

Belgium: EU supports ArcelorMittal with EUR 75m EIB loan to scale up breakthrough technology to reduce carbon emissions



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- EUR 75 m loan for two supported projects ('Steelanol' and 'Torero'), worth EUR 215m in total, which are set to reduce up to 350,000 tonnes of CO₂ emissions [\[i\]](#) per year in the first phase.
- CO₂-reduction equivalent to greenhouse gas emissions of a quarter of a million passenger vehicles being driven for one year. [\[ii\]](#)
- EIB investment supported by *InnovFin Energy Demonstration Projects* and financed under Horizon 2020 and the NER 300 funding programme of the European Commission.

The European Investment Bank (EIB), with the support of the European Commission, has granted a EUR 75m loan to ArcelorMittal [\[iii\]](#) for the construction of two ground-breaking projects at ArcelorMittal Ghent, Belgium, to considerably reduce carbon emissions by converting waste and by-products into valuable new products, helping to develop low-carbon steelmaking technologies, in line with the EU's climate objectives.

Details of the projects include:

- Steelanol: a EUR 165m industrial-scale demonstration plant that will capture waste gases [\[iv\]](#) from the blast furnace and biologically convert

them into recycled-carbon ethanol, the first commercial product of ArcelorMittal's Carbalyst® family of recycled carbon chemicals. The ethanol produced can be blended for use as a liquid fuel. The technology was developed by LanzaTech, with whom ArcelorMittal has entered a long-term partnership, together with Primetals and E4tech.

Once complete, the plant is expected to produce up to 80 million litres of recycled-carbon ethanol a year. The new installation will create up to 500 construction jobs over the next two years and 20 to 30 new permanent direct jobs. The project is expected to be completed in 2022.

- **Torero:** a EUR 50m large-scale demonstration plant to convert waste wood into bio-coal, partially replacing the coal currently injected into the blast furnace.

In the early stage, the Torero plant will be able to convert up to 60,000 tonnes of waste wood into around 40,000 tonnes of bio-coal every year. This volume will be doubled in a second stage of the project, after the start of the first Torero reactor. The new installation will create around 70 external jobs and will create around ten new permanent direct jobs for the operation of this installation. The plant, which is being developed in partnership with Torr-Coal, Renewi, Joanneum Research Centre, Graz University and Chalmers Technical University, is expected to be operational by the end of 2022.

EIB Vice-President **Ambroise Fayolle** said: *"Even in the current difficult times, Europe keeps its ambitious climate targets and the EIB, the EU climate bank, is committed to continuing to be a key partner. In particular in the steel industry, it means finding new ways to power machines and processes that are essential for reducing carbon emissions. Thanks to a strong partnership with the European Commission, the EIB is very pleased to support the Steelanol and Torero projects in their efforts to work on more climate friendly and competitive processes."*

Mariya Gabriel, European Commissioner for Innovation, Research, Culture, Education and Youth, said: *"This EU backed loan will enable us to demonstrate that European steelmaking plants can be competitive while reducing carbon emissions and help us attain our climate goals. More than this, if we invest in European research, education and innovation we can demonstrate the global leadership that can secure and strengthen these industries and the people and communities they support for future generations."*

Geert Van Poelvoorde, CEO ArcelorMittal Europe – Flat Products said: *"To date we have committed more than €250 million to developing and testing technology that will help make steelmaking carbon neutral, leveraging our R&D facilities around the world. These two projects are our first large-scale implementations of new breakthrough solutions, as part of our commitment to reduce carbon emissions and transform steel production. With the EIB and European Commission's support, we can scale up technologies and transition steel to carbon neutrality, and thereby play a significant role in helping Europe achieve its green ambitions."*

Jennifer Holmgren, CEO LanzaTech said: *"The European Commission and the EIB*

continue to play a key role in enabling a new carbon economy for Europe by supporting innovative projects. Chemicals and liquid fuels, especially in the aviation sector, still need a source of carbon, while power generation can and should be fully decarbonized. Carbon recycling gives us a choice as to where the carbon in our products comes from: fresh fossil or reused carbon emissions. Our groundbreaking partnership with ArcelorMittal highlights their continued leadership in helping to create a low carbon economy in Europe."

ArcelorMittal Europe has committed to reduce CO₂ emissions by 30% by 2030, with a further ambition to be carbon neutral by 2050, in line with the EU's Green Deal and the Paris Agreement.

Background information

The **European Investment Bank (EIB)** is the European Union's long-term lending institution and is directly owned by all the Member States. It makes long-term loans available in support of EU policy objectives. In 2019 the EIB invested more than [€1.73 billion](#) in Belgian projects in support of SMEs, water and urban renewal projects, healthcare and infrastructure.

[InnovFin Energy Demonstration Projects \(InnovFin EDP\)](#) is a venture financing instrument designed to support the demonstration of innovative clean energy projects in the fields of renewable energy, energy storage, smart energy systems and carbon capture, use and storage. The aim is to bridge the gap from demonstration to commercialisation and thus contribute to the deployment of the next generation of innovative low-carbon energy technologies. Given the high risk involved, these EIB loans are guaranteed by the European Commission in the event of default. InnovFin EDP is financed by Horizon 2020 and NER 300 funds.

ArcelorMittal is the world's leading steel and mining company, with a presence in 60 countries and primary steelmaking facilities in 18 countries. In 2019, ArcelorMittal had revenues of USD 70.6 billion and crude steel production of 89.8 million metric tonnes, while iron ore production reached 57.1 million metric tonnes. Our goal is to help build a better world with smarter steels. Steels made using innovative processes which use less energy, emit significantly less carbon and reduce costs. Steels that are cleaner, stronger and reusable. Steels for electric vehicles and renewable energy infrastructure that will support societies as they transform through this century. With steel at our core, our inventive people and an entrepreneurial culture at heart, we will support the world in making that change. This is what we believe it takes to be the steel company of the future. ArcelorMittal is listed on the stock exchanges of New York (MT), Amsterdam (MT), Paris (MT), Luxembourg (MT) and on the Spanish stock exchanges of Barcelona, Bilbao, Madrid and Valencia (MTS).

The Steelanol and Torero projects have received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 656437 and No 745810 of EUR 10 and 12 million.

[\[i\]](#) Both by recycling and removing CO₂. The 'Torero' part of the project as originally [appraised](#) by the EIB is expected to save roughly 150.000 tonnes of CO₂ per year. Adding the Steelanol part is expected to bring this figure up to 350.000 tonnes of CO₂.

[\[ii\]](#) CO₂ reduction is equivalent to estimated CO₂ emissions of 250.000 average passenger vehicles driving under normal circumstances for a year. The average combustion engine car emits between 1 and 1.5 ton CO₂ per year. 350.000 divided by 1.25 gives ca. 250.000 cars. The International Council on Clean Transportation, 'European Vehicle Market Statistics – Pocketbook 2018-2019; Note that, without being limitative, weather conditions, driving capabilities, model of car, car specifications, tyre specifications, fuel type, fuel specifications, etc. can impact CO₂ emissions.

[\[iii\]](#) The borrower of the EIB facility is C-shift, a wholly owned subsidiary of ArcelorMittal Belgium, which is a wholly owned subsidiary of the ArcelorMittal Group.

[\[iv\]](#) The waste gases that result from iron and steelmaking are composed of the same molecular building blocks – carbon and hydrogen – used to produce the vast range of chemical products our society needs. Today most waste gas is incinerated, resulting in CO₂ emissions.