Severstal’s approach to address the most difficult technological challenges of decarbonisation

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Severstal is one of the most efficient steel companies in the world

Vertical integration is the foundation of our efficiency

35,3%

The highest EBITDA margin in the world in Steel Industry

FINANCIAL 2020FY	$6,870mln REVENUE	$2,422 mln EBITDA

50000 employees

19000 products

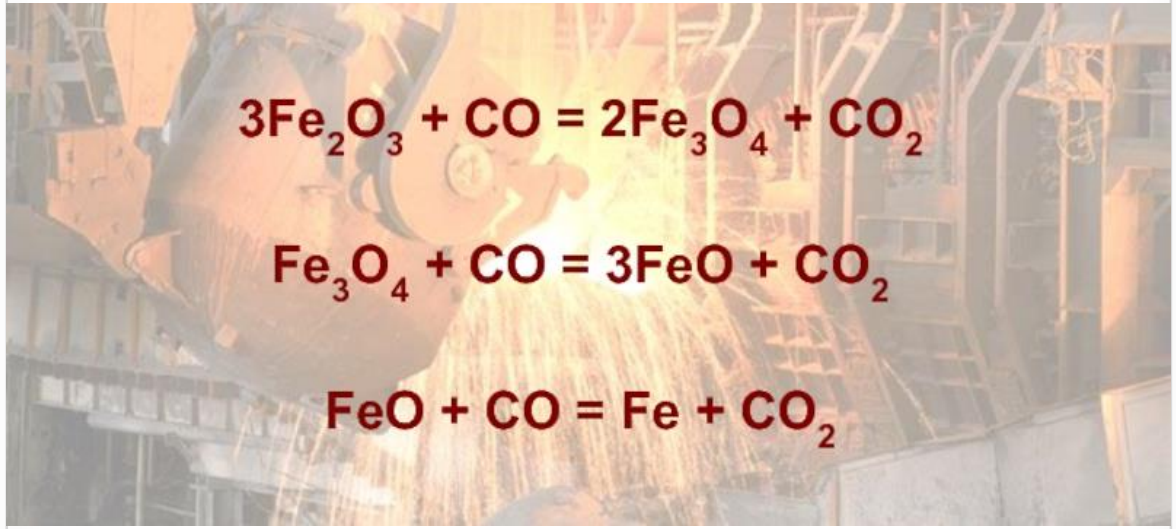
6000 clients

77 countries

Why steelmaking is hard to decarbonise? New technological platform of metallurgy creates huge disruption potential.

DO…

C-based chemistry



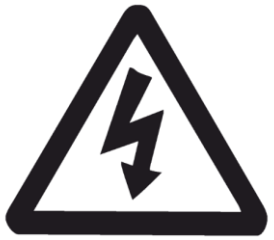
…CAN DO

Hydrogen metallurgy

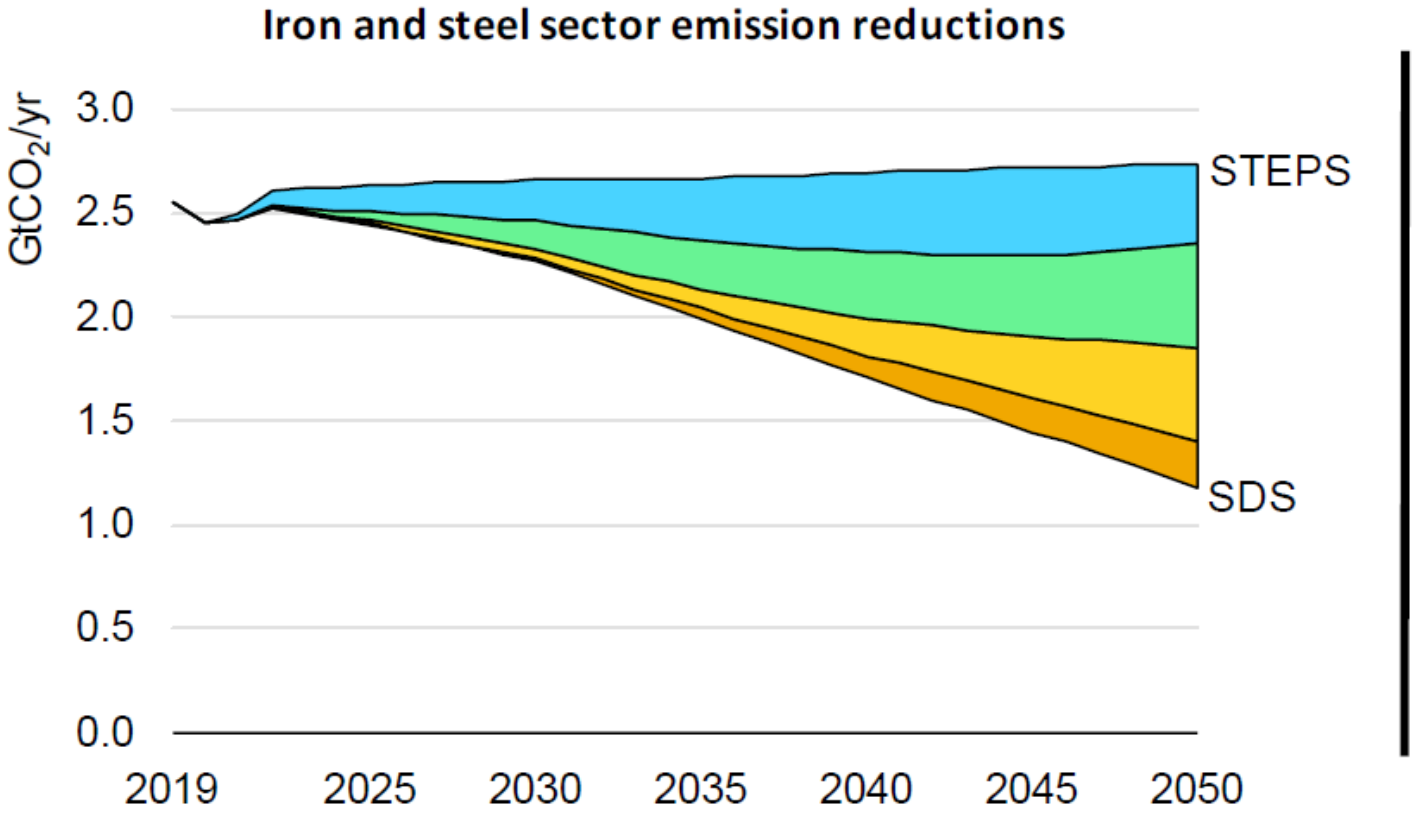
$$3H_2 + Fe_2O_3 = 2Fe + 3H_2O$$

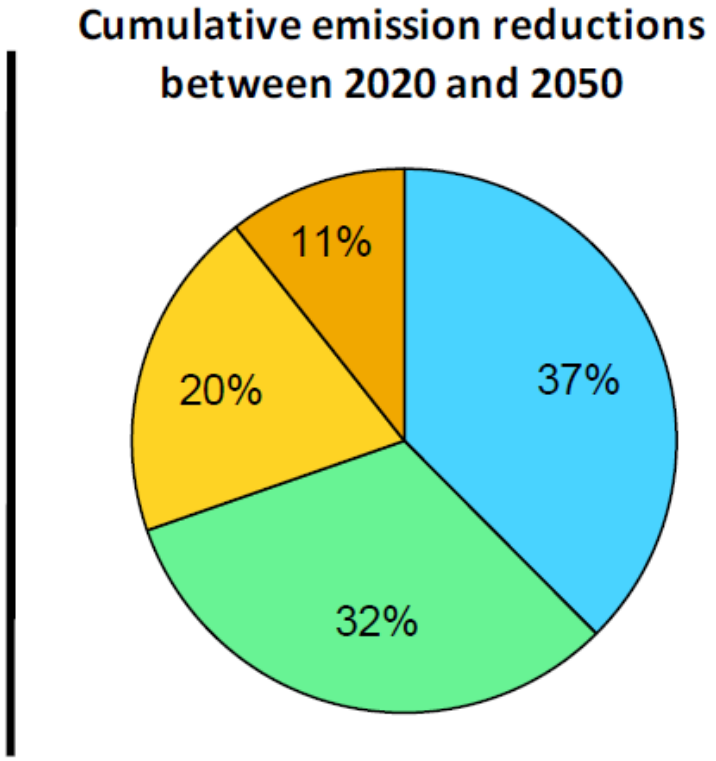
Ore electrolysis

$$e + Fe_2O_3 \rightarrow Fe + O_2$$



The future of steel decarbonisation depends on new technologies and the CAPEX cycle. We operate on 3 horizons of technology projects.





Mature Early adoption Demonstration Prototype

Source: IAE, Iron and Steel Technology Roadmap

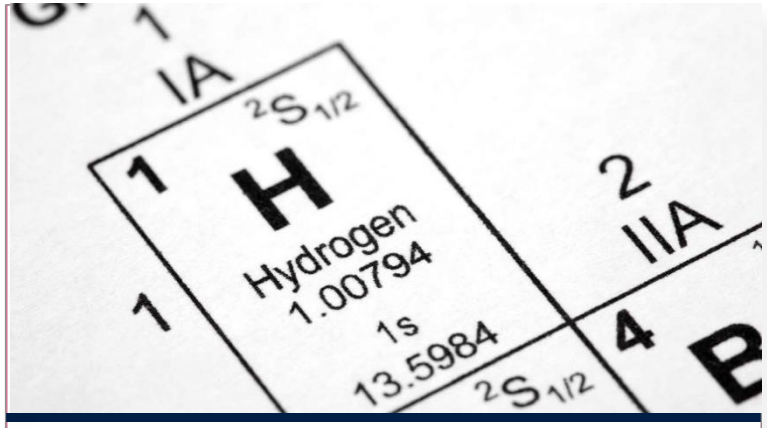
Severstal sets clear and achievable decarbonisation goals and works on all three horizons.

2023 year

SHORT TERM TARGET

«TO REDUCE GREENHOUSE GAS EMISSIONS BY 2023 T OF CO2 / T OF LIQUID STEEL -3% VS. BASE YEAR 2020»

- 3%



2030 year

MEDIUM TERM TARGET

«TO REDUCE GREENHOUSE GAS EMISSIONS BY 2030 T OF CO2 / T OF LIQUID STEEL -10% VS. BASE YEAR 2020»

- 10%

2050 year

LONG TERM TARGET

SCIENCE BASED TARGETS

NET ZERO TARGETS

Priority areas:

Radical and Disruptive TECHNOLOGIES

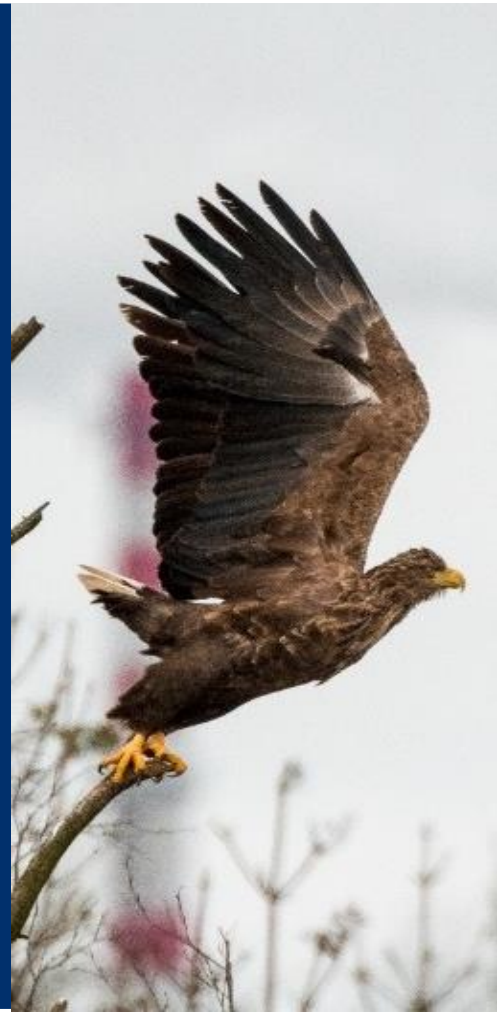
Severstal’s decarbonisation drive

- 1st Q in WSA GHG intensity benchmark
- More ambitious target to reduce atmospheric emissions (13% instead of 7%)
- BoD in charge of climate change
- Scope 3 GHG emissions calculated; External verification of Scopes 1 and 2

PATHWAYS TO MAKE THE SUPPLY CHAIN GREENER

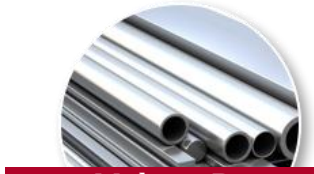
Reducing GHG emissions from energy and resources consumption

- Replacement of coal with natural gas in blast furnaces
- Reviewing opportunities to purchase greener energy
- Use of by-products and secondary gases as energy sources
- EPD (carbon footprint) certification of products
- Investments in venture deals giving access to projects at an early stage



The most difficult technological challenges to address

Decarbonisation driven Industrial Revolution at even higher pace as it was in the past



Making Better Steel for c-economy

- Coatings
- Alloys, HSS
- Multi-material

Decarbonisation Challenge

- Low C tech
- C-use
- C-capture
- Hydrogen

Efficiency in Mining

- IoT
- Digitalization
- Robotics

Monetizing Byproducts

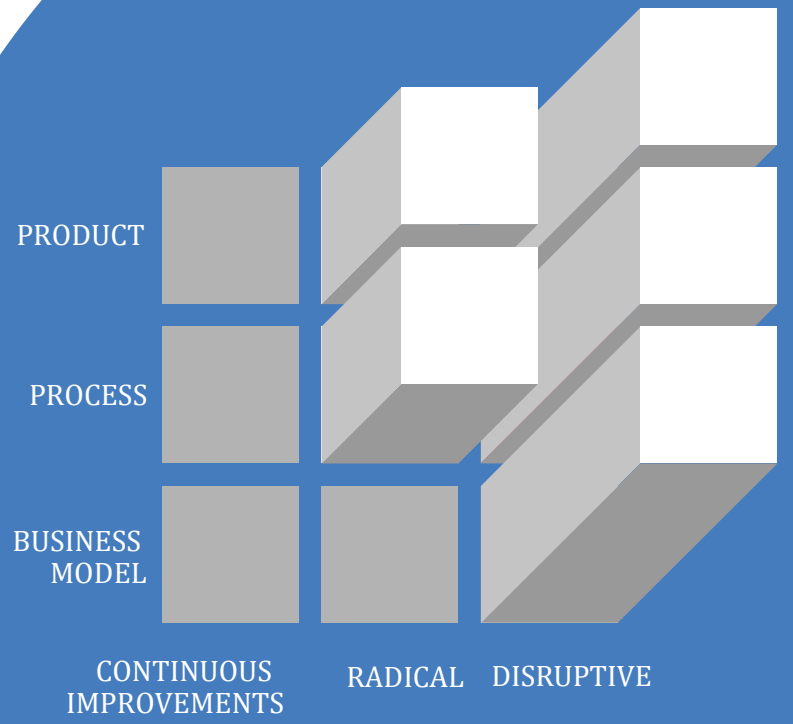
- Steel slag
- CO2
- Carbon black

Electrification

- Wind&Solar
- Nuclear
- Power grids and distributed generation

Clusterization

- Shared infro.
- Cross-border
- Alliances and t-boost



Priority Areas

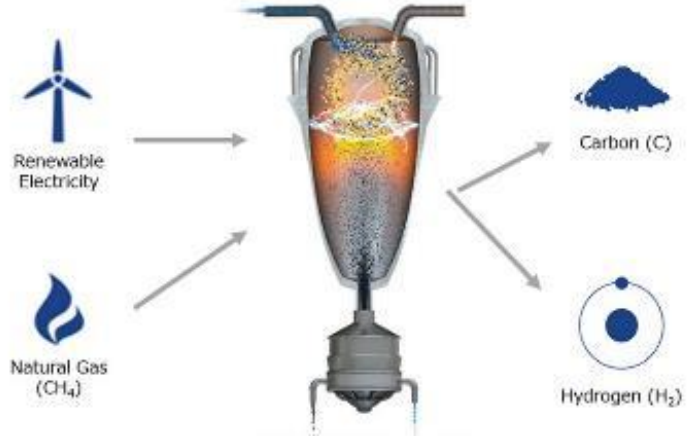
Hydrogen and innovative decarbonisation

Key advantages for Russia based companies in terms of CO_2 mitigation

1. Potential places to store CO_2
2. Territory: forest and soil
3. Natural gas and renewable energy potential (including hydro-power)

Capture and storage CO_2

Compensation



Low carbon footprint hydrogen

Innovate with us to change the world for the better!

Thank you! | **contact: ILya PavLov ilov@severstal.com**