

Decarbonization program



ArcelorMittal

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An industry where decarbonization is accelerating

European Commission's "Fit for 55" plan

Europe's proposals, published on 14 July 2021, to become the first climate neutral continent by 2050.

ArcelorMittal Climate Action Report

- **By 2030, ArcelorMittal will reduce its emissions by 35% in Europe and 25% globally: this is the first time the group has set a global target for 2030.**
- In 2050, the group confirms the goal of carbon neutrality.**

In France



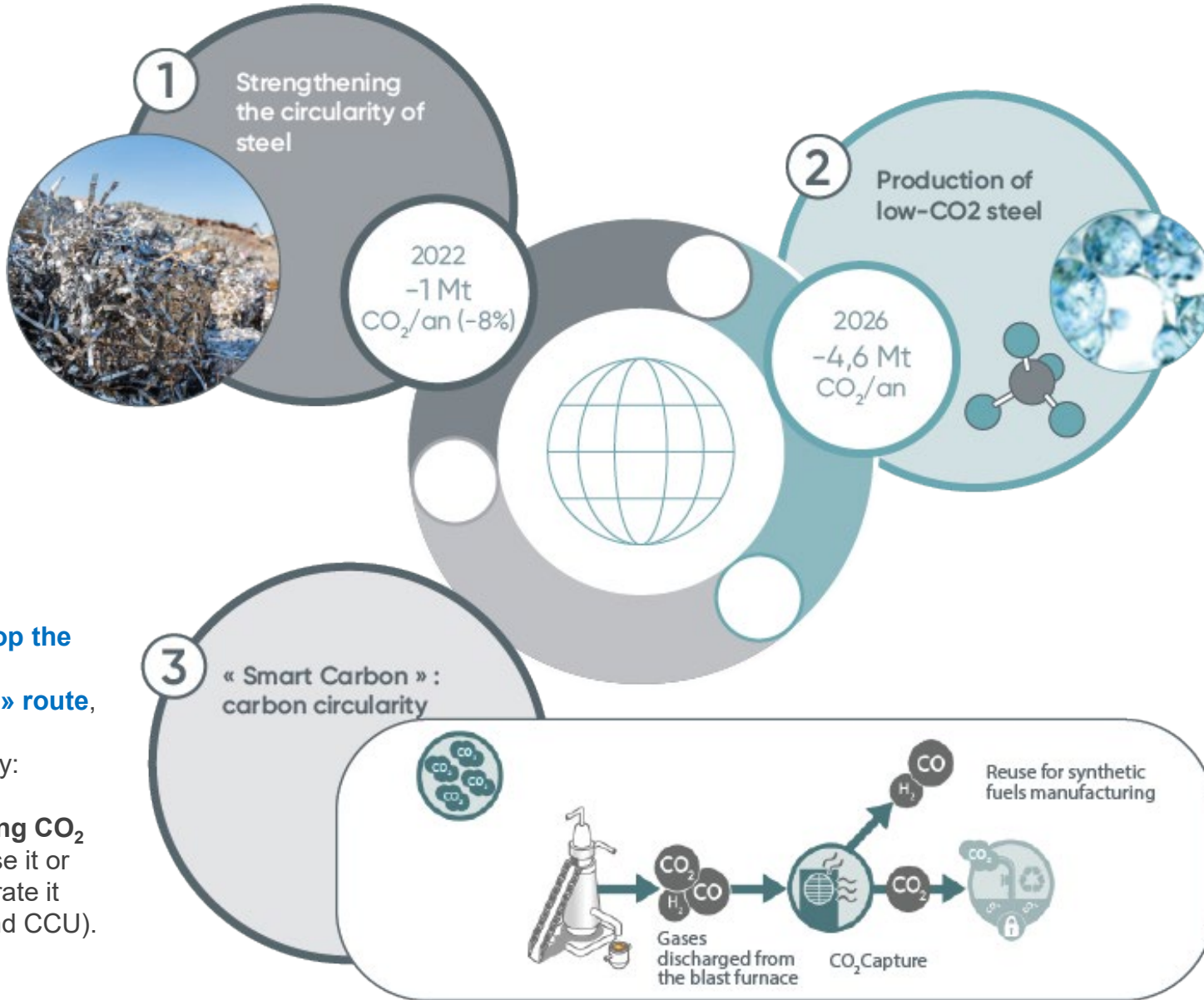
- **1.7 billion in investments** for the Fos-sur-Mer and Dunkirk sites, with the support of the State.
- For a complete transformation of steel production in France.
- Nearly 40% reduction in ArcelorMittal's CO₂ emissions by 2030.



Our roadmap

➤ **Steel circularity:**

Increase recycling steel. At the end, 1 kg steel produced will contain up to 25 % recycled steel.

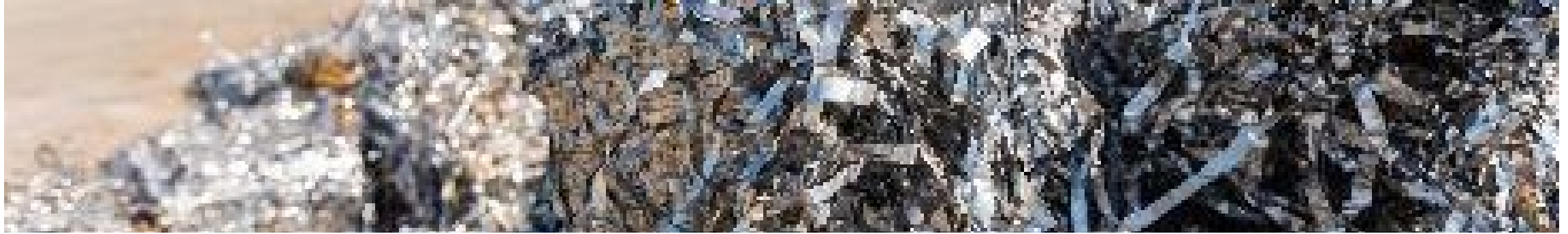


➤ **innovative process based on natural gas / hydrogen :**

With the new process, producing one ton of steel will emit only 0,5 ton of CO₂.

➤ **Develop the « Smart Carbon » route,** Carbon circularity: **Capture remaining CO₂** and reuse it or sequester it (CCS and CCU).

Level 1: Steel circularity



The ongoing project: Recycling steel

- Double post-consumer steel volume (2 Mt/y at the end) recycled in our steel production process.
- Invest in an upsized logistics, innovate in terms of steelmaking process and flow management, develop recycling steel routes.
- In the operation phase.

At stake:

- **Circular economy**
- **Sovereignty (France and Europe are today post-consumer steel net exporters)**
- **Transport reduction, indirect greenhouse gas emissions reduction as well**

Level 2 : The « Innovative DRI »



The ongoing project:

- An industrial Direct Reduction plant (2,5 Mt/y DRI capacity) combined with electric Furnaces and Hydrogen use.
- Divides by three Greenhouse Gas emissions compared to traditional BF route
- Deadline: 2026-2027.

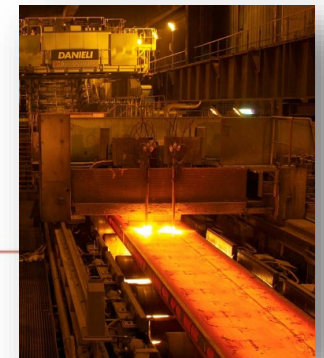
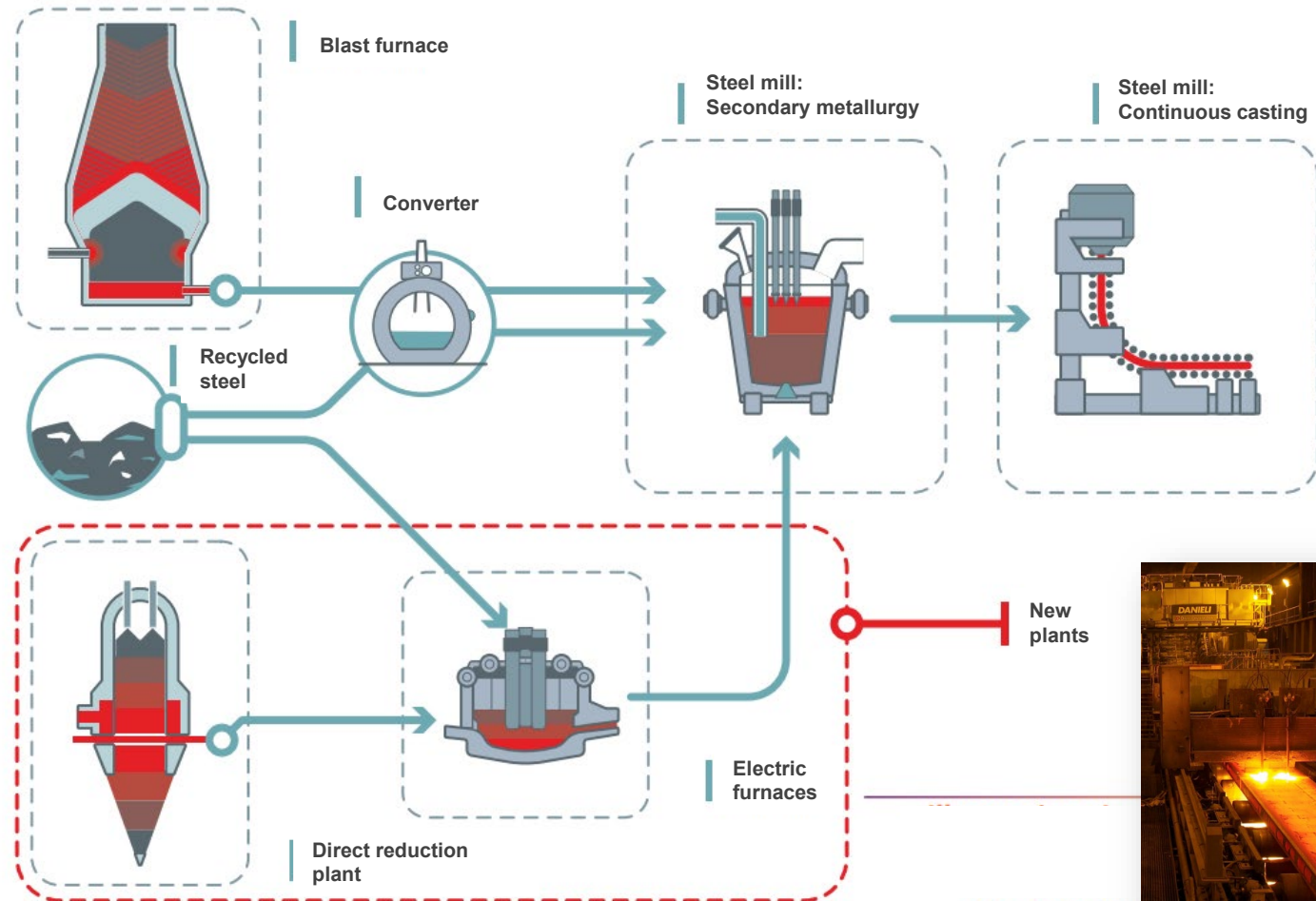
At stake:

- **Decarbonization and response to global warming**
- **Build the future steel footprint and the infrastructure needed for a decarbonized economy.**
- **Market demand for green steel.**
- **State support is needed to incur the costly investment.**
- **Electrical infrastructures will have to be adapted.**

DRI + EAF, a new route for producing liquid steel.



➤ Replacing coal with electricity and natural gas



Level 3 : The « Smart Carbon » route



The ongoing projects:

- **3D : an industrial demonstrator for carbon capture**
 - And studies for a sequestration solution under the North sea for 1 Mt/year CO₂
 - Project carried out jointly (Consortium coordinated by IFPEN, with TotalEnergies)
- **Study also ongoing for a CCS hub with Air Liquide (« Project of Common Interest Dartagnan »)**
- **Ongoing study ReuZe for a CCU solution with Engie & Infinium**

At stake: achieve Carbon neutrality

=> A solution for 10 to 20% remaining CO₂

- Capture the residual greenhouse gas after transformation of our steel production footprint.
- In order to sequestrate it (CCS): this solution can even lead to a negative carbon outcome.
- Or in order to reuse it (CCU) by combining CO₂ with hydrogen to make it reusable. Ex: produce e-fuels to replace fossil based fuels in aviation.



Project key numbers



Investment:

- 1.4 billion euros

Production capacity today and tomorrow:

- 6.8 million tons of steel per year (around 40% of France's steel output)

Lower CO2 emissions:

- - 36% for ArcelorMittal France

Current manufacturing process for 1 ton of steel produced:

- 1.8 ton of CO2 emitted today

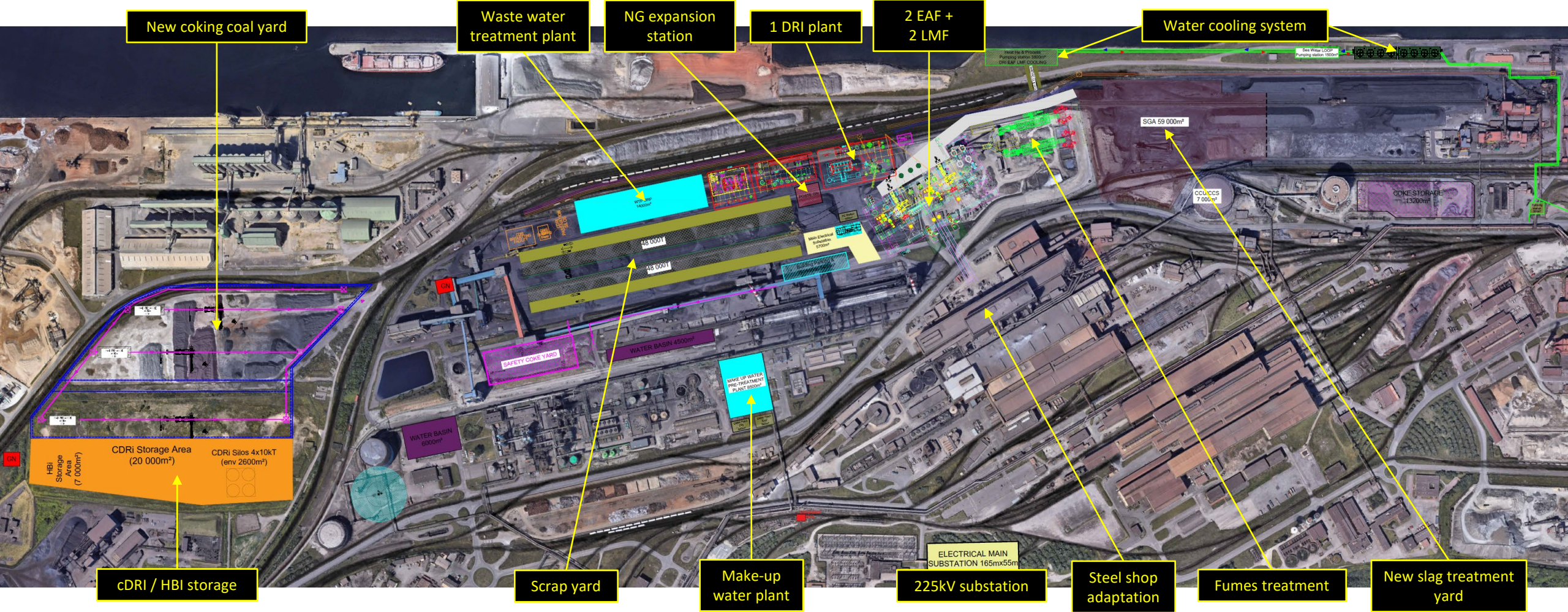
Future process:

- 0.5 ton of CO2 in 2027

Project start-up:

- 2026

Dunkerque Project layout & description



Thank you for your attention.



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