



**Nordic  
Electrofuel**

Clean at scale



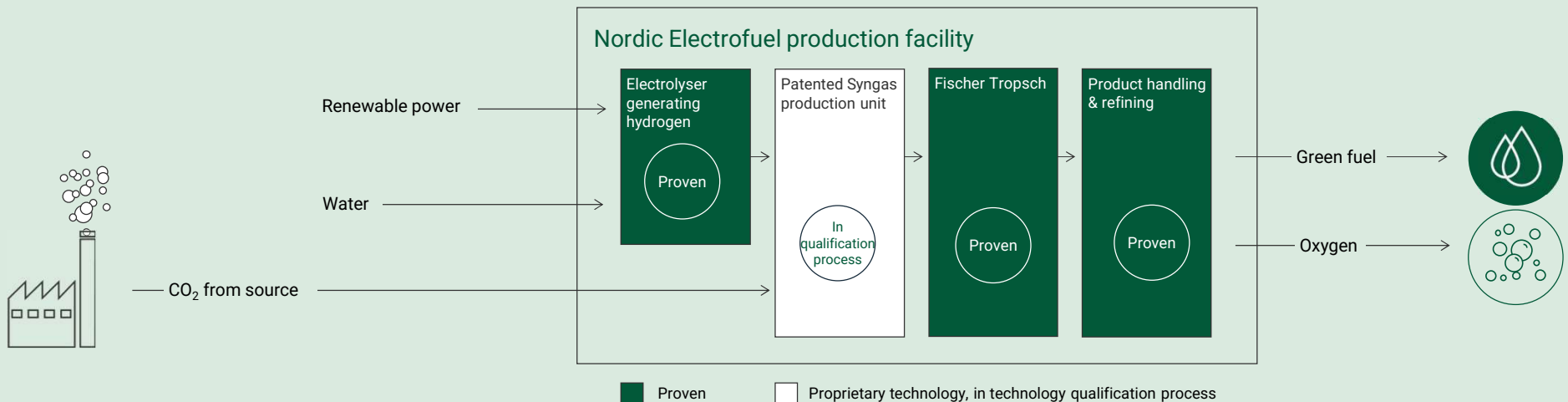
**Nordic Electrofuel will make it Green to Fly!**

# We produce sustainable fuel from green hydrogen and CO2 utilizing the Power-to-Liquid (PtL) pathway

**Electrolysis** uses renewable energy to split water into hydrogen and oxygen.

We focus strictly on applying well proven technologies from **reputable partners**.

Adding our **proprietary technology** brings down operating costs and increases lifetime.



# First mover advantage and robust technological platform developed together with reputable partners

## Milestones



## Technology maturity



# Very positive macro developments for e-fuels

## ***EU political drive for synthetic SAF***

- Refuel EU Aviation sub target for RFNBOs in 2030 of 1.2 %, increasing to 35 % in 2050.
- SAF targets 6% in 2030 increasing to 70 % in 2050

## ***Supportive policy confirmations***

- Norwegian grid power counts as renewable and can be used for producing e-fuels – no need for a dedicated renewables project
- CO2 captured from emissions of fossil origin can be used for RFNBO until 2041
- Acceptance by ESA of Norwegian state paying CO2 Compensation to power intensive green industry using hydrogen

## ***Return boost from repricing of SAF***

- Price increases following a dramatic demand increase combined with no material new e-fuel supply and limitations in bio-based supplies
- Our projects are located in the Norwegian price areas with attractive power price outlook

# New regulations in the EU regarding Sustainable Aviation Fuel (SAF) (April 2023)

## Fit for 55 and the new proposed ReFuelEU Aviation directive

The proposed regulations in the EU sets minimum requirements regarding **SAF categorized as either bioenergy or synthetic jet fuel** with minimum requirements for both.

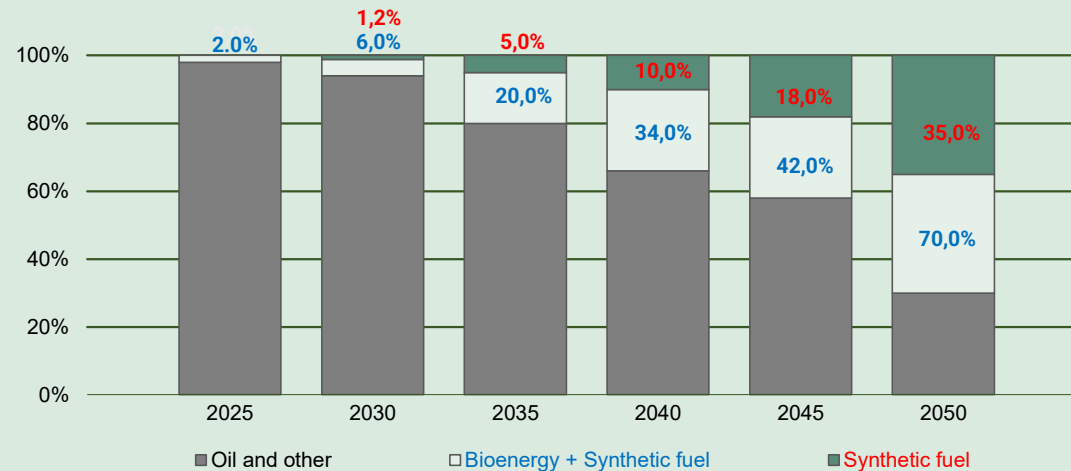
The EU27 consumption of jet-fuel in 2019, before covid 19, was around 55 bill. liters or around 14% of world wide consumption. Applying the jet fuel consumption from 2019, the consumption of synthetic fuel in the future in the EU 27 can be estimated as follows assuming a 100% blend in and market growth of 1.5%:

- 2030: ~0,8 bill. liters
- 2032: ~1,3 bill. liters (2% for Synthetic)
- 2035: ~3,5 bill. liters
- 2040: ~7,5 bill. liters
- 2045: ~14,5 bill. liters
- 2050: ~30,3 bill. liters

Note: NELF's own calculations

### Proposed minimum requirements of SAF in the EU

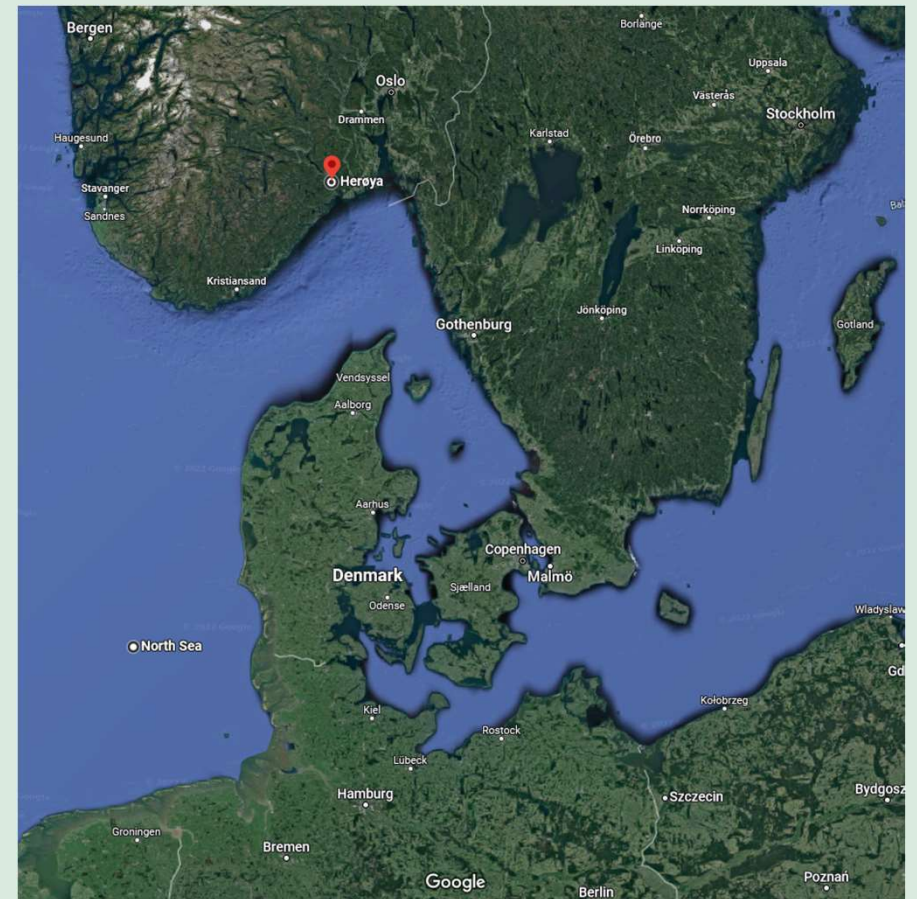
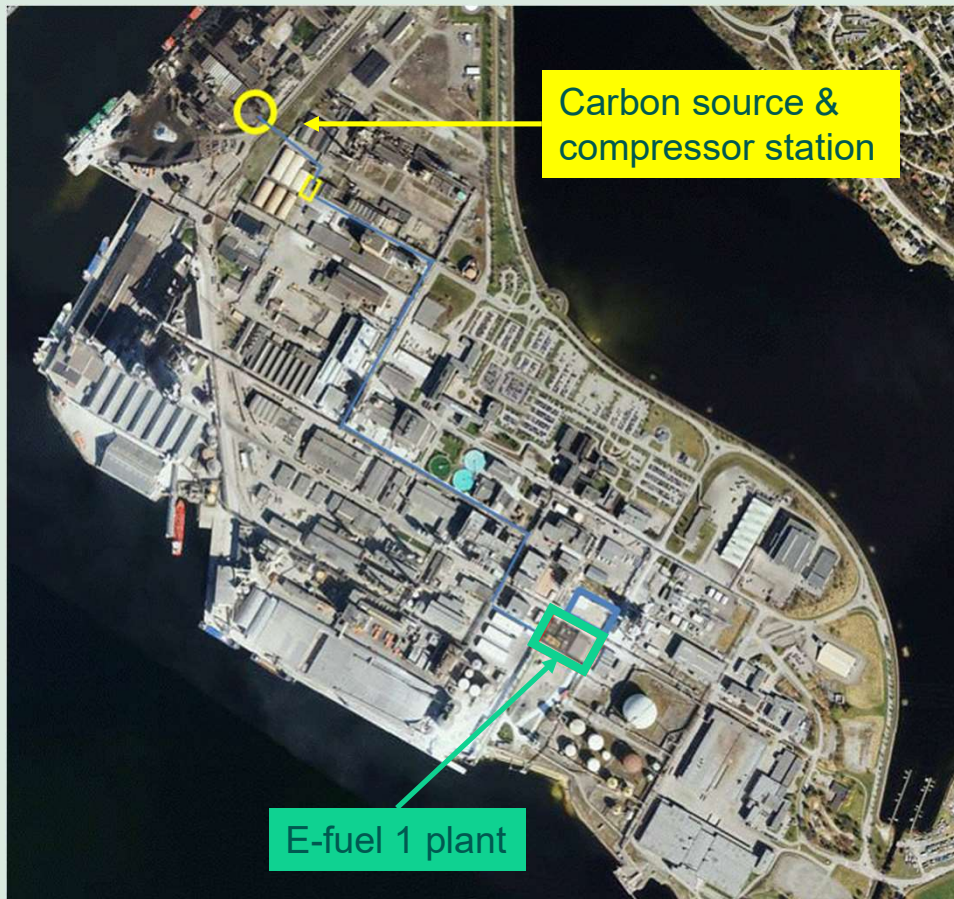
Distribution by type of fuel

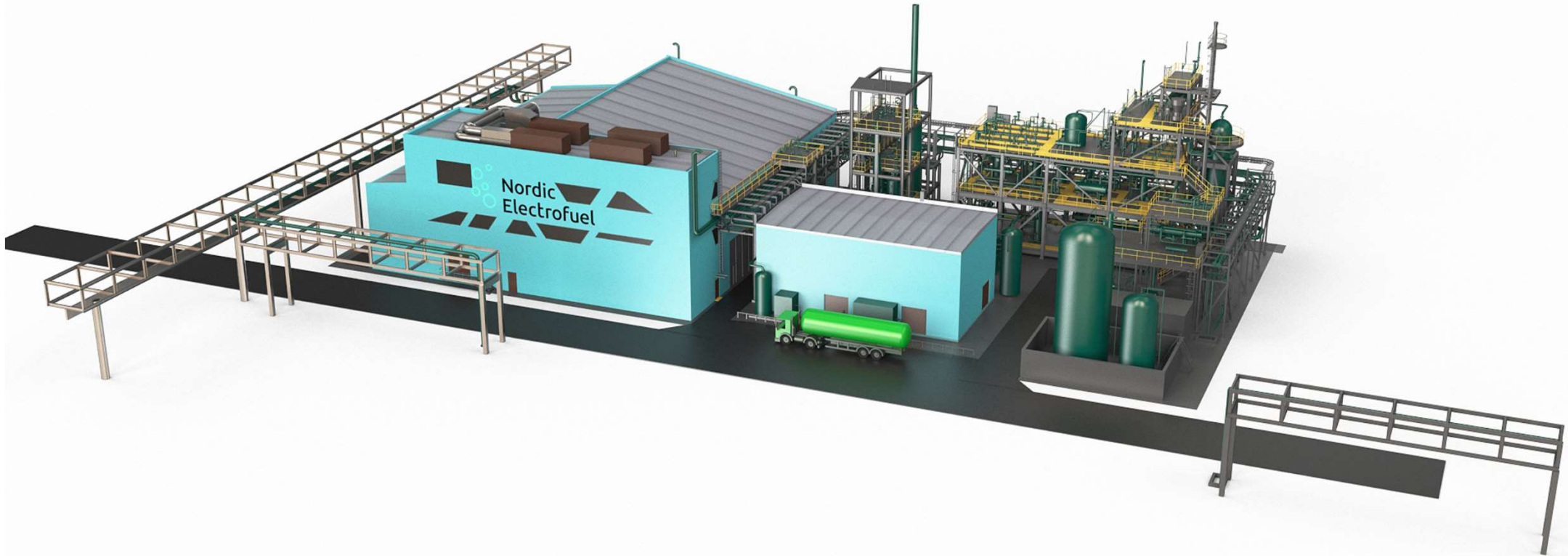


Source: Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on ensuring a level playing field for sustainable air transport – Annex I (volume shares)

The new proposed regulations promotes synthetic jet fuel as feedstock resources are abundant

# Site Location- Herøya Industrial Park (Norway)





## E-fuel Pilot at Herøya designed by Aker Solutions, FEED complete

Capex in EUR million	Tie-in and contingencies EUR million	Capacity in million liters	Commissioning 2H
132	+ 44	10	2025

# Solid Technical and Project Maturity

- ✓ The technology- and project development have been executed according to well recognised methods and together with reputable partners
- ✓ Licensor and Suppliers of main equipment units will take process guarantees including commercial liabilities
- ✓ Secured EU IF grant of MEUR 40 mill
- ✓ Investors have carried out extensive technical DD processes e.g.,Chiyoda, Arup etc. The current equity funding from the investor is to be concluded in coming months and will be in range of 65 – 95 Million Euro.
- ✓ Several partners are willing to licence our technology
- ✓ All necessary authority applications were applied for last summer and are expected to be approved shortly

Component		TRL
Alkaline electrolyser		9
Electrolysis system		9
Fischer-Tropsch reactor		8
Fischer-Tropsch system		8
Syngas production components	POX burner	8
	POX reactor	9
	Syngas cooler	9
	Syngas drying	9
Syngas production system		8
Syngas cleaning		9

# GHG calculation has been verified by Bureau Veritas

- ✓ The RED GHG methodology is in line with GHG methodology set by EU Innovation Fund. Hence our **relative CO<sub>2</sub>-emission avoidance will be above 99%**
- ✓ This has been checked and verified by Bureau Veritas



Verification date: 28-02-2022

## Verification /validation of GHG calculator following the criteria in annex C

Summary- Absolute emissions avoidance	240 839 ton CO <sub>2</sub> e Validated – verified as stated
Summary- Relative emissions avoidance	99,9 % Validated – verified as stated

# Ambitious expansion plan targeting above 1 billion liters of green fuel by 2033

Land and feedstock for E-fuel 1 is secured and negotiations initiated for E-fuel 2.

Negotiations for additional new sites are in process, with the ambition of producing above 1 billion liters E-fuel by 2033. Have evaluated economics of 1-billion-liter plants.

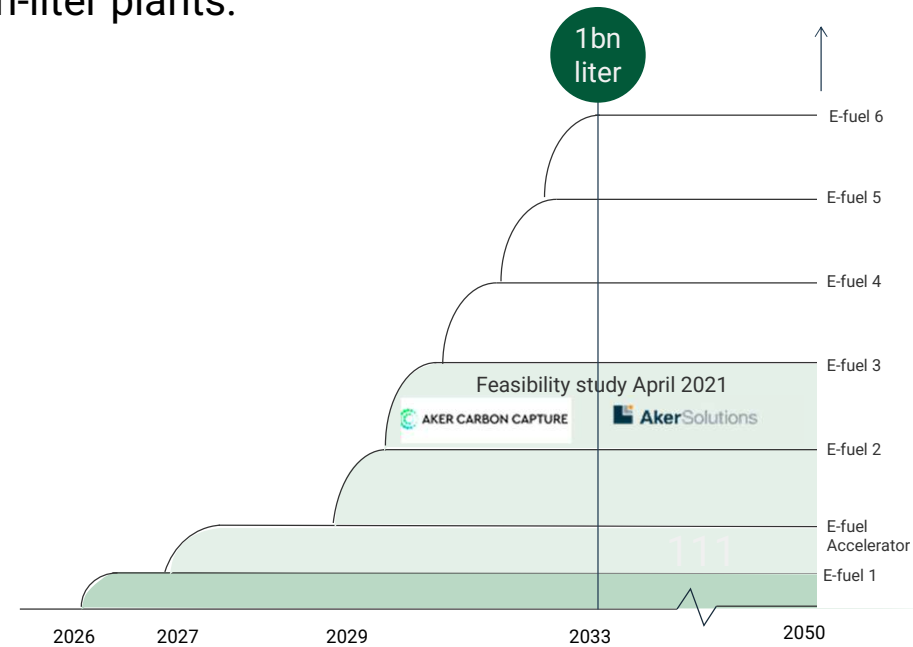
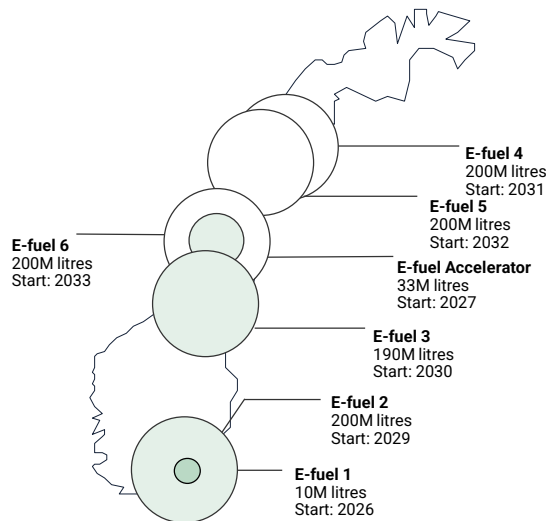
2033 target in litres

1bn

Capex for 200M litres facility in EURm

600

## Norwegian expansion plan



# Nordic Electrofuel has successfully agreed on fundamentals for product offtake and long-term cooperation with P2X Europe

- **Nordic Electrofuel and P2X-Europe** have today (June 23<sup>rd</sup>, 2023) signed a term sheet for long-term supply of synthetic fuels, in particular targeting synthetic aviation fuel (eSAF).
- **Nordic Electrofuel will produce** synthetic crude in Norway, which **P2X-Europe will take delivery of and upgrade** into eSAF and other synthetic products
- **Initial production** and supply volume is set at around **8,000 tonnes** per annum, with **specific plans for a further scale-up of production thereafter.**
- **RefuelEu Aviation** requires initial blending quota of renewable fuels as of 2025 and a **specific quota for eSAF from 2030**: this legal framework is a clear call for action – for the aviation as well as for future PtL producers and fuel suppliers.

**Links to official press releases:**












P2X Europe: <https://www.p2x-europe.com/news/detail/another-step-forward-on-the-european-esaf-market-p2x-europe-and-nordic-electrofuel-reach-next-milestone-in-collaboration-for-production-of-sustainable-fuels-in-scandinavia/>

Nordic Electrofuel: [https://nordicelectrofuel.no/wp-content/uploads/2023/06/Press-Release-P2X-Europe-NordicElectrofuel\\_23.06.2023.pdf](https://nordicelectrofuel.no/wp-content/uploads/2023/06/Press-Release-P2X-Europe-NordicElectrofuel_23.06.2023.pdf)



# Highly experienced team with strong execution power

Nordic Electrofuel has a highly experienced and balanced management team of six professionals. Board of Directors with members holding extensive management and board experience from listed and non-listed companies.

<p>Team members</p> <p><b>10</b></p>	<p>Core team overview</p>			<p>Board members</p> <p><b>5</b></p>	<p>Overview of Board of Directors</p>			
		<p>Gunnar Holen</p> <p>CEO 30+ yrs</p>		<p>Tom H. Sundby</p> <p>CFO 25+ yrs</p>		<p>Rolf Bruknapp</p> <p>Chairman</p>		<p>Bastian Müller</p> <p>Board Member</p>
<p>Average years of professional experience</p> <p><b>30+</b></p>		<p>Rolf Bruknapp</p> <p>Founder 30+ yrs</p>		<p>Rune Løvstad</p> <p>Project Director 30+ yrs</p>		<p>Harald Norvik</p> <p>Board Member</p>		<p>Jörg Walter</p> <p>Board Member</p>
		<p>Bjørn Bringedal</p> <p>Chief Technical Officer 30+ yrs</p>		<p>Victor Dias</p> <p>Plant Manager 20+ yrs</p>		<p>Ronald Tuft</p> <p>Board Member</p>		

# We are the leading initiative for producing green fuel

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Exponential market growth for liquid green hydrogen fuel

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Proven technology with a magic touch

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Scalable concept with attractive economics

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Highly experienced team and reputable partners



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## Disclaimer

Nordic Electrofuel AS has in cooperation with related parties made this presentation. We have based all of the information herein on public information, and information gathered from the involved entities.

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