



Industrialisation of Hydrogen-Based Technology for Recycling of Steelmaking Residuals

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GreenIron in short

GreenIron is a metal technology company providing reduction-as-a-service for steelmaking by-products – initial focus mill scale

- Founded 2018 | >30 employees
- Patented hydrogen-based reduction technology
- Up to 90% CO₂ reduction vs fossil processes
- Wallenberg Investments the largest owner
- R&D furnace since 2020 and first commercial production unit in Sandviken, Sweden since 2025
- Planning for scale-up with additional commercial units





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Sandviken – GreenIron’s first production site

- Environmental permit granted April 2024; commercial production started January 2026
- First operational site – proof point for industrial-scale hydrogen-based reduction
- Initial focus: recycling oxidised scale from steel production
- Currently running two-shift, planning for scaling-up
- Estimated yearly capacity 10,000 tonnes* output
- Flexible process technology enabling future expansion into additional metals and minerals

*Sandviken has limitations while future sites will have an estimated essential larger output volume



Reduction and recycling of by-flows – mill scale



- 90–95% recovery
- Up to 90% CO₂ reduction

Coares mill scale – before and after reduction



Iron ore pellets before and after reduction

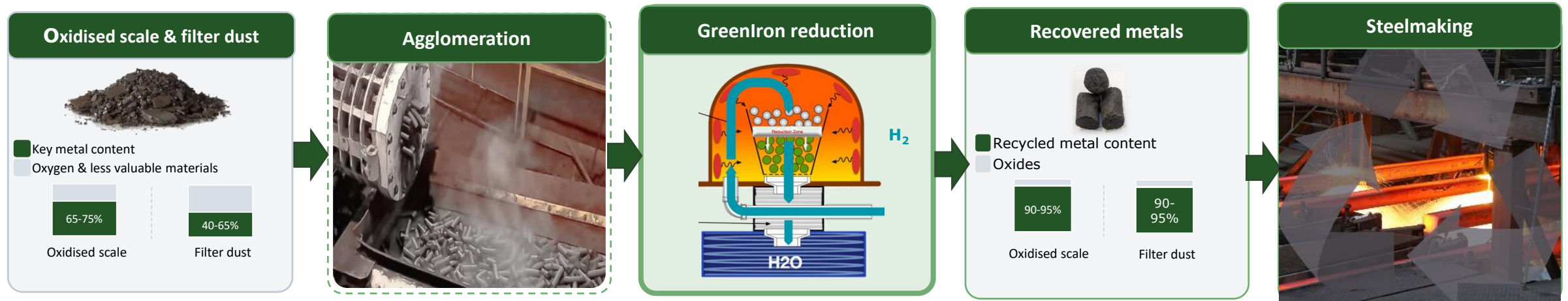


Samples of different materials (Swebor & Ovako)



The value chain

- reduction-as-a-service for steelmaking by-products



Oxidised scale is formed during casting and rolling, scraped off the top of the steel beam

Filter dust originates from the off-gas systems of EAFs

Source: Company information

The road for Industrialisation

- **Decarbonisation under pressure:**
Slower investments, capital constraints and need for lower-risk solutions
- **Technology readiness matters:**
CBAM pressure, emissions cost and need for solutions
- Need for lower-risk solutions – step by step



GreenIron - built for de-risked industrialisation- In short

- Modular design and batch process enabling flexible feedstock handling
- Commissioned and commercially operational, with a focused offering for steel industry by-products
- Several Swedish steel customers already in process - with more to come
- GreenIron is ready to be part of the transition and accelerate decarbonisation



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Thank you!

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