

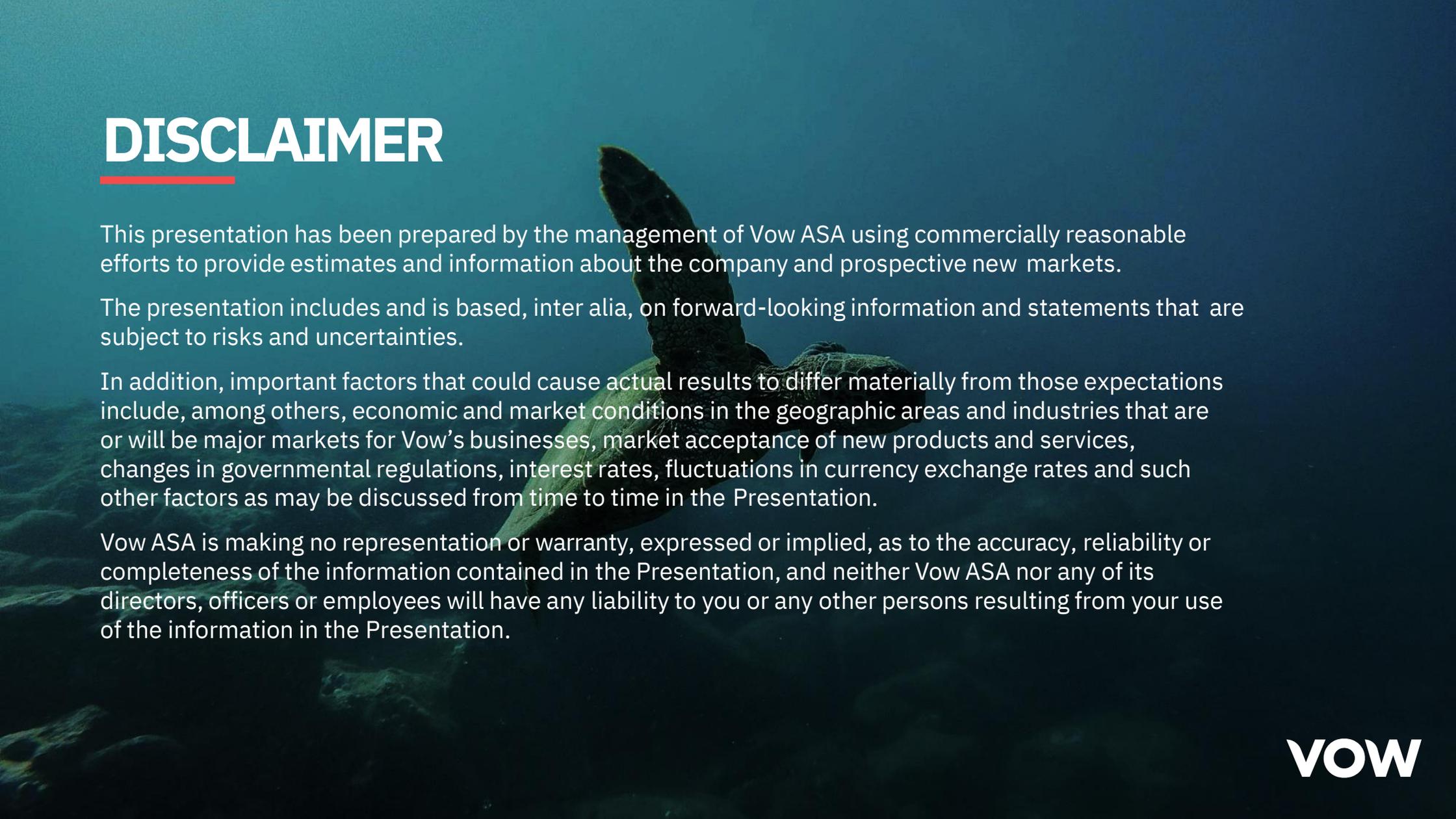
A photograph of an industrial facility, likely a waste-to-energy plant, featuring complex machinery, metal walkways with railings, and various pipes. The scene is brightly lit, and the overall atmosphere is industrial and technical.

# VALORISING WASTE, DECARBONISING INDUSTRIES

Pareto Securities Power & Renewable Energy Conference  
21 January 2021

**VOW**

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# ABOUT US

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- › Provider of world leading technologies to **eliminate pollution**, enhance **circular economy** and mitigate **climate change**
- › Offering **patented unique solutions** that turn waste and biomass into **CO2 neutral** energy, **decarbonised** energy, **low-carbon** fuels and **biocarbon**
- › Our **technology is ready**, it integrates easily into industrial processes and does not depend on large and complicated infrastructure to be effective
- › **Proven and scalable** delivery model, **record high backlog** of orders and **large installed base** for leading players in a wide range of industries, providing **recurring business**
- › **International footprint**, headquartered in Norway with subsidiaries in US, France and Poland

## Our brands

**VOW**

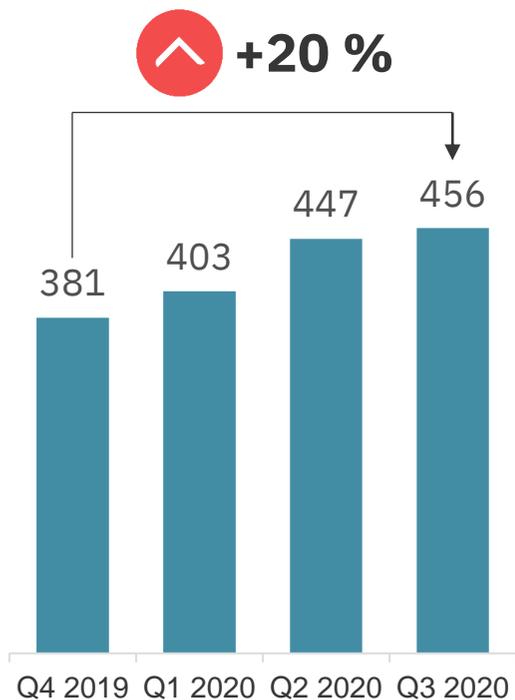
 **SCANSHIP**  
for cleaner oceans

  
E T I A  
ECOTECHNOLOGIES

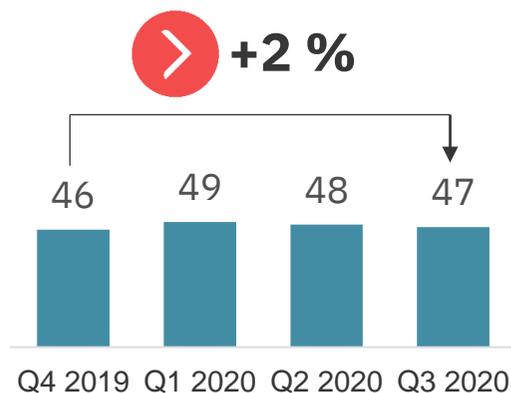
 **Biogreen®**

 **ASCODERO**  
PRODUCTIQUE

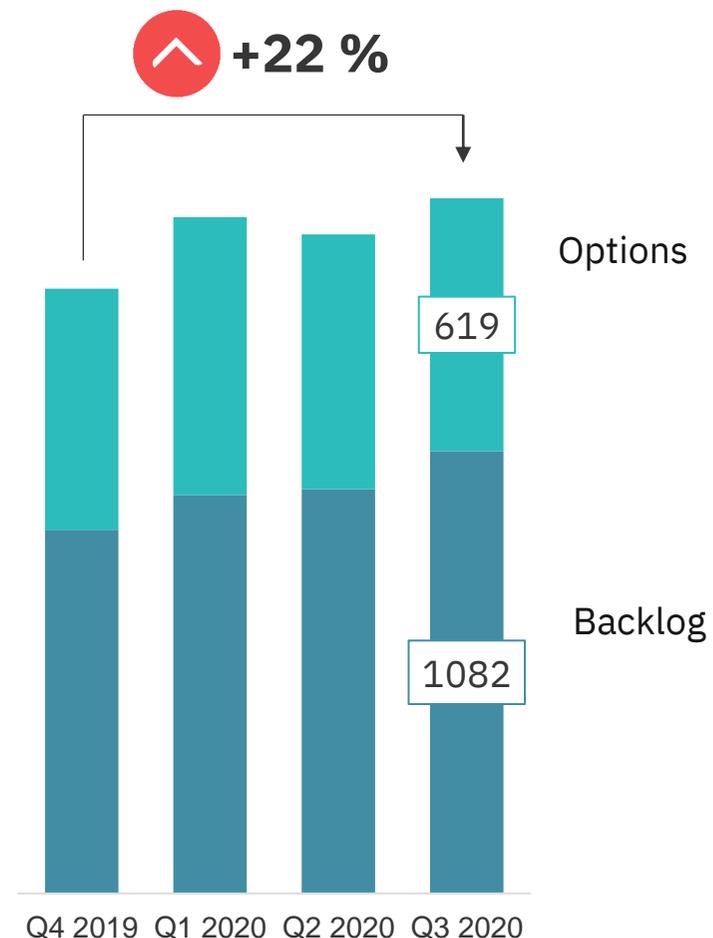
# KEY FINANCIALS



**LTM Revenues**  
(in NOK million)



**LTM EBITDA**  
(in NOK million)



**Order backlog and options**  
(in NOK million)

# MAIN DRIVERS

The fight against climate change and for protection of the environment require us to replace fossil carbon and turn waste into valuable resources

➤ **That is what our smart technologies do – and we also combine the two**

Leading industrial players are racing to reduce use of fossil fuels, decarbonize their processes and find ways to become net-zero

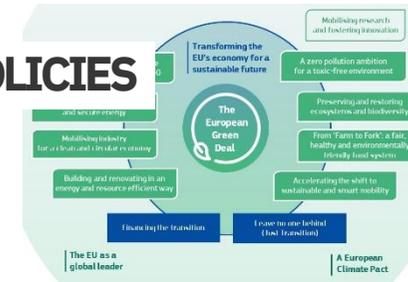
➤ **They are coming to us for help**

## ECONOMICAL



Cost of capital, EU taxonomy, carbon tax and rising consumer concerns drives business towards sustainable solutions

## POLICIES



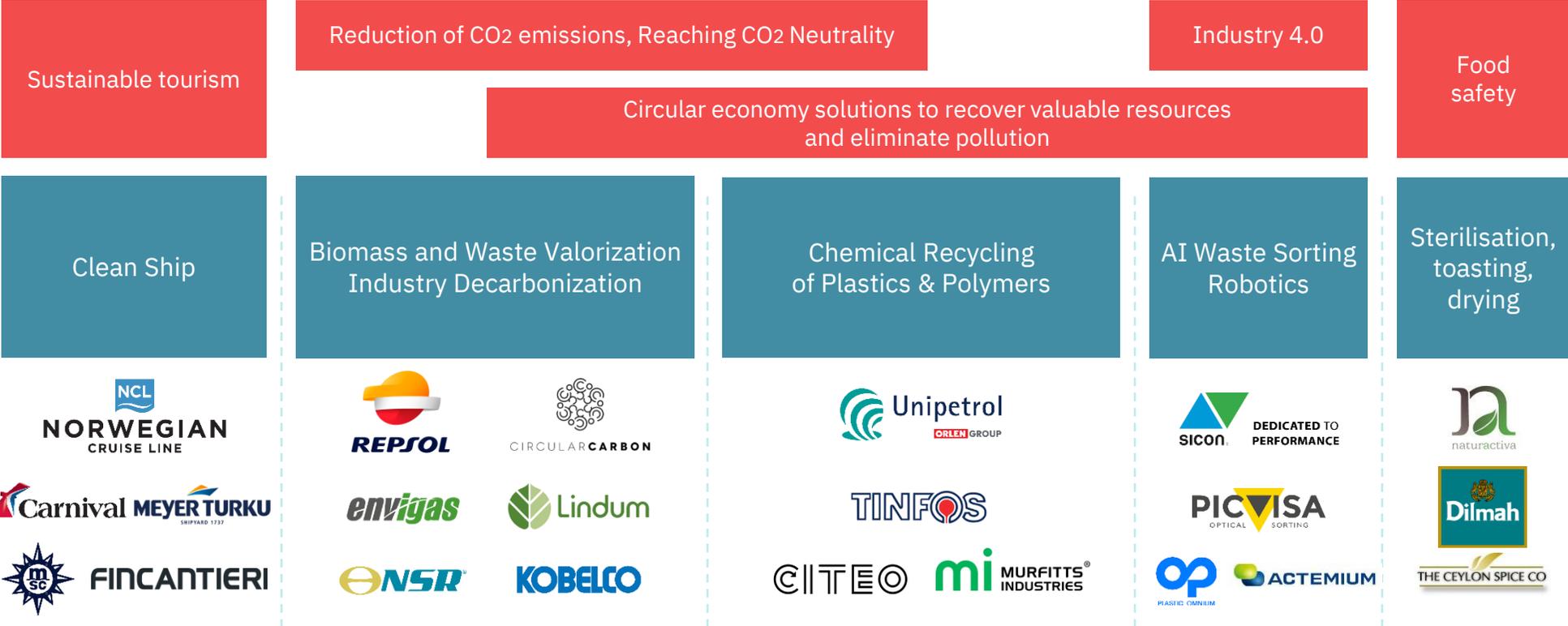
National and international law makers and governments are pushing for new legislation and regulation, i.e. EU Green Deal

## TECHNOLOGY



Engineers, entrepreneurs and industrialists are bringing down the cost of technology in new solutions

# STRONG PULL FOR OUR SOLUTIONS



Ongoing projects and cooperation 2H2020

# RECENT STRATEGIC PARTNERSHIPS

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World leading manufacturing company  
Customer name to be announced

- › A global multi-energy provider and one of the first energy companies to make a net-zero emissions commitment by 2050 and with intermediate goals for 2025, 2030+ and 2040.
- › Partnership to explore multiple applications such as solutions to produce CO2 neutral and decarbonised energy
- › ETIA technology and Vow's overall delivery model central elements.
- › Memorandum of understanding to build biogas production plant to reduce CO2 emissions from metallurgical processes.
- › Cooperation on engineering, business modelling and financing of a dedicated biogas plant, with the aim to have the plant operational in 2022.
- › Plant will be based on Vow's patented 'Biogreen' pyrolysis technology. Biogas will replace use of fossil natural gas in the metallurgical plant.
- › By-products such as biocoke and biochar will add further economics to the concept



# OUR NEXT STEP

Introducing VOW Industries

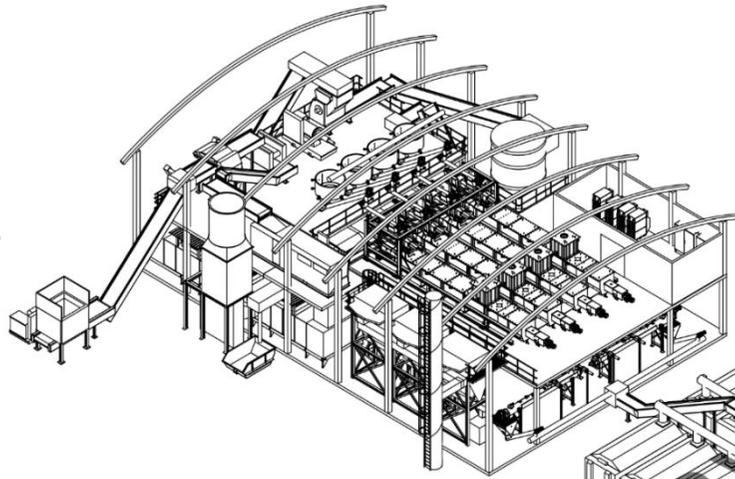
# VALUE PROPOSITION

Valorising waste | Decarbonising industry

## **Intake** (examples)

Organic waste  
and biomass

Plastics and  
polymers



## **Offtake** (examples)

Biocarbon (biocoke, biochar,  
biocoal)

Carbon products (graphite,  
graphene and recycled carbon  
black)

CO2 neutral gas and hydrogen  
(decarbonised energy)

Low-carbon fuels

CO2 removal certificates

Vow Industries business idea  
**Build, own and operate plants**  
and an incubator that can establish more  
companies based on Vow's technology

# VOW INDUSTRIES

## The Follum plant



- **Business idea** | Build, own and operate full scale demo plant based on Vow's process technology
- **Production** | biocarbon to replace fossil coke as a reducing agent in the metallurgical industry in Norway, as well as providing CO2 neutral gas for district heating and low-carbon fuels
- **Setup** | Base for development of fully standardized and replicable facilities
  - Equipment CAPEX in the range of NOK 175-200 mill for basic 10,000 tonnes capacity
  - Aiming for easy and flexible scale-up to higher capacities
- **Financing** | Through Enova grants, debt and equity

# LOCAL PARTNERSHIPS IN PLACE



**VIKEN**  
SKOG

*Forest owners  
association providing  
biomass*



**Lindum**

*Demolition wood,  
waste wood*

*Low-carbon fuel and  
raw materials for the  
petrochemical industry*

*Biocarbon for the  
metallurgical industry*

*Municipal energy company,  
using CO2 neutral gas  
for district heating*

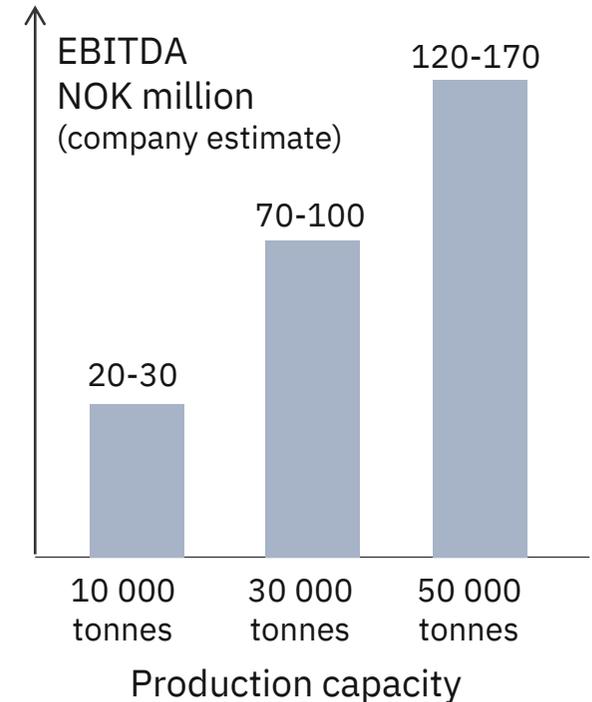


# SCALABLE TO MEET GROWING DEMAND



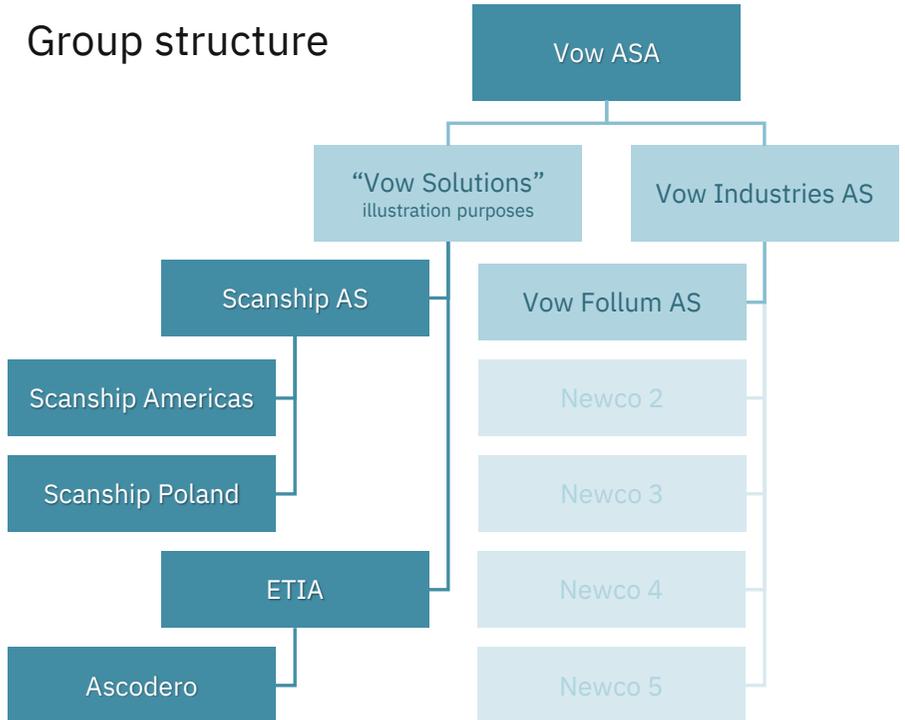
- Large, international industrial groups are undergoing a significant restructuring in order to achieve their goals of CO2 neutrality
- Demand for biocarbon is expected to increase significantly in the next few years, driven partly by increasing CO2 taxation and corporate net zero strategies
- Pipeline includes expansion in the Nordics as well as larger production facilities to meet industry needs
  - Norwegian market 400.000 tonnes (40% of 1 mill tonnes total fossil market by 2030)
  - Nordic market 1.8-2 mill tonnes (40% of 4.5-5 mill tonnes total fossil market by 2030)
- Several possible locations. Access to feedstock, infrastructure and proximity to client will be key

## ... and profitable



# CONCLUDING REMARKS

- › Provider of world leading technologies that can **eliminate pollution**, enhance **circular economy** and mitigate **climate change**
- › **Proven and scalable** delivery model, **record high backlog** of orders and **large installed base** for leading players in a wide range of industries, providing **recurring business**
- › Offering **patented unique solutions** that turn waste and biomass into **CO2 neutral** energy, **decarbonised** energy, **low-carbon** fuels and **biocarbon**
- › With the **launch of Vow Industries**, we are taking the first steps to expand our business, developing, owning and operating plants, **stand alone** or **together with partners**
- › We are gearing up to offer “**decarbonisation as a service**”



# THANK YOU FOR YOUR ATTENTION

Vow ASA | Lysaker Torg 12 | 1366 Lysaker | Norway | [www.vowasa.com](http://www.vowasa.com)

**VOW**

