

# ENVIRONMENTAL PRODUCT DECLARATION



## BELTRECO AGGREGATE

**EPD Registration n°:** S-P-04375

**CPC code:** 375

**Based on PCR:** PCR 2019:14 Construction products v 1.3.1

EN:15804:2012+A2:2019 - UNI EN ISO 14025:2010

ISO 21930:2017

**Programme:** The International EPD System [www.environdec.com](http://www.environdec.com)

**Programme operator:** EPD International AB

## Vicenza plant

**Issue date:** 2023-12-18

**Validity date:** 2028-12-18



An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)





# **GENERAL INFORMATION**

**AFV BELTRAME GROUP:  
LIFE CYCLE ASSESSMENT OF VICENZA BELTRECO**



# PROGRAM INFORMATION

## EPD REFERENCES

**PROGRAM OPERATOR:** EPD INTERNATIONAL AB, BOX 21060,  
SE-100 31 STOCKHOLM, SWEDEN; [info@environdec.com](mailto:info@environdec.com)

## INDEPENDENT VERIFICATION

ISO standard ISO 21930 and CEN standard EN 15804 served as the core PCR.  
PCR 2019:14 Construction products, Version 1.3.1.  
PCR review was conducted by: The Technical Committee of the International EPD<sup>®</sup> System. See [www.environdec.com/TC](http://www.environdec.com/TC) for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat [www.environdec.com/contact](http://www.environdec.com/contact).

Independent verification of the declaration and data, according to EN ISO 14025: 2010

**Third party verifier:** Rina Service S.p.A. Via Corsica 12,  
Genova - Italy. ACCREDIA: Registration number 0002VV

☐ EPD process  
certification (internal) ☒ EPD verification  
(external)

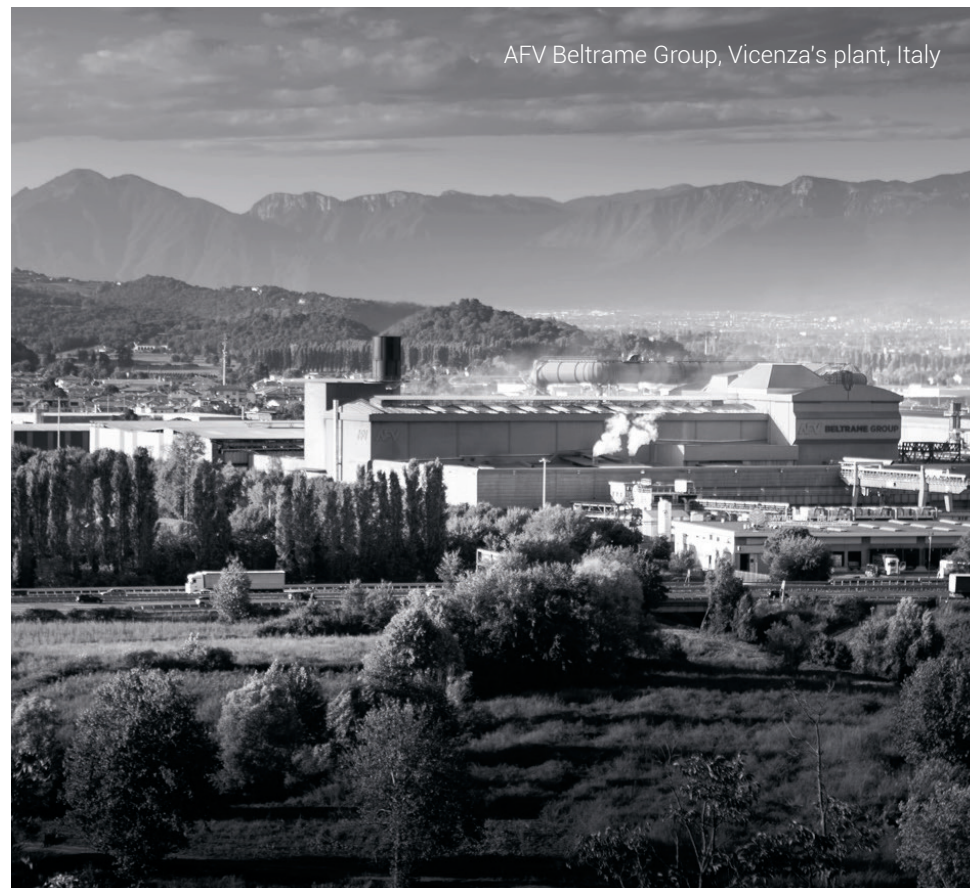
**Accredited by:** Accredia

Procedure for follow-up during EPD validity involves  
third party verifier

☒ Yes ☐ No

EPDs within the same product category but from different programmes blished within the same product category, but from different programmes may not be comparable.  
EPDs of construction products may not be comparable if they do not comply with EN 15804. EPD owner has the sole ownership, liability and responsibility of the EPD.

This declaration has been developed referring to the International EPD System, following the General Programme Instructions v 4.0; further information and the document itself are available at: [www.environdec.com](http://www.environdec.com). EPD document valid within the following geographical area: Italy and other countries worldwide according to sales market conditions.



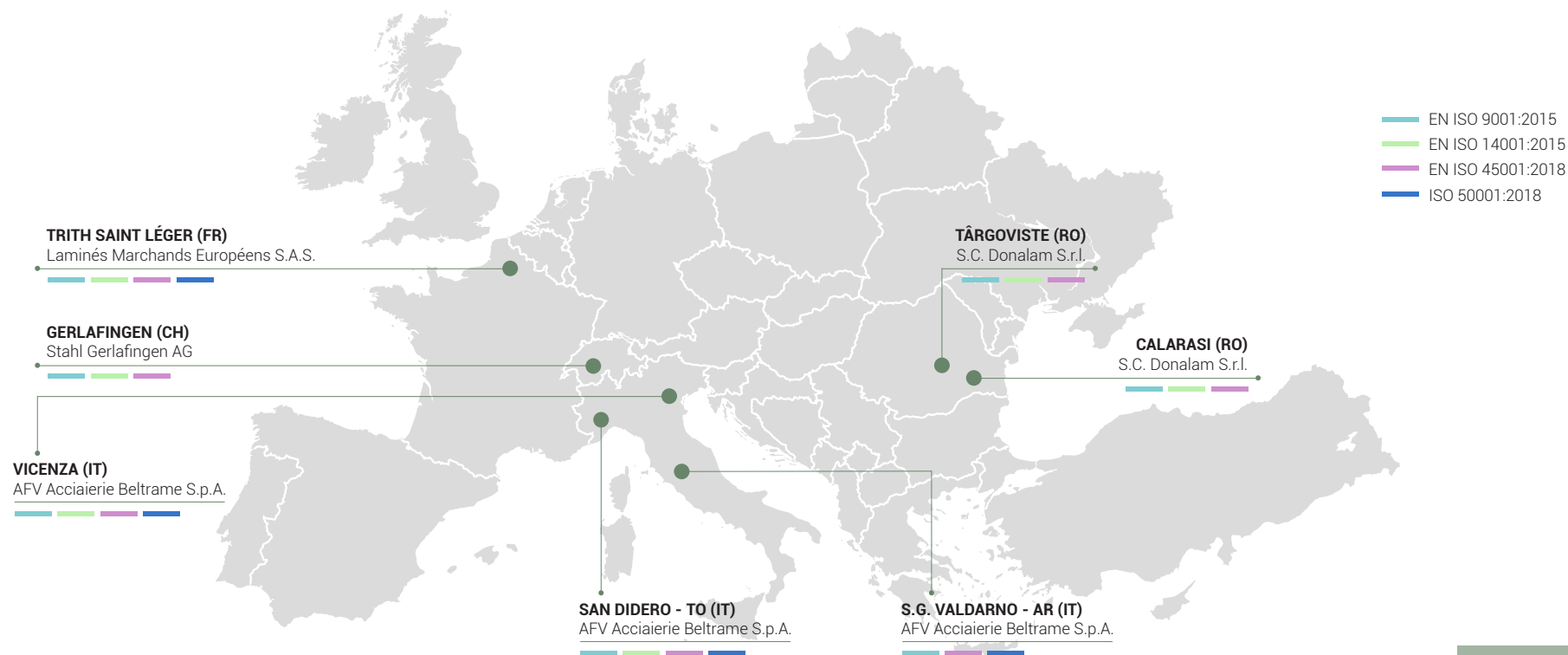
# THE COMPANY



The AFV Beltrame Group has operated in the steel industry for over a century, producing rolled sections for use in construction, shipyards, and excavators. The facilities, which have a production capacity of approximately **3,2 million tons**, include four electric furnaces and twelve rolling mills. These are scattered in seven plants located in **Italy, France, Switzerland, and Romania**.

Their geographical distribution is very advantageous given the areas where the products are consumed and those where raw materials are purchased. The AFV Beltrame Group is commercially present in all European markets as well as in the Mediterranean region through shares in local companies, agents, or the internal sales force.

All employees, amounting to approximately **2,250 people**, are strongly committed and motivated to satisfy the customers' needs through constant improvements in production, organization and level of service. In order to support the principles in the code of ethics and the policy regarding **Quality, Health and Safety, Environment and Energy (QHSEE)**, all production plants have adopted an Integrated Management System.



Life Cycle Assessment of Vicenza Beltrame.

# DETAIL PRODUCT DESCRIPTION

This EPD refers to construction product BELTRECO industrial inert aggregate (current fractions 0/20, 0/40, 0/90, 40/70, 20/90) that is produced according to the technical specification EN 13242 (for road construction), EN 12620 (for concrete) with corresponding CE marking, under 2+ attestation of conformity system according to European Regulation 305/2011. The 2+ attestation system consists of Initial Type Test - ITT, the management of a Factory Production Control system (FPC), with the survey of an external Notified Body (initial visit and annual audit). The aggregate produced has been registered with the European Chemicals Agency under the European REACH Regulation (EC) 1907/2006. The use of this product achieves the dual purpose of reducing the exploitation of limited natural resources and simultaneously decreasing waste production.

**DECLARED UNIT (D.U.)** According to EN 15804, the declared unit is **1 ton of Beltreco aggregate**.

## CONTACTS

**EPD OWNER:** AFV ACCIAIERIE Beltrame SPA, viale della scienza 81, 36100, Vicenza - ITALY  
Giovan Battista Landra  
(gb.landra@beltrame-group.com), Phone: +39 0444 967245  
Andrea Costa  
(a.costa@beltrame-group.com), Phone: +39 0444 967367

Technical support to Beltrame Group was provided by Spinlife (via Enrico degli Scrovegni, Padova) and Alperia (Via Dodiciville, Bolzano).



Life Cycle Assessment of Vicenza Beltreco.

| INFORMATION            | DESCRIPTION  |
|------------------------|--|
| Product identification | Beltreco industrial inert aggregate  |
| Product features       | CE mark using 2+ scheme according to the technical specifications UNI EN 13242 (for road construction) and UNI EN 12620 (for concrete):<br>BELTRECO 0/20<br>BELTRECO 0/40<br>BELTRECO 0/90<br>BELTRECO 40/70<br>BELTRECO 20/90<br><br>All technical specifications are included in the Declaration of Performance (DoP).   |
| Plant features         | Total production of EPD covered products, 1 <sup>st</sup> semester 2023: 63.000 ton<br>Total production for selling purpose = 32,413 ton<br>On-site air emission control system<br>On-site waste water control system<br>In/out materials/products and melting process monitored to prevent nuclear radiation<br>Plant air emissions accounted under ETS (Emission Trading System) |

The products currently CE marked are indicated below. This EPD could be extended to other aggregate size deriving from the same production process.

# SCOPE AND TYPE OF EPD®

## THE APPROACH USED IN THIS EPD IS “CRADLE TO GATE WITH OPTIONS” ONE

The detailed environmental performance (in terms of potential environmental impacts, use of resources and waste generation) is presented for the three phases Upstream, Core and Downstream and related sub-phases (A1-A2-A3-A4-C1-C2-C3-C4-D). Construction installation (A5) and use phase (B1-B7) are modules not declared (ND). The electricity mix used for AFV is modeled as a mix of electricity taken from the grid with warranty certificates and some without, resulting in a GWP-GHG of 0.273 kg CO<sub>2</sub>e/kWh.



TYPE OF EPD®: Product EPD®



REPORT LCA: Report LCA Vicenza rev finale 18-12-2023



REFERENCE PERIOD: 1<sup>st</sup> semester 2023



GEOGRAPHICAL SCOPE OF THE EPD: World according to sales market conditions.



SOFTWARE: SimaPro ver. 9.3 (www.pre.nl)



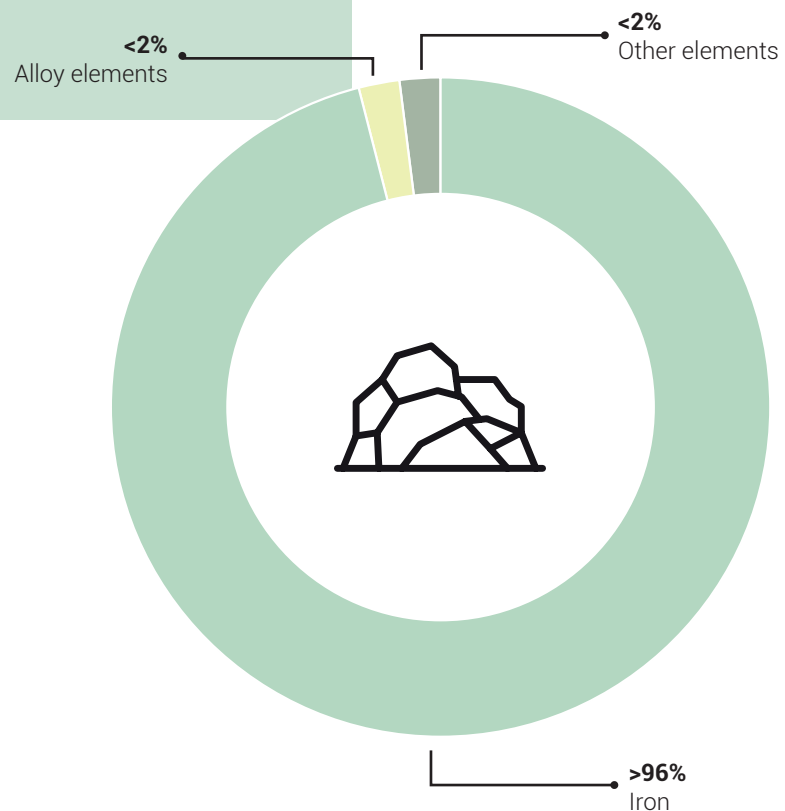
MAIN DATABASE: Ecoinvent 3.8  
Environmental declarations published within the same product category, though originating from different programs, may not be comparable.

TABLE OF MODULES

|                    | PRODUCT STAGE       |           |               | CONSTRUCTION PROCESS STAGE          |          | USE STAGE |             |        |             |               |                        |                       | END OF LIFE STAGE          |           |                  |          | BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES |
|--------------------|---------------------|-----------|---------------|-------------------------------------|----------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|---|
|                    | Raw material supply | Transport | Manufacturing | Transport from the gate to the site | Assembly | Use       | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse/ Recovery/ Recycling potential            |
| MODULE             | A1                  | A2        | A3            | A4                                  | A5       | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                         | C2        | C3               | C4       | D   |
| Module declared    | x                   | x         | x             | x                                   | ND       | ND        | ND          | ND     | ND          | ND            | ND                     | ND                    | x                          | x         | x                | x        | x   |
| Geography          | IT                  | IT        | IT            | WLD                                 | -        | -         | -           | -      | -           | -             | -                      | -                     | WLD                        | WLD       | WLD              | WLD      | WLD   |
| Specific data used | >90%                |           |               | -                                   | -        | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -   |
| Variation-products | NOT RILEVANT        |           |               | -                                   | -        | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -   |
| Variation-sites    | NOT RILEVANT        |           |               | -                                   | -        | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -   |

# CONTENT DECLARATION

The product here considered has the following composition:



No packaging is required for functional unit delivery and distribution, and no renewable material is contained in functional unit.

Life Cycle Assessment of Vicenza Beltreco.







# **ENVIRONMENTAL PERFORMANCE**

**AFV BELTRAME GROUP:  
LIFE CYCLE ASSESSMENT OF VICENZA BELTRECO**



# ENVIRONMENTAL PERFORMANCE

**GWP:** Global warming potential, total;  
**GWP,b:** Global warming potential, biogenic;  
**GWP,f:** Global warming potential, fossil;  
**GWP,luluc:** Global warming potential, land use & land use change;  
**GWP,ghg:** Global warming potential, excluding biogenic uptake emission and storage.

**ODP:** Ozone depletion potential;  
**AP:** Acidification Potential;  
**EP,f:** Eutrophication potential, freshwater;  
**EP,m:** Eutrophication potential, marine;  
**EP,t:** Eutrophication potential, terrestrial;  
**POCP:** Photochemical ozone creation potential;

**ADPE:** Abiotic depletion potential minerals & metals\*;  
**ADPF:** Abiotic depletion potential fossil fuels\*;  
**WDP:** Water use deprivation potential\*.

\*: The results of these environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

## ENVIRONMENTAL IMPACTS PER DECLARED UNIT

| Potential environmental impacts    | UNITS / D.U.                     | UPSTREAM + CORE | DOWNSTREAM |          |          |          |          | D        |
|------------------------------------|----------------------------------|-----------------|------------|----------|----------|----------|----------|----------|
|                                    |                                  | A1-A3 TOTAL     | A4         | C1       | C2       | C3       | C4       |          |
| GWP <sup>(a)</sup>                 | kg CO <sub>2</sub> eq            | 6.70E+00        | 1.12E+01   | 6.37E+00 | 1.65E+01 | 0.00E+00 | 1.75E+01 | 0.00E+00 |
| GWP,b                              | kg CO <sub>2</sub> eq            | 1.31E-02        | 1.05E-02   | 2.14E-03 | 1.35E-02 | 0.00E+00 | 1.50E-02 | 0.00E+00 |
| GWP,f                              | kg CO <sub>2</sub> eq            | 6.69E+00        | 1.12E+01   | 6.37E+00 | 1.65E+01 | 0.00E+00 | 1.75E+01 | 0.00E+00 |
| GWP,luluc <sup>(b)</sup>           | kg CO <sub>2</sub> eq            | 7.62E-04        | 4.02E-03   | 6.37E-04 | 6.47E-03 | 0.00E+00 | 9.72E-03 | 0.00E+00 |
| GWP,ghg <sup>(c)</sup>             | kg CO <sub>2</sub> eq            | 6.69E+00        | 1.12E+01   | 6.37E+00 | 1.65E+01 | 0.00E+00 | 1.75E+01 | 0.00E+00 |
| ODP                                | kg CFC11 eq                      | 1.41E-06        | 2.69E-06   | 1.38E-06 | 3.88E-06 | 0.00E+00 | 5.04E-06 | 0.00E+00 |
| AP                                 | mol H+ eq                        | 1.25E-01        | 4.71E-02   | 6.69E-02 | 1.13E-01 | 0.00E+00 | 1.34E-01 | 0.00E+00 |
| EP,f                               | kg P eq                          | 2.95E-04        | 7.02E-04   | 1.99E-04 | 1.07E-03 | 0.00E+00 | 1.29E-03 | 0.00E+00 |
| EP,m                               | kg N eq                          | 3.12E-02        | 1.44E-02   | 2.96E-02 | 4.43E-02 | 0.00E+00 | 5.04E-02 | 0.00E+00 |
| EP,t                               | mol N eq                         | 1.92E-01        | 1.57E-01   | 3.25E-01 | 4.84E-01 | 0.00E+00 | 5.52E-01 | 0.00E+00 |
| POCP                               | kg NMVOC eq                      | 9.15E-02        | 5.05E-02   | 8.93E-02 | 1.33E-01 | 0.00E+00 | 1.55E-01 | 0.00E+00 |
| ADPE <sup>(d)</sup> <sup>(e)</sup> | kg Sb eq                         | 4.24E-06        | 2.59E-05   | 3.31E-06 | 5.78E-05 | 0.00E+00 | 5.54E-05 | 0.00E+00 |
| ADPF <sup>(d)</sup>                | MJ                               | 9.21E+01        | 1.76E+02   | 8.83E+01 | 2.53E+02 | 0.00E+00 | 3.37E+02 | 0.00E+00 |
| WDP*                               | m <sup>3</sup> world eq.deprived | 8.54E+00        | 5.95E-01   | 1.33E-01 | 7.40E-01 | 0.00E+00 | 7.17E+00 | 0.00E+00 |

Additional environmental impact indicators are computed in the LCA report but not reported in the EPD.

(a) The total global warming potential (GWP-total) is the sum (see C.2) of GWP-fossil, GWP-biogenic, GWP-luluc.

(b) It is permitted to omit GWP-luluc as separate information if its contribution is <5 % of GWP-total over the declared modules excluding module D.

(c) The GWP-GHG indicator is identical to GWP-total except that the characterisation factor (CF) for biogenic CO<sub>2</sub> is set to zero.

(d) The abiotic depletion potential is calculated and declared in two different indicators: ADP-minerals&metals include all non-renewable, abiotic material resources (i.e. excepting fossil resources); ADP-fossil include all fossil resources and includes uranium.

(e) Ultimate reserve model of the ADP-minerals&metals model.

Life Cycle Assessment of Vicenza Beltreco.

# ENVIRONMENTAL PERFORMANCE

**PERE:** Use of renewable primary energy excluding renewable primary energy resources used as raw materials;  
**PERM:** Use of renewable primary energy resources used as raw materials;  
**PERT:** Total use of renewable primary energy resources;  
**PENRE:** Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;  
**PENRM:** Use of non-renewable primary energy resources used as raw materials;  
**PENRT:** Total use of non-renewable primary energy resources;  
**SM:** Use of secondary raw materials;  
**RSF:** Use of renewable secondary fuels;  
**NRSF:** Use of non-renewable secondary fuels;  
**FW:** Use of net fresh water.

| RESOURCE USE PER DECLARED UNIT |                |                 |            |          |          |          |          |          |
|--------------------------------|----------------|-----------------|------------|----------|----------|----------|----------|----------|
| Use of resources               | UNITS / D.U.   | UPSTREAM + CORE | DOWNSTREAM |          |          |          |          | D        |
|                                |                | A1-A3 TOTAL     | A4         | C1       | C2       | C3       | C4       |          |
| PERE                           | MJ             | 1.04E+00        | 1.74E+00   | 3.83E-01 | 2.66E+00 | 0.00E+00 | 2.85E+00 | 0.00E+00 |
| PERM                           | MJ             | 2.09E-01        | 5.02E-01   | 1.13E-01 | 8.86E-01 | 0.00E+00 | 1.07E+00 | 0.00E+00 |
| PERT                           | MJ             | 1.25E+00        | 2.24E+00   | 4.96E-01 | 3.55E+00 | 0.00E+00 | 3.92E+00 | 0.00E+00 |
| PENRE                          | MJ             | 9.21E+01        | 1.76E+02   | 8.83E+01 | 2.53E+02 | 0.00E+00 | 3.37E+02 | 0.00E+00 |
| PENRM                          | MJ             | 0.00E+00        | 0.00E+00   | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| PENRT                          | MJ             | 9.21E+01        | 1.76E+02   | 8.83E+01 | 2.53E+02 | 0.00E+00 | 3.37E+02 | 0.00E+00 |
| SM                             | MJ             | 9.11E-01        | 0.00E+00   | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RSF                            | MJ             | 0.00E+00        | 0.00E+00   | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| NRSF                           | MJ             | 0.00E+00        | 0.00E+00   | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| FW                             | m <sup>3</sup> | 1.93E-01        | 1.94E-02   | 4.45E-03 | 2.62E-02 | 0.00E+00 | 1.76E-01 | 0.00E+00 |



# ENVIRONMENTAL PERFORMANCE

**HWD:** Hazardous waste disposed;  
**NHWD:** Non-hazardous waste disposed;  
**RWD:** Radioactive waste disposed;  
**CRU:** Components for re-use;  
**MFR:** Materials for recycling;  
**MER:** Materials for energy recovery;  
**EE:** Exported energy.

OUTPUT FLOWS AND WASTE CATEGORIES PER DECLARED UNIT

| Use of resources | UNITS / D.U. | UPSTREAM + CORE | DOWNSTREAM |          |          |          |          | D        |
|------------------|--------------|-----------------|------------|----------|----------|----------|----------|----------|
|                  |              | A1-A3 TOTAL     | A4         | C1       | C2       | C3       | C4       |          |
| HWD              | kg           | 2.45E-04        | 4.26E-04   | 2.42E-04 | 6.62E-04 | 0.00E+00 | 7.19E-04 | 0.00E+00 |
| NHWD             | kg           | 1.64E-01        | 1.65E+01   | 1.20E-01 | 1.29E+01 | 0.00E+00 | 1.01E+03 | 0.00E+00 |
| RWD              | kg           | 6.23E-04        | 1.19E-03   | 6.10E-04 | 1.71E-03 | 0.00E+00 | 2.25E-03 | 0.00E+00 |
| CRU              | kg           | 0.00E+00        | 0.00E+00   | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MFR              | kg           | 0.00E+00        | 0.00E+00   | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MER              | kg           | 0.00E+00        | 0.00E+00   | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| EE               | MJ           | 0.00E+00        | 0.00E+00   | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |



# **CALCOLATION RULES**

**AFV BELTRAME GROUP:  
LIFE CYCLE ASSESSMENT OF VICENZA BELTRECO**



# CALCULATION RULES

## METHODOLOGY

The environmental burden of the product has been calculated according to the GPI v. 4.0 issued by the International EPD System<sup>1</sup> (Cradle to gate with options).

This declaration is based on the application of Life Cycle Assessment (LCA) methodology to the whole life-cycle system.

Customized LCA<sup>2</sup> questionnaires were used to gather in-depth information about all aspects of the production system (for example, raw materials specifications, pre treatments, process efficiencies, air emissions, waste management), ultimately providing a complete picture of the environmental burden of the system from raw materials supply (A1) to Transport (A2) and Manufacturing (A3). The use phase was not considered according to EN:15804 and PCR 2019:14 v 1.11, while transport to final destination (A4) and end-of-life phases (C1-C2-C3-C4-D) were considered.

The product is designed to operate under air and water. Therefore, in nominal installation and operating conditions, no emissions to these compartments shall occur. Data quality has been assessed and validated during data collection process. According to EN:15804 the applied cut-off criterion for mass and energy flows is 1%.

## DECLARED UNIT

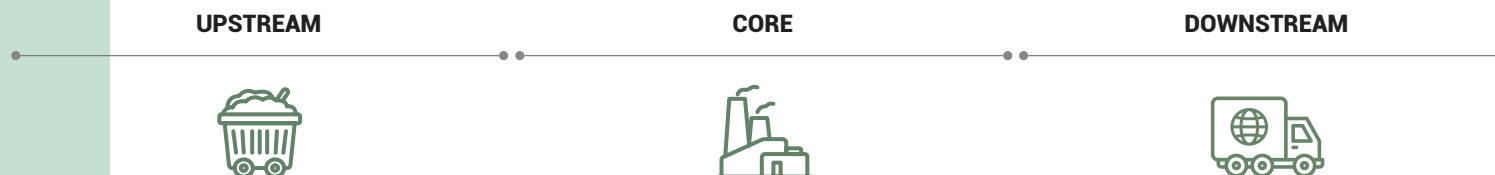
According to EN:15804 the declared unit is **1 ton of Beltreco**.

<sup>1)</sup> International EPD System is managed by EPD International AB ([www.environdec.com](http://www.environdec.com)).

<sup>2)</sup> The LCA methodology is standardized at international level by ISO 14040 and ISO 14044.



# CALCOLATION RULES



According to the PCR 2019:14 v. 1.3.1 the main activities are listed and divided in three subsystems: **UPSTREAM Process, CORE Module, DOWNSTREAM Process.**

| UPSTREAM |                                    | CORE      |                                    | DOWNSTREAM |                                    |
|----------|------------------------------------|-----------|------------------------------------|------------|------------------------------------|
| A1       | Scrap pre-treatment                | A2/<br>A3 | Supplying transport                | A4         | Distribution                       |
|          | Shearing                           |           | Billets production                 | C1         | De-costruction/demolition          |
|          | Shredding                          |           | Beltreco treatment                 | C2         | Transport                          |
|          | Sorting                            |           | Internal handling                  | C3         | Waste processing                   |
|          | Raw material and energy production |           | Ancillary materials and activities | C4         | Disposal                           |
|          |                                    |           | Air emission                       | D          | Reuse-Recovery-Recycling potential |
|          |                                    |           | Water emission                     |            |                                    |
|          |                                    |           | Waste management                   |            |                                    |

Figure 1. Scheme of the considered system boundaries (including upstream, core and downstream main processes).



# UPSTREAM PROCESS



Scheme of the considered system boundaries (upstream processes).



Pre and post consumer steel scrap collection.



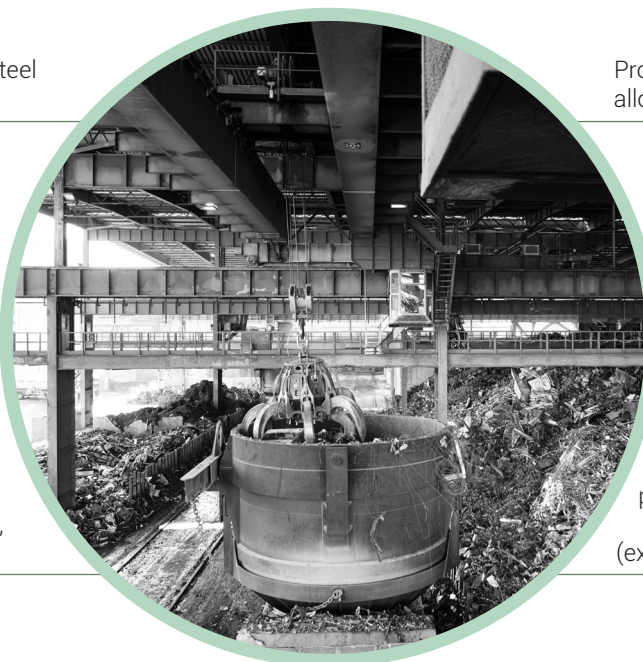
Production of virgin materials, alloy elements and ancillaries.



Specific secondary materials pre-treatments, where appropriate.

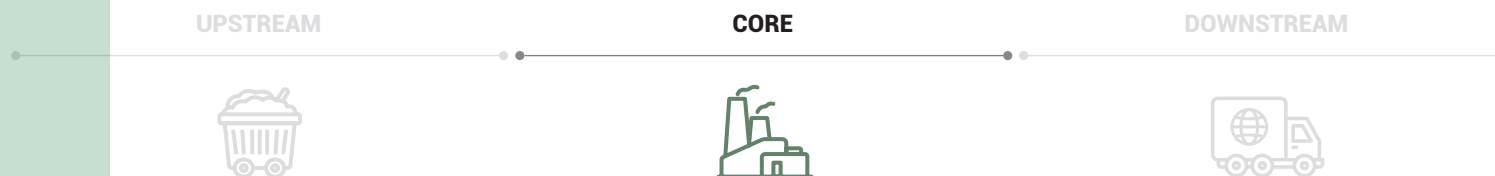


Generation of electricity and other fuels from primary and from secondary energy resources (excluding waste treatments).

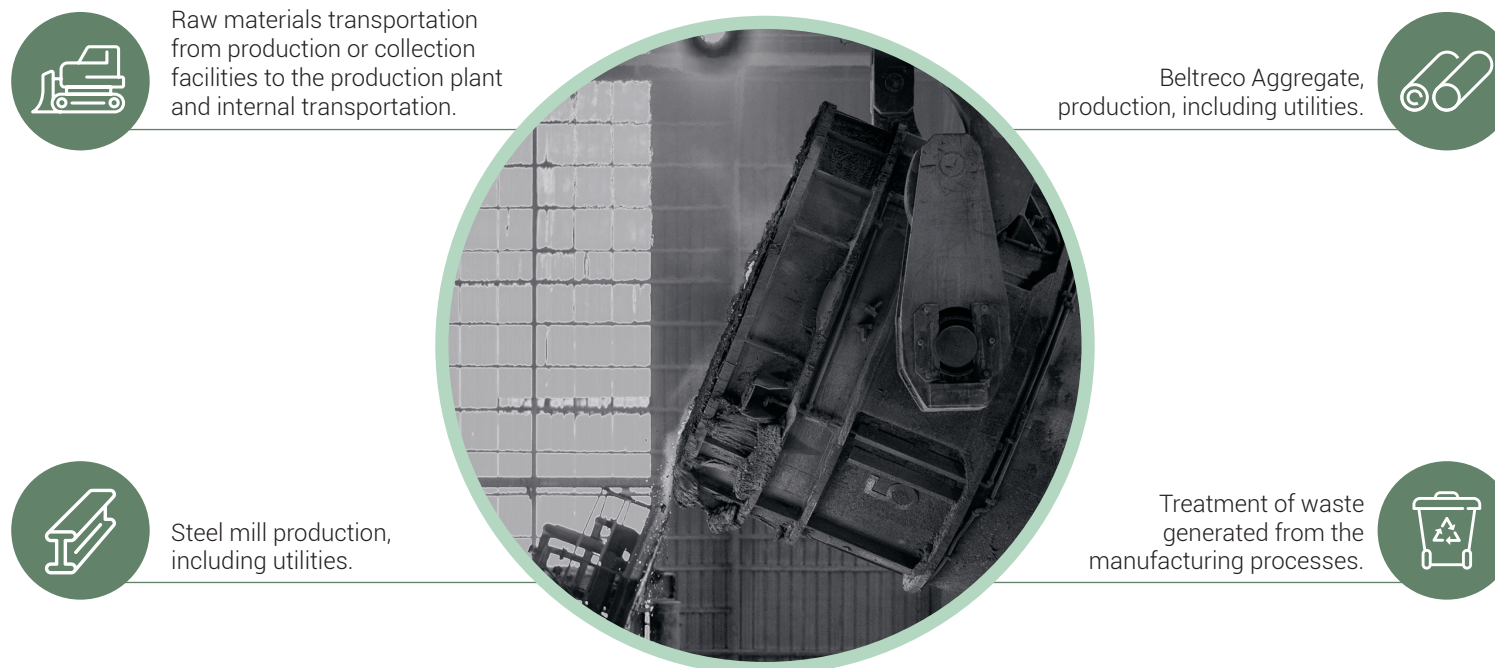


## A1 - Raw Materials Supply

# CORE PROCESS



Scheme of the considered system boundaries (core processes).



## A2 - Transportation + A3 - Manufacturing

Life Cycle Assessment of Vicenza Beltreco.

# DOWNSTREAM PROCESS

UPSTREAM

CORE

DOWNSTREAM



**A4**

## **DISTRIBUTION**

Transport to the customers. Distances estimated considering the transported quantities and the distances from Vicenza plant to the client.

Final products are delivered to many national and international areas.



**C1**

## **DE-CONSTRUCTION DEMOLITION**

Dismantling and demolition operations required to remove the product from the building. Initial onsite sorting of the materials is included as well.



**C2**

## **TRANSPORT**

Transportation of the discarded product as part of the waste processing (to recycling site or to a final disposal site).



**C3**

## **WASTE PROCESSING**

Waste processing, including collection of waste fraction from deconstruction and waste processing of material flows intended for reuse, recycling and energy recovery.



**C4**

## **DISPOSAL**

Waste disposal including physical pre-treatment and management of the disposal site.



**D**

## **REUSE - RECOVERY - RECYCLING POTENTIAL**

Environmental impacts associated to waste use after the investigated system (including recycling).



# ADDITIONAL INFORMATION

Beltreco is an inert industrial aggregate produced by primary crushing of EAF-C slag and subsequently screened to obtain product dimensions suitable for specific applications (for example, aggregates for road construction or concrete); it features physical-chemical properties and geotechnical performance that are comparable to high-quality natural inert such as basalt. The EAF-C slag that forms on the surface of the smelting bath, consists of a complex mixture of oxides and silicates present in various stable mineralogical forms. The plant that operates at AFV Acciaierie Beltrame SpA in Vicenza, is composed of the following machines:

- Jaw crusher;
- Metal separator;
- 3-stage vibrating screen.

The plant produces a various type of industrial aggregates which are stored in separate heaps, in particular:

- Aggregates of unbound or bound materials with hydraulic binders for use in civil engineering works for the formation of road and/or embankments (EN 13242) in fractions 0/20, 0/40, 40/70, 0/90, 20/90; aggregates for use in concrete (EN 12620) in fractions, 0/20 and 0/40.

All the material processing activities are entrusted to suitably trained AFV Acciaierie Beltrame SpA operating staff.

In compliance with European standards for construction products (CPD), BELTRECO is validated by a CE 2+ marking system, certified by an independent third-party body.

Constant monitoring of the product, carried out by qualified external laboratories, certifies the conformity of the specifications of a physical, geotechnical, and chemical nature, envisaged by the technical regulations in the sector. BELTRECO inert industrial aggregate makes it possible to achieve multiple benefits:

- Exploitation of the EAF-C slag;
- Reduction of using natural aggregate such a gravel, building stone, demolition materials and other type of inert materials for making embankments, foundations, backfill and aggregates for concrete;
- Obtaining credits in the eco-friendly building framework (the LEED standard).

All the material processing activities are entrusted to When loading the finished product, the shipping staff draws up the transport documentation which contains the designation of the aggregate, the reference standards and the destination of the material, along with the CE mark sheet and the declaration of conformity. The management of the process guarantees the complete traceability of the product shipped to the final customer.

There is pre-consumer and post-consumer recycled material content in all products, derived from iron scrap. The environmental indicator "Use of secondary raw materials - SM" does not indicate the precise amount of recycled, as the recycled content must take into account any percentages of internal waste generated during the production process, not counting these as recycled. The total recycled content (>95%) represents the sum of the purchased scraps splitted between Pre-consumer and Post-consumer.

| PRODUCT                                | PRE-CONSUMER RECYCLED CONTENT (%) | POST-CONSUMER RECYCLED CONTENT (%) |
|--|-----------------------------------|------------------------------------|
| BELTRECO<br>inert industrial aggregate | 41%                               | 56%                                |

Life Cycle Assessment of Vicenza Beltreco.



# REFERENCES

- EN 15804:2012+A2:2019
- ISO 14040 : 2021
- ISO 14044 : 2021
- General Programme Instructions, 4.0
- PCR 2019:14 - Construction products - v 1.3.1
- Report LCA Vicenza rev finale 18-12-2023

 **EPD**<sup>®</sup>  
THE INTERNATIONAL EPD<sup>®</sup> SYSTEM





