Chalibria

Carbon neutral steel by AFV Beltrame Group

CONTENTS

Agrasina (VB), Dam

www.chalibriabeltrame.com

BRAND MANIFESTO

We are the AFV Beltrame Group
and we've been making steel since
1896.

Despite our long past
when we think about steel
we think about the future.

We imagine a sustainable industry.
cutting-edge, kind, brave.

And thanks to outstanding
technology,
unique expertise,
and a burning desire to succeed,
we are on track.

Chalibria is the proof.

A steel born from a responsible
production flow.
Yes, carbon neutral.
you got it right.

Because we limit direct and indirect
CO_2 emissions,
and we compensate for those we
haven't overcome... yet.

Because in our electric arc furnaces
we use 100% recycled scrap iron
instead of iron ore.
We invest in the circular economy
and energy efficiency solutions
while relentlessly searching for
better ideas,
innovative systems and visionary
people
that will change steel making.
for good.

That's why
to the common efforts of all players,
we add our endeavours.

To the partners-challengers,
we add our innovation.

To the younger generation,
we promise a better quality of urban
life.

To the future calling, we answer.

Now, not later.

AFV BELTRAME GROUP

What does the name Chalibria mean?

UK: /ˈkalibria/US:/ˈkalibria

The term Chalibria was created from the term "chalybs," which means iron, steel, in Latin.
And it is to the Chalybes, a population of classical antiquity, that historians trace the invention of iron and steel making, describing them as an industrious tribe of blacksmiths.

Such linguistic descent, places the word within an original, broad and generous framework. The word is like a journey through time, from the days when steel did not exist, to its current and international reality. A path that leads to the literal construct with "libra" and gives birth to Chalibria: steel in balance.

A balance represented by the three C's of the logo type (Carbon neutral - Circular - Commitment) that are a harmonious game of joints, a measured conceptual graphism that recalls that circularity of a value typical of our business, and that we want to integrate in every activity and relationship.

Starting with reducing our carbon footprint and putting ESG (Environment, Social, Governance) principles on the same level, we sustainably develop our growth, as well as the one of our territories and communities.
Finally, there is a further exploration that leads us back to the roots of the term Chalibria and stems from the phonetic correspondence with the verb calibrate.

If a surveying instrument is considered reliable because it is calibrated according to a measurement standard, we like to say that the Chalibria is safe and reliable because it is certified "carbon neutral" according to relevant regulatory standards.

Based on this, Chalibria stands for stability, reliability and transparency.

Chalibria: a name that from the ancient forges looks to the future of an increasingly conscious and circular steel.

From necessity to strategy

From necessity...

Current regulations forced all companies to take new measures to be compliant and prepared for the increasingly stringent regulations to come. In addition, risk must be mitigated: suppliers, stakeholders and customers are forcing companies to comply with their ESG requirements.
Developing a sustainability plan to minimize reputational and financial risks is therefore a necessity.

... to opportunity

While developing sustainability plans is mandated on the one hand, it also provides new opportunities for growth (e.g., development of emerging technologies, partnerships with other players in the supply chain...) to the benefit of competitiveness.
Finally, efforts to adopt sustainable policies help raising awareness of these issues and promoting them.
The creation and sharing of values towards stakeholders is expressed in AFV Beltrame Group through projects of circular economy, energy saving and carbon footprint reduction, attention to community needs, making available tools for the professional and personal growth of employees, focusing on technological innovation of processes and plants, ensuring ethical and transparent business management.
Important issues (mapped for internal and external stakeholders) are reflected in the quantification of measurable factors according to reporting criteria proposed by the Global Reporting Initiative (GRI) organization.

Is sustainability a strategic approach to the development of AFV Beltrame Group?
The answer to this question is unequivocally affirmative: AFV Beltrame Group based core aspects of its strategy on sustainability pillars. Best management practices, although these are necessary, it's not enough because a credible, knowledgeable and holistic approach, addressing all Environmental Social and Governance (ESG) aspects, is needed. This approach is based on shared values with stakeholders.
Sustainability for AFV Beltrame Group, therefore, is no longer just confined to the environmental sector, although this issue is at the top of the pyramid in terms of relevance, but is developed in close relationship with the context in which the Group operates, involving all stakeholders, with respect to their expectations and needs, starting with the human capital represented by employees.

We made strong progress in laying the foundations to embed sustainability across all of our Group as well as our value chain.

AFV Beltrame Group has created a dedicated organizational structure to follow and coordinate project activities in the field of sustainability.

The additional effort lies in identifying areas for improvement and implement actions and projects to register better ESG performance. The relevance of the environmental issue has led the Group to invest in minimizing atmospheric emissions, in the development of projects to reduce water consumption and in the better valorization of by-products originating from the production cycle, which represents a virtuous example of circular economy. The importance placed on the supply chain has also promoted the adoption of logistics flows that favor rail transport over road transport.
Safety and quality of products is ensured by strict controls, and their impact is assessed by applying life cycle analysis (LCA), which considers the entire supply chain from procurement, through production, to delivery of the finished product. The results of this assessment process are published in the environmental product declaration (EPD). Finally, the Group develop a deep-rooted culture in occupational health and safety.

We are firmly committed to drive circularity in our own, our customers' and our suppliers' operations

AFV Beltrame Group top 5 sustainability pillars

The word sustainability immediately refers to the future, to the need to preserve the rights of the next generation, but it is in the present that we mold it, thinking about the activities that already enable us to shape our tomorrow.

ESG (Environment, Social, Governance) are aspects in which AFV Beltrame Group strongly believes.
The Group is committed on a daily basis to involve on the value chian all the stakeholders, (employees, customers, suppliers, local communities, lenders) to ensure a sustainable development.
To make this a reality, the Group has an organizational structure that centrally monitors and coordinates the company's commitment to sustainability, defines its strategy and validates projects managed by local operating structures.
Within the more general framework of integrating sustainability into the company's business, five specific areas and primary objectives have been identified toward which efforts should be focused:

Safety:
We have initiated a program of concrete actions aimed at reducing occupational accidents and illnesses. A focus on people that we consider fundamental in a growth project. A project, called SHARP, has been developed in this field as well, with the aim of addressing the root cause of the problem of accidents (the number of which, moreover, is in line with industry statistics) and raising awareness to ensure that the various functions and tasks are interdependent, guaranteeing safe and healthy work activities.

Water:
The Group also devotes attention and efforts on the reduction of industrial water consumption, so that the recovery of any flow still suitable for reuse is encouraged and the recirculation factor in cooling plants is increased, including with technological investiments based on closed cycles.

CO_2 emissions:
We have defined the Decarbonization Plan to 2030 for Scope 1 and 2 with a 40% emission reduction compared to a 2015 baseline. The Decarbonization Plan envisages significant investment efforts between now and 2030 to achieve this ambitious target.

Waste:
We have initiated a circular economy project with specific measures to improve the quality of scrap and other raw materials as well as to promote the reuse of materials involved in the production process. In line with the 'AWaRe' (All Waste Recovered) project, we aim to optimize the waste recovery of our production sites. The name of the project recalls the awareness and desire to always find new ways to valorize materials that were once defined as waste and are now considered as a resource. For example, steel mill slags that find internal uses or is subjected to certified aggregate production processes, creating the conditions to meet demands related to green procurement in the construction supply chain. In 2021, we recycled and valorized about 90% of the waste delivered by the Group.

Energy consumption:
Since the beginning, we always invested in reducing energy consumption of our production processes: the efficiency and the reduction of production costs has always been a driver of AFV Beltrame Group to be competitive. We want to continue in this journey and we have enhanced our production efficiency strategy to further reduce energy consumption and increase the supply from renewable sources. We have set up dedicated green energy supply contracts, initiated projects related to the use of hydrogen in reheating furnaces and are developing proprietary plants for self-consumption of electricity.

Many other stakeholder engagement activities are ongoing, to identify possible new relevant issues, ensure business continuity and value distribution also with cutting-edge technology investments geared toward continuous improvement.

The challenges of the steel sector

Steelmaking industry is now facing crucial challenges, with ecological transition and decarbonization at the top on all steel companies' agenda. The industry must implement investments in research and development by rethinking its products and processes with a view to greater environmental and social responsibility.

This need has a twofold cause: on the one hand, it stems from targets set by the European Union to reduce emissions (Net Zero target by 2050); on the other hand, it is mandatory to maintain high competitiveness. The implementation of these strategies depends also on the steelmaking process applied; there are two main methods in steel production: by primary route and by secondary route. The first method uses raw materials such as iron ore and hard coal with blast furnace. The second one is based on the recovery of ferrous scrap through melting by EAF (Electric Arc Furnace) and takes advantage of the characteristics of complete recyclability that belong to steel.

AFV Beltrame Group, in all its sites, produces merchant bars, structural steels and SBQ (special bar quality) through electric arc furnace.
As of today, the process of steel production through blast furnace is still the most widely used but it is also the most pollutant: about 70% of the steel currently produced in the world is obtained by this process[1], which, however, generates c. 2,000 kilograms of CO_2 for every ton of steel produced. In contrast, CO_2 emissions generated by Electric Arc Furnace are less than a quarter of those generated by blast furnace[2].

1) Source: World Steel 2021: 70,8%

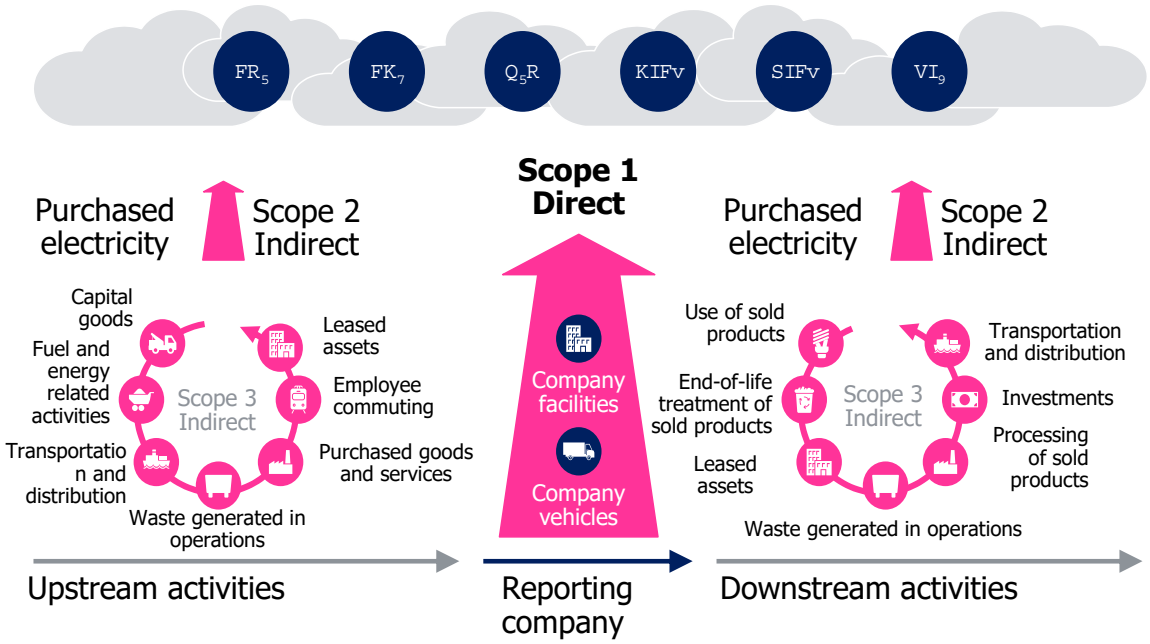
2) Source: comparison BF-BOF route vs EAF route from European Commission – Greenhouse gas intensities of the EU steel industry and its trading partners [2022]

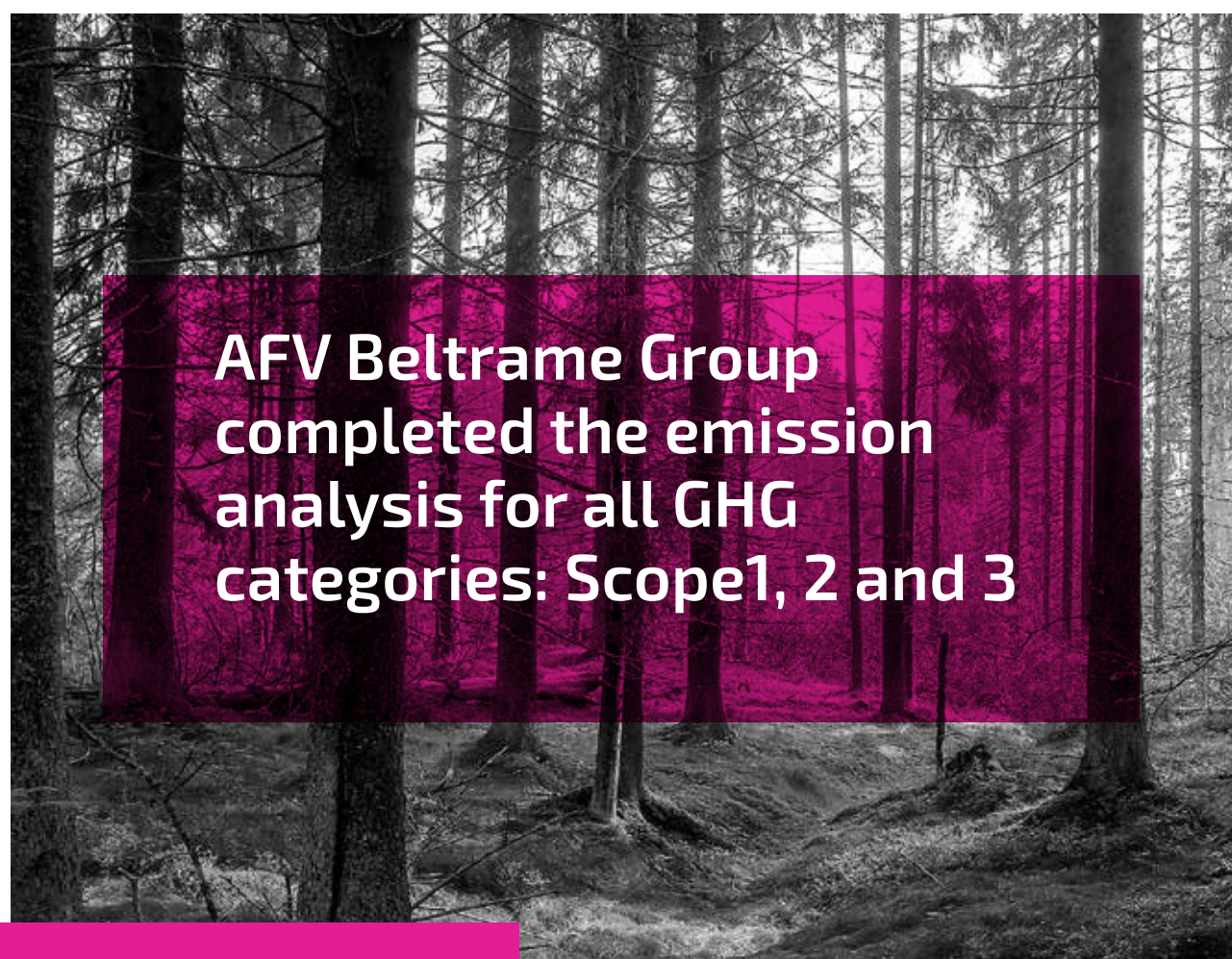
We are fully committed to driving innovation and creating a more sustainable future

GHG emission categories

CO_2 emissions today are a main area of focus, and the Group has carried out a measurement analysis of all emitting activities

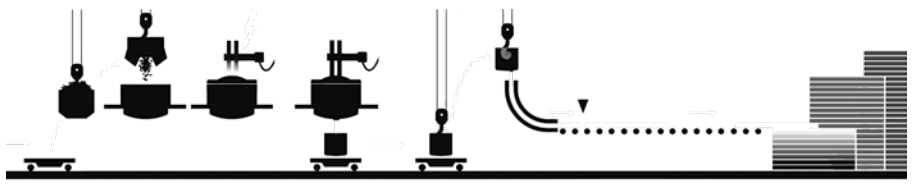
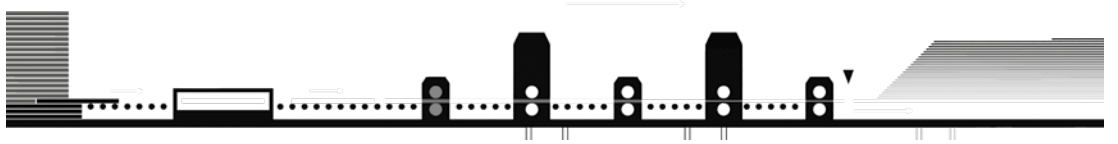
Climate warming is one of the main challenges facing steel producers.
AFV Beltrame Group is at the forefront, committing to address this challenge by measuring emissions and defining reduction initiatives.
The Group monitors its own CO_2 emissions by Scope 1, 2 and 3:
- Direct emissions (Scope 1) concerning all emissions internally generated by AFV Beltrame Group and related to the production process, they include, for example, CO_2 from the use of natural gas and other subsidiary materials during the smelting process;
- Indirect emissions (Scope 2) from the supply of electricity;
- Indirect emissions (Scope 3) related to activities upstream and downstream of the production process, such as activities related to scrap procurement or transportation activities through third-party means.
This analysis is the starting point for defining the decarbonization strategy and targets to be achieved by 2030.





AFV Beltrame Group completed the emission analysis for all GHG categories: Scope1, 2 and 3

The 4 stages of our production process and emissions generation:

PHASE	EMISSIONS GENERATION
1 SCRAP DEPOSIT 	Procurement of raw materials (scrap and other subsidiary materials) for steel production by road, rail and ship transportation. Scrap is unloaded and handled within the deposit area. By hydraulic grabs they are loaded into the basket. The basket is moved by crane from the scrap deposit to the steel mill.	Indirect emissions from scrap supply and other subsidiary materials (transportation) - Scope 3 upstream.
2 MELTING AND SOLIDIFICATION 	Loading and melting of scrap in electric furnace (EAF) and addition of Lime, Coal and Ferroalloys to obtain the desired composition. Cooling the liquid steel to form the semi-product called billet or slab according to shape.	Direct emissions from the use of natural gas, coal, other subsidiary materials (ferroalloys, electrodes, lime) during the melting process-Scope 1. Indirect emissions from electricity input during the melting phase - Scope 2.
3 ROLLING 	Heating the billet to be passed through rolling rolls that give the shape of the final product (profiles, angles, rounds). The final products, once cooled and cut to size, are weighted and packaged with a manufacturing specifications card.	Direct emissions from the use of natural gas during billet heating - Scope 1. Indirect emissions from electricity input during the rolling phase - Scope 2.
4 STORAGE and SHIPPING 	Final products are stored in the warehouse, ready to be shipped to customers by road and/or rail.	Direct emissions from internal transport (e.g., handling for storage) - Scope 1. Indirect emissions from transportation through third-party means - Scope 3 downstream.

The framework from which the idea of Chalibria was born

To reduce greenhouse gas emissions from energy-intensive sectors, numerous tools have been introduced over the years. One of the most important is certainly the Emission Trading System (ETS), introduced in 2005 by the European Union for the transaction of CO_2 quotas.
The ETS is based on the "cap and trade" principle, which provides a total cap on emissions allowed in Europe that is matched by an equivalent number of emission "allowances" (1 ton of CO_2 equivalent=1 allowance or EUA). The total amount of allowances available to operators (cap) will decrease over the years, effectively forcing a reduction in greenhouse gas emissions in the industrial and aviation sectors.
The European Commission on December 11, 2019, presented the communication on the "European Green Deal" to the European Parliament. The European Green Deal includes an action plan aimed at:

- promote resource efficiency by moving to a clean and circular economy
- restore biodiversity and reduce pollution.

The document outlines the necessary investments and available financing instruments and explains how to ensure an equitable and inclusive transition. Each EU member country is required to prepare a targeted action plan to meet the proposed sustainable growth targets

The EU aims to achieve climate neutrality by 2050 and a net domestic reduction in green-house gas emissions of at least 55 percent (compared to 1990 level) by 2030.
For this reason, states but also individual economic entities must work to reach the intended targets. In July 2021, the "Fit for 55" package was published by the European Commission, containing the action plan for achieving the goals set out in the Green Deal. In particular, the climate directives led to a revision of the European Emission Trading System (ETS), reducing the limit of emissions allowed on European territory (cap set to decrease further by 2.2 percent annually).
These and many others subsequent measures forced companies to take action to avoid incurring into additional costs and to comply with increasingly stringent regulations.

The regulatory framework

EU Green Deal

> EU Commission's "Green Deal" Communication (December 2019):

– Make EU climate neutral by 2050
– Increase GHG reduction target for 2030 to at least 40%);

> Official, legally binding adoption in "EU Climate Law" (June 2021):
– **Make EU climate neutral by 2050**;
– Reduction of net greenhouse gas emissions by at least **55% by 2030**).

"Fit for 55"- package

Package of energy & climate laws to step up ambition levels to reach EU's 2030 & 2050 goals.

Overhaul existing policies:

- Renewable Energy Directive (RED);
- Emission Trading System (ETS);
- Alternative Fuels Infrastructure Directive (AFID).

+

New policies:

- Carbon Border Adjustment Mechanism (CBAM);
- ReFuelEU Aviation;
- FuelEU Maritime.

40%

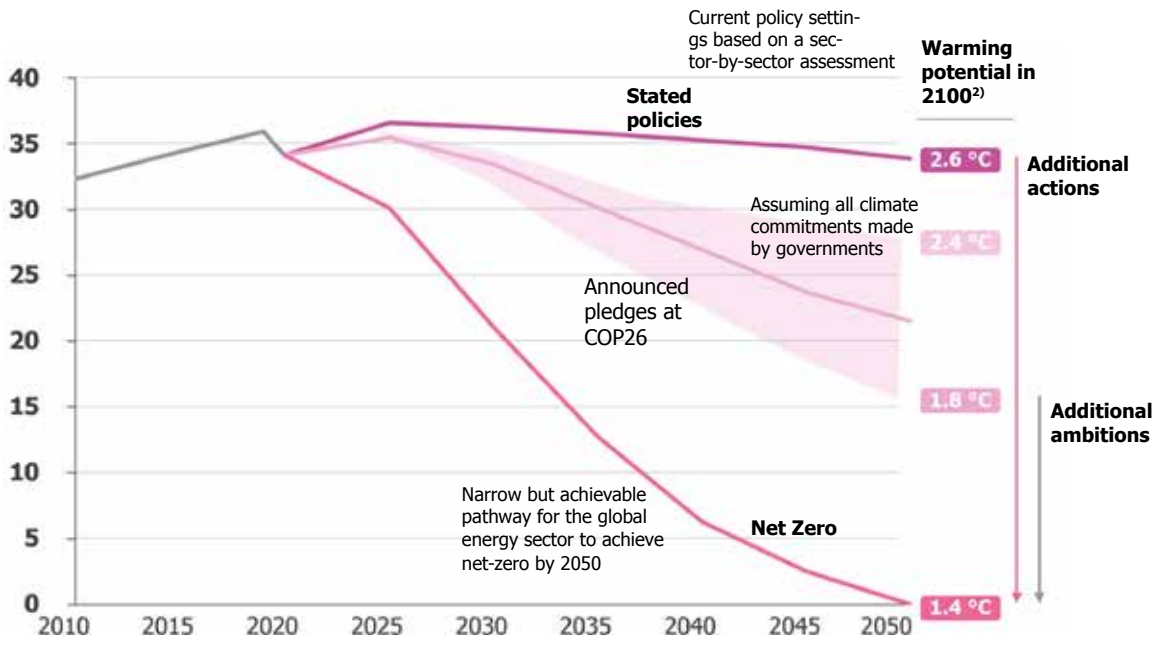
Energy from renewable sources by 2030

-61%

Reduction in emissions from ETS sectors by 2030

In 2019, the “European Green Deal” set the goal of climate neutrality in 2050

Worldwide CO_2 emissions and global warming potential by 2100 [Gt CO_2][1)]



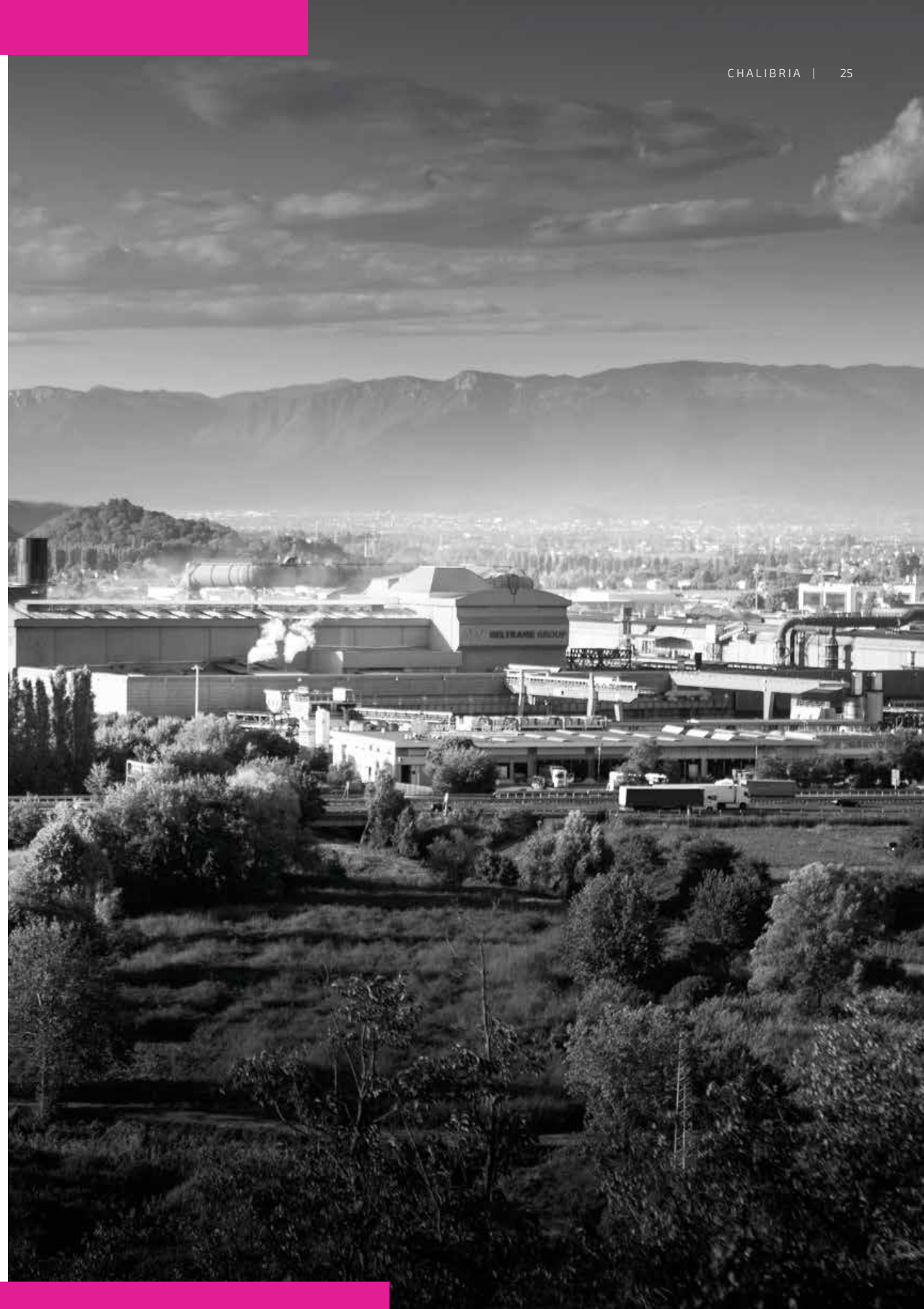
Notes:

1) Total CO_2 includes carbon dioxide emissions from the combustion of fossil fuels and non-renewable wastes, from industrial and fuel transformation processes (process emissions) as well as CO_2 removals;

2) Temperature increases displayed reflect the 50% confidence level as of IEA (for Net-Zero and Stated policies) and European Commission for the Announced pledges at COP26; IEA = International Energy Agency

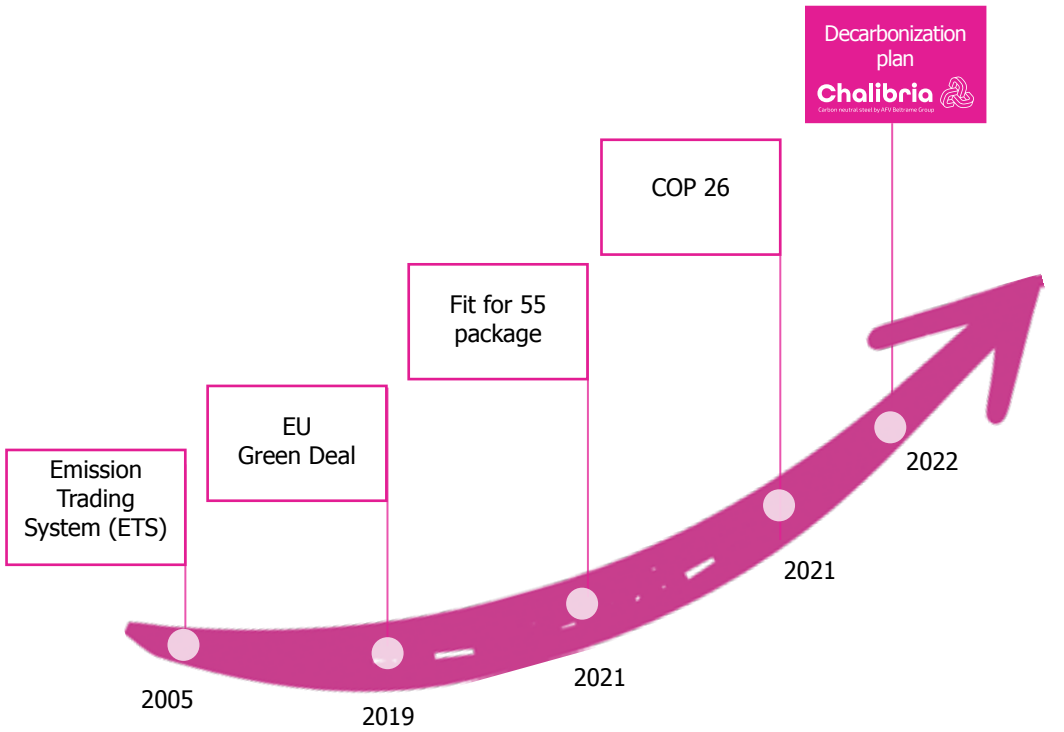
Source: IEA World Energy Outlook 2021; European Commission; Desk research

Despite the achievements reached so far, the European commission stressed the urgency and invites companies and organizations to accelerate actions to comply with Paris agreement goal.



AFV Beltrame Group therefore decided to increase its efforts to carbon-neutrality path

The good news is that Beltrame is already well positioned. In fact, AFV Beltrame Group's emissions are significantly lower than the European average. Despite the lower CO_2 emissions, AFV Beltrame Group want to further reduce its carbon footprint and to achieve this, has defined a CO_2 reduction strategy based on a considerable number of new projects to be completed by 2030.
Through these projects, CO_2 emissions will be further reduced by 40% by 2030 compared to 2015 levels, thanks to the implementation of the decarbonization plan in the AFV Beltrame Group's strategy.



The challenges are important and require cross-cutting strategies throughout our Group to bring the change that is needed

Larecchio (VB), Dam and Lake

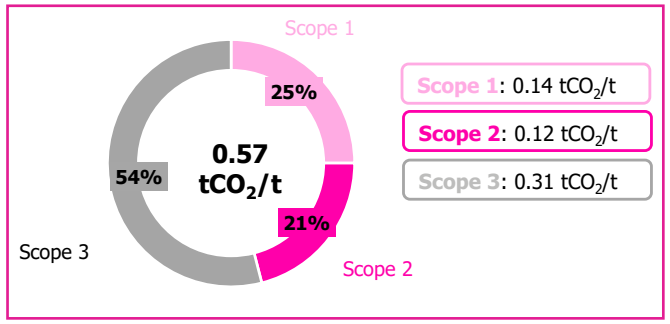
The decarbonization plan

The AFV Beltrame Group's decarbonization strategy is based on three fundamental steps:
1) Measure;
2) Identify projects;
3) Define reduction targets;

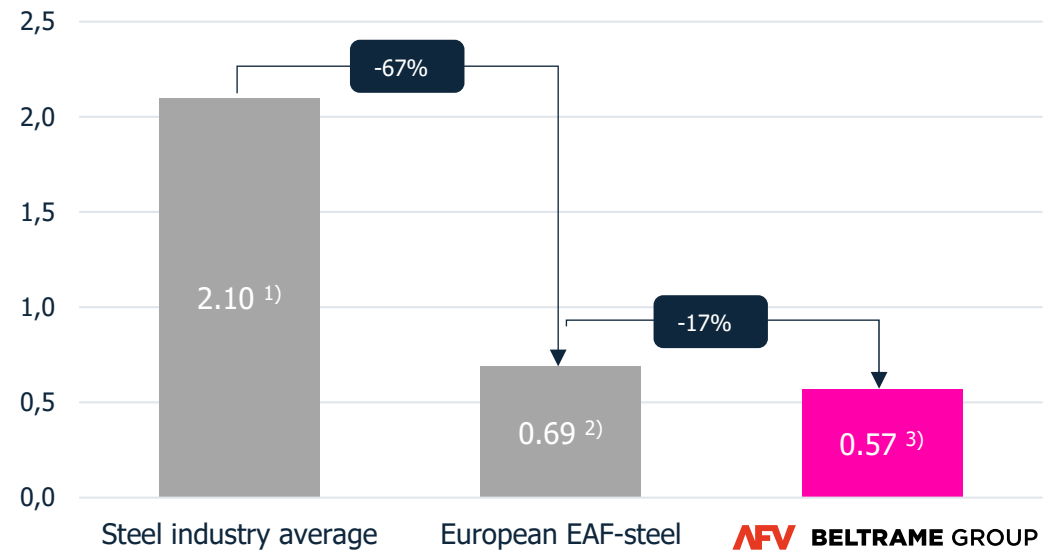
Measure

AFV Beltrame Group completed the analysis and the measurement of the entire value chain: the Group calculates and monitors on recurring basis the emission of Scope 1, 2 and 3.
The AFV Beltrame Group's emissions are well below both the emission average for the steel industry and the European emission average for electric furnace steel (EAF steel).

AFV Beltrame Group emission intensity: Scope 1+2+3 (upstream) for melting shop and rolling mill [tCO_2/ t finished product steel, 2021]



Comparison AFV Beltrame Group's emission vs Steel industry average and European EAF steel for Scope 1+2+3 (upstream) melting shop and rolling mill [tCO_2/ t finished product steel, 2021]



Sources:
[1]) Word Steel Association CO_2 emission average (Scope 1+2+3 melting shop) integrated with external database CO_2 emission average for Scope 1+2+3 rolling mill;
[2]) European Commission benchmark value '21-'25 for EAF carbon steel (Scope 1+2 melting shop) integrated with elaborations based on external database inputs for Scope 1+2+3 rolling mill and Scope 3 melting shop;
[3]) AFV Beltrame Group Scope 1+2+3 melting shop and rolling mill calculated applying market-based approach for Scope 2.

We have defined an ambitious target: reduce 40% of our Scope 1 and 2 emissions by 2030.

Identify projects

The Group wants to further reduce and improve its performance and has identified several projects that will support emission reduction to 2030.

These projects can be classified into four macro-groups:

A) Production efficiency: projects aimed at improving the efficiency of production processes, such as gas reheating furnace or new billet welding machine;

B) Circular economy: measures to improve the quality of scrap and other raw materials such as re-use of production process waste (e.g. white slag instead of lime) and substitution of raw material with waste (e.g. recycled polymer used to substitute coke);

C) Green energy sourcing: projects related to the supply of renewable electricity either through PPAs or through the development of renewable energy plants for self-consumption (first photovoltaic plant defined in 2022 and more projects to come in the next years);

D) Hydrogen projects: projects related to the use of hydrogen, such as using a mix of hydrogen and natural gas in reheating furnaces (starting from 2026).

Define reduction targets

To date, the decarbonization strategy includes measures to reduce Scope 1 and 2 related emissions.

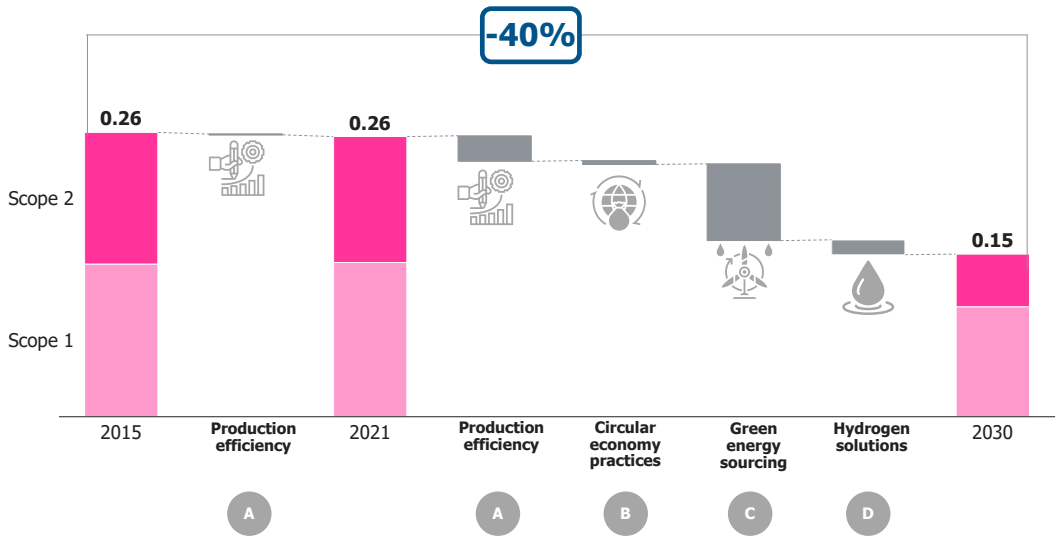
Specifically, Scope 1 reduction will occur through manufacturing efficiency projects first and foremost, circular economy practices in production processes, and finally through the development of new technologies, such as the use of hydrogen to replace natural gas.

The reduction of Scope 2 will occur through the use of a greater share of green energy, either through Power Purchase Agreements or through the in-loco construction of renewable energy generation facilities.

Based on the identified projects, the Group has defined its emissions reduction roadmap and reduction targets to 2030.

The Group set ambitious goals by setting a Scope 1+2 emissions reduction target of 40 percent from a 2015 baseline.

Scope 1+2 emission reduction targets [2015-2030; tCO_2/ t finished product steel]



The new carbon neutral steel by AFV Beltrame Group

As we strive to implement projects to reduce CO_2 emissions, the Group has decided to launch its own 'carbon neutral' steel.

From November 2022, we offer our customers the possibility of purchasing Chalibria, the 'carbon neutral' steel from AFV Beltrame Group.

Chalibria, the carbon neutral steel of AFV Beltrame Group for Scope 1+2+3 (upstream) emissions in the "cradle-to-gate" value chain.

The calculation of the carbon footprint for Scope 1+2+3 (upstream) is verified by the Independent Certification Body RINA in accordance to ISO14064-1 (Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals).

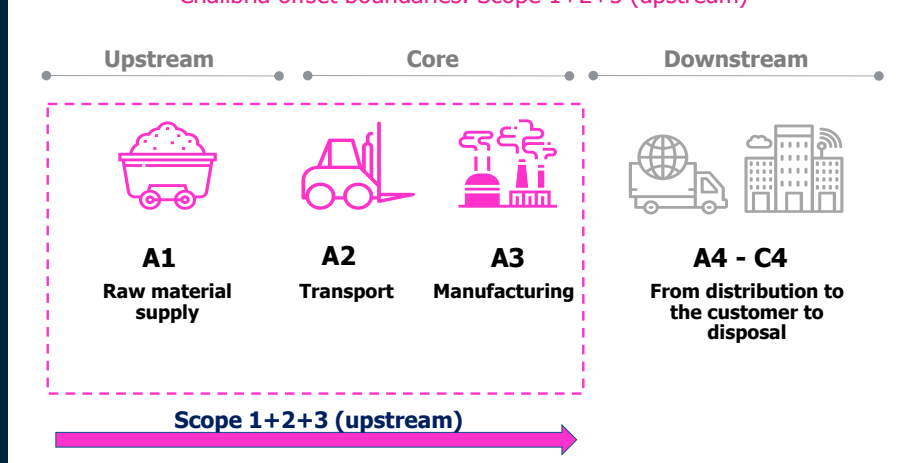
For these emissions, which the Group is not yet able to reduce through the projects included in the Decarbonization Plan, Chalibria's carbon neutrality is achieved by offsetting CO_2 emissions through the purchase of carbon credits on a voluntary basis, in line with the PAS2060 (Specification for the demonstration of Carbon Neutrality) certification.

AFV Beltrame Group's commitment, through the investments of the Decarbonization Plan, will enable the reduction of the value chain emissions "cradle-to-gate" and consequently a decreasing purchase of carbon credits.

Carbon neutrality will also be attested through a certificate issued by RINA in accordance with the international standards and sent to all our customers who purchase Chalibria.

In line with international greenhouse gas standards, Chalibria allows our customers to reduce indirect emissions and report an equivalent reduction in the category of goods purchased for Scope 3.

Chalibria offset boundaries: Scope 1+2+3 (upstream)



What are carbon credits?

Voluntary carbon credits are certificates that can be purchased by companies to offset CO_2 emissions generated by their activities. These credits are generated by projects that contribute to removing or avoiding the amount of CO_2 in the atmosphere.

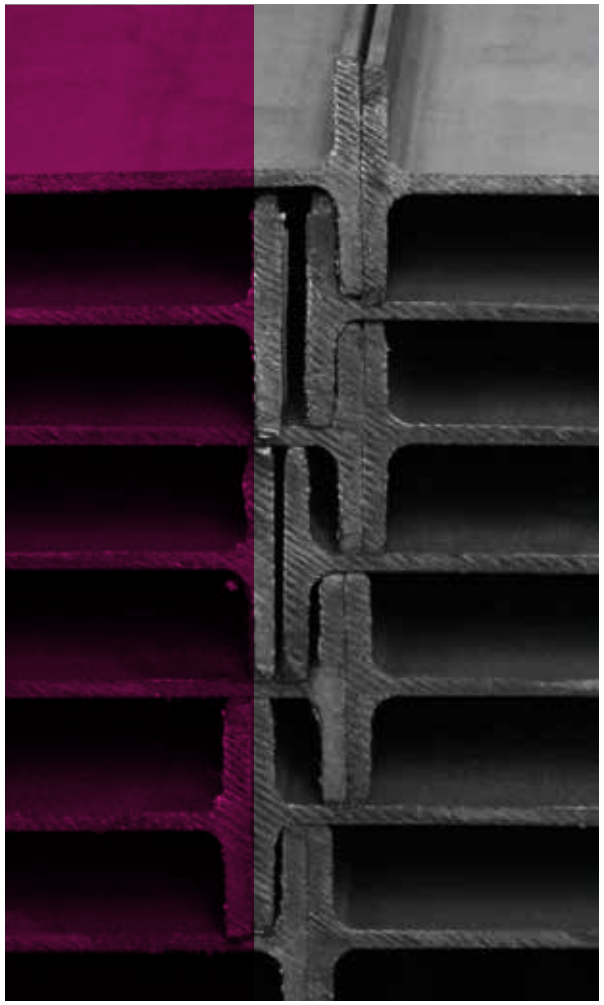
Which carbon credits do we use?

These certificates are equivalent to one ton of CO_2, not emitted or absorbed, as a result of supporting national and international environmental and climate protection projects carried out for the very purpose of reducing or reabsorbing global emissions of CO_2 and other greenhouse gases.
These are thus credits generated by eco-sustainable programs.
These projects can be classified into two categories:
1. Projects that avoid the generation of greenhouse gases in the atmosphere, including, for example, the construction of renewable energy facilities (hydroelectric, wind, photovoltaic...);
2. Projects that remove greenhouse gases from the atmosphere, such as initiatives to avoid deforestation or protect biodiversity.
AFV Beltrame Group only uses carbon credits that are verified by international standards (e.g. VCS (Verified Carbon Standard), Gold Standard); offsets are also derived from projects for
the development of renewable energy generation plants. Like other electric furnace manufacturers, the use of electricity is one of the Group's main sources of CO_2 emissions, and we are therefore committed to improving the energy production mix in our neighboring areas.

FAQs

What is Chalibria?

Chalibria is the carbon neutral steel launched by AFV Beltrame Group. All the finished product of AFV Beltrame Group can be offered as Chalibria.



What emission does Chalibria offset?

Chalibria offsets Scope 1, 2 and 3 (upstream) emissions generated by the value chain (cradle to gate).

How carbon-neutrality is achieved by Chalibria?

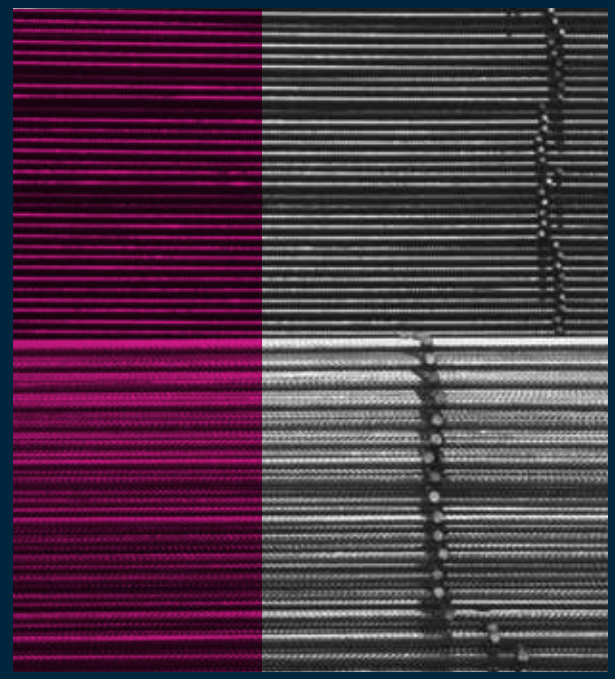
Carbon-neutrality of Chalibria is achieved by compensating CO_2 emissions though voluntary carbon credits in line with PAS2060 standard and certified by RINA.

Who certify Chalibria?

Chalibria carbon footprint is verified by the Independent Certification Body RINA in accordance to ISO14064-1 (Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals) and Chalibria carbon-neutrality is certified by RINA in accordance to PAS2060 (Specification for the demonstration of Carbon Neutrality).

How does Chalibria support client's emission reduction?

Chalibria allows customers to report an equivalent reduction in their purchased goods category of Scope 3.



Does Beltrame have a future reduction target?

AFV Beltrame Group defined a reduction target for Scope1+2 of 40% by 2030 compared to 2015 baseline.

How can customers buy Chalibria?

Chalibria will be available through AFV Beltrame Group's existing sales channels.

Please contact:
info.chalibria@beltrame-group.com
sales.chalibria@beltrame-group.com

Chalibria

For a modern, sustainable, carbon neutral, resilient and inclusive steel industry

Pontetto (VB), Hydropower Plant

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