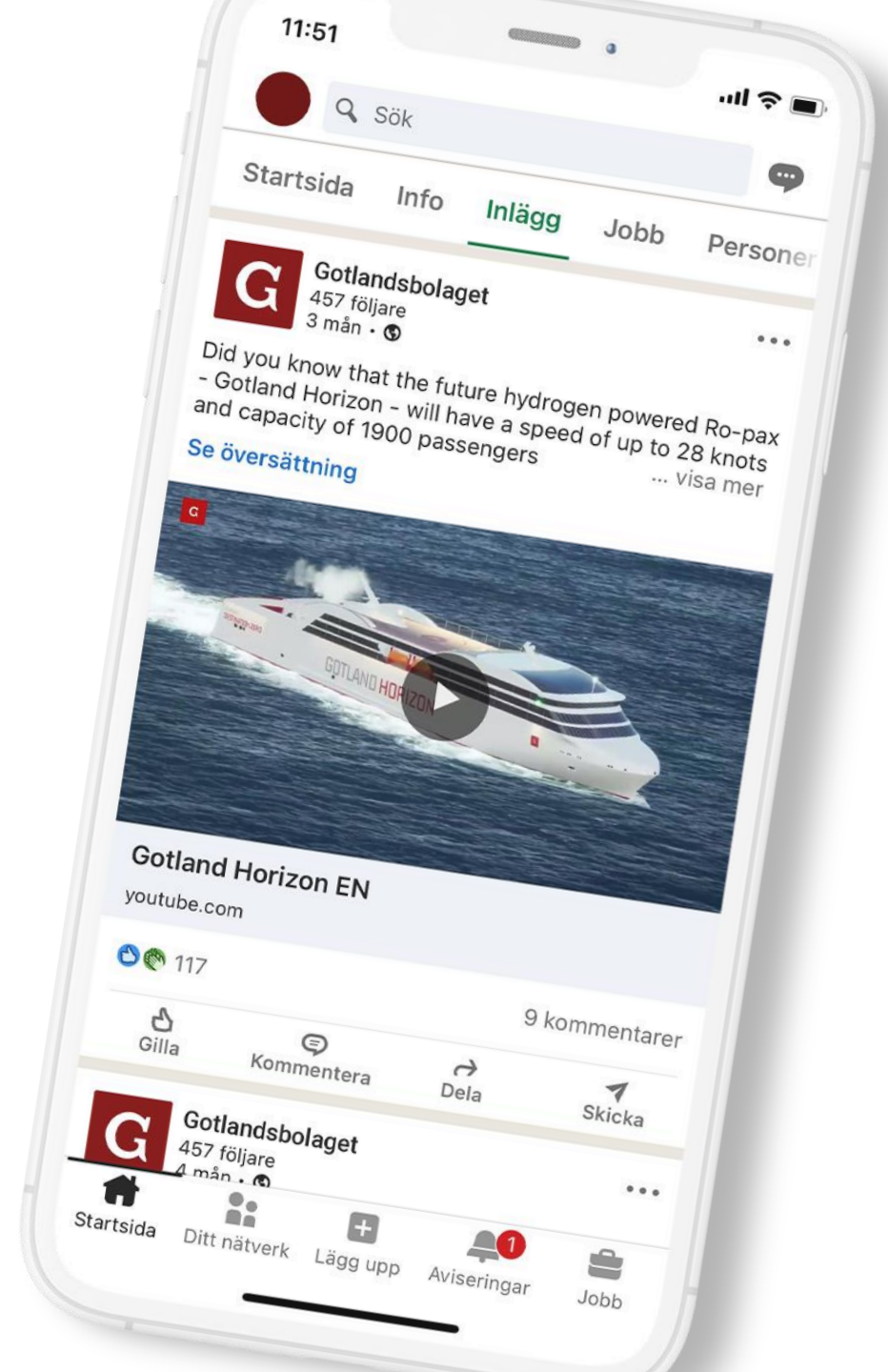
Thank you!

Christer Bruzelius,
Senior Advisor and Project Owner



Sign up for our newsletter on
gotlandhorizon.se

 Follow us on LinkedIn: [Gotlandsbolaget](#)





G