SIBELCO

CLIMATE & ENERGY

Supporting the world's transition to a zero-carbon economy

March 2024

CONTENTS

INTRODUCTION

The effects of climate change are already plain to see. Limiting greenhouse gas (GHG) emissions is one of the biggest and most pressing challenges of our time. It is estimated that the mining sector as a whole is responsible for 4 to 7 percent of GHG emissions globally*, meaning that we all have a vital role to play in setting and achieving targeted reductions.

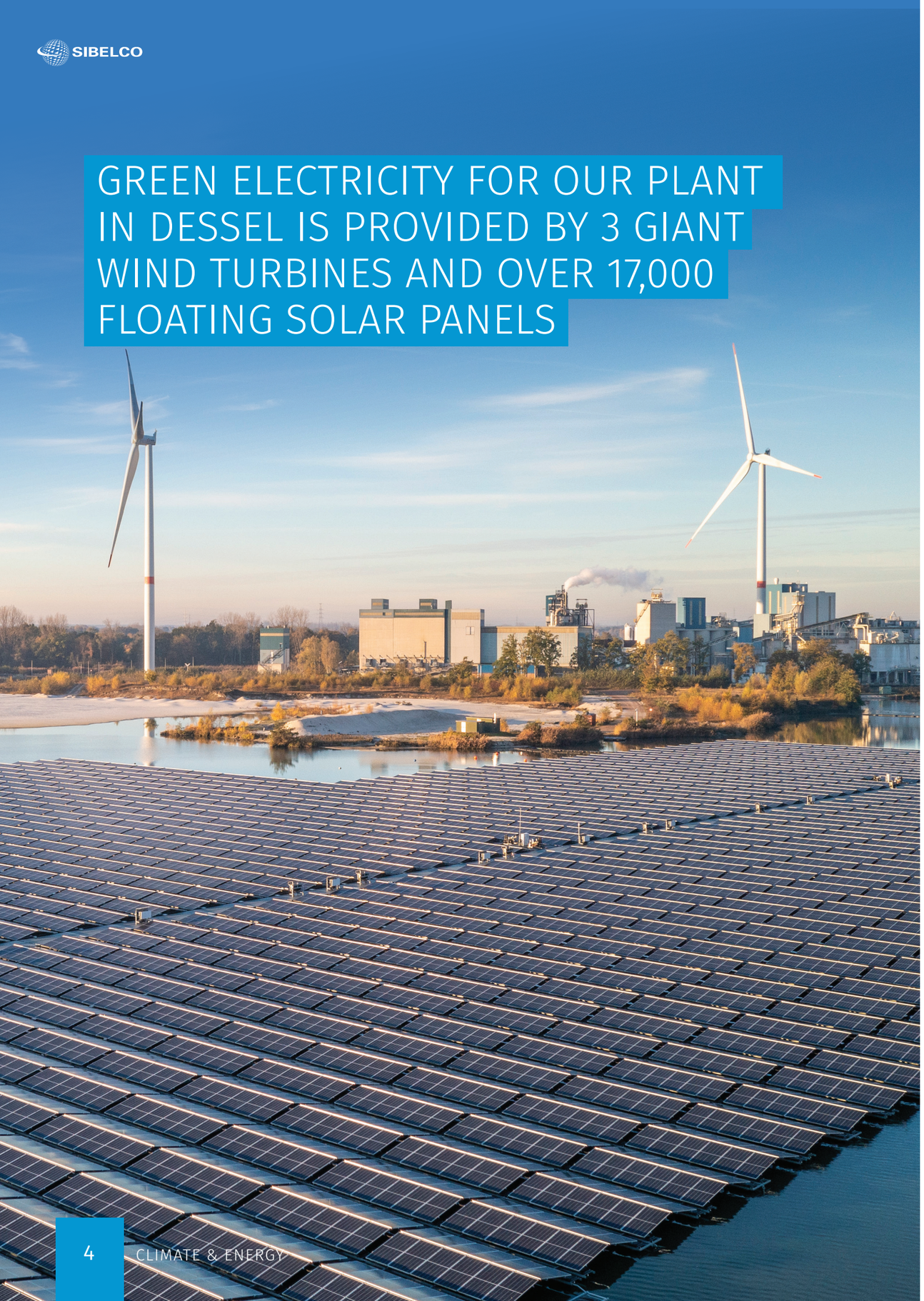
In August 2021, Sibelco announced an ambitious target to reduce Scope 1 and 2 emissions intensity (tonnes CO_2 / revenue) by 5% per year from 2021 to 2030 – cumulatively a reduction of 37%, assuming the same scope of activities. An engagement target for scope 3 emissions was announced in 2022 after detailed consultation with customers and suppliers.

All our near-term (2030) targets for scopes 1, 2 & 3 have been validated by the Science Based Targets initiative (SBTi) and are aligned with the Paris Agreement's goal to limit global warming to well below 2°C compared to pre-industrial levels. Our 2023 CO_2 data, the data refinement and base year recalculation were assessed through a limited assurance audit in 2024.

To ensure we decarbonise our activities and achieve our goal, we will invest approximately €90 million in new technologies and operational excellence initiatives over a nine-year period from 2022 to 2030. Climate and energy form part of Sibelco's overall sustainability framework, developed via a comprehensive materiality assessment which helped us identify the environmental, social and governance issues most relevant to our business and stakeholders.
You can find out more at: **www.sibelco.com/sustainability**

The world faces a clear and urgent climate challenge. The solutions are complex, but we can all play our part. This report outlines Sibelco's approach to energy and GHG emissions reduction, demonstrating our resolute commitment to contribute to a zero-carbon economy.

** https://www.mckinsey.com/capabilities/sustainability/our-insights/sustainability-blog/here-is-how-the-mining-industry-can-respond-to-climate-change*



OUR TARGETS

Following in-depth research and analysis with the support of external experts, we have established a set of clear and ambitious GHG reduction targets.

These targets are in line with best practices promoted by the Science Based Targets initiative (SBTi) and aligned with the Paris Agreement's goal to limit global warming to well below 2°C compared to pre-industrial levels. The SBTi approved Sibelco's near term targets:

SCOPE 1 & 2 EMISSIONS

We commit to reduce scope 1 and 2 GHG emissions **5%** year on year per euro revenue (tonnes CO_2 / ex-works revenue), equivalent to a **22.5%** absolute reduction*, by 2030 from a 2021 base year.

The target boundary includes biogenic emissions and removals from bioenergy feedstocks.

The intensity target leads to a cumulative reduction of **37%** in absolute emissions assuming the same scope of activities.

We will invest approximately **€90 million** in new technologies and operational excellence initiatives over a nine-year period from 2022 to 2030.

SCOPE 3 EMISSIONS

We commit that **68.9%** of our suppliers and customers by emissions, covering **37%** of upstream transportation and distribution emissions and **85%** of processing of sold products emissions, will have science-based targets by 2026.

Our CO_2 framework (targets and KPIs) was assessed by Sustainalytics in a second party opinion in June 2022. Follow this ***link*** to the report.

Our scope 1, 2 and 3 absolute CO_2 emissions for 2023, the data refinement and the base year recalculation were assessed through a limited assurance audit conducted by EY in February-March 2024.
Follow this ***link*** to the report.

**The absolute emissions reduction target of 22.5% takes into account potential business growth. When we keep the same scope of activities the intensity emissions reduction will lead to a reduction of 37% from 2021 to 2030.*

OUR APPROACH

PLANNING

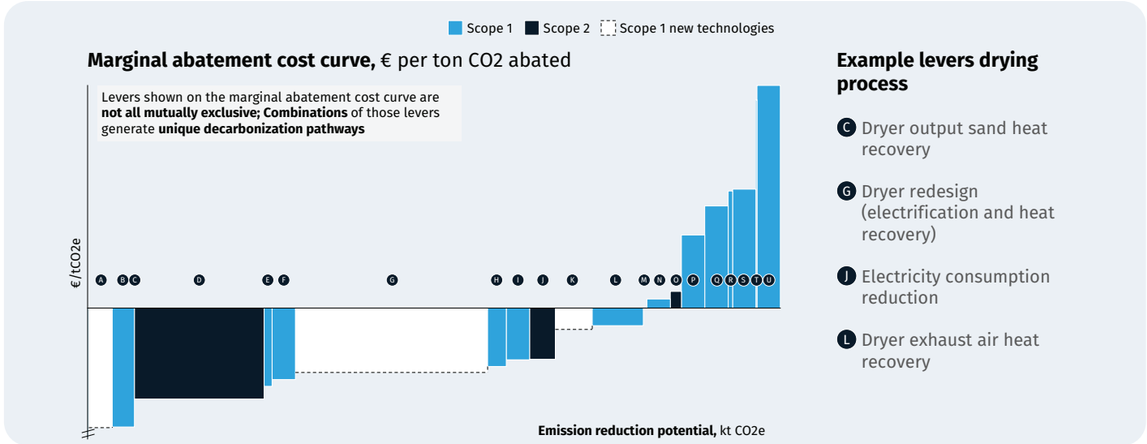
To ensure our targets are achieved, we have a CO_2 reduction strategy focused on scope 1,2 & 3 emissions.

For scope 1&2 we have set up a time-bound action plan which centres around a decarbonisation programme to tackle the main sources of emissions across our business.

Resulting actions and projects are identified, prioritised and resourced appropriately. Actions can be short, medium and long-term (up to 2030) and the programme includes the piloting of new low-carbon technologies.

We use the marginal cost abatement curve (MAC) to prioritise different CO_2 reduction initiatives at global and local level.

For scope 3 we have developed an engagement strategy that is being rolled out by our commercial and supply chain teams in close collaborations with the sustainability team.



GOVERNANCE

We have installed a core CO_2 team and steering committee dedicated to GHG emissions reduction, made up of representatives from all key business functions.

The CO_2 Steering Committee:

- sets the direction for our decarbonisation strategy (targets, KPIs, internal carbon price, partnerships with customers etc.)
- approves and validates initiatives and projects of the CO_2 Core Team
- approves CO_2 budgets

The CO_2 Core Team:

- pro-actively manages the decarbonisation strategy
- ensures consistent and accurate reporting and calculations of CO_2 emissions
- develops guidelines, work instructions and procedures for site management
- performs top-down analyses and tests bottom-up CO_2 reduction initiatives
- ensures correct application of internal carbon pricing
- ensures verification of the CO_2 strategy (limited / reasonable assurance reports)

RENUMERATION

The annual bonus of the operational management teams is linked to energy reduction and GHG reduction targets.

EMPLOYEE TRAINING

All our people can play an active role supporting our drive for energy efficiency. As well as communication to raise awareness and encourage participation, we provide:

- basic climate change training for all relevant business functions
- sharing of energy saving best practices across the whole community
- distribution of the Sibelco Energy Handbook to help increase the energy efficiency of installed equipment

AUDITING

Energy audits are performed internally as part of ISO 50 001:2018 requirements. Internal experts led by the Center of Excellence for Energy conduct yearly assessments to monitor the progress of energy management at all major Sibelco sites and define the area of interventions.

Our CO_2 framework (targets & KPIs) was validated by Sustainalytics in a second party opinion. We performed a readiness check on our CO_2 inventory in 2022 and a limited assurance audit was conducted by EY on CO_2 data for 2023 and the data refinement, including the base year adjustment according to GHG Protocol in February-March 2024.

OUR DECARBONISATION PROGRAMME

In 2023 we refined our decarbonisation programme, adopting a more projects-oriented approach to support delivery of results.

Our key focus areas remain unchanged:

- Thermal Processes Decarbonisation: including efficiency improvement, waste heat recovery, advanced automation, fuel switch, redesign, and exploration of new technologies.
- Scope 2 Reduction: with a strong commitment to large scale renewables and green energy purchased.

Both combine to form projects focused on the shorter-term horizon of our CO_2 roadmap. In parallel, technological scouting is followed up with practical case studies to support success in the long run.

OPERATIONAL EXCELLENCE & ENERGY EFFICIENCY

Energy efficiency is a key pillar of our global Operations Optimisation programme, which in turn is part of our way of working and central to continuous improvement.

The core elements of the programme are:

- productivity enhancement
- energy efficiency
- yield improvement
- value driven maintenance
- quality assurance technologies

Each workstream is centrally led by a dedicated Centre of Excellence, working in partnership with our local Change Agents. Lean methodology (with a special focus on performance dialogue and problem-solving tools) is commonly applied and embedded across our operations.

This approach has supported a continuous reduction in energy consumed by our processes, monitored through the Production Energy Efficiency Report (PEER). Local energy and production data is fed into PEER each month, automatically highlighting energy consumption and efficiency per site / work centre / product. This forms the basis for monthly CO_2 reporting.

CLIMATE & ENERGY

In 2023 we conducted process and energy audits to address our most energy-intensive processing sites, focusing on the major emitters. Internal and external specialists spent time in the field to determine the status of each site and find new opportunities to decarbonise processes. The solutions identified have been added to our CO_2 roadmap.

RENEWABLE ENERGY

We are increasingly using renewable energy technology to power our operations, namely wind turbines, solar panels (roof mounted, ground mounted, floating) and gravitational energy recovery systems. Renewables accounted for 4% of our total energy consumption in 2021, rising to 6% in 2023 as total renewable installed power hit 45 MW.

We brought several new solar fields onstream in 2023 (Italy, Greece, Germany, Spain, UK, India) with more in the final stages of commissioning (US, UK, Spain).

In parallel, we have integrated Energy Attribute Certificates (EACs) within in our strategy to bridge any target shortfalls. We redeemed 60,000 MWh of EACs in 2022 and 58,000 MWh in 2023, equating to approximately 24 kt CO_2e abated.

THERMAL PROCESSES

Thermal processes used in mineral production, such as drying and calcining, are the biggest contributor to our Scope 1 emissions.

All our operations have replaced coal with natural gas, and we have completed numerous other fuel conversion projects. These include the electrification of a diesel-fueled dryer in Norway, a diesel to LPG dryer in the UK, a diesel to gas boiler in the US, and an LPG to biomass project in Brazil.

We are now working on other opportunities for electrification in Norway, biomass in Sweden, and for heat storage at several sites. In parallel, we are investigating a number of lower energy drying technologies.

MOBILE EQUIPMENT

Whilst diesel burnt by mobile equipment accounts for less than 15% of our total Scope 1 and 2 emissions, we are progressively replacing diesel powered equipment with electric versions where feasible.

All forklift vehicles at several of our sites are now fully electric. Along with our suppliers, we are looking at ways to make heavy mining plant more environmentally friendly.

CO_2 CAPEX

Several decarbonisation projects were completed in 2022 and 2023 with funds set aside purely for carbon reduction. The projects delivered a cumulative abatement of more than 12,000 tonnes of CO_2e. Capital approved for 2024 could deliver an additional abatement of 7,500 tonnes.

Our CO_2 Roadmap will define all priority projects from 2025 onwards.

A COMPREHENSIVE DECARBONISATION ATTITUDE

WORKING WITH OUR CUSTOMERS

We are partnering with some of our biggest customers to help reduce energy demand in the glassmaking process. Our technical experts are developing and trialing new batch materials and technologies to help save energy during the melting, forming and annealing phases of the glass manufacturing process.

In 2023 we asked customers to complete a detailed decarbonisation questionnaire, the findings from which helped further refine our engagement strategy. Follow-up meetings provided an opportunity for both parties to gain a deeper understanding of the other's objectives and challenges.

We strongly believe that the exchange of information steers the full value chain towards lower-carbon end products. We have therefore begun to develop Life Cycle Assessments / Environmental Product Declarations to be able to provide verified environmental impacts of our main product families. These analyses also identify improvement points in our processes.

PROCUREMENT

As part of our scope 3 target, we engage with suppliers to reduce GHG emissions, including third-party transport suppliers (a significant percentage of our emissions total). We consider a company's GHG emissions and reduction efforts when selecting suppliers.

Our supply chain team leads the engagement process, which began with a detailed decarbonisation questionnaire. We will continue to engage with suppliers to identify potential for joint decarbonisation opportunities.

Our procurement team has also been identifying opportunities for sites to purchase more environmentally-friendly products, such as the use of recycled pallets in the Netherlands.

EMPLOYEE TRANSPORT

Remote / hybrid working is supported where practical, allowing many non-operational employees to reduce commuting-related emissions.

We promote sustainable transport for our employees via local car policies. For example, in Belgium we offer a mobility package to qualifying employees, allowing them to combine a company car with public transport. All new company cars must be hybrid or electric.

KPIS, MONITORING & REPORTING

Key Performance Indicators

Scope 1 and 2					
Absolute Emissions		**Adjusted Baseline**	**FY2021**	**FY2022**	**FY2023**
Total Scope 1 GHG Emissions	tonnes of CO_2 equivalent (tCO_2eq)	284,532	284,532	265,646	221,385
Total Scope 2* GHG Emissions (market-based)		187,389	187,389	158,422	147,155
Total Scope 2* GHG Emissions (location-based)		157,835	157,835	145,116	136,589
Energy Consumption		**Adjusted Baseline**	**FY2021**	**FY2022**	**FY2023**
Total Energy Consumption**	MWh	2,055,209	2,055,209	1,930,996	1,721,136
Total Renewable Energy*** Consumption		27,681	27,681	28,972	32,940
Total Biomass Energy Consumption		226,552	226,552	219,501	207,201
Financial Intensity KPI		**Adjusted Baseline**	**FY2021**	**FY2022**	**FY2023**
CO_2 Financial Intensity Scope 1&2	kg CO_2eq/€ ex-works revenue	0.34	0.34	0.27	0.21

Scope 3					
Absolute Emissions		**Adjusted Baseline**	**FY2021**	**FY2022**	**FY2023**
Total Gross Scope 3 GHG Emissions	tonnes of CO_2 equivalent (tCO_2eq)	10,478,687	10,478,687	9,158,157	8,136,473
Total Gross Scope 3 Upstream GHG Emissions		1,868,284	1,868,284	1,671,448	1,637,002
Total gross Scope 3 Downstream GHG Emissions		8,610,402	8,610,402	7,486,709	6,499,471
Engagement KPI		**Adjusted Baseline**	**FY2021**	**FY2022**	**FY2023**
Percentage of customers and logistic suppliers, by emissions, committing to SBTi****	%	7%	7%	17%	26%

** In the Market-based (MB) approach, the emission factors are derived from the power suppliers. Redeemed EACs (Energy Attribute Certificates) are accounted.*

*** Total Energy Consumption includes the electricity self-generated and self-consumed by renewable energy sources and cogenerators.*

**** The total includes self-usage from wind turbines, solar panels (roof mounted, ground mounted, floating) and gravitational energy recovery systems.*

***** The engagement KPI is calculated based on the commitment date reported on SBTi website.*

KPIS, MONITORING & REPORTING

Key Performance Indicators

Scope 3 Categories					
Absolute Emissions		**Adjusted Baseline (biogenic)**	**FY2021 (biogenic)**	**FY2022 (biogenic)**	**FY2023 (biogenic)**
Category 1: Purchased Goods and Services	tonnes of CO_2 equivalent (tCO_2eq)	305,416 (0)	305,416 (0)	294,026 (0)	343,060 (0)
Category 2: Capital Goods		47,340 (0)	47,340 (0)	46,035 (0)	45,064 (0)
Category 3: Fuel- and Energy-Related Activities		63,699 (0)	63,699 (0)	58,177 (0)	50,908 (0)
Category 4: Upstream Transportation and Distribution		1,325,235 (0)	1,325,235 (0)	1,150,676 (0)	1,066,190 (0)
Category 5: Waste Generated in Operations		118,163 (0)	118,163 (0)	106,181 (0)	112,882 (0)
Category 6: Business Travel		4,286 (0)	4,286 (0)	12,515 (0)	15,335 (0)
Category 7: Employee Commuting		4,146 (0)	4,146 (0)	3,839 (0)	3,563 (0)
Category 8: Upstream Leased Assets		-	-	-	-
Category 9: Downstream Transportation and Distribution		999,750 (0)	999,750 (0)	882,175 (0)	843,689 (0)
Category 10: Processing of Sold Products		7,344,838 (0)	7,344,838 (0)	6,335,965 (0)	5,414,435 (0)
Category 11: Use of Sold Products		0	0	0	0
Category 12: End-of-Life Treatment of Sold Products		265,815 (0)	265,815 (0)	268,569 (0)	241,347 (0)
Category 13: Downstream Leased Assets		-	-	-	-
Category 14: Franchises		-	-	-	-
Category 15: Investments		-	-	-	-

CALCULATION METHODOLOGY*

Our decarbonisation strategy is based on robust facts and figures. GHG emissions were calculated following the GHG Protocol with the support of an external partner experienced in climate change topics. Our CO_2 framework and inventory have been checked by a revisor. Relevant GHG emissions are monitored for their entire scope. We have applied operational boundaries to our inventory, meaning that all Sibelco's subsidiaries over which we have operational control are included.

We rely as much as possible on primary raw data and try to improve data quality year-over-year. The next steps will involve refinement with real data for categories 10 (Processing of Sold Products), 4-9 (Upstream & Downstream Transportation), 2 (Capital Goods) and 6 (Business Travel).

Emissions are always reported in CO_2 equivalent, including all the GHG components - CO_2, CH_4, N_2O, HFCs, PFCs, SF6.

We perform an annual base year adjustment following our verified base year recalculation policy. This guarantees transparent like-per-like comparison.
Click here for link to policy

2021 was selected as the base year, as this was the most recent full-year period representative of our business.

**Remark : the GHG quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.*

The base year recalculation accounts for the following modifications

- Divestments (Russian Operations, Asia Lime, Abrasives, Sibelco Workshop Borgo)
- New acquisitions (Recyverre, Krynicki, Kremer Zand en Grind, Echasa S.A., Bassanetti Group)
- Increased quality level and coverage of in the Market Based emission factors hierarchy
- Updated refrigerants emission factors according to IPCC AR6
- Consolidation of energy data and waste generated via specific surveys
- Recalculation of "Category 4: Upstream Transportation and Distribution" and "Category 9: Downstream Transportation and Distribution" including real land and maritime distances
- Recalculation of "Category 3: Fuel- and Energy-related Activities" of 2021 aligning the methodology to IEA emission factors
- Refinement of "Category 6: Business Travel"

4 new greenfield sites - Act&Sord (BE), San Cesario (IT), Alipasa (TR), Trani (IT) - and 1 acquisition not operating in 2021 - Ravenna Plant (ITA) - are part of organic growth and do not therefore trigger any base year recalculations.

MONITORING AND REPORTING

We have a GHG monitoring inventory in place to collect emissions data in accordance with GHG protocol. We update our full inventory at least once per year while scope 1 & 2 emissions are calculated on monthly basis via an automatic system based on PEER (our energy and efficiency monitoring system). Scope 1 and 2 emissions are then related to financial figures to build KPIs which are closely and frequently analysed to ensure we quickly act as soon as a deviation is identified.

We also monitor supplier/customer engagement via input from our commercial/supply chain teams and track progress quarterly.

We share our GHG emissions data internally with all employees, and externally via this report and as part of our Annual Report.

ANALYSIS OF RESULTS

Our GHG emissions show a decreasing trend in absolute terms supported by strong financial results, leading to a significant reduction in the financial metric too. Our 2023 results are already close to or better than our 2030 target.

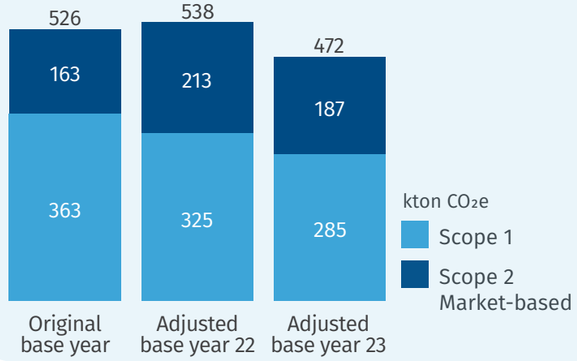
Whilst we are pleased with this performance, it is important to note that in addition to successful completion of multiple decarbonisation projects, our 2023 achievements were positively affected by changes to our product portfolio and production volumes, both of which have a non-recurring impact. It is therefore possible that our emissions could increase in future years, whilst still retaining our ambition to reach our 2030 target in a sustainable manner.

CARBON REMOVAL

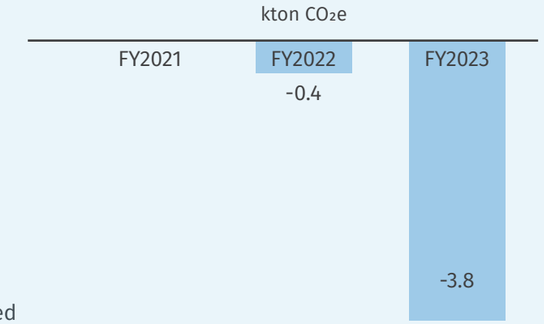
Some of our products capture CO_2 from the atmosphere via a process known as enhanced rock weathering (ERW). We are developing a calculation methodology to allow us to integrate this contribution in our footprint calculations in alignment with the GHG Protocol Land Sector and Removals Guidance Draft under Reference Category 11: Use of Sold Products. Carbon emissions removal is not included in the inventory, but reported separately below.

For now, calculations are made using adopted numbers of CO_2 captured via ERW. We are currently developing a more robust approach which includes life cycle assessment calculations.

Base Year Adjustments



Carbon Removal Scope 3 - Use of Sold Products



SIBELCO

METHODOLOGY

SCOPE 1		
Scope 1	It includes direct emissions from fossil fuel burnt (gas, gasoil, fuel oil, coal), from biomass (excluding biogenic CO_2), explosives, refrigerants refill and other direct emissions (e.g. fugitives). It includes company cars, for which emissions are calculated based on distances. Local energy consumption is monitored monthly, ensuring reconciliation with invoices, then centrally consolidated via a customised system called PEER. Other non-energy related data is collected annually via questionnaires. Emission factors are derived from DEFRA database (yearly update) and IPCC6 AR	
SCOPE 2		
Scope 2 Market Based	Purchased electricity from the grid is locally monitored each month ensuring reconciliation with invoices, then centrally consolidated via a customised system called PEER. Office and warehouse consumption, not being material, are estimated based on footprint. Emission factors are directly communicated from the suppliers and, according to the country rules, we might include the residual mix, the supplier mix without renewables, the supplier mix with the amount of renewables not sold via GOs. In case of unavailability of specific emission factors, the Location Based Emission factor is adopted. Emission factors are generally updated in the year+1.	
Scope 2 Location Based	Purchased electricity from the grid is monitored locally each month ensuring reconciliation with invoices, then centrally consolidated via a customised system called PEER. Office and warehouse consumption, not being material, is estimated based on footprint. Emission factors are derived from the IEA database, which are updated in year+1.	
SCOPE 3		% of data from suppliers/ partners
Category 1: Purchased Goods and Services	The purchase of raw material is accounted considering the volumes acquired and location of provenience per each facility. According to the typology of raw material, EcoInvent v3.8 "production" GWP 100 emission factors are applied. If unavailable, the best proxy is considered. For material to be recycled, "0" emissions are accounted (e.g. municipal waste or glass disposed). To account for the remaining "purchased goods and services", financial inputs from the P&L are used and Exiobase emissions factors per country applied. Main categories are packaging, auxiliary material, and third-party services.	**0%**
Category 2: Capital Goods	All capital expenditures including mobile and non-mobile equipment which occur in the reference year are considered. Exiobase emission factors per country are applied.	**0%**
Category 3: Fuel- and Energy-Related Activities	Energy consumption reported for Scope 1 and 2 is used as reference. For scope 1, DEFRA WTT (Well-to-Tank) emission factors apply, while for scope 2 IEA T&D (transmission and distribution losses) and trade adjustments, emission factors are accounted.	**0%**
Category 4: Upstream Transportation and Distribution	Includes both the insourcing of raw material and all transportation Sibelco pays for (including intercompany logistics). Data sources are the sales summary and the overview of the insourced raw materials. The real travelled distance is calculated between Sibelco facilities and the destinations/origins based on the longitude/latitude. If precise location is not available, country capital city is considered. If a more detailed distance (e.g. truck distance) is recorded in our ERP system, this average mileage has priority over the real travelled distance. Main maritime routes are also included, firstly following the ship's travel distance for the reference journey or, if not available, the distance between the two ports. In few cases without any real mileages, the direct distance between two locations plus a correction factor is accounted. Different typologies of means of transportation (e.g. truck, train, vessel) are associated to each transportation leg according to the indication for the ERP or the location of the two points and controls on data quality are defined. WTW (Well-to-Wheel) emission factors expressed in ($kgCO_2e/t*km$) are imported from the DEFRA database.	**0%**
Category 5: Waste Generated in Operations	The amount of annual waste produced by Sibelco operations is recorded annually via questionnaires and centrally consolidated. Major waste categories as part of hazardous and non-hazardous and the treatment processes are the criteria applied to classify the waste typology. DEFRA emission factors are applied.	**0%**
Category 6: Business Travel	Business travel is calculated on spent base per country multiplied by Exiobase emission factors	**0%**
Category 7: Employee Commuting	Average distance between private houses and workplace has been assessed in a pilot study in Belgium, taking also into consideration the share between means of transportation. The results have been extrapolated to the employees of the whole company. DEFRA emission factors are applied.	**0%**
Category 8: Upstream Leased Assets	Not relevant for Sibelco. Leased assets are accounted in our Scope 1 and 2	**-**
Category 9: Downstream Transportation and Distribution	Includes all transportation Sibelco's customers pay for. Data sources are the sales summary. The real travelled distance is calculated between Sibelco facilities, and the destinations/ origins based on the longitude/latitude. If precise location is not available, country capital city is considered. If a more detailed distance (e.g. truck distance) is recorded in our ERP system, this average mileage has priority over the real travelled distance. Main maritime routes are also included firstly following the ship's travel distance for the reference journey or, if not available, the distance between the two ports. In few cases without any real mileages, the direct distance between two locations plus a correction factor is accounted. Different typologies of means of transportation (e.g. truck, train, vessel) are associated to each transportation leg according to the indication for the ERP or the location of the two points and controls on data quality are defined. WTW (Well-to-Wheel) emission factors expressed in ($kgCO_2e/t*km$) are imported from the DEFRA database.	**0%**
Category 10: Processing of Sold Products	Data source is the sales report including the amount of material sold per market segment per customer. For each market, three main pieces of information are calculated from EcoInvent v3.8 database: Scope 1 emissions per tonne, electricity used, % of Sibelco products in the batch starting from the most representative bills of material. The IEA Scope 2 emissions factors are applied to the power consumptions according to the country of the customer. The total emissions per customer are estimated multiplying the sum of Scope 1 and 2 emissions per unit of volume by the % of Sibelco material in the batch by the amount of volume sold to the customer itself based on the market segment to which it belongs. Subtotals and totals are obtained from the consolidation of the single values	**0%**
Category 11: Use of Sold Products	Not included in the inventory but accounted separately. The use of our products does not generate emissions by itself, but it might contribute to carbon capture in some specific cases. According to the GHG Carbon removal guidance, the values can be reported but not accounted into the inventory. Currently, the impact is limited but it is expected to grow as the accounting methodology is refined (full LCA).	**-**
Category 12: End-of-Life Treatment of Sold Products	Data source is the sales report including the amount of material sold per market segment per customer. Based on the market and products made, the most probable end-of-life treatment is identified (e.g. recycling, landfilling, incineration) and the DEFRA emission factors applied.	**0%**
Category 13: Downstream Leased Assets	Not relevant for Sibelco. Leased assets are accounted in our Scope 1 and 2.	**0%**
Category 14: Franchises	Not relevant for Sibelco. No franchises in place.	**-**
Category 15: Investments	Not significant for Sibelco. Operational boundaries apply to Sibelco CO_2 inventory. The joint ventures that are out of the boundaries contribute < 0.5% of the total carbon footprint.	**-**
OUTSIDE OF SCOPES		
Out of scopes	Biogenic CO_2 emissions are derived from the combustion of biomass and biofuel. DEFRA emission factors apply. Biogenic CO_2 removal is reported separately and accounted only if certificates of sustainable forestry management are obtained.	

SUSTAINABLE PRODUCTS

Our minerals are used to create solutions that tackle climate change, such as solar panels, wind turbines and building insulation materials. And as we shift towards a circular economy, we are finding new ways to introduce more secondary materials to our portfolio.

Sibelco is already Europe's leading glass recycler. Every year we transform over 3 million tonnes of waste glass into high-quality cullet which is used to make brand new glass and other products. This ensures that less glass waste goes to landfill, whilst reducing the amount of primary raw materials needed to make new glass. It takes considerably less energy to melt recycled glass (cullet) than it takes to melt raw materials – every 1,000 tonnes of cullet used during the glass manufacturing process saves approximately 314 tonnes of CO_2.

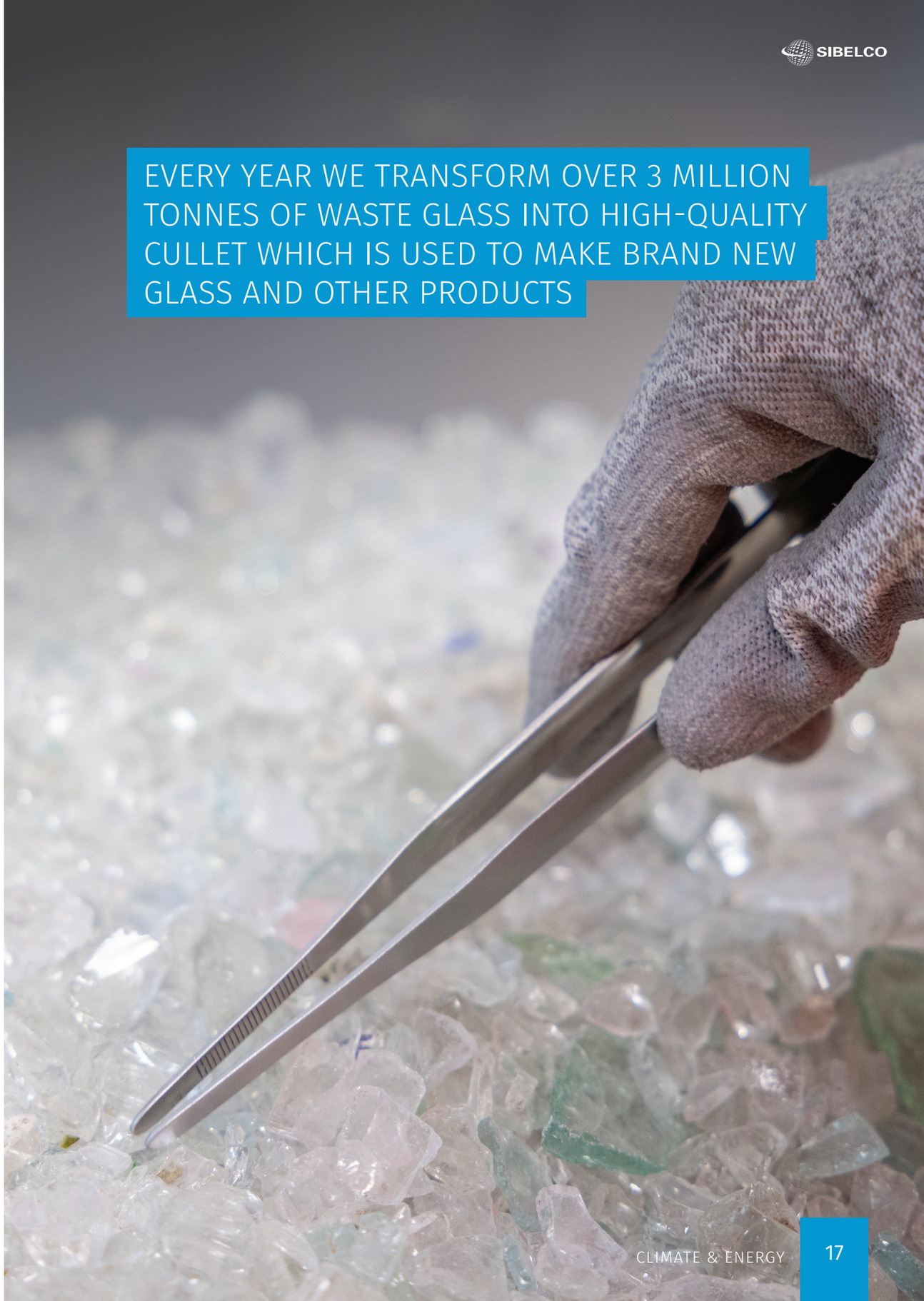
In April 2022 we opened our new glass recycling facility at San Cesario sul Panaro (IT). The state-of-the-art plant combines established decarbonisation technologies (such as roof mounted solar panels) with new innovations, including partial dryer by-pass and capacity maximisation via detection cameras. This enables us to maximise production yields whilst minimising waste and environmental impact.

Other examples of secondary raw material solutions include a new process (developed at our Maastricht site) which recycles waste generated from fibreglass manufacturing. The recycled material is returned to our customers to replace primary raw materials in the production of new fibreglass, resulting in a 30% reduction in CO_2 emissions.

Our goal is to increase the percentage of company revenue generated from products supporting the circular economy to at least 20% by 2030.

We are currently exploring the use of olivine as a carbon removal technology with three projects underway. The first is assessing the potential of olivine to remove atmospheric CO_2 and to counteract ocean acidification through enhanced silicate weathering. In an exciting phase of this project, in June this year provided a first consignment of 10,500 tonnes of olivine to Eion, a US-based company that works with farms to remove CO_2 from the atmosphere and improve soil health through a process known as enhanced rock weathering.

A second project is looking at the transformation of CO_2 into valuable products via mineral carbonation, whilst the third project is experimenting with production of magnesium hydroxide from olivine



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