

# Norsk e-Fuel

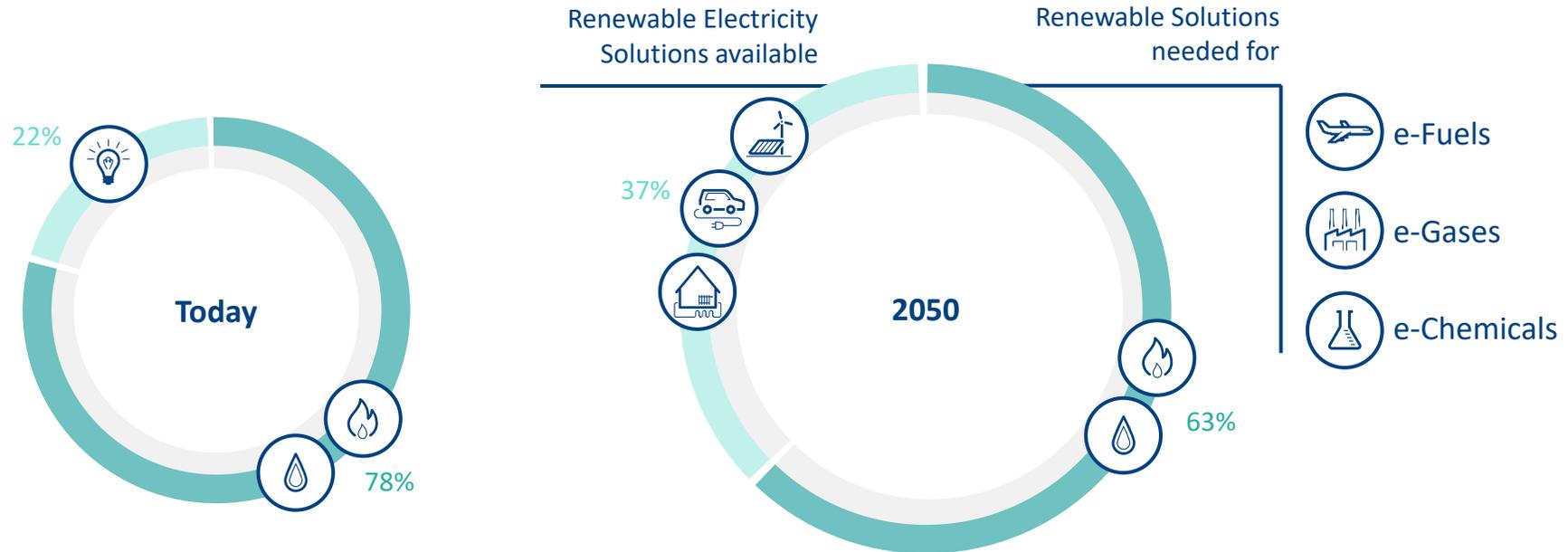
Accelerating the transition to renewable aviation

2022

Anton Kamolz

# Transforming electricity to chemicals and fuels

## The key to a successful energy transition



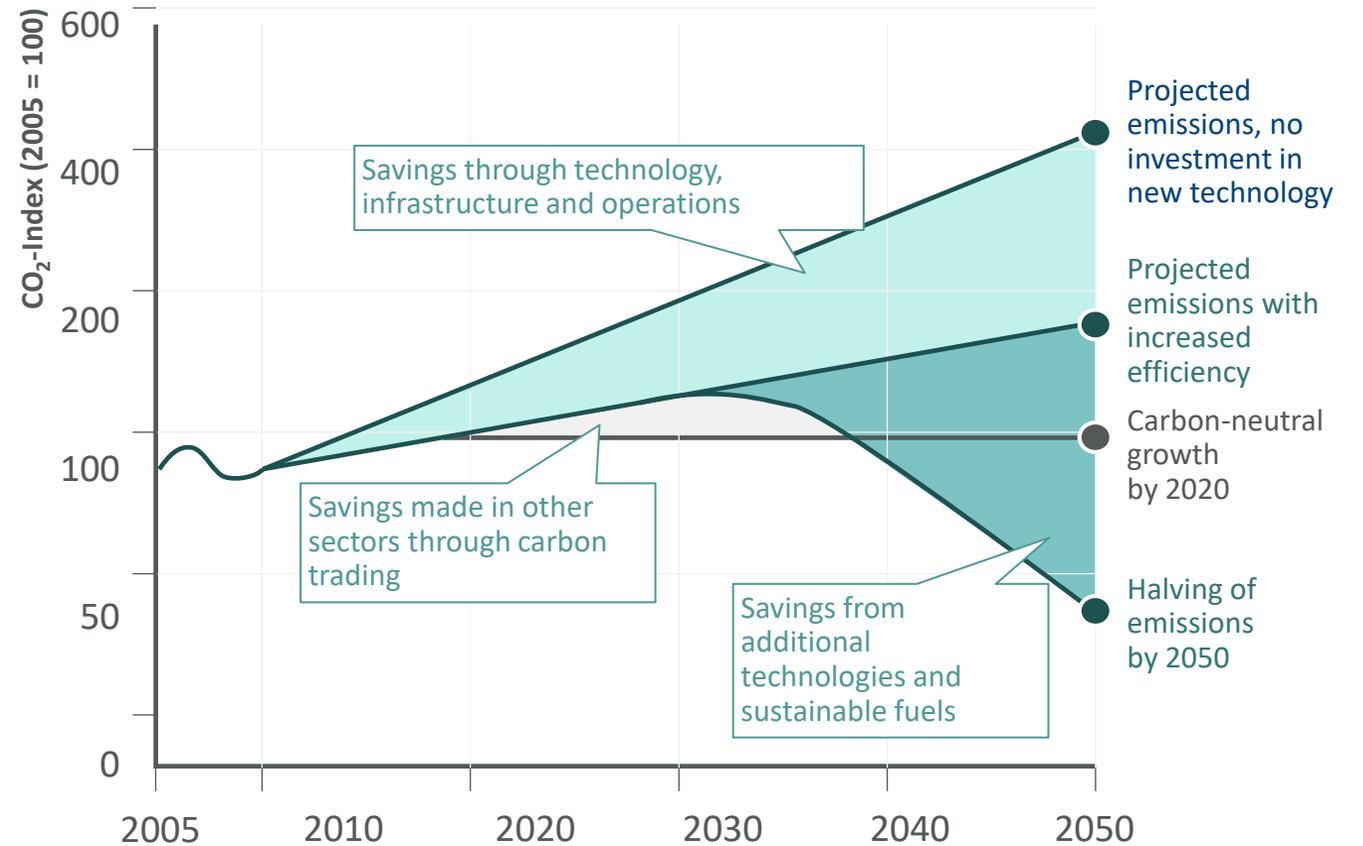
Even in scenarios with **maximum direct electrification** renewable **liquid and gaseous energy carriers** (such as e-H<sub>2</sub>, e-Fuels and e-Chemicals) **will be needed** to cover the global energy demand in 2050.

Source: IEA, June 2017; World Energy 2014-2050; Political economist, 2014



## SAF needed to achieve climate goals

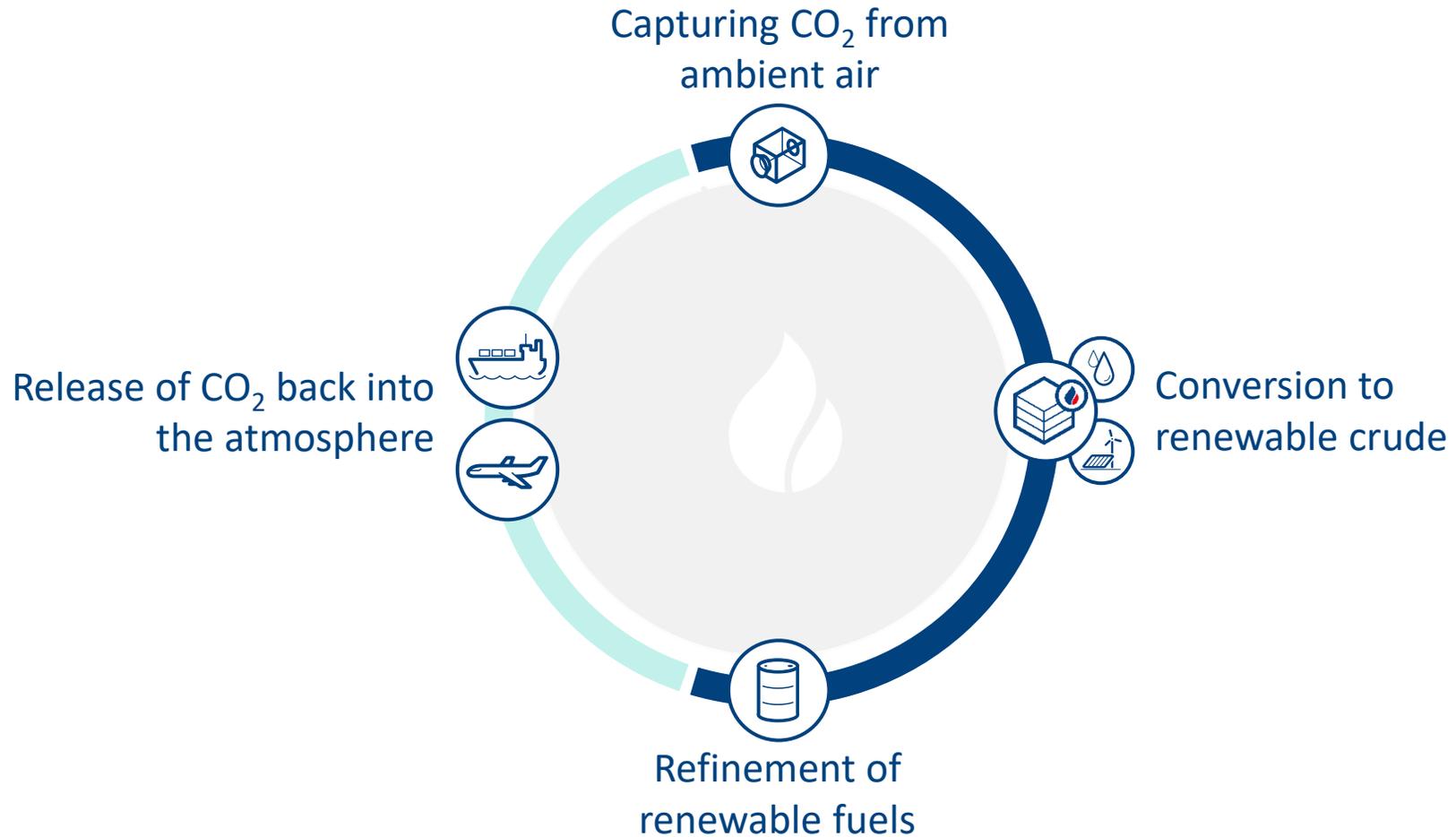
# The future of the aviation industry



ICAO 2013

# Norsk e-Fuel's unique Power-to-Liquid Process

## Closing the Carbon Cycle



## Unique advantages of e-Fuels

# Ready to start the renewable transition



**8x more efficient use of land area**  
compared to biological alternatives



**95 % lower water consumption**  
compared to biological alternatives



**Clean combustion**  
No Sulphur content and reduced particle emissions



**Zero cost for infrastructure**  
by using existing assets



**Certified for use in aviation**  
up to 50 % drop-in according to ASTM D7566





## Norway's Advantages for PtL Market development

- | Availability of **renewable electricity at low prices**
- | Favorable **financing** environment
- | **Experience in fuel refining** and marketing
- | Strong **expansion opportunity**

More than 190 years of experience combined

## The Norsk e-Fuel consortium



Technology Leader Power-to-Liquid with **electrolysis technology** and world-wide patents: **Sunfire** enables power to fuel conversion with top efficiency.



Technology Leader **Direct Air Capture** of CO<sub>2</sub>: Synergetic to Sunfire PtL process **Climeworks** enables CO<sub>2</sub> supply in remote areas with access to cheap electricity.



**Leader System Integration and EPC: Paul Wurth** has the resources to industrialize PtL and will offer performance guaranty for the PtL process.



Norwegian family-owned company focusing of **sustainable investments: Valinor** makes early-stage investments in companies to enable solutions for tomorrow.



**Lux-Airport** is the aerodrome operator of Luxembourg Airport and has the network to **off takers** and insights into the aviation market.

# Examples of a decade long track-record in PtL projects

## Innovative technology experts enabling the conversion



## Dedicated Management and Team

# Highly qualified experts

7

Highly qualified  
employees

supported by

5

Experienced Board of  
Director members

backed by

>2.000

Experts from Partnering  
Companies

working from

4

nations



**Karl Hauptmeier**  
Managing Director



**Susanne Krøvel**  
Senior Legal Counsel



**Anton Kamolz**  
Finance & Business Development



**Carl Berninghausen**  
Chairman of the Board



**Lars Bjørn Larsen**  
Business Development



**Luisa Wagner**  
Communication & Corporate  
Development



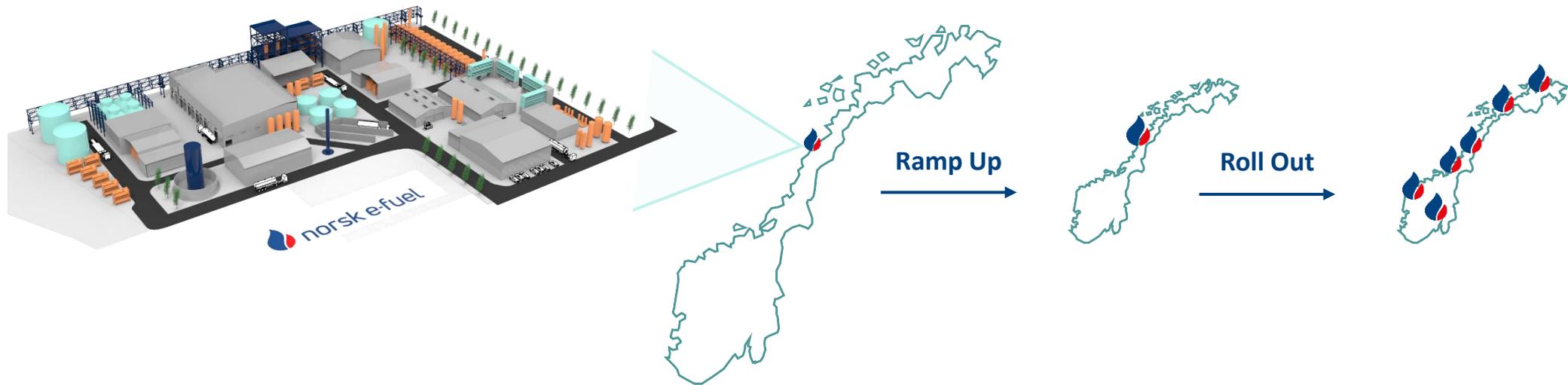
**Henning Prigge**  
Financial advisor (Capcora GmbH)



**Samuel Schuster**  
Site & Expansion Development

On the path to unlimited supply of renewable fuel

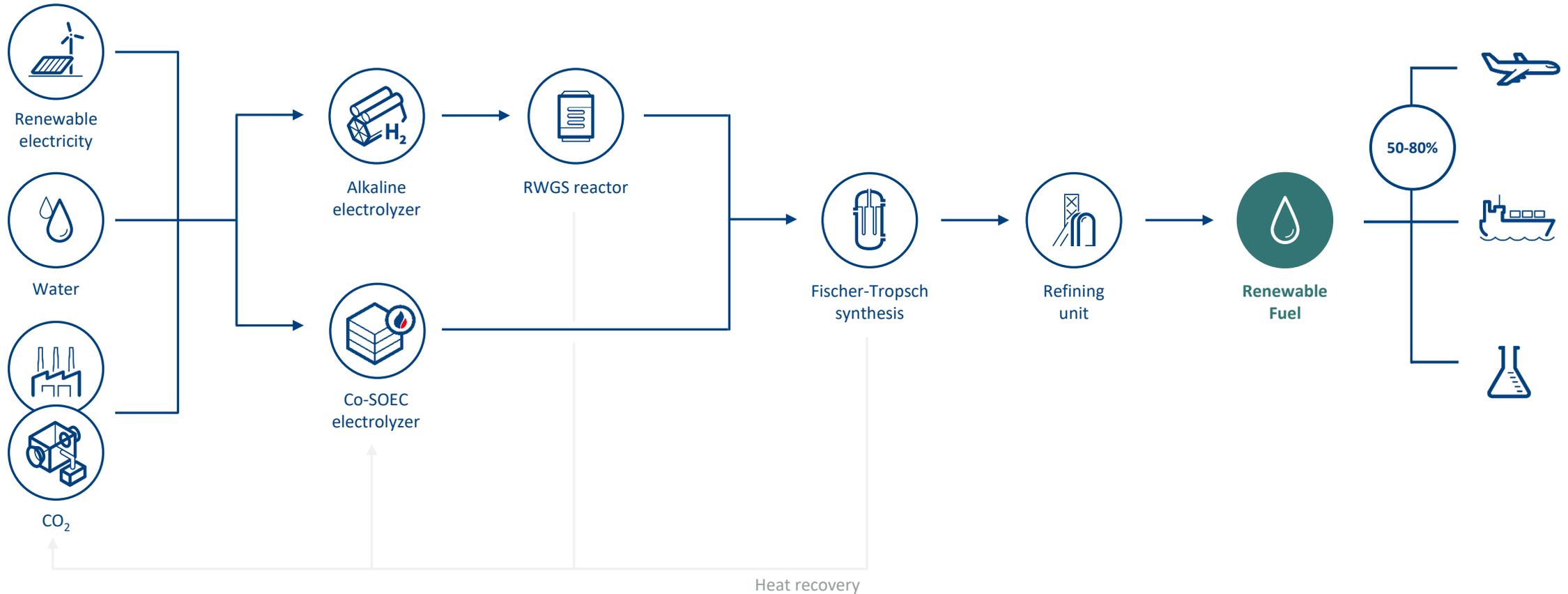
## From Mosjøen to the World

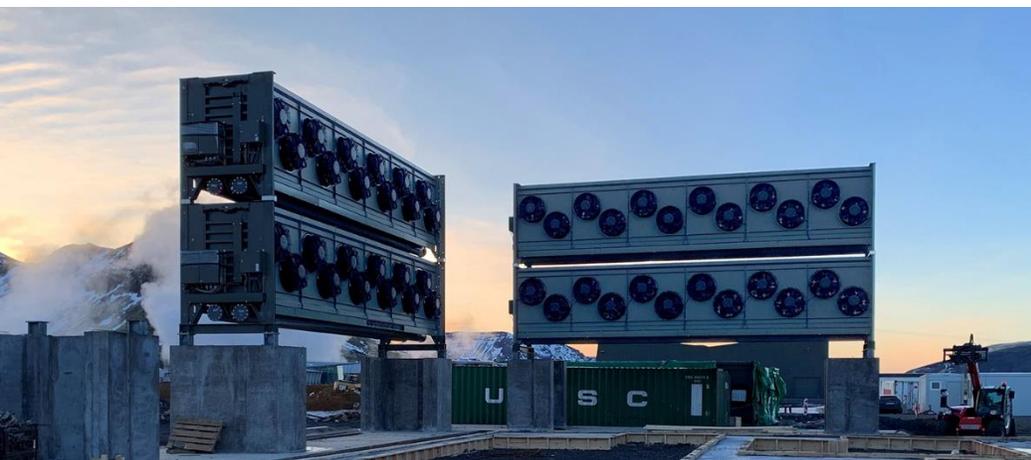


With our first **25 Mltr plant**, we lay the basis for a **blueprint plant** which can be easily **replicated**.  
One full-sized **100 Mltr** plant will effectively **cut the current flight emissions** of the top **5 most frequently** serviced flight routes within Norway by about **50%**.

Complex projects ask for strong partnerships and innovative technology

## The Norsk e-Fuel Value Chain





Highest efficiency - 30% more product

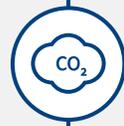
## Norsk e-Fuel Core USPs



**Highest efficiency** by using Co-SOEC technology, creating 30% more product



Integrated process from Power-to-Fuel via Fischer-Tropsch pathway, **covered by a worldwide patents**



**CO<sub>2</sub> supply independent of point sources** allows access to green field installations & cheap electricity



**Exclusive access to core technologies** through legally binding commitment by the shareholders



Strong capabilities and experience in **EPC and industrialization**



Extensive expertise in the **Norwegian energy market and financial landscape**



# Thank you!

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