

ArcelorMittal Europe – Flat Products



ArcelorMittal

XCarb[®]

Towards net zero steel



“At ArcelorMittal, our goal is to help build a better world with smarter steels. Steel made using innovative processes which use less energy, emit significantly less carbon, and reduce costs. Steels that are cleaner, stronger, and reusable.”

Aditya Mittal, chief executive officer, ArcelorMittal.

> [More info about our decarbonisation roadmap](#)



Our decarbonised product offer towards customers

XCarb[®]

Steel certificate

From
2020

- Based on certificates
- Based on BF-BOF
- CO₂ savings from reducing fossil coal
- Available in all products and grades

XCarb[®]

Recycled and renewably produced

From
2022

- Physical decarbonised steel
- Based on scrap-EAF
- 100% renewable electricity
- Available in specific hot rolled, organic coated, hot dip galvanised, heavy plate, Magnelis[®] and press hardenable steel (PHS) grades.

What is XCarb®?

XCarb® is an umbrella brand that brings together all of ArcelorMittal's reduced and low carbon-emissions products and steelmaking activities, as well as wider initiatives and green innovation projects, into a single effort focused on achieving demonstrable progress towards net-zero steel.

How does XCarb® fit into ArcelorMittal Europe's broader decarbonisation strategy?

In the coming decades, the steel industry will undergo a transformation of the assets used to make steel on a scale not seen for over 100 years. This includes switching steelmaking from the BF-BOF (Blast Furnace-Basic Oxygen Furnace) route to the DRI-EAF (Direct Reduced Iron-Electric Arc Furnace) route.

As well as actively trialling and testing our flagship decarbonisation technologies at industrial scale, we are also making multi-billion-dollar investments in our European steelmaking operations to ensure our assets are ready for the future.

Whilst we undergo our transformation, we recognise that taking action on climate change cannot wait. To enable our customers to act now, we introduced a range of reduced carbon emissions solutions under our XCarb® brand – XCarb® steel certificates and XCarb® recycled and renewably produced.

These solutions are the result of continuous efforts to decarbonise our existing operations using technologies that are available today at scale. This includes partially replacing coal in our blast furnaces with alternative reductants such as waste gases and powering our existing electric arc furnaces with renewable electricity.

XCarb®

Brand under development

Before
2030*

- Physical decarbonised steel
- Based on DRI
- Foreseen in all products and grades

* Timeline is indicative only and can be subject to change

What are XCarb[®] steel certificates?



“We know that our customers want low-carbon emissions steel products. That is why we launched the XCarb[®] steel certificates which have proved very popular with our customers”

Geert van Poelvoorde, Executive Vice President and CEO of ArcelorMittal Europe.

> [More info about XCarb[®] steel certificates](#)

XCarb[®]
Towards net zero steel

Scope 1

Direct emissions that result from activities within an organisation's control.

Purchased goods

Scope 3
upstream emissions

ArcelorMittal Europe – Flat Products is investing in a broad range of initiatives to reduce carbon emissions from the blast furnace. These first, effort-intensive investments on our journey to zero emission steels have resulted in considerable CO₂ savings. These savings are aggregated, independently verified, and converted into XCarb® steel certificates.

The certificates are issued by ArcelorMittal Europe – Flat Products and based on CO₂ savings which have been audited by DNV, an independent body.

The certificates can be used by customers to account for, and report, a reduction in their Scope 3 carbon emissions in accordance with the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard.

XCarb® steel certificates can be purchased directly from ArcelorMittal Europe – Flat Products in conjunction with a corresponding steel order.

XCarb® steel certificates can be offered with any of ArcelorMittal's steel solutions.

Scope 2

Indirect emissions from energy purchased by the organisation, for its own use.

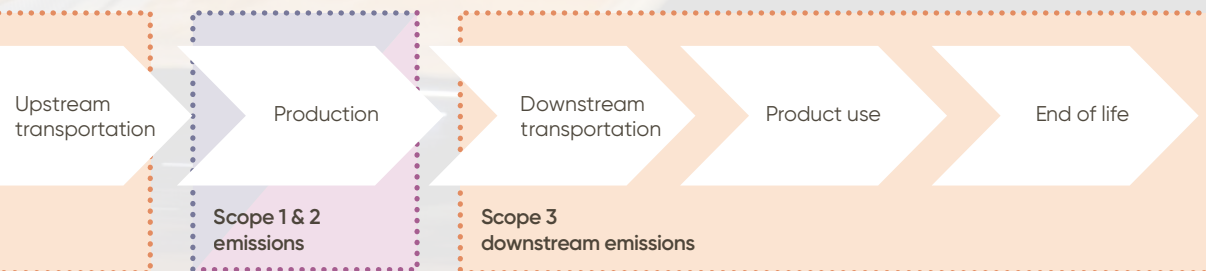
Scope 3

Any other indirect emissions from sources outside an organisation's control, including emissions from purchased goods

..... Scope of CO₂ emissions

➤ Life cycle stages

➤ XCarb® steel certificates can be used to reduce this.



What is XCarb[®] recycled and renewably produced?

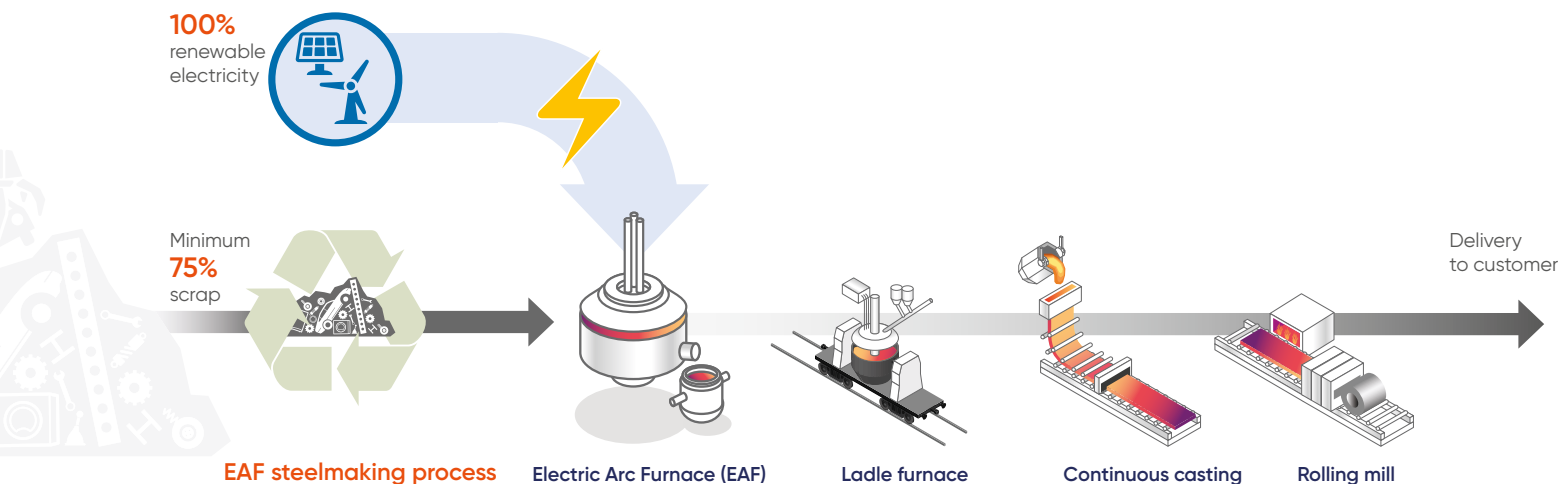
ArcelorMittal's XCarb[®] recycled and renewably produced is applied to steels produced in an electric arc furnace (EAF) using high levels of scrap and 100-percent renewable electricity for the EAF process.

The electricity used comes from renewable sources such as wind and solar, and is supplied via a recognised Guarantee of Origin (GoO) scheme.

Following the launch of XCarb[®] recycled and renewably produced in 2021, ArcelorMittal Europe – Long Products was the first business within the company to offer this low-carbon emissions steel, starting with sections and merchant bars, followed by sheet piles and rebars.

As of March 2022, ArcelorMittal Europe – Flat Products also started producing XCarb[®] recycled and renewably produced using an EAF and renewable electricity. XCarb[®] recycled and renewably produced is applied to specific hot rolled, organic coated, hot dip galvanised, heavy plate, Magnelis[®] and press hardenable steel (PHS) grades.

> [More info about XCarb[®] recycled and renewably produced.](#)



List of products with EPDs grows

Environmental Product Declarations (EPDs) are now available for six products which are manufactured via the BF route and are eligible for XCarb® steel certificates.

EPDs are widely used in the construction sector. In Europe, the European Committee for Standardisation has published EN 15804, which defines the “Core rules for the product category of construction products”.

All EPDs are based on a life cycle assessment (LCA) and follow the ISO 14025 and EN 15804 standards. They have been verified and published by independent Program Operators on their web platforms: EPD International AB and Institut Bauen und Umwelt e.V. (IBU). Global recognition is ensured as ArcelorMittal is part of ECO-platform.



> [Download EPDs on our website](#)

For non-construction customers, LCA data is available following the worldsteel LCA methodology based on ISO 14040 and ISO 14044. LCA reports will also be available for XCarb® recycled and renewably produced products.

Following EPDs for Flat Products are available with XCarb® recycled and renewably produced



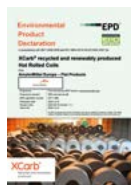
> **Cold rolled coils**
CO₂ footprint
of 800 kg CO₂e
per tonne



> **Heavy plate**
CO₂ footprint
of 914 kg CO₂e
per tonne



> **Hot dip galvanised steel coils with zinc coating**
CO₂ footprint
of 877 kg CO₂e
per tonne



> **Hot rolled coils**
CO₂ footprint
of 600 kg CO₂e
per tonne



> **Hot rolled coils pickled & oiled**
CO₂ footprint
of 658 kg CO₂e
per tonne



> **Magnelis®**
CO₂ footprint
of 900 kg CO₂e
per tonne



> **Organic coated steel coils Granite® and Estetic®**
CO₂ footprint
of 1030 kg CO₂e
per tonne

What it means for customers

ArcelorMittal's steels enable customers to reduce the CO₂ impact of their own products through lightweighting, design optimisation, and by reducing the thickness of protective coatings while maintaining corrosion resistance. Many of these benefits can be achieved using ArcelorMittal's co-engineering services. These services can help customers optimise the design of new and existing products.

In Automotive markets, ArcelorMittal's innovative steel products and solutions enable OEMs to offer safer, lighter, and more environmentally friendly vehicles.

ArcelorMittal's wide range of advanced steels for automotive include:

- > [Usibor® and Ductibor® for hot stamping](#)
- > [Fortiform® for cold stamping](#)
- > [MartINsite® for roll forming](#)
- > [iCARE® e-steels for automotive traction](#)

ArcelorMittal's steels and steel solutions allow carmakers to take crash performance, cost reduction, lightweighting, driving range, and sustainability to even higher levels. Our products are particularly suited to body-in-white and chassis applications.

Hot stamped laser welded blank (LWB) solutions such as ArcelorMittal Multi Part Integration® (MPI) concept offer additional lightweighting and CO₂ emission reduction potential. MPI also helps OEMs to radically simplify the vehicle production process and cost.

- > [ArcelorMittal Multi Part Integration® \(MPI\)](#)

In Industry markets, reductions in steel thickness and coating weight can lead to reduced material intensity and a lower CO₂ footprint.

To support customers in the design of lightweight products, ArcelorMittal has developed high strength steel grades and calculation tools which enable them to get the most out of our steels. Our solutions include:

- > [Amstrong® advanced high strength steels for heavy machinery](#)
- > [HyPer structural steels for construction product page](#)

To minimise the weight of metallic coatings while offering improved protection against corrosion, ArcelorMittal recommends:

- > [Magnelis® – the industry leading alternative to pre- and post-galvanised steels](#)

Case study: lighter trailer chassis with Armstrong® Ultra



By replacing a structural grade with ArcelorMittal's Armstrong® Ultra 700MC, a major manufacturer of trailer chassis has achieved a 40% weight reduction in their trailers. Using ArcelorMittal's technical support and Armstrong® Ultra 700MC has:

- reduced costs by 30%
- cut the carbon footprint of the product by a quarter
- minimised fatigue in the trailer structure

The OEM also benefited from ArcelorMittal's technical support at every stage from design to welding and production.

Case study – partnership with Gestamp

Using Usibor® 1500 made with XCarb® recycled and renewably produced substrate, Gestamp has successfully trialled the first parts (such as tunnel and seat reinforcements) in press-hardenable steel, which is ultra-high strength and therefore enables car manufacturers to achieve excellent weight reductions across the vehicle. The steel used by Gestamp has a carbon footprint which is almost 70% lower than the same product made without XCarb® recycled and renewably produced.

What our customers say

Low-carbon emissions steel is becoming increasingly important to customers and XCarb® steel certificates and XCarb® recycled and renewably produced can improve the carbon footprint of customer products even further. But don't take our word for it – here is a glimpse of what some of our customers are saying.



"At Gestamp we always work aligned with the needs of our customers in order to meet their objectives of sustainability. And it is most important for the mobility of the future that we help them to

decarbonise their supply chain. True to our own ESG strategy, the R&D teams at Gestamp have created a validation process to homologate the low carbon-emissions steel from ArcelorMittal that we are sure will help the automotive industry meet the standards of sustainability required."

Francisco J. Riberas, Executive Chairman Gestamp

> [more info on our website](#)



"ArcelorMittal is a reference steel supplier for Arania. The availability of locally produced steel with a lower CO₂ footprint gives a major boost to efforts to decarbonise our industry. As a leading company

which supplies the automotive sector, Arania considers that this is the right way to proceed. The interest our customers have shown in this offer confirms that we are on the right path."

Carmelo Bilbao, Vice President of Grupo Arania – the first company to receive steel with the XCarb® recycled and renewably produced label.

> [more info on our website](#)



"Working with ArcelorMittal means we find support for everything we set out to do. No goal is too big for ArcelorMittal, and this is what we are looking for in our suppliers. The XCarb® steel certificates will help us achieve our target of reducing CO₂ emissions and provide a big competitive advantage for the business."

Horatiu Tepes, owner and CEO of Bilka

> [more info on our website](#)

During 2021, Bette became one of the first ArcelorMittal Europe customers to purchase XCarb® steel certificates with their steel orders. In 2022, Bette has increased the amount of steel covered by these certificates as part of its strategy to enhance the sustainability of its products and operations.



"One of the main reasons we bought XCarb® steel certificates was because we want to give ArcelorMittal a sign that we support your ambition to succeed in achieving net-zero steelmaking. We are convinced that investments which will result in a greener planet can't be wrong!"

Thilo C. Pahl, Managing Partner of Bette

> [more info on our website](#)



"In 2021, Ateliers 3S became the first customer to purchase XCarb® steel certificates from ArcelorMittal Europe – Flat Products. Today, all the orders Ateliers 3S places with ArcelorMittal are accompanied by XCarb® steel certificates, an important step in the company's journey to carbon neutrality."

Julien Faisandier, CEO of Ateliers 3S

> [more info on our website](#)

More than carbon reductions

While reducing emissions is a key goal for ArcelorMittal and our customers, we are also considering sustainability in a broader context. As part of that approach, ArcelorMittal has played a pivotal role in establishing the ResponsibleSteel™ standard since 2015.



ResponsibleSteel™ is the steel industry's first global multi-stakeholder standard and certification initiative. Now established as a non-profit organisation, ResponsibleSteel™ develops sustainability performance standards and has established an independent third-party certification programme for the steel value chain. This ground-breaking initiative now involves over 40 members and associates, made up of companies and civil society organisations from around the world.

Independent audits verify performance

The standard is based on 12 Principles which, in turn, include a variety of criteria and requirements. To achieve ResponsibleSteel™ certification, each site must undergo a rigorous third-party audit, with the resulting report reviewed by an independent Certification Committee which makes the final certification decision.

The audits are designed to verify that a steel site's activities meet a set of rigorously defined standards across a broad range of social, environmental and governance criteria and stakeholder relations, including:

- Climate Change and Greenhouse Gas Emissions
- Water Stewardship and Biodiversity
- Human Rights and Labour Rights
- Community Relations and Business Integrity.

> [More info on ResponsibleSteel™](#)

ArcelorMittal first to be certified

ArcelorMittal achieved its first ResponsibleSteel™ site-certifications in July 2021, when sites in Belgium, Germany, and Luxembourg received accreditation.



In June 2022, ArcelorMittal announced that its Asturias Cluster in Spain and ArcelorMittal Méditerranée and ArcelorMittal France Nord had also achieved certification.

Sites which have already achieved ResponsibleSteel™ site-certifications include:

- Belgium: Geel, Genk, Gent, and Liège
- France: ArcelorMittal Méditerranée (Fos-sur-Mer and Saint Chély d'Apcher) and ArcelorMittal France Nord (Dunkirk, Mardyck, Desvres, Montataire, Florange, Mouzon, and Basse-Indre)
- Germany: Bremen and Eisenhüttenstadt
- Luxembourg: Belval, Differdange, and Rodange
- Poland: Dąbrowa Górnicza, Krakow, Zdzeszowice, Świętochłowice, Sosnowiec and Chorzów.
- Spain: Asturias, Etxebarri, Lesaka, and Sagunto

XCarb®
Towards net zero steel

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flateurope.arcelormittal.com/sustainability/xcarb



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