

# ArcelorMittal and LanzaTech break ground on €150million project to revolutionise blast furnace carbon emissions capture

11 June 2018 - ArcelorMittal has begun construction of new premises at its site in Ghent, Belgium, to house a pioneering new installation which will convert carbon-containing gas from its blast furnaces into bioethanol. If proved successful, the new concept has the potential to revolutionise blast furnace carbon emissions capture and support the decarbonisation of the transport sector.

The technology in the gas conversion process was pioneered by Chicago-based company, LanzaTech, with whom ArcelorMittal has entered a long-term partnership. The technology licensed by LanzaTech uses microbes that feed on carbon monoxide to produce bioethanol. The bioethanol will be used as transport fuel or potentially in the production of plastics.

This is the first installation of its kind on an industrial scale in Europe and once complete, annual production of bioethanol at Ghent is expected to reach around 80 million litres, which will yield an annual CO<sub>2</sub> saving equivalent to putting 100,000 electrical cars on the road. The new installation will create up to 500 construction jobs over the next two years and 20 to 30 new permanent direct jobs. Commissioning and first production is expected by mid-2020.

The application of this microbial gas conversion system significantly advances ArcelorMittal's carbon capture and storage (CCS) and carbon capture and utilisation (CCU) capabilities and enhances steel's role in the circular economy. ArcelorMittal's long-term aspiration is to become a zero-waste business, with all materials used or generated during steel production recuperated, treated and reused in the production chain or becoming the raw materials for other industries.

"We are excited that after several years of research and engineering, we are now progressing with the largest project of its kind within the ArcelorMittal group. This is the first application of a viable new business case where re-use of carbon is possible at large scale. We will achieve significant carbon reduction and we hope that this will lead us to a lower carbon economy," says Carl De Maré, vice president of Technology Strategy at ArcelorMittal.

"This new Carbon Smart technology illustrates ArcelorMittal's commitment to transforming steel production and it will also further strengthen steel's standing in the circular economy, particularly compared to other higher carbon metals like aluminium."

"Single use carbon must become a thing of the past," said Jennifer Holmgren, CEO of LanzaTech. "In order to succeed in decarbonizing our economy, we will need the commitment of large companies and governments from around the world to ensure carbon reuse is part of the solution. This facility in Europe embodies the key principles of the circular economy and drives to a zero-waste steel production world. We are excited to work with ArcelorMittal and are grateful for the support of the European Commission."

ArcelorMittal will work with specialized partners to roll out this bioethanol technology. Funding was obtained from various sources, including the European Union's Horizon 2020 program, to carry out further research and development and scale up the project.

**ENDS**

## **About ArcelorMittal**

*ArcelorMittal is the world's leading steel and mining company, with a presence in 60 countries and an industrial footprint in 18 countries. Guided by a philosophy to produce safe, sustainable steel, we are the leading supplier of quality steel in the major global steel markets including automotive, construction, household appliances and packaging, with world-class research and development and outstanding distribution networks.*

*Through our core values of sustainability, quality and leadership, we operate responsibly with respect to the health, safety and wellbeing of our employees, contractors and the communities in which we operate.*

*For us, steel is the fabric of life, as it is at the heart of the modern world from railways to cars and washing machines. We are actively researching and producing steel-based technologies and solutions that make many of the products and components people use in their everyday lives more energy efficient.*

*We are one of the world's five largest producers of iron ore and metallurgical coal. With a geographically diversified portfolio of iron ore and coal assets, we are strategically positioned to serve our network of steel plants and the external global market. While our steel operations are important customers, our supply to the external market is increasing as we grow.*

*In 2017, ArcelorMittal had revenues of \$68.7 billion and crude steel production of 93.1 million metric tonnes, while own iron ore production reached 57.4 million metric tonnes.*

*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).*

*For more information about ArcelorMittal please visit: <http://corporate.arcelormittal.com/>*

### **About LanzaTech**

LanzaTech has developed a unique microbial capability that captures and recycles a broad spectrum of gases for fuel and chemical production with over 50 different molecules demonstrated. Proprietary microbes combined with innovative approaches in bioreactor design and process development have enabled rapid scale up to take place. The first European demonstration facility with ArcelorMittal, the world's largest steel company is under construction in Belgium.

Across the supply chain, LanzaTech promotes a "Carbon Smart™" circular economy, where both gas providers and end users can choose to be resource efficient by recycling or "sequestering" carbon into new products rather than making them from fossil reserves. Founded in New Zealand, LanzaTech has raised more than US\$250 million from investors including Khosla Ventures, K1W1, Qiming Venture Partners, Petronas, Mitsui, Primetals, China International Capital Corp, Suncor, China International Investment Corporation (CITIC) and the New Zealand Superannuation Fund.

For more information about LanzaTech please visit: <http://www.lanzatech.com>

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