

# SECOND HALF-YEAR 2023 PRESENTATION

14 February, 2024

**VOW** green metals





# The formula to unlock emissions reduction at industrial scale



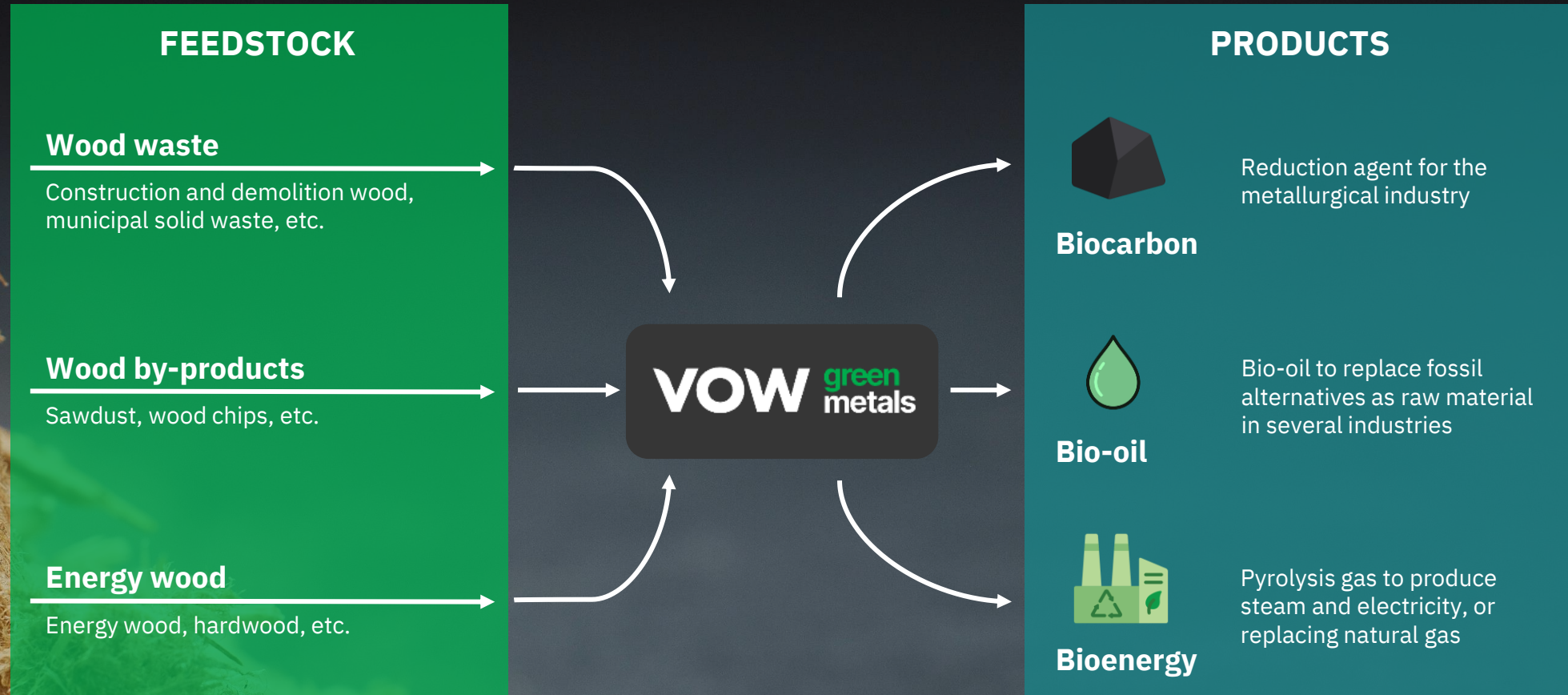


# The formula to unlock emissions reduction at industrial scale





# Valorizing biomass and biomass waste streams





# Main developments

## Major milestones reached in all key projects

- First biocarbon production from the early production line completed in November
- Engineering of the large-scale plant to fit process equipment for both phases in one construction stage completed
- Viken Park project progressing according to plan with the commencement of a pre-study for a plant with potential production capacity of 30,000 tons

## Building fruitful partnerships

- Governmental enterprise Siva will invest NOK ~152 million in Vow Green Metals' large-scale biocarbon production at Hønefoss with the signing of a forward contract for the purchase of buildings and infrastructure, and related leaseback agreement
- Regional energy producer Vardar committed to a strategic investment of NOK 100 million in Vow Green Metals split equally between the project company for the local large-scale project at Hønefoss and the listed parent company
- Long-term supply agreement for 15,000 tons of biocarbon signed with Elkem in January 2024

## Building the organization

- Vow Green Metals has strengthened its metallurgical competence with two new hires and bolstered the Company's ability to develop projects and maintain efficient operations of its plants with four new hires including operative staff and managing director of biocarbon production in Norway
- Jan Halvard Aas Møller was appointed new CFO of Vow Green Metals in December 2023, effective from February 2024.



# Financials for Second-half 2023

## Key figures

	Unaudited 2023	Audited 2022
<i>(Amounts in 1000 NOK)</i>		
<b>CONSOLIDATED STATEMENT OF INCOME</b>		
EBITDA	(23,906)	(17,415)
Profit for the period	(25,967)	(17,371)
<b>BALANCE SHEET</b>		
Total non-current assets	136,817	88,100
Total current assets	46,354	43,562
<b>Total assets</b>	<b>183,171</b>	<b>131,663</b>
Total equity	99,974	125,884
Total non-current liabilities	50,575	191
Total current liabilities	32,623	5,588
<b>Total equity and liabilities</b>	<b>183,171</b>	<b>131,663</b>

## Financial review second-half 2023

- EBITDA for second half 2023 negative of 14.5 MNOK. FY23 of negative 23.9 MNOK (unaudited)
  - Employee expenses
  - Other operating expenses
  - Follum related expenses of 8.7 MNOK capitalised
- Total assets of 183.2 MNOK, of which
  - 126.2 MNOK is process equipment under construction for the Follum plant, net of Enova grant of 7.8 MNOK
  - Cash position of 41.3MNOK

# Good progress in all key projects in the second half of 2023



**Early production line**



**Hønefoss (phase 1 and 2)**



**Viken Park**

Project data

**Capacity:** 2,500 tons p.a.  
**Planned operation:** Q1 2024  
**Location:** Hønefoss, Norway  
**Partners:** Vow ASA, Treklyngen industripark

**Capacity:** 20,000 tons p.a. (10,000 first phase)  
**Planned operation (phase 1):** H1 2025  
**Planned operation (phase 2):** H1 2026  
**Location:** Hønefoss, Norway  
**Partners:** Vow ASA, Vardar Varme, Lindum, Treklyngen industripark

**Capacity:** 30,000 tons p.a.  
**Planned FID:** H2 2024  
**Location:** Fredrikstad, Norway  
**Partners:** Vow ASA, Viken Park and unnamed companies at Viken Park

Status update

- First biocarbon successfully produced
- Starting ramp-up of operations in February 2024
- Key improvements discovered and implemented providing significant synergies to the large-scale project, including faster ramp-up, operational knowledge and more
- First operators has started and started recruiting of more production personnel

- Joint infrastructure project completed
- The interaction phase for civil works and process equipment installation started (Feb 2024)
- Execution of civil works is expected to start up in April this year.
- Most process equipment for phase 1 already delivered at site
- Main study for phase 2 initiated and proceeding according to plan

- Feasibility study completed
- Pre-study for a plant with 30,000 tons of biocarbon production capacity initiated
- Feedstock and energy offtake LoI's in place
- The regulatory plan for the area has been processed in Fredrikstad municipality and is currently out for consultation



# Viken Park project progressing according to plan

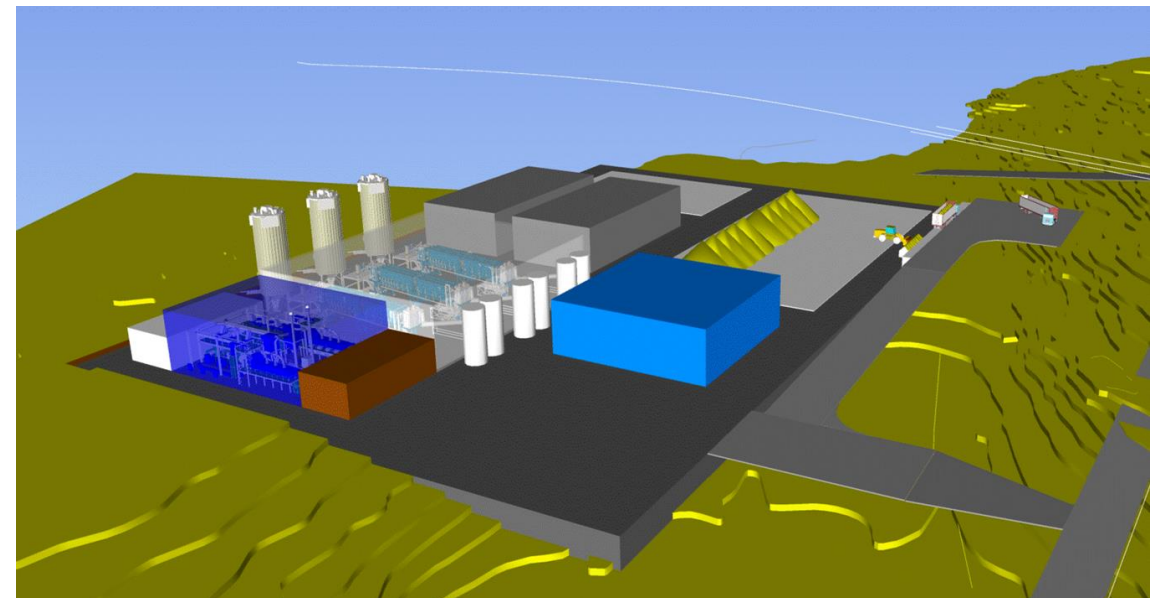
## Viken Park industrial area

- Set to become one of the largest and most innovative industrial areas in Europe
- Key focus to optimize industrial symbiosis and energy utilization with excess energy used by adjacent industry
- Great logistics with proximity to E6, Borg Harbour and Rolvsøy freight terminal. The regulatory plan for the area has been processed in Fredrikstad municipality and is currently out for consultation



## Concept and progress

- The concept has a planned production capacity of 30,000 tons of biocarbon p.a. using the dual energy source C.H. Evensen reactor, provided by Vow ASA
- Pre-study to further map the potential for stable feedstock supply, local energy offtake and industrial synergies is ongoing and expected to be completed during 1H, 2024
- Strategic partnerships entered with LoI's for local feedstock supply, CCU and energy offtake signed





# Significant industrial players with up to NOK 252 million investment in Vow Green Metals

Siva to invest NOK ~152 million in Vow Green Metals' large-scale biocarbon production at Hønefoss

“This is the starting point of the scaling of a new green industry”

Jan Christian Vestre  
Minister of Trade and Industry



Vardar with strategic investment of up to NOK 100 million in Vow Green Metals



# The commercial market for biocarbon in the Nordics is maturing with new long-term supply agreements signed

Long-term supply agreement for 15,000 tons of biocarbon p.a. signed with Elkem



“Replacing fossil carbon sources with biocarbon in our smelting operations is a key potential for reducing our fossil CO2 emissions, and this supply agreement with VGM is part of our efforts to develop competitive sourcing of biocarbon.”

Inge Grubben-Strømnes  
Senior Vice President of Silicon Products



The VGM technical and operations team visiting Envigas' production facility in Bureå, Sweden, earlier in November





# Standardization efforts progressing to ensure speed and scale

## Implications for future production plants



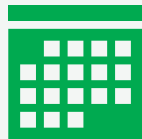
### Improved safety

Standardized processes capturing lessons learned



### Reduced cost

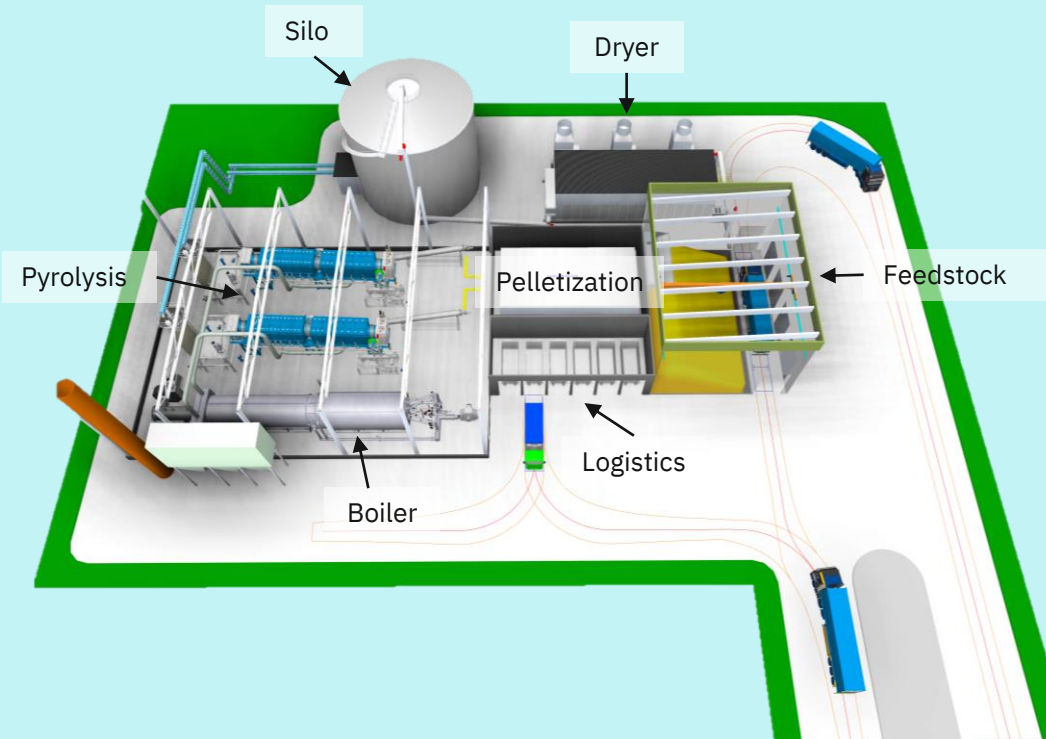
Streamlined and efficient processes enabling cost-reduction



### Reduced lead-time

Accelerated project development, procurement and installation

## Vow Green Metals' standardized factory module



# Building an organization with strong competence and experience across three critical functions

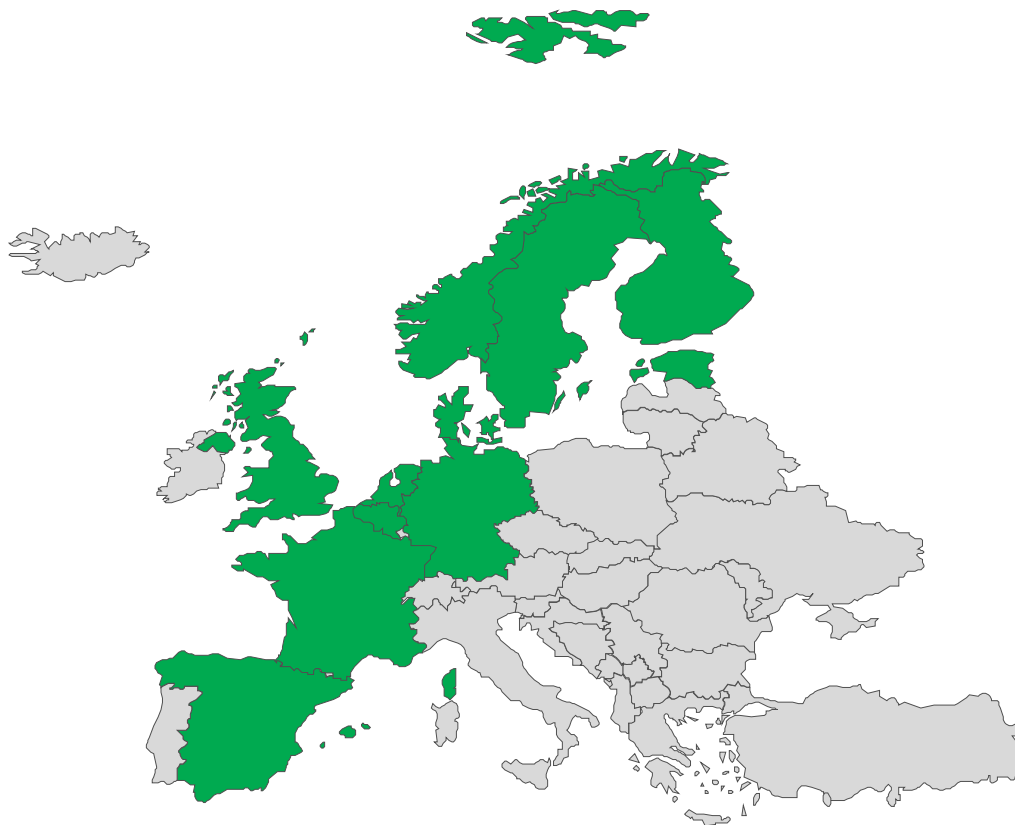




# High-grading the global pipeline of large-scale biocarbon production plants

## Maturing key leads

- Industrial parks
  - Pyrolysis gas as backbone of energy production at site
- Pulp and paper
  - Biocarbon plant adjacent to P&P production
  - Producing steam to replace natural gas consumption
- Sawmills
  - Sourcing wood chips from adjacent sawmill, delivering excess energy for drying
- District heating
  - Delivering excess energy to district heating, replacing use of biomass fuel not compliant with RED3



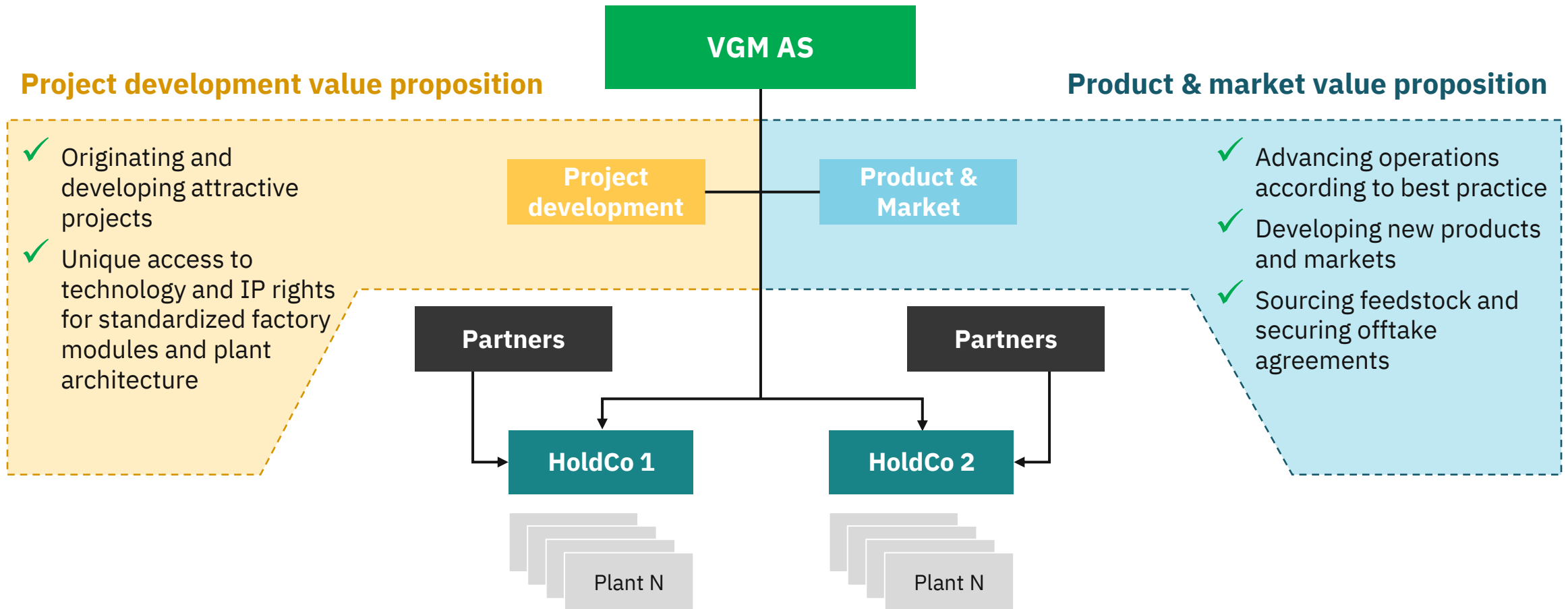
### Pipeline

Norway: 210,000 tons  
Nordics: 90,000 tons  
Europe: 220,000 tons  
Other: 100,000 tons

### Total pipeline

620,000 tons

# Vow Green Metals add value to biocarbon investment portfolios





# The value of reducing emissions is massive – enabling profitable biocarbon at competitive price levels



# Clear ambitions for 2024

## 2024 PRIORITIES

Ramping up production

Commercializing new and existing products

Advancing key industrial projects and lower CAPEX

## STAYING AHEAD OF THE CURVE AS THE LEADING PRODUCER OF BIOCARBON AND CARBON-NEUTRAL PRODUCTS

1

### PRODUCING AT INDUSTRIAL SCALE:

*Ramping up production of biocarbon and bio-oil from the Early Production Line.*

2

### CONTINUE TO BUILD COMMERCIAL PARTNERSHIPS:

*Continue commercialization of the biocarbon and bio-oil markets, delivering volumes to customers.*

3

### FURTHER ADVANCE KEY PROJECTS:

*Ensure progress in established prioritized large-scale projects.*

4

### MATURING PROJECTS LEADS:

*Accelerate business development activities and maturing the existing leads in the pipeline*

5

### CONTINUOUSLY STANDARDIZE AND CUT COST:

*Lower CAPEX, implement improvements and lessons learned while progressing standardization of the VGM factory module*



# FORGING A **NEW ERA** FOR THE METALLURGICAL INDUSTRY



**VOW** green metals