IMPLEMENTATION OF TCFD RECOMMENDATIONS AT FERREYCORP

In 2015, the G20 Finance Ministers and Central Bank Governors expressed their concern regarding the **financial risks associated with climate change** faced by companies and, therefore, the need for companies to disclose their exposure to such risks[1]. In response to this, a Working Group was formed, called the ***Task Force on Climate-related Financial Disclosures*** **(TCFD)** dedicated to the development of recommendations for the integration of this approach in companies. These recommendations are structured around four pillars**: governance, strategy, risk management and the definition of metrics and goals.**

During the last few years Ferreycorp has performed various actions that have implemented the different recommendations of the TCFD and has recently committed to disclose these advances in accordance with the pillars and recommendations of the Working Group. In this way it will be able to measure and demonstrate its climate change management with high standards.

Main advances in the TCFD pillars	
Governance	**Strategy**
The CFO is responsible for leading the climate agenda and reporting to the Board of Directors on risks and opportunities related to climate change. To support this role, the Environmental Circle and the Environmental Operating Committee have been created and the Corporate Environmental Policy has been defined.	Together with employees from different areas of the company, different physical, transition and climate change risks and opportunities that could have an impact on Ferreycorp were identified. As a result, they are working on strategies to create greater resilience and value in the face of these risks and opportunities, respectively.
Risk Management	**Metrics and Objectives**
A methodology is being developed to identify, assess and control climate change risks in the company. The methodology seeks to consider the characteristics of climate risks and also seeks to be integrated into the company's corporate risk management taxonomy.	They quantify their corporate carbon footprint including scopes 1 and 2 of its main sites, while gradually moving towards measuring scope 3 and including all sites. In addition, they have defined climate, water, energy and waste indicators. They are working on updating their science-based targets for emission reductions, along with defining an internal price on carbon and continuing to offset their emissions.




[1] Starting with the U.K. Central Bank in 2015.

GOVERNANCE

Ferreycorp has made progress in defining the roles and responsibilities around its climate governance.

On one side, the board of directors is responsible for overseeing and guiding the modeling of strategies, action plans and performance objectives associated with **climate change management**. The CFO, Patricia Gastelumendi, is the person assigned to lead issues on this agenda and report to the board on a quarterly basis, and her duties include assessing and managing climate related risks and opportunities. Supporting this role are various groups at the board and management level, such as the **Board Nominating, Compensation, Corporate Governance and Sustainability Committee, the Environmental Circle** led by the Deputy Manager of Corporate Services and Environment, and the **Environmental Operating Committee**, which collaborate in monitoring climate related issues and report periodically to the board.

On the other hand, through the **Corporate Environmental Policy**, Ferreycorp defines the responsibility of monitoring its strategy from a climate perspective, establishing a commitment that promotes the constant review of the product portfolio of the brands it represents. Thus, it prioritizes those innovative and more efficient technologies, responding in a timely manner to the preferences of a low carbon economy. In this way, management has been able to include monitoring of potential climate risks and opportunities in its strategy and action plans.

The machinery marketed by the Corporation's companies has incorporated modifications and new configurations made by the manufacturers to contribute to the reduction of environmental impact

STRATEGY

In 2022 Ferreycorp began the process of detecting risks and opportunities arising from climate change. Currently, the company has completed the first transversal **climate risk survey** and is working on the **development of a management methodology in line with the characteristics of climate change** and its effects, in order to assess and mitigate risks effectively. This involves considering different time horizons, including the three components of climate risk (threat, exposure and vulnerability) and its possible financial impact.

Physical Risks	Transition risks
Physical risks are defined as the potential impacts caused by climatic phenomena, such as extreme weather events (acute risks) or changes in long-term weather patterns (chronic risks). Their financial impacts can be direct, such as damage to a real estate asset or operational discontinuity, or indirect, such as problems in the supply chain or price increases.	The transition to a low-carbon economy refers to the migration from the current economic system to one that is resilient to the effects of climate change and low in emissions. The risks derive from the uncertainty associated with the various efforts and changes (regulatory, technological, market and/or reputational) made in order to reduce global GHG emissions.

Assessment of risks and opportunities in the face of climate change

As a first exercise, a survey and identification of possible risks and opportunities related to climate change that could have an impact on the company was performed. The risk survey was articulated from the Corporate Finance Management in collaboration with the different areas and was executed transversally throughout the company and its value chain. As a result of the survey, the following climate risks and opportunities were obtained:

	Contributing factor to the event	Event
TRANSITION RISKS	Use of pollutant materials or processes intensive in GHG emissions	- Negative change in customer and community perception of Ferreycorp's contribution to a low carbon economy.
	Carbon tax or other taxes aimed at the transition to a low carbon economy	- Loss of competitiveness due to high costs as compared to more sustainable alternatives - Increased domestic and international transportation logistics costs - Increase in operating costs
	New legal and regulatory requirements aimed at the transition to a low carbon economy.	- Impossibility of compliance due to the lack of a portfolio with more eco-efficient solutions.
	New market preferences, such as electrified machinery, that aim to transition to a low carbon economy.	- Decreased demand for maintenance services, since electrical machinery requires less frequent maintenance.
	Contributing factor to the event	**Event**
PHYISCAL RISKS	Use of scarce natural resources that are affected by climate change (e.g. water, flora and fauna, land use, etc.).	- Increased raw material costs impacting product and operating costs
	Natural disasters or climatic phenomena affecting air and sea availability (e.g. extreme winds, storm surges, frost, etc.).	- Delays or interruptions in the international logistics chain, due to unavailability of seaports and airports
	Natural disasters or climatic phenomena affecting land routes (e.g. fog, alluvium, frost, etc.).	- Delays or interruptions in the national logistics chain, due to unavailability of routes and roads - Disruption to business continuity (infrastructure and people) - Disruption in the logistic chain (problems in the supply of machinery, consumables and spare parts)
	Extreme natural disasters and sea level rise	- Loss of customer liquidity resulting in an increase in the uncollectibility of Ferreycorp's
	Contributing factor to the event	**Event**
	Extreme natural disasters or climatic phenomena that may affect the customers and that have demanded reconstruction services.	- Increase in workshop services - Increased need for machinery generates increased rentals and sales

OPPORTUNITIES

Increased efforts to achieve the transition to a low carbon economy by Ferreycorp's customers, coupled with new legal and regulatory requirements that affect them, resulting in a preference for rebuilt and more sustainable products.	- Entering new markets and increasing sales of products with lower emissions (eco-efficient products, with electric, hybrid or other alternative energy sources). - Increased demand for machinery rebuilding services and savings through equipment life extension and reduction in waste generation - Pressure to use renewable energies for decarbonization

Ferreycorp will continue working during 2023 on the development of a methodology for the exhaustive survey of risks and opportunities throughout its value chain considering short (0 - 5 years), medium (6 - 10 years) and long term (11 - 20 years) time horizons. In this way, they will also be able to define which risks and opportunities they consider most relevant for their business.

For now, Ferreycorp has analyzed the potential impact of two risks: El Niño climate phenomenon and a possible regulation driven by the transition to a low carbon economy.

Effect of El Niño Phenomenon on the operations of Ferreycorp

In 2017, the El Niño Costero phenomenon occurred in Peru, which caused heavy rains and floods, water shortages suitable for human consumption, and interruption of roads. These conditions caused a national economic impact and especially to the operations located in the north area of Peru, mainly due to the affectation of roads that generated delays in the transportation of machinery and spare parts to and from customers.

There were also fuel and food supply problems, which caused delays in the transportation of employees. In addition to the above, the rains affected the trunk lines of the water and electric power companies, which also caused problems for these services.

In terms of infrastructure, there were problems of leaks, flooding and deterioration of roofs and facilities, which were treated immediately.

With climate change, this type of event could increase in frequency and intensity, generating great impacts to the company. For this reason, in strategic areas, we have conducted analyses of the main locations and their exposure to floods and extreme rainfall, while at the same time adopting insurance to cover this type of risk.

The impact of a carbon tax on the operations of Ferreycorp

Due to the nature of the business, **an emissions tax could affect a large part of the value chain.**

On the one hand, it would impact the company's logistics costs by increasing the cost of sea, air and land transportation.

On the other hand, it would affect the use of machinery that could be subject to the tax, increasing their operational cost. This could mean a reduction in the demand for fossil fuel machines and therefore a decrease in our income.

It is essential to have more sustainable machinery alternatives. For this reason, parent companies are working on designing and manufacturing more eco-efficient machinery. Likewise, some models already have more eco-friendly tram-type models, natural gas machinery converter kits and electric shovels and drills.

Climate change can also generate opportunities for the company if it is able to detect its customers' needs in a timely manner. Ferreycorp has already analyzed two options that could improve its position in an economy that is moving towards decarbonization.

Increased demand for sustainable, low carbon machinery and services
In order to be sustainable over time, companies are **promoting ESG practices**, and in view of this, there has been an increasing demand for products with lower emissions (eco-efficient products, with electric or hybrid energy sources, alternatives). It is projected that the demand for this type of products will occur in the medium and especially in the long term. Additionally, there could be scenarios where laws or regulations of the countries, referred to climate change and taxes on carbon emissions, promote this type of practices. Therefore, it is expected that in the future there will be greater commitment and obligations of our customers with the mitigation of climate change. In addition to the above, Ferrenergy provides solutions for the implementation of energy generation systems to different customers. Among these energy solutions is a **line of solar panels**, which is expected to be boosted by high demand in the short and medium term.

Efficiency in the use of resources in the reuse and repair of machinery
Within the portfolio of Ferreyros, the group's largest company (representing approximately 60% of sales), there is a line of *renting* for medium and large machinery, so that the machinery is in constant rotation among customers and its environmental impact is reduced through reuse. Ferreyros has a line of used machinery for sale. This machinery rebuilding activity (*Rebuild*), framed within its Sustainability Policy, is an activity that not only allows us to expand the portfolio of products offered to the market at **better prices**, but also prevents the chassis, iron or scrap from being destroyed and impacting the environment. This is a growing sector **that generates income for the company in a sustainable manner**, as it extends the useful life of the machinery and recovers material that will not be sent to smelting. In addition, thanks to these actions, the carbon footprint is reduced and emissions are avoided in manufacturing and transportation, which can translate into a reduction of vulnerability to transition risks that could impact the company. This practice is currently being implemented and it is considered strategic to promote and disseminate it.

In particular, Grupo Ferreyros, with the support of Marsh, a leading insurance brokerage and risk management company, has analyzed the risks of rain and flooding that could impact Lima and Callao, as well as the north, central, south and eastern areas.

Lima and Callao	Central Area	Central Area	South Area	East Area
No site is at risk from rain or flooding	Almost all sites have a **high risk of rain*** and medium risk of flooding**	Both sites are at **high risk for rain** and low risk for flooding	Cusco Cachimayo and Arequipa Tingo present **high risk for rain.** Arequipa Tingo also presents medium risk for flooding.	All sites are **at high risk for rain.** Loreto San Juan B. has a medium risk of flooding, while Ucayali Yarinacocha has a **very high risk of flooding.**

* except Ancash Nuevo Chimbote
** except Cajamarca Los Baños del Inca, Ancash Nuevo Chimbote and Ancash Huaraz.

The possible damages identified are:

Direct rain precipitation

- Water seepage in corrugated sheet roofs (zinc, plastic or eternit or others) due to the lack of ridge tiles or poor placement of the same (poorly placed skirts, poorly made overlaps, central and lateral gutters in poor condition).
- Overflow of water in gutters of pitched roofs due to lack of maintenance (dirt or debris in the gutters and clogging of downspouts).
- Saturation with water of flat roofs (lightened slabs with brick) that can cause leaks and, in extreme cases, collapse.
- Short-circuit due to water ingress in poorly protected electrical cables and electrical panels or inadequate splices in junction boxes.

Excess water and water level rise

- Flooding of low areas, subway, elevator shafts, pipe ducts or conductor ducts (girdles, helical worms) and others.
- Flooding of roof surfaces due to lack of water drainage systems.
- Flooding of open areas where the following can be expected: short circuits in electrical systems, damage to machinery, piping installations and electrical conductors due to wetting with ingress of dirt and rust of
- metal parts, in addition to losses of raw materials and finished product, paper or cardboard packaging.

Vulnerability has not been considered in this exercise. This must be assessed on-site for each site.

RISK MANAGEMENT

Ferreycorp is currently developing its climate risk management system. This will consist of 3 fundamental stages: **Identification, Evaluation and Control or Reduction** of climate risk. Each stage will have a methodology that seeks to align and integrate with corporate risk management and the methodology recommended by the IPCC. To date, Ferreycorp has made progress with the identification stage.

How were the risks and opportunities presented in the previous section identified?

For the identification of risks, a "contributing factor to the event" is defined, which corresponds to a condition (in this case climate or change due to the transition to a low carbon economy) that does not depend on the company beyond the location and jurisdiction in which it is located.

Once the "factor contributing to the event" has been identified, the possible impacts generated in the corporation are determined, which may be risks if the event is negative, or opportunities if it is not. Risks and opportunities go through an evaluation process, and for those that are considered relevant, measures and strategies are developed to address them.

Although the processes to control or reduce climate risks are not yet defined, **Ferreycorp has taken steps to reduce and anticipate transition risks** through actions aimed at reducing the company's GHG emissions throughout its value chain.

By reducing their footprint, they reduce their carbon dependency and thus their vulnerability to the risks of a transition to a low carbon economy.

Among the measures implemented, the following are highlighted:

- Development of a **2030 transition plan aligned with the Paris Agreement**, where the global target is to keep the temperature increase below 1.5°C compared to the pre-industrial era.
- Definition of **an internal carbon price** to internalize emissions as a factor in investment decisions and new projects.
- Execution of a supplier engagement program on the management of ESG variables, where the measurement and reporting of the carbon footprint is requested, in order to work together to reduce emissions throughout Ferreycorp's value chain.
- Implementation of emission reduction measures in the company.

MITIGATION MEASURES IMPLEMENTED

Ferreycorp and Soltak::

- Independent lighting circuits for switching lights on and off on all floors of the building, so that lights are switched on only in occupied areas.
- From 2020, fuel consumption of management vehicles will be monitored.
- The communication campaigns on sustainability issues for the environment, water and earth day have continued.
- In 2022, a corporate convention was held with a series of lectures on the subject given by top-level suppliers, together with other awareness-raising initiatives, such as a reciclatón and nationwide activations.
- In the process of signing a Clean Production Agreement with the Ministry of Environment, focused on waste reduction and circular economy, as well as sensitization and support for a source segregation program to a local government.

Ferreyros:

- The gradual replacement of the rental fleet with vehicles with new generation fuel saving engines has begun.
- Photovoltaic solar panels implemented in La Joya

Unimaq:

- Implemented dallas keys project in the van rental fleet to monitor trips, travel and activity to improve vehicle usage efficiency and fuel consumption
- Good management practices, supported by eco-efficient management courses, have been included to reduce the carbon footprint.

Orvisa:

- Implemented dallas keys project in the van rental fleet to monitor trips, travel and activity to improve vehicle usage efficiency and fuel consumption
- Implementation of a signed internal control of fuel consumption at the taps to know exactly the consumption and destination of this fuel and reduce its consumption.
- Good management practices, supported by eco-efficient management courses, have been included to reduce the carbon footprint.

Other measures that contribute to mitigation:

- LED lighting in buildings
- Acquisition of renewable energy: In 2021, the second largest operating site in Peru (La Joya) was added to the acquisition of renewable energy. Another 4 sites have already had this type of energy since 2020. Estimated annual emissions reduction of 495 tCO2e. The annual economic savings are 81,811 soles and the duration of the contract is 3 to 5 years.
- Solar showers at La Joya: These replace the use of LPG gas with solar energy, with an estimated annual reduction of 15.77 tCO2e. Their implementation required an investment of 48,120 soles, but represents an annual savings of 3,400 soles. The useful life of this technology is 11 to 15 years.

METRICS AND TARGETS

Among the material issues defined by Ferreycorp, and framed within its Corporate Environmental Policy focused on climate change and its related risks, the following categories have been prioritized: climate, energy and emissions, water and effluents, and waste and use of materials. Based on these, the company has defined key indicators to measure and monitor its performance.

Category	Frequency	Unit	Metrics
Emissions	Annual	tCO2e	Carbon footprint (scope 1 and 2 of the largest sites). It is expressed in: • Absolute tCO2e emissions. • Relative emissions in tCO2e and tCO2e/sales.
Water	Annual[2]* and monthly	m^3	Water footprint (total water used and impacted along the value chain by the production of goods and services). It is expressed in: • Direct use of water • Indirect use - Sub-supply chain • Indirect use - Energy and transportation ** This indicator is measured annually at some main sites.* Water consumption (total water used in the processes of the sites). It is expressed in: • Absolute water consumption in m^3. • Relative water consumption in m^3/sales.
Energy	Monthly	GJ	Electricity and fuel consumption It is expressed in: • Absolute energy consumption in GJ (Gigajoules). • Relative energy consumption in GJ and GJ/sales. • By type of energy source (renewable and non-renewable) when applicable.
Waste	Monthly	Ton	Waste generated. It is expressed in: • Absolute waste generated. • Waste generated in tons and tons/sales. • By type of waste and management received when applicable.

Carbon footprint

Ferreycorp measures its scope 1 and 2 GHG emissions, using the ISO14064-1 methodology, within the framework of the Carbon Footprint Peru program, which ensures compliance with the accounting principles: relevance, full coverage, consistency, transparency and accuracy. These results are validated annually by the accredited verifier SGS.

The process of measuring the corporation's footprint has been performed incrementally since 2017, starting with the largest locations and covering a greater percentage of the headquarters in each measurement. Thus, the results for 2021 include 13 locations in Peru, which are presented below:

	Ferreycorp	**Ferreyros**					**Orvisa**			**Soltrak**	**Unimaq**		**Forbis Logistics**	
Sites	Surco	CDR	Industrial	La Joya	Cerro verde	Rentafer	Iquitos	Tarapoto	Pucallpa	Callao	Evitamiento	Lurín	Callao	Total (tCO2e)
Scope 1	152.32	63.83	424.99	536.17	19.38	181.90	21.43	55.86	39.24	29.92	39.84	43.81	2.90	1611.59
Scope 2*	98.74	179.88	623.37	494.85	0	21.63	129.07	10.65	14.91	77.08	49.68	21.15	4.05	1725.06
Total 2021	251.06	243.71	1048.36	1031.02	19.38	203.53	150.5	66.51	54.15	107	89.52	64.96	6.96	**3336.65**

**Location based*

[2] This indicator is measured annually at some major sites.

Among the upcoming projects within Ferreycorp's climate agenda is the implementation of a platform for measuring the carbon footprint at the corporate level, which will facilitate the measurement process and allow the inclusion of new sites. In the 2022 measurement, the measurement will be carried out at national level in Peru, including Trex Chile, which considerably increases the number of premises evaluated from 13 to more than 70, which will also include the measurement of new categories of indirect emissions (transport and consumption of inputs).

As part of its contributions, and in order to contribute to the acceleration of decarbonization worldwide, Ferreycorp offsets its Scope 1 and 2 emissions through carbon credits verified by the Verified Carbon Standard (VCS). In addition, its emissions associated with business travel are also partially offset through facilities provided by Latam Airlines and American Airlines.

On the other hand, the company has made progress in the incorporation of CO_2 emissions as a determining parameter in the evaluation of its projects and decision making. This is the case of the "solar showers" project, where a carbon price applied to the reduction of emissions associated with its implementation was considered as a first approximation.

Finally, in order to trace its path towards decarbonization, the company has worked on defining its GHG emissions reduction targets for 2030 for Scopes 1 and 2, using the Science-Based Targets initiative (SBTi) methodology and aligned with the target of maintaining a temperature below 1.5°C above the pre-industrial era. This has resulted in an absolute emissions reduction target of 54.6% by 2030, equivalent to 4.2% per year, which is in the process of being updated together with the definition of a new base year, which takes into account all the locations nationwide.

The company is also in the process of defining targets for reducing water and energy consumption and waste generation by 2030 at the corporate level. As part of the commitment to a low emission economy, the company has established economic incentives for the Corporate Services and Environment Sub Manager, associated with the fulfillment of these targets