

2022

Task Force on
Climate-related Financial
Disclosures Report



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About this report

Viohalco S.A., headquartered in Belgium, serves as the holding company for prominent metal processing firms engaged in the sustainable production of aluminium, copper, cables, steel, and steel pipes. These Viohalco companies offer a diverse array of high-quality and innovative products to various markets, including construction, packaging (rigid, semi-rigid, and flexible), transportation (automotive, shipbuilding, and rail), energy and power networks (offshore energy, utilities, power grids, renewable energy, gas, and liquid fuels), HVAC&R (heating, ventilation, air conditioning, and refrigeration), water supply, telecommunications, printing, and industrial applications.

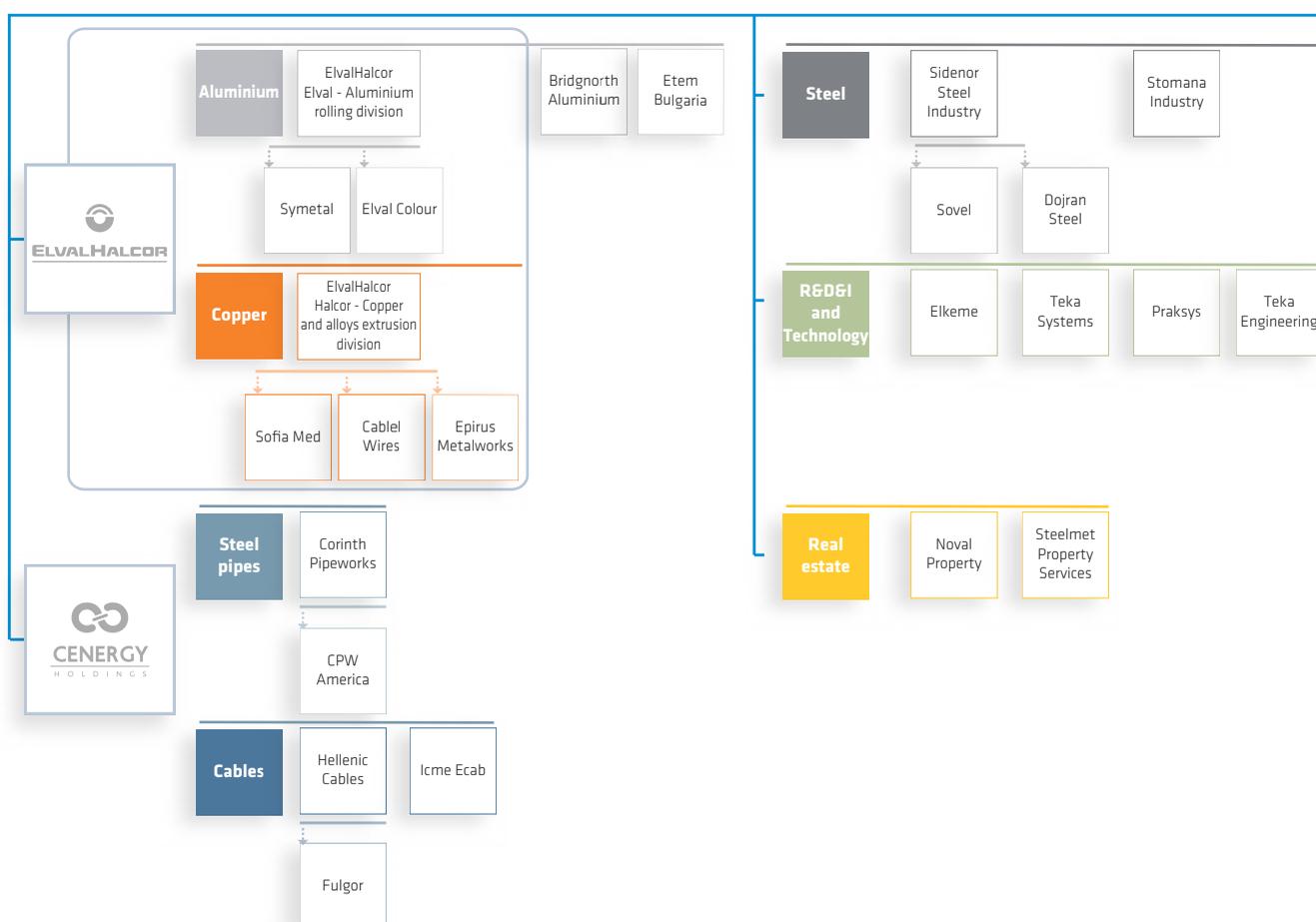
To uphold superior product and service quality, Viohalco places a strong emphasis on dedicated research, development, and innovation (R&D&I) in its technology segment. This involves product innovation, industrial research, technological development, engineering applications, and ERP application services. Additionally, Viohalco actively participates in the real estate sector, primarily in Greece, through a leading Real Estate Investment Company (REIC). The real estate segment not only engages in property investment but also provides an extensive range of real estate, property, and facility management services to Viohalco subsidiaries.

Viohalco operates production facilities in Greece, Bulgaria, the United Kingdom, Romania, and North Macedonia, with additional investments in production facilities located in Turkey, Russia, and the Netherlands. These facilities are complemented by a robust marketing and sales network comprising commercial subsidiaries, agents, and distributors. This extensive network enables Viohalco companies to offer comprehensive customer support on a global scale.

Across all its business segments, Viohalco companies are dedicated to providing products and services that align closely with the current global sustainability trends. This commitment allows them to meet the evolving needs and expectations of customers and operate as responsible corporate citizens in a sustainable manner. These sustainability trends encompass various aspects, such as the growing emphasis on a low-carbon circular economy, which drives the demand for easily recyclable products with high recycled content. There is also a clear transition away from fossil fuel consumption towards climate neutrality by adopting renewable energy sources. Sustainable urbanization is another important trend, leading to the rise of energy-efficient buildings and the adoption of e-mobility. Furthermore, ongoing technological advancements play a crucial role.

Viohalco companies have developed a significant portfolio of products and solutions that directly address these sustainability trends. These offerings include recyclable aluminium packaging made from secondary raw materials, lightweight and energy-efficient aluminium products, copper products with high recycled content for energy efficiency and digital applications, circular construction steel products, cables that facilitate the deployment of renewable energy, steel pipes to support the energy transition, and the development of more sustainable buildings, among others.

Viohalco is structured into seven distinct business segments, under which it operates.



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Segment	Description
Aluminium	<p>The aluminium segment of Viohalco is comprised of several entities, namely the aluminium rolling division known as Elval, as well as its subsidiaries Symetal S.A., Elval Colour S.A., Vepal S.A., Bridgnorth Aluminium Ltd, Etem Bulgaria S.A. Within this segment, the primary focus lies in leveraging advanced metallurgy, rolling, and extrusion expertise to develop customized aluminium products that deliver long-term value.</p> <p>These products encompass both flat rolled and extruded aluminium and cater to a diverse range of high-end markets, including packaging, transportation, building and construction, HVAC&R, printing, energy, industrial applications, and engineering applications.</p>
Copper	<p>Viohalco's copper and alloys extrusion division, known as Halcor, is responsible for the manufacturing of various copper, brass, and high-performance copper alloy products, as well as titanium zinc products. This division works in conjunction with subsidiary companies such as Sofia Med S.A., Epirus Metalworks S.A., Cable Wires S.A., and engages in joint ventures such as NedZink BV and HC Isitma. With a rich history and a proven track record, the copper and alloys extrusion division consistently develops products that enhance its global market presence.</p> <p>Halcor, along with its subsidiary companies in the copper segment, delivers innovative and value-added solutions. The primary product categories encompass copper tubes, rolled copper alloy products, and extruded copper alloy products that find applications in various fields. These applications include plumbing, HVAC&R, renewable energy, construction, engineering, automotive and industrial sectors, fish farming, production of coin blanks, as well as the manufacturing of enamelled wires.</p>
Steel pipes	<p>Corinth Pipeworks S.A. (referred to as "Corinth Pipeworks") is a highly regarded supplier of steel pipes and hollow sections to the energy and construction industries. They possess a manufacturing plant in Greece and boast extensive expertise in successfully executing complex projects worldwide.</p> <p>Corinth Pipeworks specializes in three primary product categories:</p> <ul style="list-style-type: none"> • Steel pipes designed for onshore and offshore pipelines, catering to the transportation of gases, liquid fuels, CO₂, and hydrogen. These pipes are manufactured using advanced techniques such as high-frequency induction welding (HFW), helically submerged arc welding (HSAW), or longitudinal submerged arc welding (LSAW/JCOE). • Casing steel pipes, which play a crucial role in exploratory drillings (known as OCTG). • Hollow structural sections that find applications in the construction sector, providing essential support and structural integrity to various building projects.
Cables	<p>Viohalco's cables segment consists of three entities: Hellenic Cables S.A., its Greece-based subsidiary Fulgor S.A., and Romania-based Icme Ecab S.A. Collectively, these companies are referred to as the "Hellenic Cables companies." They specialize in the manufacturing of land and submarine power cables, telecommunication cables, and compounds. As a collective entity, they hold the distinction of being the largest cable producer in Greece and Southeastern Europe, with their products being exported to more than 50 countries. One of the notable advantages of the Hellenic Cables companies is their capability to offer comprehensive turnkey solutions to their customers.</p>

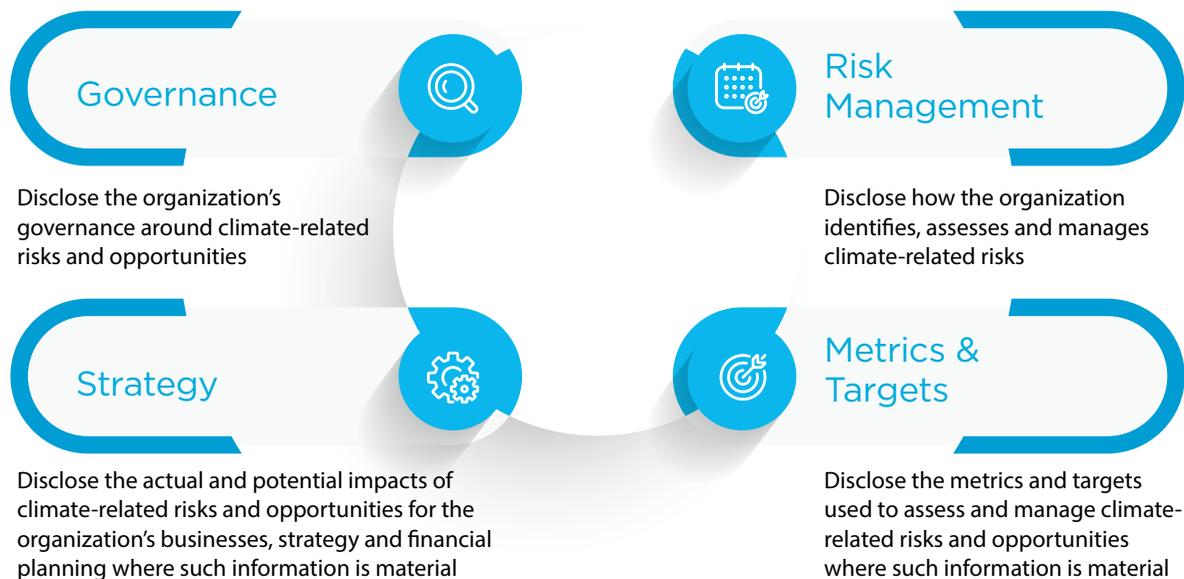
Segment	Description
Steel	<p>Sidenor Steel Industry S.A., Stomana Industry S.A., and their respective subsidiaries are renowned as leading steel product manufacturers in Southeastern Europe. With over 70 years of experience, these companies possess significant expertise in the production and distribution of steel products. Their extensive product portfolio encompasses long, flat, and downstream steel products.</p> <p>The steel segment companies are committed to delivering value-added products and solutions across various industries. These industries include building and construction, mechanical engineering, shipbuilding, road and rail infrastructure, automotive manufacturing, as well as mining and tunneling applications. To optimize operational efficiency, commercial flexibility, and productivity, the steel segment has implemented the following operational structure:</p> <ul style="list-style-type: none"> • Mini-mills: These are small-scale steel mills that employ electric arc furnace technology for the production of steel. • Downstream operations: This involves processing steel products to enhance their quality and adapt them for specific applications. • Sales and distribution: This component focuses on the effective marketing, sales, and distribution of steel products to customers and markets.
R&D&I and Technology	<p>Within its subsidiaries, Viohalco's portfolio comprises specialized research, development, and innovation (R&D&I) companies and centers. These entities play a crucial role in fostering sustainable growth by focusing on the development of innovative and high value-added products. Additionally, they strive to create efficient solutions for optimizing industrial and business processes. Moreover, these centers conduct research into the environmental performance of Viohalco's manufacturing plants, emphasizing their commitment to environmental sustainability.</p>
Real estate	<p>Viohalco, utilizing its prominent Real Estate Investment Company (REIC) called Noval Property, focuses on generating value through strategic investments and commercial development of office, logistics, retail, hospitality, and residential buildings. These activities primarily take place in Greece. Additionally, Viohalco's subsidiary, Steelmet Property Services S.A., offers an extensive array of real estate services to support the operations of its subsidiaries.</p> <p>Noval Property maintains a diversified portfolio consisting of 62 premium properties, including a participation in a real estate company. These properties are predominantly situated in Greece, with selective investments in Bulgaria. The portfolio encompasses various types of assets, such as office buildings, shopping centers, logistics facilities, residential properties, and hotels, collectively covering an extensive built-up area of approximately 465,000 square meters.</p> <p>To support Viohalco and its subsidiary companies, Steelmet Property Services offers a comprehensive range of centralized real estate, property, and facility management services.</p>

TCFD implementation

In light of the prevailing challenges posed by climate change, energy efficiency, and the circular economy, Viohalco and its subsidiaries are fully committed to actively addressing and managing these issues. The subsidiaries are dedicated to continually reducing their carbon emissions and environmental impact by implementing specific procedures and initiatives.

This report represents Viohalco subsidiaries' inaugural effort in addressing climate-related risks for the financial year 2022, aligning with the recommendations put forth by the Task Force on Climate-related Financial Disclosures (TCFD). By adhering to these recommendations, the subsidiaries aim to accelerate their decarbonization endeavors while enhancing their accountability and transparency among stakeholders.

The TCFD recommendations were introduced in 2017 to promote standardized and comparable reporting on climate change risks and opportunities. These recommendations focus on four key areas: Governance, Strategy, Risk Management, and Metrics & Targets. They encompass eleven specific recommendations that outline the necessary disclosures within each area. This report comprehensively covers all four areas and provides information pertaining to all eleven recommendations.



Through this report, Viohalco and its subsidiaries aim to disclose the information on each of these four pillars and the way, in which they integrated the TCFD recommendations in their overall business strategy and risk management framework. The TCFD recommendations have been implemented on all 5 industrial segments of Viohalco (aluminium, copper, cables, steel pipes, steel) including the subsidiaries with the largest production facilities, as well as the Real Estate segment.

Governance

Decision making regarding climate change matters places significant emphasis on climate governance. To facilitate discussions and decision-making on Sustainability (Environmental, Social, and Governance) matters, an ESG Working Group has been temporarily established. This group supports the Board by providing updates and insights on recent developments in sustainability. Together with the Audit Committee, they jointly report to the Board. To drive the implementation of the Sustainability Strategy and initiate new sustainability initiatives, an executive management team at Steelmet Corporate Services, a subsidiary of Viohalco, holds regular meetings. This team focuses on monitoring progress and addressing sustainability-related matters.

Furthermore, each subsidiary has designated a sustainability coordinator responsible for coordinating various functions, facilitating relevant actions, and providing semi-annual progress reports. These coordinators ensure that the Company's pursuit of organic growth and economic success is achieved without compromising fair competition, safe working conditions, or environmental compliance and protection. Viohalco maintains a strong commitment to addressing climate risks and identifying opportunities in a purposeful manner. The company actively engages in efforts to determine the most effective approach to tackling these challenges.

Strategy

Viohalco and its subsidiaries are dedicated to sustainability. The subsidiaries actively strive to promote environmentally friendly methods and techniques, with a focus on developing products that exert a positive environmental influence throughout their entire life cycles. Additionally, they prioritize enhancing their environmental performance, operational health and safety, as well as emphasizing the development of human capital.

Following a continuous improvement approach, Viohalco subsidiaries establish sustainability goals and targets that encompass the entire sustainability spectrum. These goals and targets are seamlessly incorporated into their day-to-day business operations. Recognizing that long-term business growth and social prosperity can only be achieved by integrating sustainability principles into the business model of all companies, Viohalco and its subsidiaries uphold the vital importance of sustainability in driving their operations forward.

In the past year, Viohalco has achieved notable progress in sustainability, establishing a comprehensive framework for its subsidiaries to operate within. This framework is based on the Environmental, Social, and Governance Roadmap, which outlines the company's Sustainability Strategy. The roadmap was developed through a thorough assessment of risks and opportunities, which were then integrated into the overall business strategy.

The Sustainability Strategy encompasses seven core corporate policies that address environmental, social, and governance aspects. To ensure effective implementation, a range of qualitative and quantitative metrics, along with internal and external controls for due diligence and regulatory compliance, are employed to monitor these policies.

Moreover, the Sustainability Strategy sets specific objectives for Viohalco's industrial subsidiaries. These include progressively replacing electricity supply with renewable energy sources (RES), committing to short and long-term carbon reduction targets, assessing top-tier suppliers based on their sustainability practices, and implementing a five-year plan to enhance health and safety measures. By implementing this robust Sustainability Strategy and continuously monitoring its progress, Viohalco demonstrates its commitment to advancing sustainability across its operations.

Viohalco and its subsidiaries utilize climate-related trends, as well as the associated risks and opportunities, to shape their strategic perspective and planning on climate matters. Through careful analysis, for each of the business segments, the most material risks and opportunities relating to the climate that could have a potential material financial impact on its activities, have been identified. These risks and opportunities, presented in the following tables, are considered in defining the strategy, financial planning and day-to-day operation.

Aluminium segment

Climate-related risks					
Type	Category	Title	Description	Time horizon	Impact and management
Transition	Technology	Increase in energy prices due to climate change policies	Higher operational cost due to the increase of electricity price, resulting from increased RES contribution, cost of energy storage and higher cost of carbon allowances	Short/medium-term (0-10 years)	Energy prices are increasingly volatile, both from the increased volume of RES entering the system, cost of storing energy and from initiatives to reduce CO ₂ emissions through market mechanisms such as cap-and-trade schemes and other regulatory initiatives. Long term, green PPAs have the potential to ensure long term stable prices for low carbon energy but more tools are needed in order to ascertain 24-hr availability of electricity at predictable prices. Improving energy footprint is another way to mitigate the risk of increased energy prices and this can be achieved through energy efficiency projects, process improvements and technology investments.
Transition	Policy and Legal	Carbon taxes (CBAM)	Increased raw materials purchasing costs due to additional taxes imposed by CBAM. Potential for lack of competitiveness due to circumvention of taxes by importers.	Short/medium-term (0-10 years)	From CBAM's introduction, businesses are expected to face impacts on business from the carbon taxes imposed to aluminium imports. The aluminium segment companies are committed to preparing to adapt to the upcoming changes by mapping the different scenarios and implications of CBAM on the business through various suppliers. This will be achieved by reviewing the global supply chain, evaluating the overall impact on the business activity, and assessing carbon footprint of suppliers and potential effect of CBAM to the increased cost in the supply chain. The aluminium segment companies are monitoring the implementation of CBAM rules and how these may affect trade intensities and competitiveness with third country producers. These risks may be mitigated through close collaboration with trade associations and EU authorities in an effort to point out necessary adjustments to ensure a level-playing field.
Transition	Policy and Legal	Effect of ETS	Gradual decrease of free EU Allowances starting in 2026	Short/medium-term (0-10 years)	Free EU Allowances will be decreased gradually starting in 2026. Indirectly, the cost of thermal energy will increase as the consumption of natural gas results to carbon emissions. For aluminium products, this directly affects the operational cost. Energy efficiency measures are implemented on an on-going basis in order to decrease energy footprint and mitigate this effect.

Climate-related risks

Type	Category	Title	Description	Time horizon	Impact and management
Physical	Acute	Adverse weather events	Adverse weather events (such as extreme low/high temperature, flooding due to heavy rainfall, heavy snowfall) may lead to significant disruptions in the production process, supply chain and transportation routes, and customer deliveries.	Long-term (10+ years)	Risks related to increased severity of extreme weather events that may impact the company's activities and key customers/suppliers. The aluminium segment companies continue to implement a loss prevention program at all aluminium production plants, which seeks to foresee and mitigate material losses and stoppages, such as by monitoring long term weather patterns.
Physical	Chronic	Water availability	Shortage of water may hinder the company's production activities resulting from the changes in precipitation patterns in the long run due to climate change and warmer temperatures. Increased electricity consumption for full recycling of water will increase operational costs and indirect carbon emissions.	Long-term (10+ years)	The availability of freshwater for production purposes is a major water- management related risk. The aluminium segment is relatively water-intensive and therefore treat the water supply risk as a business continuity issue that can ultimately have a financial impact. The risk is mainly mitigated through continuous efforts to improve water intensity through technological advancements (ie. Closed-loop cooling systems) or have alternative sources of water.

Climate-related opportunities

Type	Description	Time horizon	Impact and management
Products & services	New circular and low carbon products – Recycled materials (circular economy)	Short/medium-term (0-10 years)	The aluminium segment companies promote and implement the principles of circular economy, constantly increasing the use of aluminium that is sourced from products at the end of their life cycle, and design recyclable products that can return to the value chain and reduce primary aluminium needs, subsequently avoiding energy and carbon footprint.

Copper segment

Climate-related risks					
Type	Category	Title	Description	Time horizon	Impact and management
Transition	Technology	Increase in energy prices due to climate change policies	Higher production cost due to the increase of the electricity price resulting from increased RES contribution, cost of energy storage and higher cost of carbon allowances.	Short/medium-term (0-10 years)	Energy prices are increasingly volatile, both from the increased volume of RES entering the system, cost of storing energy and from initiatives to reduce CO ₂ emissions through market mechanisms such as cap-and-trade schemes and other regulatory initiatives. Long term green PPAs have the potential to ensure long term stable prices for low carbon energy but other factors need to be addressed in order to ascertain around-the-clock availability at predictable prices. Improving energy footprint is another way to mitigate the risk of increased energy prices and this can be achieved through energy efficiency investments.
Transition	Policy and Legal	Effect of ETS	Gradual decrease of free EU Allowances once copper enters CBAM.	Short/medium-term (0-10 years)	Free EU Allowances will be decreased gradually once copper enters CBAM like other materials. This is expected to take place around 2030. Indirectly, the cost of thermal energy will increase as the consumption of natural gas causes carbon emissions. For copper products, this directly affects the production cost. Energy efficiency measures will be further explored in order to mitigate this effect.
Physical	Acute	Adverse weather events	Adverse weather events (such as extreme low/high temperature, flooding due to heavy rainfall, heavy snowfall) may lead to significant disruptions in the production process, supply chain and transportation routes, and customer deliveries.	Long-term (10+ years)	Risks related to increased severity of extreme weather events that may impact the company's activities and key customers/suppliers. The copper segment companies continue to implement a loss prevention program at all copper production plants, which seeks to foresee and mitigate material losses and stoppages, such as by monitoring changes in the weather.
Physical	Chronic	Water availability	Increased electricity consumption for full recycling of water will increase cost. Shortage of water may hinder the company's production activities resulting from the changes in precipitation patterns in the long run due to climate change and warmer temperatures.	Long-term (10+ years)	The availability of freshwater for production purposes is a major water management-related risk. The copper segment is relatively water-intensive and therefore treat the water supply risk as a business continuity issue that can ultimately have a possible material financial impact (negative impact on the company). The risk is mainly mitigated through continuous efforts to improve the water footprint of the companies and have multiple sources of water, so there are alternative sources of supply.

Climate-related opportunities

Type	Description	Time horizon	Impact and management
Products & services	New circular and low carbon products – Recycled materials (circular economy)	Short/medium-term (0-10 years)	The copper segment companies promote and implement the principles of the circular economy, constantly increasing the use of copper that is sourced from collecting products at the end of their life cycle, so that they can return to the value chain. The waste materials that reenter the loop include both post-consumer and pre-consumer scrap for copper.
Products & services	New product - Pipes for HVAC (heating, ventilation and air-conditioning)	Short/medium-term (0-10 years)	The copper segment companies are already producing copper pipes to enable energy efficient HVAC systems which contribute to the transition to a low carbon economy. Furthermore, the subsidiary Sofia Med produces copper products used in various applications of EV and digital technologies. The copper segment companies are aiming to continue to do so and explore expanding its product offering to be able to further assist customers.

Steel segment

Climate-related risks					
Type	Category	Title	Description	Time horizon	Impact and management
Transition	Technology	Increase in energy prices due to climate change policies	Higher production cost due to the increase of the electricity price resulting from increased RES contribution and energy storage and higher cost of carbon allowances.	Short/medium-term (0-10 years)	Energy prices are increasingly volatile, both from the increased volume of RES entering the system and from initiatives to reduce CO ₂ emissions, cost of storing energy through market mechanisms such as cap-and-trade schemes and other regulatory initiatives. Long term green PPAs have the potential to ensure long term stable prices for low carbon energy but other factors need to be addressed in order to ascertain 24-hr availability of electricity at predictable prices. Improving energy footprint is another way to mitigate the risk of increased energy prices and this can be achieved through energy efficiency investments.
Transition	Policy and Legal	Carbon taxes (CBAM)	Potential for lack of competitiveness due to circumvention of taxes by importers.	Short/medium-term (0-10 years)	The Steel segment companies are monitoring the implementation of CBAM rules and how these may affect trade intensities and competitiveness with third country producers. These risks may be mitigated through close collaboration with trade associations and EU authorities in an effort to point out necessary adjustments to ensure a level-playing field.
Transition	Policy and Legal	Effect of ETS	Gradual increase of shortage regarding EU Allowances in 2026.	Short/medium-term (0-10 years)	Free EU Allowances will be decreased gradually starting in 2026. Indirectly, the cost of thermal energy will increase as the consumption of natural gas causes carbon emissions. For steel products, this directly affects the production process. Energy efficiency measures will be further explored in order to mitigate this effect.
Physical	Acute	Adverse weather events	Adverse weather events (such as extreme low/high temperature, flooding due to heavy rainfall, heavy snowfall) may lead to significant disruptions in the production process, supply chain and transportation routes, and customer deliveries.	Long-term (10+ years)	Risks related to increased severity of extreme weather events that may impact the company's activities and key customers/suppliers. The steel segment companies continue to implement a loss prevention program at all production plants, which seeks to foresee and mitigate material losses and stoppages, such as by monitoring changes in the weather.

Climate-related risks

Type	Category	Title	Description	Time horizon	Impact and management
Physical	Chronic	Water availability	Increased electricity consumption for full recycling of water will increase cost. Shortage of water may hinder the company's production activities resulting from the changes in precipitation patterns in the long run due to climate change and warmer temperatures.	Long-term (10+ years)	Water is an essential element of steel's production process, and its availability is important to the subsidiaries' business continuity. Water related risks are associated with the availability of adequate water in both quantity and quality. Water supply-related risks are considered from a financial and environmental perspective. The steel segment companies aim to mitigate water management risk and improve their water footprint by continuously monitoring water usage and try to optimize their consumption by eliminating losses and reusing water wherever possible.

Climate-related opportunities

Type	Description	Time horizon	Impact and management
Energy source	Leverage energy price fluctuations in prices from RES	Medium-term (5-10 years)	The steel segment has an increased flexibility in intermittent operation making it suitable for the intermittent production of RES. As such the steel segment subsidiaries can take advantage of the price fluctuations that arise from wider renewables deployment and operate during more favorable hours.

Cables segment

Climate-related risks					
Type	Category	Title	Description	Time horizon	Impact and management
Transition	Policy and Legal	Carbon taxes (CBAM)	Increased purchasing costs of aluminium and steel due to additional taxes imposed by CBAM. Competitors from abroad circumventing the costs of CBAM may gain competitive advantage.	Short/ medium-term (0-10 years)	From CBAM's introduction, businesses are expected to face increased cost on raw materials pricing. In addition, competitors from abroad that are not subject to increased costs of raw materials may gain a competitive advantage. The cables segment companies are committed to preparing to adapt to the upcoming changes by mapping the different scenarios and implications of CBAM on the business, while evaluating low carbon suppliers that will be subject to less CBAM related taxes. This will be achieved by reviewing the global supply chain, evaluating the overall impact on the business activity, and assessing carbon footprint of suppliers and potential effect of CBAM to the increased cost in the supply chain. The cables segment companies are monitoring the implementation of CBAM rules and how these may affect trade intensities and competitiveness with third country producers. These risks may be mitigated through close collaboration with trade associations and EU authorities in an effort to point out necessary adjustments to ensure a level-playing field.
Physical	Acute	Adverse weather events	Adverse weather events (such as extreme low/high temperature, flooding due to heavy rainfall, heavy snowfall) may lead to significant disruptions in the production process, supply chain and transportation routes, and customer deliveries.	Long-term (10+ years)	Risks related to increased severity of extreme weather events that may impact the company's activities and key customers/suppliers. The cables segment companies continue to implement a loss prevention program at all cables production plants, which seeks to foresee and mitigate material losses and stoppages, such as by monitoring changes in the weather.
Climate-related opportunities					
Type	Description	Time horizon	Impact and management		
Products & Services	Products enabling decarbonization of power through massive deployment of RES, electrification of transportation sector	Short/ medium-term (0-10 years)	The cables segment manufactures amongst other power and telecom cables for energy transmission and distribution industries. A great opportunity presents itself for the cables segment to enable the decarbonization of power as their products are enablers of the development of smart grids, supporting the electrification of transport, expansion of RES, etc.		
Products & Services	Development of products which have comparatively lower emissions across their entire life cycle	Short/ medium-term (0-10 years)	Shifts in consumer preferences in lower-carbon products is anticipated to significantly increase the demand for power cables with lower carbon footprint, including solutions with higher recycled content rates. A great opportunity presents itself for the cables segment to capitalize the market trend and place the Company in a better competitive position.		

Steel pipes segment

Climate-related risks					
Type	Category	Title	Description	Time horizon	Impact and management
Transition	Policy and Legal	Carbon taxes (CBAM)	Increased purchasing costs due to additional taxes imposed by CBAM on steel.	Short/medium-term(0-10 years)	CBAM's impact on steel raw materials will affect the supply chain of steel in steel pipes. Corinth Pipeworks, the steel pipes company of Viohalco, is committed to preparing to adapt to the upcoming changes by mapping the different scenarios and implications of CBAM on the business. This will be achieved by reviewing the global supply chain and its carbon footprint, evaluating the overall impact on the business activity. Steel pipes segment company is monitoring the implementation of CBAM rules and how these may affect trade intensities and competitiveness with third country producers. These risks may be mitigated through close collaboration with trade associations and EU authorities in an effort to point out necessary adjustments to ensure a level-playing field.
Physical	Acute	Adverse weather events	Adverse weather events (such as extreme low/high temperature, flooding due to heavy rainfall, heavy snowfall) may lead to significant disruptions in the production process, supply chain and transportation routes, and customer deliveries.	Long-term (10+ years)	Risks related to increased severity of extreme weather events that may impact the company's activities and key customers/suppliers. Steel pipes segment company continues to implement a loss prevention program which seeks to foresee and mitigate material losses and stoppages, not least by monitoring changes in the weather.
Climate-related opportunities					
Type	Description	Time horizon	Impact and management		
Products & Services	Development and/or expansion of low emission product portfolio. Development of new products or services through R&D and innovation	Short/medium-term (0-10 years) Long-term (10+ years)	The steel pipes segment aims to increase the proportion of low/reduced carbon alternative solutions production, utilizing low-carbon raw materials, securing long term PPAs for RES for electricity demand and by increasing post-consumer secondary materials in the manufacturing process. Furthermore, steel pipes segment develops innovative solutions on main pillars of energy transition such as Gas, Hydrogen and Carbon Capture and Storage (CCS) and a great opportunity presents itself for increased revenues through access to new and emerging markets.		

Real Estate segment

Climate-related risks					
Type	Category	Title	Description	Time horizon	Impact and management
Physical	Chronic	Adverse weather events (extreme high/low temperatures due to longer-term shifts in weather patterns)	Longer-term shifts in weather patterns (extreme high/low temperatures) may lead to increased demand for air conditioning or heating by building tenants. The company may have to install additional heating and cooling capacity in existing building to ensure consistent temperature levels which may increase capital investments.	Long-term (10+ years)	The Company monitors properties that lack cooling/heating and where cooling needs may have to be increased in the future and focus on including this in the properties' maintenance and investment plan. When improvement renovations are required, such as measures for energy improvement, Noval Property will simultaneously analyze and where possible implement improvement necessary to prohibit future damages caused by extreme weather.
Physical	Acute	Adverse weather events (flooding due to heavy rainfall, heatwave)	Adverse weather events (such as extreme low/high temperature, flooding due to heavy rainfall, heavy snowfall) may lead to property damage, business disruption, increased insurance costs, and potential loss of asset value	Long-term (10+ years)	Noval Property analyses properties that are at risk of flooding as part of technical inspections. The Company is continuously reviewing property damages (when they occur and the potential likelihood of occurrence) and map its portfolio in areas with higher risks. When improvement renovations are required, such as measures for energy improvement, Noval Property will simultaneously analyze and where possible implement improvement necessary to prohibit future damages caused by extreme weather.
Transition	Policy and Legal	Changes in building standards regarding sustainable buildings	Increased capital investments due to changes in building standards.	Medium/ long-term (5-10+ years)	Noval Property continuously monitors building standards requirements as part of maintaining a competitive portfolio and ensuring that the company is complying with all relevant laws and regulations.

Climate-related opportunities

Type	Description	Time horizon	Impact and management
Products & Services	Increased occupancy rates and income from sustainable assets due to increased marketability from tenants	Short/medium-term (0-10 years)	Developing certified and sustainable buildings with high energy efficiency, renewable energy integration that generate some of the energy onsite, smart building technology, will result in increase in their marketability due to the lower operating costs and their resilience to climate-related impacts. The increased demand for the sustainable buildings will result to increased occupancy rates, lease rates and increased revenue.

The climate-related risks and opportunities, presented in the tables above, will be considered in the Companies' strategy, financial planning and development of new sustainable and low-carbon products and services. Viohalco companies are planning to define a structured approach for identifying, assessing, and managing climate-related risks and opportunities by appointing a dedicated committee responsible for overseeing their management.

This constituted the base of the analysis performed on the resilience of the strategy of the organization by taking into the consideration different climate-related scenarios, including a 2°C or lower scenario. Viohalco companies understand the importance of monitoring and addressing a diverse range of external factors to achieve success. In order to gain further insights into how various climate scenarios could affect the Companies, while maintaining a consistent financial metric, the method of scenario analysis has been used. To analyze the impact of climate risks to the company’s assets and operations, climate risks were assessed under two different climate scenarios across two different time horizons. More information about the scenarios is presented in the table below:

	Scenario 1	Scenario 2
	Moderate climate change scenario	High climate change scenario
Scenario	RCP 4.5 / SSP2-4.5	RCP 8.5 / SSP5-8.5
GHG emissions	Intermediate GHG emissions. GHG emissions gradually decline after peaking in 2030-2050, then falling but not reaching net zero by 2100.	Very high GHG emissions. GHG emissions continue to grow up through 2100. CO ₂ emissions triple by 2075 compared with 2020.
Policy reaction	Transition risks are relatively high. <ul style="list-style-type: none"> Governments will meet their current commitments to reduce climate impact. Economic development goals are achieved despite a slowdown in the growth of resource consumption and energy consumption. Climate policy is likely to boost the demand considerably for metals by 22%. 	Transition risks are relatively low. <ul style="list-style-type: none"> Only currently implemented policies are preserved, leading to high physical risks. The global development patterns remain unchanged. Some countries introduce decarbonization measures, but this is not sufficient to reduce the resource and energy intensity of the global economy. Climate policy regulations are weak and insufficient to combat climate change and its adverse impacts.
Energy & Resources	Moderately intensive use of resources and energy. <ul style="list-style-type: none"> Global oil consumption would peak by 2030-2035, gas consumption would continue growing through 2022-2050 and coal consumption would continue to decline without recovery. The price of electricity will be in the middle range due to the use of various sources of energy production. The resource intensity and energy intensity of the global economy declines as a result of decarbonization measures taken by developed countries and subsequent similar actions introduced by developing countries with a delay of several decades. All metals face strong growth in annual demand, regardless of the scenario, mostly as a result of population and GDP growth. 	Intensive use of resources and energy. <ul style="list-style-type: none"> Usage of fossil energy sources will increase. Electricity prices will be lower compared to other scenarios. Economic development is achieved through intensive growth, which entails increased consumption of materials and energy and exploitation of natural resources. All metals face a strong growth in annual demand, regardless of the scenario, mostly as a result of population and GDP growth.
Sea level rise	A significant decrease in anthropogenic GHG emissions leads to moderate physical impacts of climate change. Average global sea-level rise will reach 0.44-0.76 m by 2100.	The increase in GHG concentrations leads to significant physical impacts of climate change. Average global sea-level rise will reach 0.63-1.01 m by 2100.
Relevant forecasts and scenarios used	<ul style="list-style-type: none"> <u>IPCC AR5 Representative Concentration Pathway (RCP) 4.5</u> <u>Shared Socioeconomic Pathway 2 (SSP 2)</u> <u>NGFS Nationally Determined Contributions (NDCs)</u> 	<ul style="list-style-type: none"> <u>IPCC AR5 Representative Concentration Pathway (RCP) 8.5</u> <u>Shared Socioeconomic Pathway 5 (SSP 5)</u> <u>NGFS Current Policies</u>

In the tables below, the evaluation of risks and their potential impact on financial performance, based on the climate scenario analysis performed for the transition and the physical risks per segment, is presented.

Climate impact legend

High ● | Medium ● | Low ●

Aluminium segment

Type	Category	Title	RCP 4.5 / SSP2-4.5		RCP 8.5 / SSP5-8.5	
			2030	2050	2030	2050
Transition	Market	Increase in energy prices due to climate change policies	●	●	●	●
Transition	Policy and Legal	Carbon taxes (CBAM)	●	●	●	●
Transition	Policy and Legal	Effect of ETS	●	●	●	●
Physical	Acute	Adverse weather events (flooding due to heavy rainfall)	●	●	●	●
		Adverse weather events (heatwave)	●	●	●	●
Physical	Chronic	Water availability	●	●	●	●

Copper segment

Type	Category	Title	RCP 4.5 / SSP2-4.5		RCP 8.5 / SSP5-8.5	
			2030	2050	2030	2050
Transition	Market	Increase in energy prices due to climate change policies	●	●	●	●
Transition	Policy and Legal	Effect of ETS	●	●	●	●
Physical	Acute	Adverse weather events (flooding due to heavy rainfall)	●	●	●	●
		Adverse weather events (heatwave)	●	●	●	●
Physical	Chronic	Water availability	●	●	●	●

Steel segment

Type	Category	Title	RCP 4.5 / SSP2-4.5		RCP 8.5 / SSP5-8.5	
			2030	2050	2030	2050
Transition	Market	Increase in energy prices due to climate change policies	●	●	●	●
Transition	Policy and Legal	Carbon taxes (CBAM)	●	●	●	●
Transition	Policy and Legal	Effect of ETS	●	●	●	●
Physical	Acute	Adverse weather events (flooding due to heavy rainfall)	●	●	●	●
		Adverse weather events (heatwave)	●	●	●	●
Physical	Chronic	Water availability	●	●	●	●

Cables segment

Type	Category	Title	RCP 4.5 / SSP2-4.5		RCP 8.5 / SSP5-8.5	
			2030	2050	2030	2050
Transition	Policy and Legal	Carbon taxes (CBAM)	●	●	●	●
Physical	Acute	Adverse weather events (flooding due to heavy rainfall)	●	●	●	●
		Adverse weather events (heatwave)	●	●	●	●

Steel pipes segment

Type	Category	Title	RCP 4.5 / SSP2-4.5		RCP 8.5 / SSP5-8.5	
			2030	2050	2030	2050
Transition	Policy and Legal	Carbon taxes (CBAM)	●	●	●	●
Physical	Acute	Adverse weather events (flooding due to heavy rainfall)	●	●	●	●
		Adverse weather events (heatwave)	●	●	●	●

Real estate segment

Type	Category	Title	RCP 4.5 / SSP2-4.5		RCP 8.5 / SSP5-8.5	
			2030	2050	2030	2050
Physical	Chronic	Adverse weather events (extreme high/low temperatures due to longer-term shifts in weather patterns)	●	●	●	●
Physical	Acute	Adverse weather events (flooding due to heavy rainfall, heatwave)	●	●	●	●
Transition	Policy and Legal	Changes in building standards regarding sustainable buildings	●	●	●	●

In this analysis, the results of the multiple climate scenarios are presented for assessing the climate-related risks identified for each segment. The potential impacts have been classified through 3 climate impact areas, namely high, medium, and low, in an effort to shed light on the potential consequences of climate change. It is important to note that these scenarios are based on current understanding and projections, and while they provide valuable insights, uncertainties in predicting the exact impacts still exist.

More specifically, for **aluminium segment**, CBAM risk appears to have high impact in the short-term, medium-term, and long-term for both climate scenarios as it introduces risks related to circumvention loopholes by exporters of aluminium to European markets where the aluminium segment companies mostly operate. The effect of ETS is anticipated to have high impact in the short-term, medium-term, and long-term only for the RCP 4.5 climate scenario as free EU Allowances will be gradually decreased and this would directly affect the operational cost. In addition, increase in energy prices due to climate change policies is projected to have medium impact on the long-term in the RCP 4.5 climate scenario, and water availability appears to pose medium and high impacts in both climate scenarios since the aluminium segment is relatively water-intensive and potential problems in water supply could affect the business continuity and consequently the financial performance of the segment. For all the other climate-related risks identified, the analysis concluded that the impact under both scenarios and all timeframes is quite low.

For **copper segment**, water availability appears to be the most significant risk linked with climate change, as it could ultimately have a possible material financial impact because water is necessary for the production and the copper segment is considered water-intensive and creating completely closed loop water systems would ultimately increase operational cost. On the other hand, except for the effect of ETS that through the analysis is expected to pose medium-magnitude impacts in the long-term in one of the climate scenarios, all the other risks are not anticipated to have significant impacts for the copper segment.

For **steel segment**, based on the results of the analysis, increase in energy prices due to climate change policies, the effect of ETS and water availability risks appear to have the most financial impacts. More specifically, the increase in energy prices risk is anticipated to have high financial impacts in the short-term, medium-term, and long-term in the RCP 4.5 scenario, as the companies are energy-intensive and especially electro-intensive, and potential increase particularly of the electricity price, would result to higher production costs. Moreover, ETS -related costs are anticipated to have high financial impacts in all timeframes up to 2050 only for the RCP 4.5 climate scenario, as free EU Allowances will be gradually decreased and this would directly affect the operational cost, while the relative impacts under scenario RCP 8.5 are considered low. Water availability appears to pose medium and high impacts in both climate scenarios since the companies are relatively water-intensive and potential problems in water supply could affect the business continuity and consequently their financial performance. For all the other climate-related risks identified, the analysis concluded that the impact under both scenarios and all timeframes is quite low.

For **cables segment**, **steel pipes segment** as well as **real estate segment**, under both scenarios and for all timeframes, the financial impacts identified, are considered to be low.

Risk Management

Risk management is a responsibility of the Management of Viohalco's subsidiaries. The management team of the subsidiaries reports on business risks and challenges to the Company's Executive Management on a regular basis; they provide the Board and the Audit Committee with a detailed business review which analyses risks and challenges. Among other managed risks, each subsidiary identifies, assesses, and manages climate related risks and opportunities across its operations and ensures alignment with TCFD recommendations and industry best practices.

Metrics & Targets

Viohalco acknowledges the vital significance of assessing and disclosing various environmental key performance indicators (KPIs) to efficiently handle climate-related risks and opportunities. Alongside monitoring its greenhouse gas (GHG) emissions, Viohalco and its subsidiaries also oversee their energy consumption. Viohalco and its subsidiaries consistently evaluate and report their advancement towards these objectives, striving to enhance its environmental performance in accordance with industry standards and stakeholder demands.

Aluminium segment

Impact area	Unit	Indicator	2020	2021	2022
Energy	10 ³ Mwh	Total energy consumption	1,004	1,139	1,184
Energy	10 ³ Mwh	Renewable energy consumption	92	96	87
Energy	10 ³ Mwh	Non-renewable energy consumption	912	1,043	1,107
Energy	%	Share of renewable sources in total energy consumption	9.2	8.5	7.3
Energy	10 ³ Mwh	Purchased or acquired electricity, heat, steam, and cooling from non-renewable source	239	273	285
Direct energy consumption by type of fuel	10 ³ Mwh	Natural gas	664	760	781
Direct energy consumption by type of fuel	10 ³ Mwh	Crude oil and petroleum products	9	10	16
Direct energy consumption by type of fuel	10 ³ Mwh	Other non-renewable sources	0	0	0
Emissions	10 ³ t CO ₂ e	Total GHG emissions	282	301	345
Emissions	10 ³ t CO ₂ e	Direct (Scope 1) GHG emissions	133	151	157
Emissions	10 ³ t CO ₂ e	Indirect (Scope 2) GHG emissions	149	150	188

Copper segment

Impact area	Unit	Indicator	2020	2021	2022
Energy	10 ³ Mwh	Total energy consumption	343	378	370
Energy	10 ³ Mwh	Renewable energy consumption	32	36	25
Energy	10 ³ Mwh	Non-renewable energy consumption	311	342	345
Energy	%	Share of renewable sources in total energy consumption	9.2	9.5	6.7
Energy	10 ³ Mwh	Purchased or acquired electricity, heat, steam, and cooling from non-renewable source	109	119	116
Direct energy consumption by type of fuel	10 ³ Mwh	Natural gas	197	218	213
Direct energy consumption by type of fuel	10 ³ Mwh	Crude oil and petroleum products	5	5	6
Direct energy consumption by type of fuel	10 ³ Mwh	Other non-renewable sources	0	0	0
Emissions	10 ³ t CO ₂ e	Total GHG emissions	98	107	119
Emissions	10 ³ t CO ₂ e	Direct (Scope 1) GHG emissions	37	41	39
Emissions	10 ³ t CO ₂ e	Indirect (Scope 2) GHG emissions	61	66	80

Steel segment

Impact area	Unit	Indicator	2020	2021	2022
Energy	10 ³ Mwh	Total energy consumption	1,637	1,836	1,869
Energy	10 ³ Mwh	Renewable energy consumption	262	289	219
Energy	10 ³ Mwh	Non-renewable energy consumption	1,375	1,547	1,650
Energy	%	Share of renewable sources in total energy consumption	16.0	15.7	11.7
Energy	10 ³ Mwh	Purchased or acquired electricity, heat, steam, and cooling from non-renewable source	850	945	952
Direct energy consumption by type of fuel	10 ³ Mwh	Natural gas	484	569	609
Direct energy consumption by type of fuel	10 ³ Mwh	Crude oil and petroleum products	12	12	13
Direct energy consumption by type of fuel	10 ³ Mwh	Other non-renewable sources	29	21	0
Emissions	10 ³ t CO ₂ e	Total GHG emissions	674	731	856
Emissions	10 ³ t CO ₂ e	Direct (Scope 1) GHG emissions	174	198	200
Emissions	10 ³ t CO ₂ e	Indirect (Scope 2) GHG emissions	500	533	656

Cables segment - Metrics

Impact area	Unit	Indicator	2020	2021	2022
Energy	10 ³ Mwh	Total energy consumption	156	172	169
Energy	10 ³ Mwh	Renewable energy consumption	29	31	47
Energy	10 ³ Mwh	Non-renewable energy consumption	127	141	122
Energy	%	Share of renewable sources in total energy consumption	18.7	17.8	27.6
Energy	10 ³ Mwh	Purchased or acquired electricity, heat, steam, and cooling from non-renewable source	60	67	50
Direct energy consumption by type of fuel	10 ³ Mwh	Natural gas	63	70	64
Direct energy consumption by type of fuel	10 ³ Mwh	Crude oil and petroleum products	3	3	5
Direct energy consumption by type of fuel	10 ³ Mwh	Other non-renewable sources	1	1	0
Emissions	10 ³ t CO ₂ e	Total GHG emissions	51	50	49
Emissions	10 ³ t CO ₂ e	Direct (Scope 1) GHG emissions	14	15	14
Emissions	10 ³ t CO ₂ e	Indirect (Scope 2) GHG emissions	37	35	35

Cables segment - Targets

Target	Scope(s) covered	Base year	Target year	Targeted reduction from base year (%)
1	Absolute Scope 1 & 2 GHG	2020	2030	50%
2	Absolute scope 3 GHG emissions	2020	2030	25%
3	Absolute Scope 1, 2 & 3 GHG emissions validated from the SBTi in line with the 1.5°C trajectory	2020	2050	90%

Steel pipes segment – Metrics

Impact area	Unit	Indicator	2020	2021	2022
Energy	10 ³ Mwh	Total energy consumption	48	34	37
Energy	10 ³ Mwh	Renewable energy consumption	10	6	6
Energy	10 ³ Mwh	Non-renewable energy consumption	38	28	31
Energy	%	Share of renewable sources in total energy consumption	21.8	18.8	15.4
Energy	10 ³ Mwh	Purchased or acquired electricity, heat, steam, and cooling from non-renewable source	30	20	23
Direct energy consumption by type of fuel	10 ³ Mwh	Natural gas	0	0	0
Direct energy consumption by type of fuel	10 ³ Mwh	Crude oil and petroleum products	6	7	6
Direct energy consumption by type of fuel	10 ³ Mwh	Other non-renewable sources	2	1	1
Emissions	10 ³ t CO ₂ e	Total GHG emissions	23	14	19
Emissions	10 ³ t CO ₂ e	Direct (Scope 1) GHG emissions	3	2	2
Emissions	10 ³ t CO ₂ e	Indirect (Scope 2) GHG emissions	20	12	17

Steel pipes segment - Targets

Target	Scope(s) covered	Base year	Target year	Targeted reduction from base year (%)
1	Absolute Scope 1 & 2 GHG emissions	2022	2030	50%
2	Absolute scope 3 GHG emissions	2022	2030	25%
3	Target not yet validated by SBTi	-	-	Not yet submitted targets for validation since no sector specific guidance has been developed for the particular industrial activity.

Real estate segment portfolio (excluding headquarters)

Impact area	Unit	Indicator	2021	2022
Energy	MWh	Electricity for landlord shared services	6,013	6,181
Energy	MWh	Electricity (sub)metered exclusively to tenants	16,775	12,268
Energy	MWh	Total electricity consumption	22,788	18,449
Energy	MWh	Proportion of total electricity consumption from renewable sources	0%	0
Energy	MWh	Natural gas for landlord shared services	0.00	218
Energy	MWh	Natural gas (sub)metered exclusively to tenants	1,251	1,812
Energy	MWh	Total fuel consumption	1,251	2,030
Energy	MWh	Proportion of total fuels consumption from renewable sources	0%	0%
Energy	kWh/m ² /year	Energy intensity	71	66
Energy	No. of applicable properties	Energy and associated GHG disclosure coverage	21 out of 25	20 out of 25
Energy	%	Proportion of energy and associated GHG estimated	0%	0%
Carbon emissions	tCO ₂ e	Direct (Scope 1) GHG emissions	0	40
Carbon emissions	tCO ₂ e	Indirect (Scope 2) GHG emissions	2,645	3,279
Carbon emissions	tCO ₂ e	Indirect (Scope 3) GHG emissions	8,452	6,848
Carbon emissions	kgCO ₂ e/m ² /year	Scope 1 and 2 GHG emissions - intensity	12	17

Real estate segment headquarters

Impact area	Unit	Indicator	2021	2022
Energy	MWh	Total consumed electricity	234	227
Energy	MWh	Proportion of landlord obtained electricity from renewable sources	0%	0%
Energy	MWh	Total consumed natural gas	0.00	0
Energy	MWh	Proportion of landlord obtained fuels from renewable sources	0%	0%
Energy	kWh/m ² /year	Landlord-obtained energy	140	137
Energy	No. of applicable properties	Energy and associated GHG disclosure coverage	1	1
Energy	%	Proportion of energy and associated GHG estimated	0%	0%
Carbon emissions	tCO ₂ e	Direct (Scope 1) GHG emissions	0	0
Carbon emissions	tCO ₂ e	Indirect (Scope 2) GHG emissions	115	121
Carbon emissions	kgCO ₂ e/m ² /year	Scope 1 and 2 GHG emissions - intensity	69	73

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