## HALF-YEAR 2023 PRESENTATION

24 Aug, 2023



### The formula to unlock emissions reduction at industrial scale

# SiO<sub>2</sub> + C $\rightarrow$ Si + CO<sub>2</sub>



### The formula to unlock emissions reduction at industrial scale

# $SiO_2 + C \rightarrow Si + CO_2$



### Valorizing biomass and biomass waste streams



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## Spearheading the development of a rapidly growing biocarbon industry



Will be a leading producer of advanced biocarbon and other green products enabling low-cost renewable production at scale for metallurgical industry First-mover advantage with growing global pipeline totalling more than 600,000 tons of biocarbon production capacity

Unique access to proprietary technology with secured IP rights to standardized plant architecture and biocarbon factory modules and



### **Main developments**

#### Major milestones reached in all key projects

- All key projects progressing according to plan
- Process equipment for early production line installed
- Excavation work and infrastructure development at Follum underway
- Several gate reviews passed

#### **Project pipeline expansion**

50,000 tons of biocarbon production capacity added in Q2, the pipeline has been high-graded and is now totaling 620,000 tons

#### **Organizational growth**

Six new hires in the first half of 2023, strengthening Vow Green Metals' metallurgical expertise and operational capabilities

#### Financing

Mature dialogues and progress in negotiations with debt providers, equity partners and infrastructure investors to secure funding for new and existing projects. NOK 7.8 million of Enova grant drawn in July 2023, NOK 34.4 million remaining



### Financials for first-half 2023

| Key figures                   |             |             |              |
|-------------------------------|-------------|-------------|--------------|
|                               | Unaudited   | Unaudited   | Audited      |
| (Amounts in NOK)              | 1H-2023     | 1H-2022     | 2022         |
| Statement of income           |             |             |              |
| EBITDA                        | (9,381,574) | (6,694,048) | (17,414,579) |
| Profit for the period         | (9,543,825) | (6,842,906) | (17,370,827) |
| Balance sheet                 |             |             |              |
| Total non-current assets      | 105,348,544 | 60,651,870  | 88,100,337   |
| Total current assets          | 20,463,393  | 76,839,145  | 43,562,257   |
| Total assets                  | 125,811,937 | 137,491,014 | 131,662,593  |
| Total equity                  | 116,328,789 | 134,320,664 | 125,883,753  |
| Total non-current liabilities | 83,910      | 433,607     | 178,486      |
| Total current liabilities     | 9,399,237   | 2,736,743   | 5,600,354    |
| Total equity and liabilities  | 125,811,937 | 137,491,014 | 131,662,593  |

#### Financial review first-half 2023

- EBITDA for 1st half 2023 negative of 9.4 MNOK
  - Employee expenses
  - Other operating expenses
  - Follum related expenses capitalised
- Total assets of 125.8 MNOK, of which
  - 96.4 MNOK is process equipment under construction for the Follum plant, net of Enova grant
  - Cash position of MNOK 10.3 (MNOK 18.1 when adjusted for the Enova grant received in July)



## First industrial biocarbon production volumes expected in third quarter this year



- Early production line
- **Capacity:** 2,500 tons p.a. **Planned operation:** Q3 2023 **Location:** Hønefoss, Norway **Partners:** Vow ASA, Treklyngen industripark
- Planned commissioning and first biocarbon production starting in Q3 2023
- Providing significant synergies to the Follum project, improving ramp-up, operations and more
- Installation work largely completed
- First operator has started



#### Follum (phase 1 and 2)

Capacity: 20,000 tons p.a. (10,000 first phase) Planned operation (phase 1): H2 2024 Planned FID (phase 2): H2 2023 Location: Hønefoss, Norway Partners: Vow ASA, Vardar Varme, Lindum, Treklyngen industripark

- Phase 1 progressing as planned with commissioning and first biocarbon mid-2024
- Most process equipment for phase 1 already delivered at site
- Negotiations for civil works and process equipment installation ongoing
- Joint infrastructure project progressing well
- Main study for phase 2 initiated accelerated process expected
- Managing director and the first three operators recruited



#### **Viken Park**

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

- Feasibility study completed
- Pre-study for a plant with 30,000 tons of biocarbon production capacity initiated
- Evaluating synergies with other companies to locate at Viken Park



### Promising Viken Park project entering pre-study phase

#### 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
- Great logistics with proximity to E6, Borg Harbour and Rolvsøy freight terminal

#### **Our concept**

- 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
- Excess energy used by adjacent industrial companies
- Pre-study to further map the potential for stable feedstock supply, local energy offtake and industrial synergies





## Breaking ground at Follum – building Europe's largest biocarbon production facility







### 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





# Growing global portfolio of large-scale biocarbon production plants

## Strong value proposition to local partners

- Sawmills
  - Offtake and higher value creation on sawmills' by-products
  - Stable bioenergy based on material production (RED III)
- Industrial parks and district heating
  - Stable bioenergy based on material production (RED III)
  - We get access to well-suited areas with energy consumers
- Pulp and paper
  - Stable bioenergy based on material production (RED III)
  - Synergies in raw material sourcing
- Chemicals and metals
  - Stable bioenergy based on material production (RED III)
  - Possible green methane or hydrogen in the future



#### Pipeline

Norway: 200,000 tons Nordics: 130,000 tons Europe: 220,000 tons Other: 70,000 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



## FORGING A NEW ERA FOR THE METALLURGICAL INDUSTRY

