PVSA
PUERTO VENTANAS S.A.

ECOPORTS
PERSCERTIFIED

Port Environmental Review System (PERS) Application

June, 2022




ECO SLC

Sustainable Logistic Chain

Index

PUERTO VENTANAS S.A

Port Environmental Review System 2022

1. OUR COMPANY

Puerto Ventanas S.A is considered one of the main maritime terminals in the country. The largest bulk port in the central zone of Chile is located in the Bay of Quintero, Puchuncaví commune. It has the necessary infrastructure to ensure an efficient and reliable operation with high standards of safety, quality, and respect for the environment, so that professionals, technicians, and workers with extensive experience in the industry provide excellent services and complete assistance in comprehensive wharfage, loading and unloading of liquid and solid bulk.

When the ways of working known until before the pandemic have changed throughout the world, Puerto Ventanas S.A has maintained its interest in maintaining ties and generating value for all the public with which it is committed. In these years, the Port has been able to maintain its operational excellence, committed to the health, safety, environment and well-being of all workers and their families, promoting, and supporting self-care behaviors.

FACILITIES AND EQUIPMENT

To fully meet its commitments, the country's largest bulk port is equipped with complete logistics equipment, warehouses, and capacity to transport and handle cargo in transit through an efficient operation with high safety, quality, and environmental standards.
Its facilities, which include four berthing sites, allow it to serve ships of up to 84,000 tons of displacement with loading and unloading tasks of up to 50,000 tons per day.

In 2021, a new multipurpose warehouse was inaugurated that allows the port to increase its storage capacity, adding value to its services. The modern structure, called "Pucalán", has a storage capacity of 34,000 tons, airtightness, LED lighting, an air renewal system, and an electric gate system. It also has perimeter walls and the possibility of expansion.

PIER No.1

MAXIMUM DRAFT:

8 MT

MAXIMUM LENGHT:

125 MT

EQUIPMENT:

Two valve system for the shipment of marine fuels to the mini-tankers.

PIER No.2

MAXIMUM DRAFT:

9.57 MT

MAXIMUM LENGHT:

200 MT

EQUIPMENT:

Connection manifold for shipping sulfuric acid. Boarding tower of mineral concentrates.

Valve system for fuel shipment, or required by ships.

PIER No.3

MAXIMUM DRAFT:

11.7 MT

MAXIMUM LENGHT:

200 MT

EQUIPMENT:

Ship-loader or "ship traveling loader" that allows loading the ship without the need to change its position.

Copper concentrate transfer system made up of more than 1.100 meters of fully sealed conveyor belts and transfer towers. Connection manifold for shipping sulfuric acid

Valve system for fuel shipment, or required by ships

Valve system for the unloading of fuel inputs for the Asphalt and Fuel Terminal.

PIER No.5

MAXIMUM DRAFT:

14.3 MT

MAXIMUM LENGHT:

245 MT

EQUIPMENT:

Two pantographic cranes with a capacity of 30 tons at 40 meters, with unloading yields of 750 tons / hour each.

Valve box for fuel shipment or required by ships. Valve system for the unloading of fuel inputs.

1. Copper concentrate Warehouse

55,000 tons.

2. La Greda Warehouse for solid bulk storage:

46,000 tons.

3. Grain Warehouse

43,000 tons.

4. Copper concentrate Warehouse

30,000 tons.

5. Anglo American Copper concentrate Warehouse

60,000 tons.

6. Grain Warehouse and general cargo

14,000 tons.

7. Warehouse for storage of general cargo

6,000 tons.

8. Clinker and cement Dome

45,000 tons.

9. Grain Dome

8,000 tons.

10. Petcoke Terminal

80,000 tons

11. Blendig Warehouse

34,000 tons.

12. **Two Cranes**

for unloading solid bulks connected to conveyor system

13. Encapsulated and sealed conveyor system connected to a traveling Ship-loader for the transfer of copper concentrate

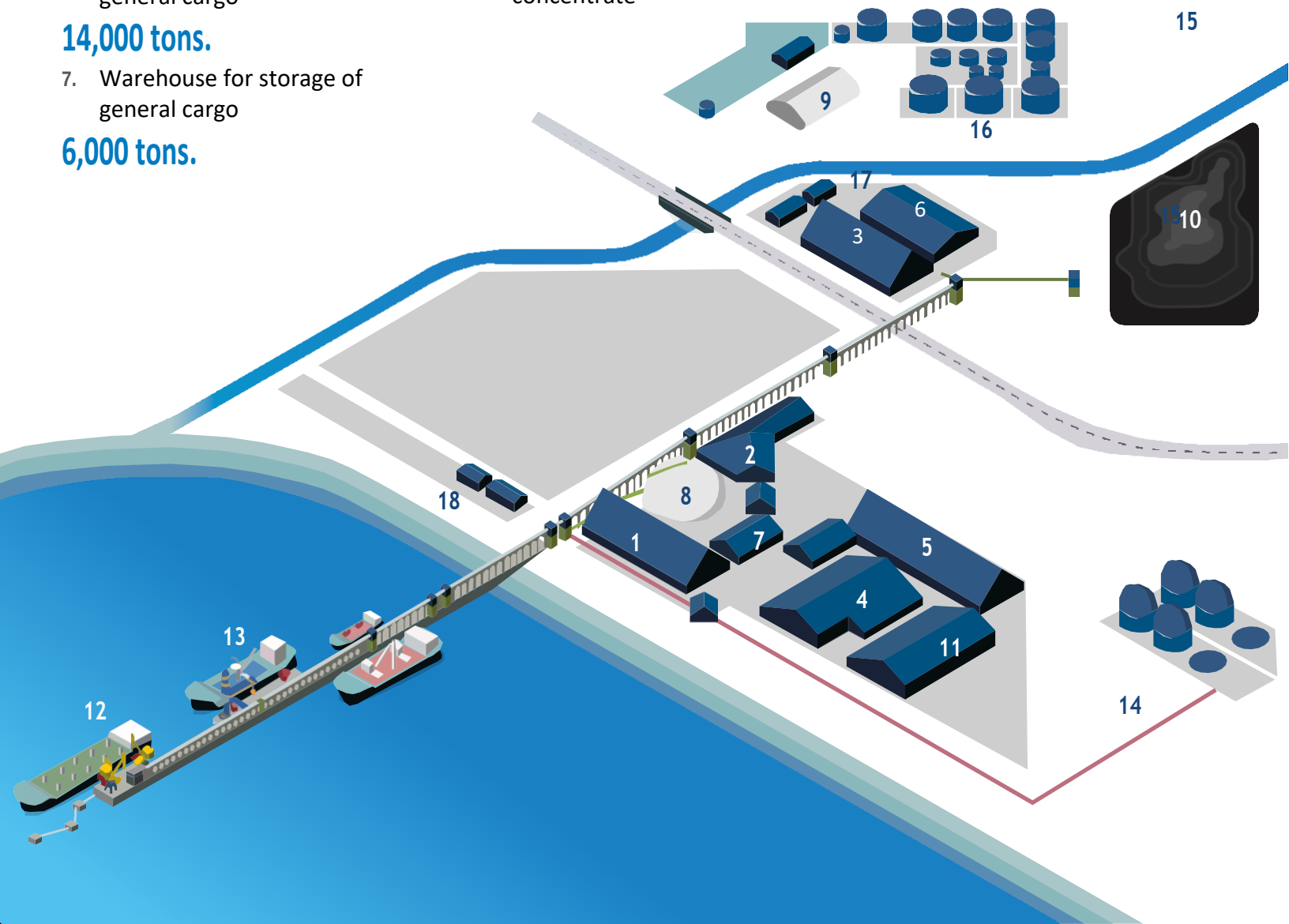
14. Aciduct: shipment of sulfuric acid (H2SO4)

15. Railway Maneuvers Station

16. Asphalt and fuel lines

17. Customs offices

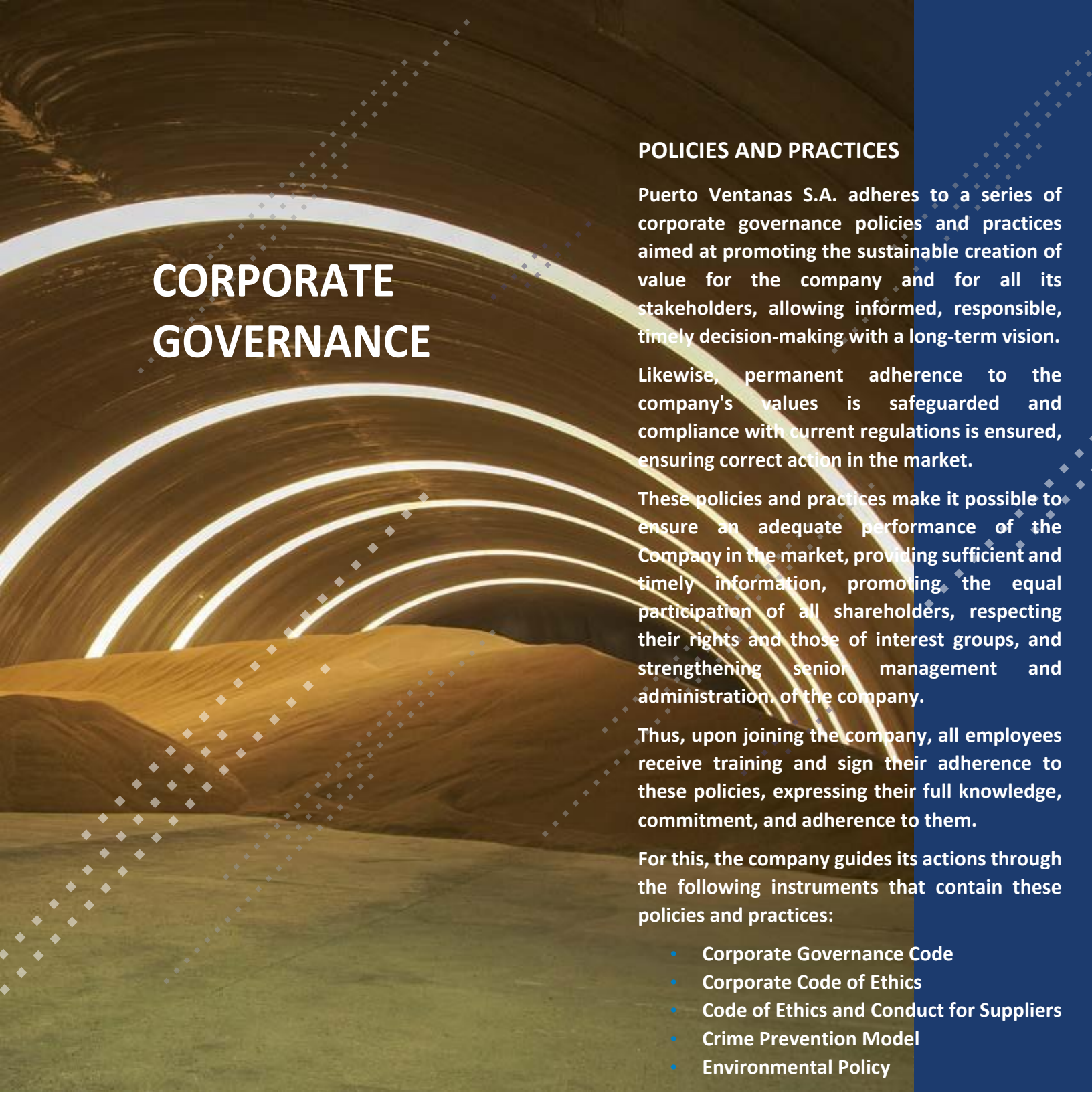
18. Offices



PUERTO VENTANAS ALSO HAS LOGISTICS EQUIPMENT FOR THE TRANSPORTATION AND HANDLING OF CARGO IN TRANSIT

EQUIPMENT FOR EFFICIENT AND SAFE OPERATION

- Loading and unloading conveyor systems.
- Tractors, front loaders, and piping systems connected to all sites under the dock slab.
- Truck wheel washing system with capacity for 300 vehicles per day, water recirculation tank with a capacity of 30 cubic meters.
- Rainwater treatment plant from Costa Terminal.
- Wide storage areas.
- Approximately 18,1 hectares of land available for extensions and / or new businesses.
- Ship-loader Industrial vacuum cleaner
- Firetruck



CORPORATE GOVERNANCE

POLICIES AND PRACTICES

Puerto Ventanas S.A. adheres to a series of corporate governance policies and practices aimed at promoting the sustainable creation of value for the company and for all its stakeholders, allowing informed, responsible, timely decision-making with a long-term vision.

Likewise, permanent adherence to the company's values is safeguarded and compliance with current regulations is ensured, ensuring correct action in the market.

These policies and practices make it possible to ensure an adequate performance of the Company in the market, providing sufficient and timely information, promoting the equal participation of all shareholders, respecting their rights and those of interest groups, and strengthening senior management and administration of the company.

Thus, upon joining the company, all employees receive training and sign their adherence to these policies, expressing their full knowledge, commitment, and adherence to them.

For this, the company guides its actions through the following instruments that contain these policies and practices:

- Corporate Governance Code
- Corporate Code of Ethics
- Code of Ethics and Conduct for Suppliers
- Crime Prevention Model
- Environmental Policy

PURPOSE

"We are the logistics operator that connects people with the world creating and distributing value.
We grow by expanding our innovative and sustainable solutions, being a benchmark and a source of pride for Chile!"

OUR **VALUES**

We take care of life

In each of our decisions and actions we put respect for life first. We privilege safe work, ensuring respect for the environment and the communities.

We seek excellence and innovation

We care about being efficient, innovative, and exceeding our standards

We reach the goals working as a team

We are a link in a great chain, we practice fair play and caring for the partner. Working together we succeed in exceeding our goals and achieving high performance.

We have a passion for service

We are inspired by serving the development of the country, our clients, and the community.

We act with Commitment

We act with respect, we put all our capacity, energy to fulfill and honor the committed word.

COMMITMENT TO STAKEHOLDERS

In 2021, the company had to continue with the challenge of maintaining relationships with its different stakeholders. The organization had to learn to innovate in the ways of linking with its shareholders, employees, customers, suppliers and, above all, with the community. Puerto Ventanas S.A. is committed to all of them and through transparent relationships, based on trust, seeks to promote active cooperation, in order to responsibly relate to the social development of the country and ensure the sustainability of the business.

1. COLLABORATORS

Prioritizing the health and safety of employees and their families and promoting respect, collaborative work, development opportunities and ethical behavior, strengthens trust and enhances training. Thanks to the development and growth of each of them, it is possible to maintain excellence in the operational continuity of the port.

2. INVESTORS AND SHAREHOLDERS

Generate the highest profitability for the business with a long-term vision and high standards of quality, transparency, and access to relevant information for making timely and efficient decisions.

3. CLIENTS

The organization seeks to offer an excellent service, establishing long-term relationships with efficiency, innovation, and operational continuity. Adapt to customer needs, delivering innovative, timely and safe solutions to provide the best service to its customers.

4. SUPPLIERS

Long-term and mutually beneficial relationships are promoted through fair, diligent and timely treatment with clear rules for both parties. The Port is committed to working in instances that favor and empower local suppliers, committed to the environment and the sustainable development of the community.

5. COMMUNITY

Puerto Ventanas S.A. is a pioneer company in the area in establishing relationships based on trust and transparency, where the interests of the community, the expectations of society and sustainable development, are considered in the decisions and activities of the company. We value cultural identity, the contribution to the quality of life and local, regional, and national development, with actions that contribute to providing a harmonious, collaborative, and respectful coexistence, establishing open and participatory relationships.

6. AUTHORITIES

Relations based on transparency and formality are established with authorities and regulatory bodies of the business with the aim of fully complying with the legal regulations and regulations that apply to its operation.

7. COMPETITORS

For Puerto Ventanas S.A. it is essential to sustain and maintain relationships based on the principles of free competition and the best ethical and business practices

8. GREMIAL ASSOCIATIONS

Collaborative relationships are established, contributing with the best practices in the industry and the environment, which directly benefit the workers, the community, and the operational continuity of the port.

THE STRATEGY AND MODEL OF BUSINESS

The business strategy of Puerto Ventanas S.A is based on consolidating its current position as the main bulk port in the central zone, growing in the port operation of liquid and solid bulk, and expanding its operations inside and outside the country.

This strategy and business model has allowed the company to maintain its leadership and position in the delivery of comprehensive and flexible port services, with efficient management focused on the client.

Thanks to this position and the incorporation of new technologies and process optimization, the company has been able to respond to the challenges of climate change and the national and international market. To this is added the permanent search for opportunities and new projects aimed at growth in the port operation of liquid and solid bulk and the expansion of its operations in different areas outside of Quintero Bay.

The changes in the environment derived from the pandemic and the socio-political changes in the country have made the strategy and business model of Puerto Ventanas S.A. has been adapting to the context and new challenges

CONTEXT AND STRATEGIC CHALLENGES OF PUERTO VENTANAS S.A

EFFECTS OF CLIMATE CHANGE

126 days that the port was closed because of the surge, is an evident reflection of the climate change that affects our planet. The surge and the height of the waves in the pier sector have implied an average of 113 days of port closure in the last 3 years and, consequently, the stoppage of operations associated with associated with the movement y transfer of cargo at the pier site.

DECARBONIZATION OF THE ENERGY GRID

Our country has had a strong incorporation of renewable energies in the energy grid in the last decade and the objective is to reach up to 70% by the year 2050. This, together with the decarbonization plan, has directly impacted one of the most important cargos that moves Puerto Ventanas S.A: coal. In this way, the volume of the cargo that gave rise to the port has been significantly affected, because of the technological development for the generation of renewable energies that, although they have a positive effect on the environment, suppose an accelerated process of replacing the coal-fired power plants

ALIGNMENT WITH **CHILE'S LONG-TERM CLIMATE STRATEGY**

Climate change is one of the great challenges facing the entire world. Chile, as an active member of the United Nations Framework Convention on Climate Change (UNFCCC), presented its **Nationally Determined Contribution** (NDC), within the framework of the **Paris Agreement**, committing to develop and implement climate policies and actions that allow local level adaptation, mitigation, and compliance with global agreements.

Thus, the Ministry of the Environment, through the **Climate Change Office**, is responsible for proposing policies and formulating plans, programs, and action plans on climate change.

What is the Long-Term Climate Strategy?

The **Long-Term Climate Strategy** is the instrument that defines the general long-term guidelines that the country will follow in a transversal and integrated manner, considering a 30-year horizon, to face the challenges presented by climate change; move towards a development low in greenhouse gas emissions, until reaching and maintaining the neutrality of their emissions; reduce vulnerability and increase resilience to the adverse effects of climate change; and, to comply with the international commitments assumed by the State of Chile in the matter.

Finally, the sustainability strategy of Puerto Ventanas is aligned with the aforementioned context, prioritizing the focuses mentioned below:

STRATEGIC FOCUSES
ALIGNED TO THE PURPOSE

- Capitalize on their experience as specialists in the storage, stowage and unloading of cargo, seeking to generate a network of ports outside of Quintero Bay, as operators or any other figure, which allows them to expand their operations. Growth is consistent with the transforming purpose.
- Modern, innovative port, characterized by being in a permanent search for solutions to the needs of its current or potential clients. Innovative and non-trend follower. Develop solutions.
- Port with a marked seal of sustainability, which operates with a recognized positive impact on the environment; appreciated by the communities where it operates; the safety of its workers is an untradable value; operates with committed/satisfied workers who recognize the port as the best place to work; benchmark in the port industry. Its culture is shared with its subsidiaries and contractors.
- For Puerto Ventanas S.A, the workers are and have been a fundamental pillar in the development of the company. The relationship between workers and the company is based on bonds of trust and mutual respect, prioritizing permanent dialogue and open communication.

BUSINESS OPPORTUNITIES AND RISKS

In general, the port industry, and in particular bulk ports, face complex and challenging scenarios. Puerto Ventanas S.A has mechanisms that seek to minimize the risks and uncertainties present in the business.

In order to generate value for our stakeholders and make the operation sustainable, management, risks and investment opportunities are constantly evaluated. This makes it possible to deal effectively with uncertainties, as well as the risks and opportunities associated with them.

In the risk analysis process, Puerto Ventanas S.A determines the probability and impact of each of them. If the probability is high and the impact is high, efforts are devoted to eliminating, controlling, or mitigating them. However, when risks are detected that have a high impact but a low probability of their occurrence, the priority is to monitor and control them.

A. OPPORTUNITIES

During the year 2021, the management of Puerto Ventanas S.A has continued the growth and diversification plan established by shareholders and board of directors. This, in a challenging environment resulting from the consequences of the pandemic and the uncertainties inherent to the political changes that the country has undergone.
In this way, new opportunities have been identified and new logistics-port hubs have been strengthened in the north of the country.

A.1. STRENGTHENING OUR SEGMENTS

Since 2015 Puerto Ventanas S.A. has been working to anticipate the changes that are expected in the market as a result of the diversification of the energy grid. For this reason, a commercial plan has been developed that has allowed for the diversification of loads, especially with the consolidation of clean grains, reaching a total of 446,470 tons during 2021, reaching a growth rate of 9% in the last 5 years.

Puerto Ventanas S.A is constantly concerned with finding cargo alternatives that are compatible with the terminal infrastructure. In this sense, land has been prepared and a new warehouse was built with the aim of having a broader offer for current and future customers

A.2. INFRASTRUCTURE AND PRODUCTIVITY

All investments in terms of modernization and infrastructure allow Puerto Ventanas S.A to increase the opportunities to provide excellent services to its clients.

Thus, for example, to mitigate the impacts resulting from the closure of the port due to tidal waves, during 2021 Puerto Ventanas S.A has incorporated new technologies such as a new dynamic mooring system, called “Shoretension”. It is a state-of-the-art equipment that is used to complement the moorings of the ship, providing security in the operation.

Added to this is the inauguration of a new multipurpose warehouse that allows the port to increase its storage capacity, adding value to its services. With this new warehouse, the terminal continues to grow, making high standard facilities available to its customers to meet their requirements.

With the aim of improving productivity and increasing the availability of its berthing sites in the face of climate changes that have impacted Puerto Ventanas S.A, the General Directorate of the Maritime Territory and the Merchant Marine and the Port, signed a protocol that establishes the electronic exchange of data in relation

to waves, tides and winds that affect our dock. This has made it possible to optimize decisions and, at the same time, effectively program operations in order to ensure the reliability and security of the terminal.

A.3. INNOVATION AND CONTINUOUS IMPROVEMENT OF PROCESSES

In 2020, and because of the Covid 19 pandemic, a transformation process began strongly within the company and the concept of circular economy was consolidated, focused on promoting digital transformation, traceability of products and materials, greater energy efficiency, carbon footprint reduction, among other aspects.

Thus, during 2021, Puerto Ventanas S.A. has continued to work along these lines, supporting circular economy initiatives. Added to this is the wave energy project, an initiative developed by Corfo and executed by the company Alu Energy, a project that will allow the movement of waves to be used as a source of energy, thus contributing to the sustainable development of the commune of Puchuncaví and the country.

In 2021, the self-control measures that Puerto Ventanas S.A had been applying for the discharge of coal were formalized and recognized by the Maritime Authority. The foregoing consolidates the differentiation that the Port has in caring for the environment with respect to other terminals in the country, in terms of a much more demanding operating model.

B. STRATEGIC RISKS

The executive team and the board of directors of Puerto Ventanas S.A work permanently to assess the strategic risks that could affect the company. This information is systematized in a risk register, which is constantly updated in order to maintain adequate control to manage and mitigate them, actively intervening at all levels of the organization with clearly established roles and responsibilities.

Since 2020, the risks associated with Covid 19 have been incorporated, since it is necessary to maintain and update the measures for the protection of collaborators and maintain operational continuity.

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B.1. DECARBONIZATION

For some years now, the decarbonization process of the energy matrix announced by the government has had an impact on the volume of coal received at the port. During 2021, there was a 1.4% decrease in tons transferred compared to 2020, and although there has not yet been a significant effect in terms of cargo volume, this figure is expected to rise in the coming years. considerably. Given the above, efforts should be focused on diversifying and consolidating strategic loads, such as grains, and increasing efficiency and labor flexibility in order to generate alternative uses for the infrastructure and to mitigate the effect of this fall.

Additionally, due to the privileged location of the company and the demand generated by the supply of products in the central-southern macro zone, the Port has a great opportunity to develop and design technical solutions that are aligned with an innovative commercial proposal. For this, the Port requires that the entire organization generate this change, given that an important step is needed in terms of having a human capital that has modern, integrated, innovative and flexible thinking.

B.2. ECONOMIC CYCLE

The performance of the national and international economy has an important relevance both for the operation of Puerto Ventanas S.A and for the supply and demand of our clients, since this directly impacts their imports and exports.

Thus, the variation in global or local economic conditions as a result of political uncertainty during 2021, may impact the demand for some of the products mobilized by Puerto Ventanas S.A.

C. OPERATIONAL RISKS

C.1. NATURAL DISASTERS

Chile is a country that is constantly at risk of natural disasters that could affect the normal operation of Puerto Ventanas S.A. To avoid or minimize the impact of possible risks that may be affected, the Port has developed specialized operations, contingency plans and has associated insurance.

These measures allow the company to have updated contingency plans aimed at caring for employees.

C.2. WEATHER CONDITION

The closure of the facilities due to weather conditions and swells is an important challenge when maintaining the operability of the port. These conditions have generated a significant impact given that its open port characteristics expose it more rigorously to these conditions. Considering that the episodes of storm surges do not diminish, but increase, reaching 126 days of closed port in 2021, Puerto Ventanas S.A has seen the need to seek solutions and investments that allow it to meet the commitments and requirements of its clients.

One way is to improve productivity by being more efficient and complementarily incorporating technologies such as Shoretension, which was implemented in site No.3 of the pier and is also expected to be implemented in site No.5. Likewise, technical studies are being carried out to support the possibility of increasing the wave height parameter of 1 mt. to 1.5 mt to be able to operate and finally, progress is being made to obtain the authorization that allows the use of Site No.5 (south side), increasing port capacity. And along the same lines, the obtaining of equal maritime concessions for each site also stands out, which allows redistributing the load and increasing availability.

C.3. ENVIRONMENTAL IMPACT

The commitment to the environment of Puerto Ventanas S.A. is not to affect the environment in which its operations are carried out.

To this end, it has implemented certified and periodically updated environmental management policies and systems that ensure operational control, compliance with current regulations and the regulatory framework in each of the processes.

The timely identification of risks and the permanent verification of operations, seeking to achieve a world-class environmental standard, in accordance with the requirements of the environment in which we operate, allows us to have an integrated management system from which aspects are systematically addressed. environment of the operation. This, with a view to fulfilling the commitment to the environment, one of the strategic pillars on which the management of Puerto Ventanas S.A. is based.

During 2021, Puerto Ventanas S.A updated the ISO 50001 energy management system in its 2018 version and maintained the current ISO 14001 and ISO 9001 certifications without any non-compliance. The company received the Gold Seal of Energy Excellence, awarded by the Ministry of Energy and the Energy Sustainability Agency, which identifies and rewards organizations that have defined management, operational excellence, and energy efficiency as a crosscutting policy. Likewise, Puerto Ventanas S.A. It is the first port in Chile to participate in the Blue Certified Clean Production Agreement of the Ministry of the Environment to be certified in sustainable water management. In addition, it is the first port in the country to have obtained the Ecoports certification in 2016.

C.4. THIRD-PARTY STOPPAGES

In addition to the days of closure due to tidal waves, during 2021 there were also approximately 17 days of the port being blocked as a result of the conflict between some fishermen in Quintero Bay and a company in the sector. To these days of non-operation, 7 days of paralysis of the moorers, suppliers of some maritime agencies of the bay, were added, which shows that each year the scenario is more challenging and complex, and the organization must have the ability to anticipate, resolve, mitigate or generate a system to reduce the risk of dependence on users' providers. Added to this is a labor policy aimed at implementing people and benefits management programs focused on labor development and improving the quality of life of employees, the main engine of the company. In addition, during this year we worked together to reinforce vaccination and self-care campaigns to prevent Covid-19.

C.5. SECURITY OF THE INFORMATION

The pandemic brought with it the digitization of a large part of the processes within the company, which has led to exposure to computer attacks. The port has implemented measures aligned with those of the Sigdo Koppers Group, which promote good use of technology and a culture of cybersecurity.

D. FINANCIAL RISKS

D.1. EXCHANGE RATE

Puerto Ventanas S.A uses the US dollar as its functional currency to prepare its financial reports and accounting. For this reason, hedging policies have been established in order to reduce the impact associated with the risk due to variations in the exchange rate. Thus, during the year 2021, it was possible to mitigate the effects caused by the fact that the US currency rose $131. In this way, the Chilean peso experienced a very significant annual depreciation against the dollar, without generating negative impacts on the company.

D.2. MARKET ANALYSIS

The operation of Puerto Ventanas S.A. It is based on mainly long-term contracts and relationships with customers, and several of these contracts also have conditions that ensure minimum levels of activity, so market share has been stable despite the challenges in the industry. Given the above and considering that there is no guarantee of the entire activity, Puerto Ventanas S.A is constantly monitoring its client portfolio and looking for diversification opportunities.

PVSA

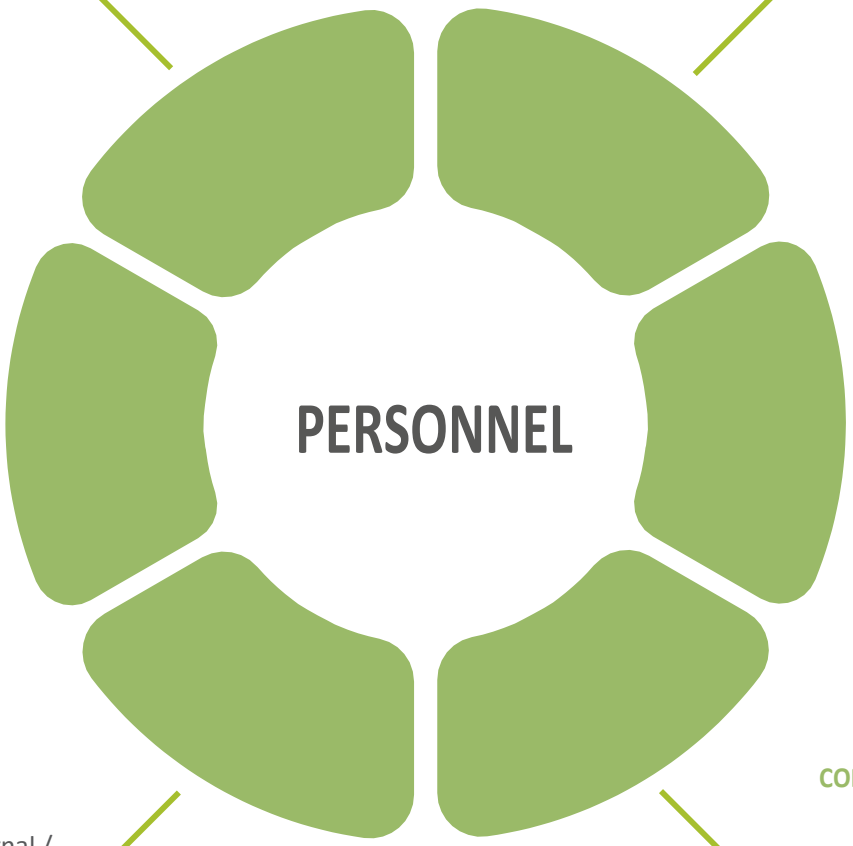
SUSTAINABILITY STRATEGY

As a member of the Sigdo Koppers group, Puerto Ventanas S.A has a strong commitment to sustainable management and operation, key aspects for the present and future development of the company. This has allowed it to achieve leadership in the sector, positioning the organization as a benchmark in the port industry.

The company has achieved an operation with high standards based on a sustainability model that integrates socio-environmental, safety, quality aspects and the permanent need to innovate. Located in an environmentally sensitive area, it further challenges it to consolidate a balanced relationship between economic, social, and environmental development. This has permanently motivated the company to innovate and develop a sustainable operational culture, in addition to an investment plan for improvement of processes.

The entire organization has been involved in this process, so that all employees are committed to the strategic objectives, including those established in the sustainability strategy of Puerto Ventanas S.A, which considers the safety and health of its workers, the care of environment, operational excellence, and building long-term relationships with all its stakeholders.

KEY ASPECTS OF THE SUSTAINABLE MANAGEMENT MODEL



ENVIRONMENT

- ISO 14001 Certification
- Normative compliance
- Green Port

SECURITY AND HEALTH

- ISO 45001 certified
- Zero Accidents and illnesses
- Safety culture

COMMUNICATION

- Internal / External
- Media management

INNOVATION AND CONTINUOUS IMPROVEMENT

- Innovation Culture
- Smart Port
- Internal "know how"

QUALITY

- ISO 9001 Certification
- Audit Processes (external / internal)
- Customer perception
- Operational excellence

COMMUNITY LINKS

- "Puerto Abierto" Corporation
- Open Door Policy
- Puchuncaví Identity and Culture
- Relationship
- Stakeholders

ACKNOWLEDGMENTS
AND CERTIFICATIONS - 2021

PUERTO VENTANAS S.A, ONE OF THE FIRST PORT COMPANIES IN THE COUNTRY TO RECEIVE "THE COVID SEAL"

The Workplace Safety Institute, IST, gave Puerto Ventanas the Covid Seal, after verifying that the company complies with all the requirements of the Labor Step-by-Step plan for the prevention of Covid risks in the different work areas of the Terminal.

STANDARD CERTIFICATION ISO 45001: HEALTH AND SAFETY MANAGEMENT

In 2021 Puerto Ventanas S.A successfully completed the certification audit and review of ISO standards. The company achieved the ISO 45001 Occupational Health and Safety certification, migrating from the current OHSAS 18001. In addition, the ISO 50001 Energy management system was updated in its 2018 version and the current Environment, ISO 14001 and ISO 9001 Quality certifications were maintained without any nonconformity.
The auditors highlighted the progress of the port in all areas and especially its management in the health contingency for the care of its workers, with the active involvement of workers' organizations and the administration.

ISO 9001
Quality Management Certification

ISO 45001
Health and Safety Management Certification

ISO 14001
Environmental Management Certification

ISO 50001
Energy Management Certification

INTEGRATED MANAGEMENT SYSTEM

By permanently optimizing its processes and improving the quality of the products and services it delivers, the Integrated Management System (IMS) allows the company to reduce costs, open access to new markets, increase its competitiveness and reduce its risks and impacts on the environment.

The IMS is made up of the ISO 45001 Occupational Health and Safety certifications, in addition to the ISO 50001 Energy management system in its 2018 version and the current Environment, ISO 14001 and ISO 9001 Quality certifications.

PUERTO VENTANAS S.A WAS HIGHLIGHTED FOR ITS LEADERSHIP IN ENERGY MANAGEMENT BY THE MINISTRY OF ENERGY

The company received the Gold Seal of Energy Excellence, awarded by the Ministry of Energy and the Energy Sustainability Agency. The specific objective of this Seal is to identify and reward organizations that have defined management, operational excellence, and energy efficiency as a transversal policy.

Along these lines, the Port implemented an energy management system, based on the requirements of the ISO 50001 standard, and has developed important initiatives to address the challenge of improving its energy performance systematically and sustainably.

ASIVA RECOGNITION AS A MODEL OF INNOVATION IN SUSTAINABLE DEVELOPMENT

Within the framework of the annual award given by the Association of Companies of the V Region (ASIVA), to organizations that stand out in different areas of their work, Puerto Ventanas was distinguished in the categories of Innovation and Sustainable Development in communities. The trade association recognized the Port for the implementation of its INPVSA program, which has managed to establish a culture of innovation within the Terminal.

INTERNATIONAL RECOGNITION IN ENERGY TRAJECTORY

The International Clean Energy Ministerial Forum (CEM) awarded Puerto Ventanas S.A a recognition for its leadership in Energy Management. The distinction recognizes organizations that have implemented energy management systems to achieve energy, economic and sustainability benefits.

HUELLA CHILE

To demonstrate the seriousness of its actions and reduce greenhouse gas emissions, Puerto Ventanas participates and declares the National Carbon Footprint Inventory Program "HuellaChile" administered by the Ministry of the Environment, being recognized again during the year 2021 in the categories of Quantification and Reduction. It should be noted that Puerto Ventanas was the first company at the national level to voluntarily declare its greenhouse gas emissions for 2013 in HuellaChile.

HuellaChile
Programa de Gestión del Carbono

PUERTO VENTANAS IS THE TERMINAL WITH THE HIGHEST NUMBER OF CERTIFICATIONS IN THE COUNTRY

Puerto Ventanas S.A is the Chilean maritime Terminal with the most certifications, according to an analysis carried out by the Maritime and Port Chamber (CAMPORT). According to data released by CAMPORT, Puerto Ventanas has eight certifications.

The terminal has been certified with ISO 14001, ISO 50001, ISO 9001, and ISO 45001. In addition, it has the HuellaChile seals, PERS-EcoPorts Certificate and Maritime Terminal Operation Certificate O-071.

2. DEVELOPMENT OF THE INFORMATION REQUIRED BY THE ECOPORTS GUIDE

2.1. ENVIRONMENTAL POLICY STATEMENT

Puerto Ventanas S.A has an **Integrated Management System, since 2013**, which is the basis for its continuous improvement process that allows it to deliver a quality service guaranteeing the safety, health of all those who perform functions in the Port and care for the environment.

The Integrated Management System (IMS) is made up of ISO 9001 Quality standards, ISO 45001 Health and Safety, ISO 14001 Environment, and ISO 50001 Energy management through which it manages and optimizes operations in a sustainable and consistent manner, in accordance with the policies and strategic plan established by Puerto Ventanas S.A.
The integrated management system is reviewed every 6 months by LRQA and covers the evaluation and performance in the effectiveness and implementation of the four standards.

Puerto Ventanas S.A is committed to carrying out its activities with high environmental standards. Therefore, environmental management is a strategic objective that is applied in processes, business strategies and decisions at all levels of the organization. To achieve this purpose, the port has an environmental management system that is structured according to the requirements of the ISO 14001:2015 standard, recertified in 2019 for three years, which verifiably establishes a systematic and proactive management of the entire organization for the environmental protection.
It considers the monitoring of legal-environmental commitments to identify all obligations by area and sphere of responsibility, ensuring compliance.

Currently, Puerto Ventanas S.A maintains the environmental management certification according to the **ISO 14001:2015** standard. Certification to this standard is **valid until December 2022**.

Puerto Ventanas S.A seeks to satisfy the needs of customers, through continuous improvement in the performance of the different processes, with the primary protection being for health and safety of our employees, the environment and optimizing the use of energy, generating sustainable development for our activity, our collaborators, and driving the economic development of the region.

PVSA
PUERTO VENTANAS S.A.

ECOPORTS
PERS CERTIFIED

INTEGRATED MANAGEMENT SYSTEM POLICY PUERTO VENTANAS S.A.

Puerto Ventanas S.A. is the main private port in the central region of the country, which offers comprehensive and specialized services in the transfer, storage, dispatch of solid and liquid bulk and break bulk cargo. Declares its commitment to continuous improvement in the performance of its processes, having as its main concern health care, worker safety and the environment, seeking the objective of avoiding risks or illnesses to people, including the commitment to eradicate of silicosis, minimize the impact on the environment, satisfy the needs of its customers and optimize the use of energy, maintaining with all this the sustainable development of our activity, of our collaborators, and promoting the economic development of the region and the country.

To fulfill its purpose, ***Puerto Ventanas S.A.*** is committed to:

1. Provide and maintain safe work environments for both its staff and other people who are in its facilities.

2. Ensure legal compliance and national and international regulations applicable to the activities of its business and corporate standards, related to the principles of safety, occupational health, the environment, energy management and the quality of its services and processes.

3. Implement the necessary and feasible resources to ensure compliance with the objectives and goals established according to the following principles: quality of services, customer satisfaction, protection and prevention of contamination, prevention of accidents and occupational diseases, eliminating hazards and reducing risks in the processes, as well as the design and purchase of efficient products and services, to improve energy performance.

4. Keep the information of the Integrated Management System available to all the personnel of Puerto Ventanas S.A., as well as having spaces for consultation and participation, to promote initiatives, innovation, and the identification of risks and improvement opportunities, in accordance with the aforementioned principles, to achieve the objectives.

Jorge Oyarce Santibañez
General Manager
Puerto Ventanas S.A.

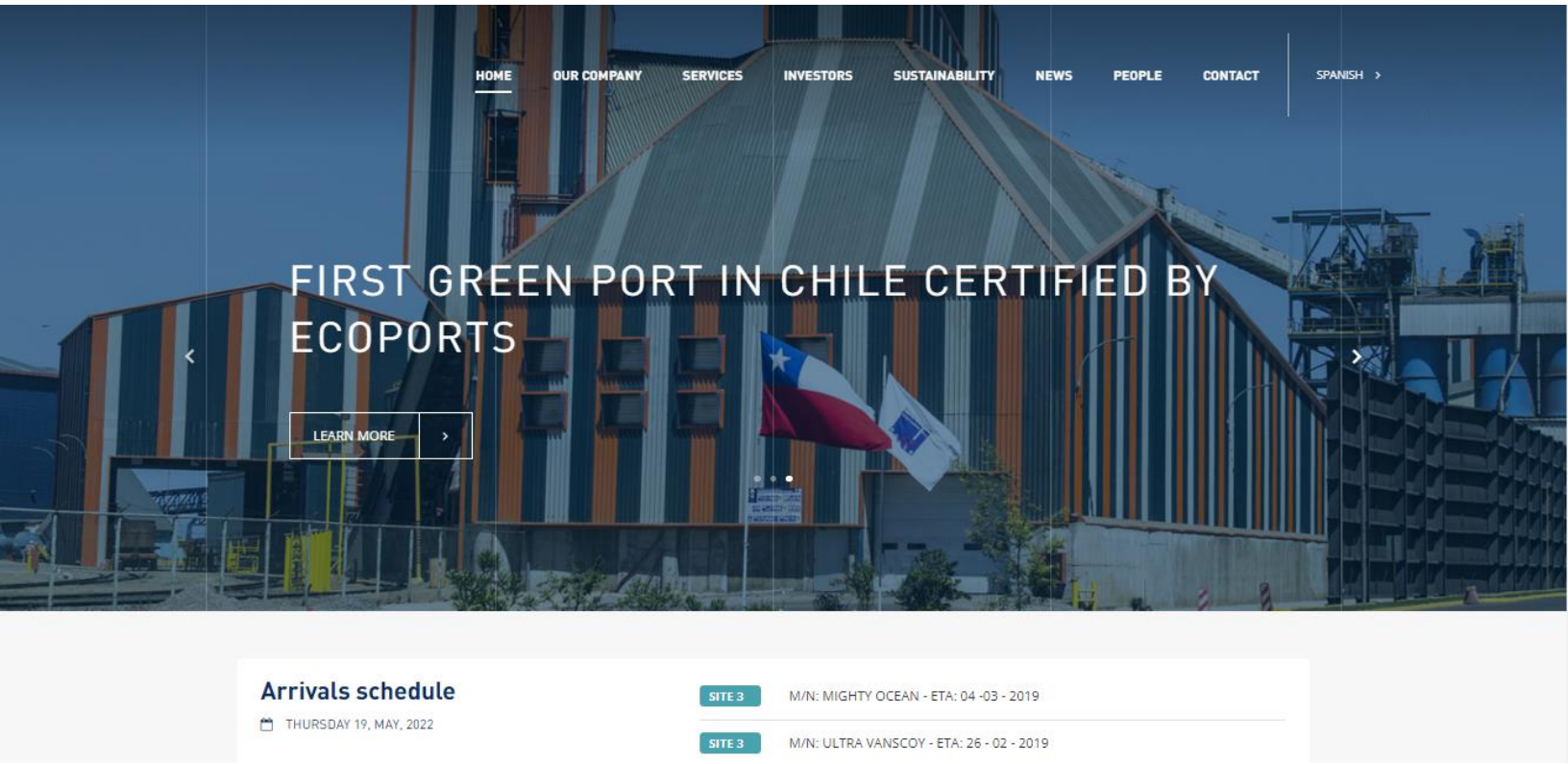
PURPOSE OF PVSA

We are the logistics operator that connects people with the world, creating and distributing value.

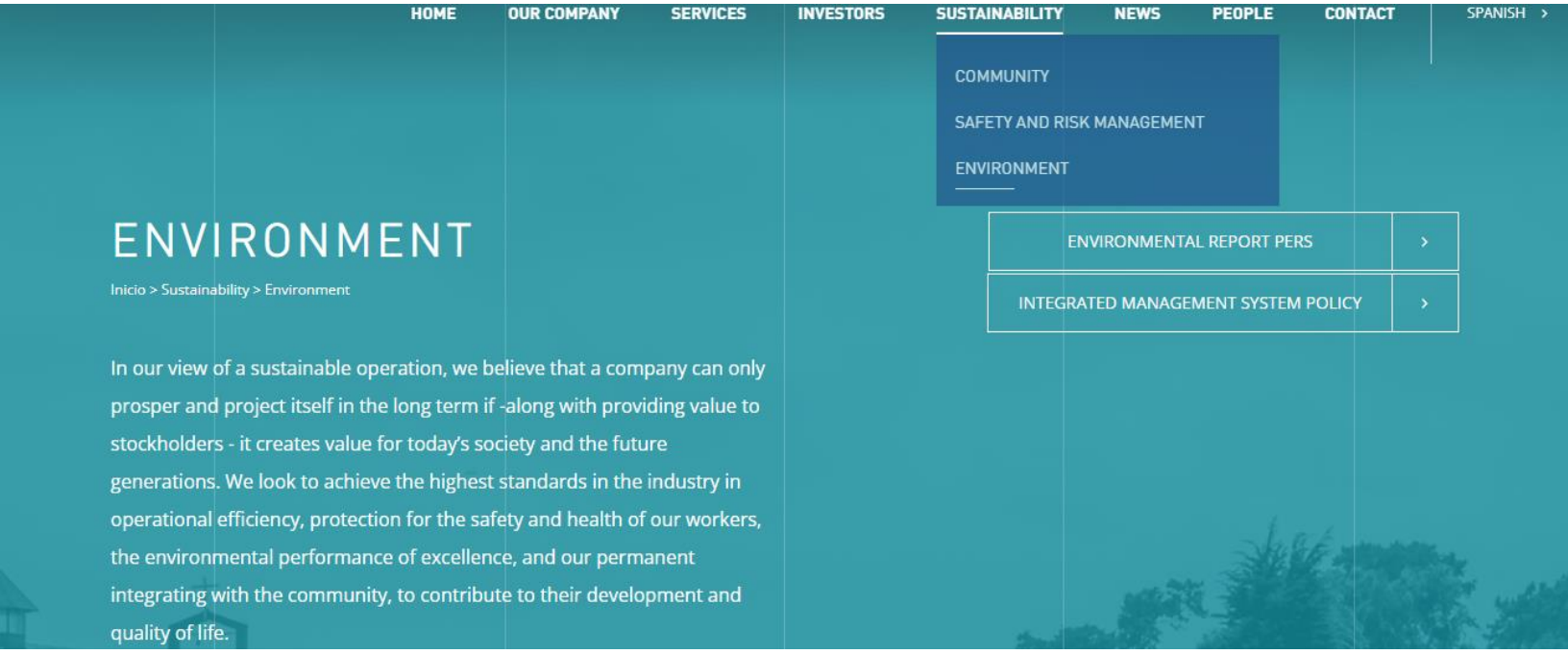
We grow by expanding our innovative and sustainable solutions, being a benchmark and a source of pride for Chile!

July, 2021

Integrated Management Policy and Environmental Report can be downloaded from Puerto Ventanas website: www.puertoventanas.cl.



In addition, **verified PERS reports** are included in the Sustainability and Environment section of the website: https://puertoventanas.cl/en/sustainability/environment/



2.2. LOG OF ENVIRONMENTAL ASPECTS, LEGAL REQUIREMENTS AND PERFORMANCE INDICATORS

2.2.1. Identification of aspects and assessment of environmental impacts

To define the methodology to be used for the identification and evaluation of the environmental aspects, Puerto Ventanas follows an internal procedure "P-002-SGI Identification of Environmental Aspects and Evaluation of Environmental Impacts", whether in normal or extraordinary operation. This procedure is applicable to all activities and services currently performed in Puerto Ventanas.

- **Responsibilities Table**

Stages	**Responsible**		
	Environment and Communities Coordinator	Environment Supervisor	All the staff
Evaluate environmental impacts		**X**	
Develop management plans for the management of significant environmental impacts	**X**		
Control aspect - environmental impact			**X**
Communicate the procedure	**X**		
Comply with the procedure			**X**

- **Identification and evaluation of Environmental Aspects and Impacts**

The process of identifying environmental aspects and evaluating their impacts on the environment begins with the determination of activities and services that are carried out in the PVSA facilities. In each process or activity, the aspects are determined, for which the following elements are considered:

- Incorporation of new technologies
- Equipment to use.
- Sources that generate pollution or affect the environment.
- Emissions or downloads.

- Description of the waste.
- Raw materials to use, which become waste.

For each aspect, the environmental impacts caused, and the media impacted are established.

- **Identification of Environmental Impacts**

1. Identify all the activities (normal, abnormal, and emergency) that are carried out in Puerto Ventanas, whether they are developed by the staff, contractors, or visits.
2. Identify the environmental aspects in each of the activities identified in the previous point. The way to carry out the identification of environmental aspects can be carried out by interviews with personnel, review of incident records, inspections of operations, measurements, or previous data.
3. Determine the environmental impacts for each environmental aspect (an environmental aspect can give rise to one or more environmental impacts).
4. Identification of the control and / or mitigation measures that currently exist in Puerto Ventanas.

- **Characterization of Environmental Aspects and Impacts:**

Once the identification of environmental aspects and impacts has been completed, the nature of the environmental aspect is assessed, considering the following criteria.

✓ **Frequency:** Periodicity with which each incident or situation that affects the environment occurs.

NUMBER	FREQUENCY
1	It happens, or it would happen in more than 5 years
2	It happens, or it would happen between 1 to 5 years
3	It happens, or it would happen in less than 1 year
4	It happens, or it would happen every 1 month
5	It happens, or would happen every 1 week
6	It happens, or would happen continuously or daily

✓ **Severity**: The level of damage caused by the environmental aspect or impact.

NUMBER	SCALE AND SEVERITY
1	***Despicable:*** It is confined to interior of buildings, to a team or activity, duration of a week.
2	***Low:*** It is confined to the interior of property, in one or more areas, its effects can be extended to 1 month.
3	***Medium:*** It can cause damage to the environment or damage to health, its effects can last for more than a year.

4	***High:*** It can cause damage to the health of the community and/or the environment, with acute effects (damages instantly)
5	***Very High:*** It can cause harm to the health of the community and / or the environment being toxic (manifests over time)

- ✓ **Legislation**: Determines whether the aspect relates to legal requirements or other requirements.

VALUE	LEGISLATION OR COMMITMENT
1	There is no legislation
3	There is legislation and / or voluntary commitments

- **Significance of the Environmental Impact (S):**

The evaluation of the significance of the environmental impact (S) is the result of the following operation:

S = F x Se x L

Where:

- *Frequency* = **F**
- *Severity* = **Se**
- *Legislation* = **L**

- **Results analysis:**

S	Control Level	
From 1 to 20	**Not significant**	Controls must be described in the matrix.
From 21 to 45	**Significant**	There must be controls and/or measures in proportion necessary to meet the degree of significance. Evaluate the need to establish and/or prioritize objectives and goals.
Equal to or greater than 46	**Very significant**	Controls and/or measures must exist in proportion necessary to meet the degree of significance. They must be considered in the elaboration of objectives and goals.

To monitor and control significant environmental aspects in Puerto Ventanas, the following tools can be used:

- Environmental management programs.
- Procedures and/or operational instructions.
- Monitoring, among others.

2.2.2. Identification of legal requirements and other requirements

- **Environmental regulation**

Puerto Ventanas S.A carries out a review of legal and regulatory requirements within the framework of its management system that contains the requirements identified in environmental matters, which is disseminated through the internal procedure "P004-SGI" about identification and monitoring of environmental legal requirements.

In this context, the EVA platform was included as a legal management tool to manage the regulatory framework applicable to areas of Puerto Ventanas in terms of Environment, Safety, Operational Health, Quality and Energy Efficiency. In this way, all users can keep a clear and precise follow-up of the degree of compliance with all the legal management of their processes.

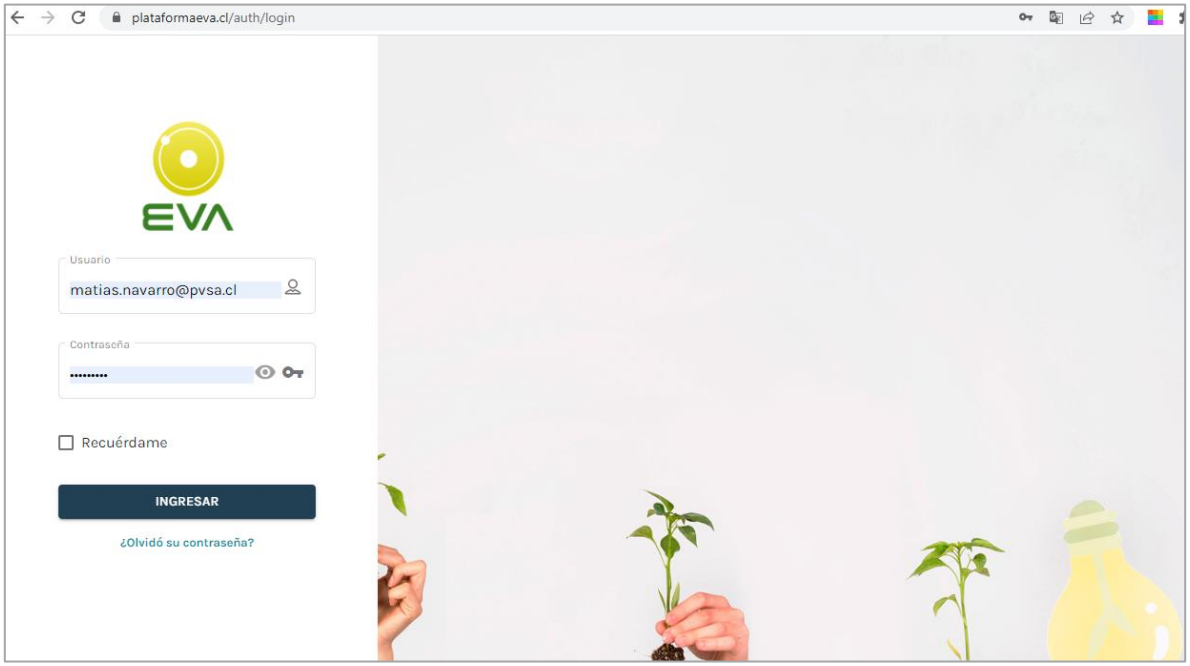


Figure 1: EVA platform home page

Upon successful login, the first thing you can see is the main menu of the web page (Figure 2). In it you can see the access to different contents of the legal management framework of each area. The main functionalities of EVA are highlighted in figure 2 and correspond to the base tools with which you can manage the regulatory framework for the different processes.

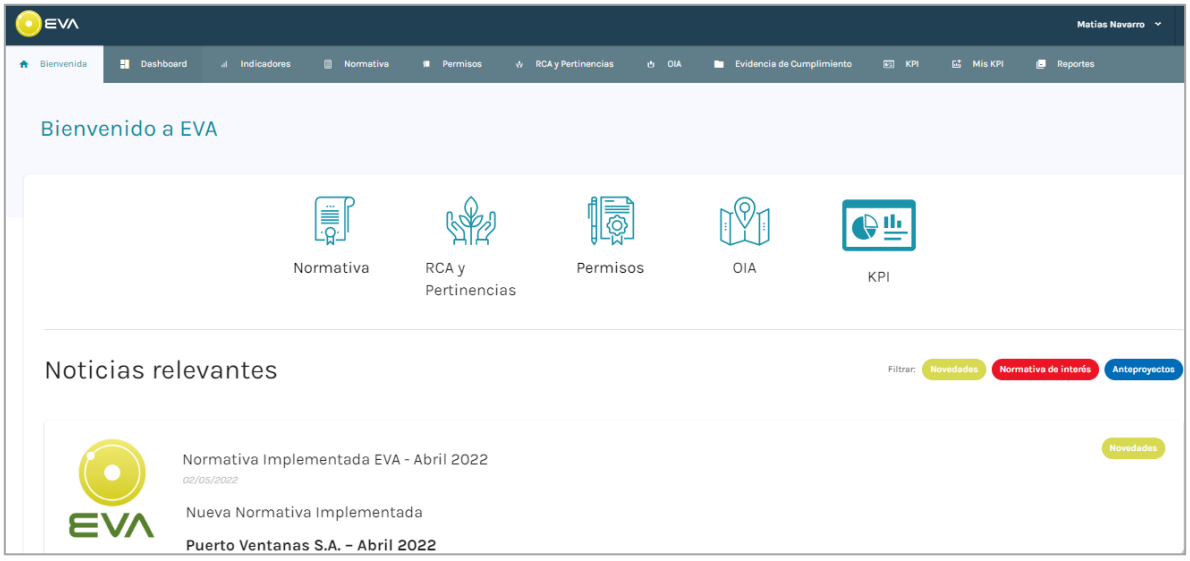


Figure 2: EVA Platform main menu

Main menu: This option gives access to all the consolidated information regarding legal requirements and process management. Which are divided into the 4 options as indicated below:

a. ***REGULATIONS***: In this option, all the regulations applicable to your processes, their respective action plan and status monitoring can be found in an orderly manner. You will be able to filter the content, to clearly visualize the regulations that apply to each work area within the project or filter according to the type of applicable legislation.

b. ***PERMITS***: The platform allows you to view a library of permits identified as applicable to your processes and along with them the respective documents that support your evidence of compliance.

c. ***ENVIRONMENTAL QUALIFICATION RESOLUTIONS (EQR)***: This section compiles all the information regarding the EQR of the projects. You will be able to view and manage all the legal compliance information of the project.

d. ***OIA***: In this section EVA allows you to associate your regulations to your works, facilities, and activities, for which it considers the entry of WGS84 coordinates to georeference the OIA and then be displayed on a map.

The environmental aspects and the legal requirements applicable to Puerto Ventanas S.A. operations are kept in a log, and each area has a matrix of environmental aspects with their respective controls and the legal requirements applicable to their processes.
The table presented in Appendix No.1 shows the environmental aspects, controls, and legal requirements, updated and applicable to the operations and processes of Puerto Ventanas S.A.

2.2.3. Environmental Performance Indicators

Puerto Ventanas S.A has a series of indicators, through which it monitors compliance with its legal and regulatory obligations and measures the improvement of its environmental performance and the continuous improvement of its environmental management system. Each indicator has a defined goal at each point.
The main environmental performance indicators of Puerto Ventanas S.A are:

INPUT INDICATORS

- **Water Consumption**
- **Electrical Energy Consumption**
- **Diesel Consumption**
- **Gasoline Consumption**

OUTPUT INDICATORS

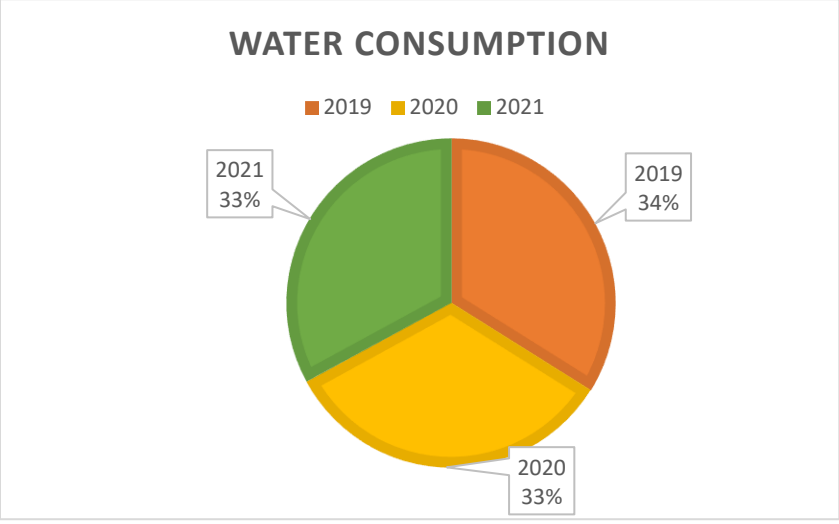
- **Waste**
- **Sewage water**
- **Recycling**
- **Greenhouse gases**

OTHERS MANAGEMENT INDICATORS

- **Compliance EQR:** Compliance 100% stage of construction and operation.
- **Incidents with environmental impact:** 0 in the years 2017, 2018, 2019, 2020 and 2021.
- **Environmental Training**

1. Water Consumption

Target:
Promote the efficient use of water and maintain or reduce up to 2% water consumption per ton transferred (m3/Ton), according to the 2019 baseline.



The following table shows the water consumption (m3) of the facilities during the last 3 years:

Table 1: Water consumption of all the facilities

Year	Water consumption (m3)
Year 2019	31,952
Year 2020	31,267
Year 2021	31,075

Table 2: Indicator of water consumption per ton transferred

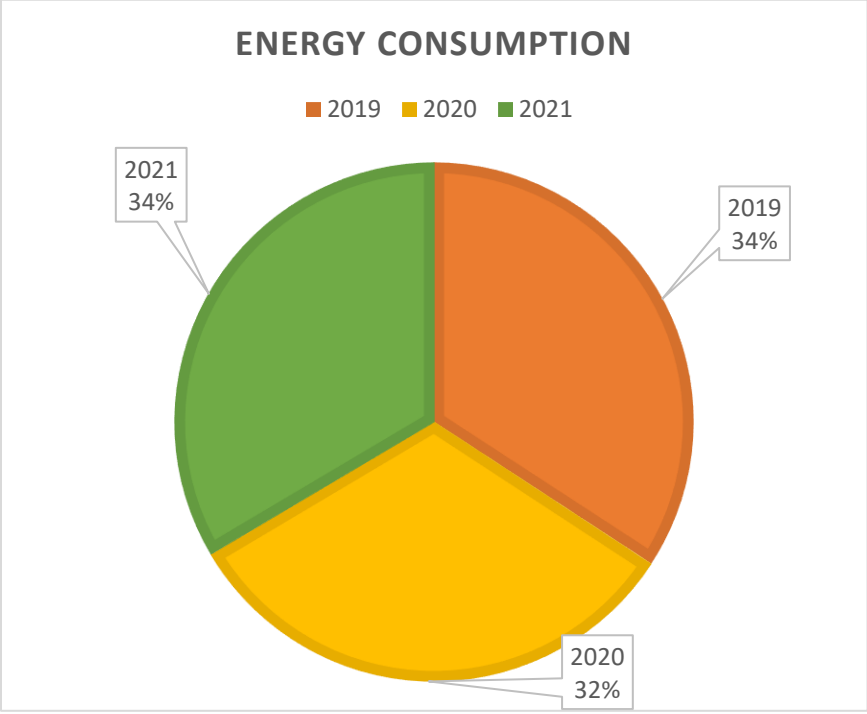
Year	2019	2020	2021	Unit
Transferred Cargo Functional Unit	0,005	0,005	0,005	m3/Ton

According to the indicator, the use of water per ton transferred has remained within the expected values. Water consumption has been very similar in the last 3 years, however, as will be mentioned on pages 74 and 76 of this report, in order to optimize and create awareness about the use of water resources, in 2021, Puerto Ventanas adhered to the **Blue Certified Clean Production Agreement (Blue Certified CPA)**, whose purpose is to promote sustainable water management by the private sector, through the evaluation and subsequent management of the **water footprint**.

2. Electrical Energy Consumption

Target:

Maintain or improve between 2-5% the efficiency in energy consumption per ton transferred (KWh /Ton), according to the 2019 baseline.



After the development of the projects during the year 2018, that included the construction of a new solid bulk transfer system at Pier No. 3 and a Ship-loader with an installed capacity of 2.75MVA, 2019 is established as the baseline of energy consumption as it is considered a year of entry into the permanent regime of the new systems and operational processes.

Table 3: Electrical energy consumption of all the facilities

Year	2019	2020	2021	Unit
Electrical Energy Consumption	9,070,009	8,552,159	8,888,312	kWh

Regarding the baseline, it was calculated using the energy and mobilized cargo data for the year 2019. The monitoring of energy performance is carried out through the monthly and annual analysis of energy consumption using linear regression metrics, prioritizing the significant uses of the energy with the following energy indicators (IDE):

- Total electrical consumption per transferred Ton (kWh/ ton)
- Total electrical consumption per transferred Ton and by type of system and process (kWh/ton).

Table 4: Energy performance indicator of all the facilities

Year	2019	2020	2021	Unit
Transferred Cargo Functional Unit	1.243	1.198	1.231	kWh/Ton

The goal is to maintain or improve energy performance at the Puerto Ventanas facilities, that is, to use less energy to move 1 ton of cargo. This has been verified in the table above. For example, compared to the year 2019, the year 2020 had an improvement in energy performance of 5.7%, while the year 2021, the performance improved by 2% compared to the base year.

On the other hand, it has been possible to separate the energy performance for different processes, including the reception of copper concentrate. If the year 2021 compares the projected energy IDE with the actual IDE, the performance in the energy indicator improves in 3 processes for the reception of copper concentrate in the storage warehouses: Andina, La Greda and Anglo American.

Table 5: Energy performance indicator processes for the reception of copper concentrate

Year 2021	Projected energy IDE 2021	Actual energy IDE 2021	Unit
Warehouse Andina	0.390	0.378	kWh/Ton
Warehouse La Greda	0.457	0.451	kWh/Ton
Warehouse Anglo American	0.384	0.347	kWh/Ton

According to the table above, there is a positive variation in relation to the energy used to move a ton of cargo. In the 3 processes mentioned, the average performance improved annually by 11% for warehouse Andina, 1% for warehouse La Greda and 3% for warehouse Anglo American.
The improvement in the performance of the energy indicator allowed saving 40,873 kWh and approximately USD 5,981 during the year 2021.

3. Gasoline Consumption

Target:

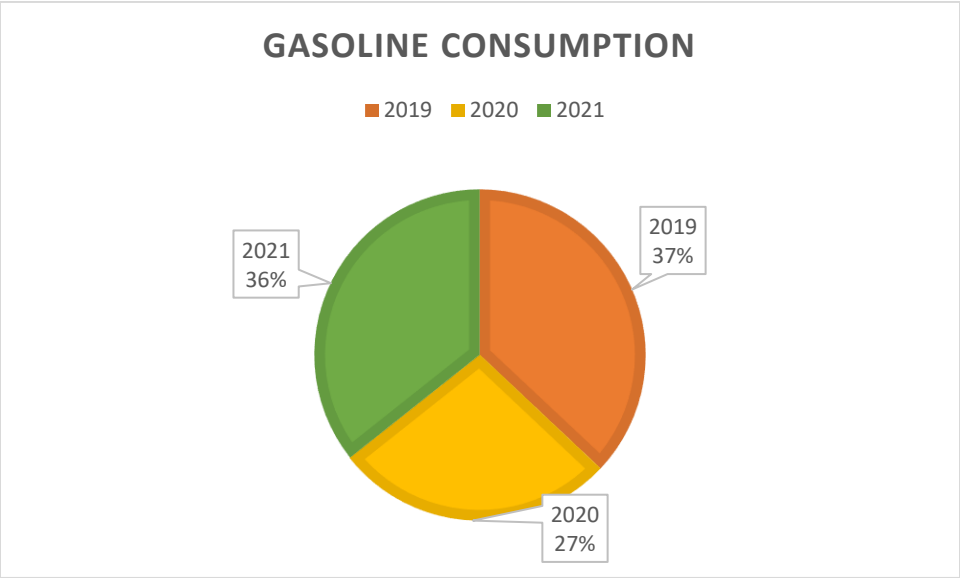
Maintain or improve between 2-5% the efficient use of gasoline consumption by vehicle (Lt-year / Vehicle), according to the 2019 baseline.

The gasoline consumption table is shown below:

Table 6: Gasoline consumption in vehicles

Year	2019	2020	2021	Unit
Gasoline Consumption	26,100	19,249	25,144	Lt

Gasoline consumption is oriented only to the use of vehicles by the Puerto Ventanas Staff (inside and outside the facilities of Puerto Ventanas). Since 2019, the number of vehicles has been 6.



Between 2019 and 2021, gasoline consumption per vehicle has decreased. Compared to 2019, in 2020 gasoline consumption per vehicle decreased by almost 36%, also because of the effects of Covid 19 reducing trips to the facilities. While in 2021 the decrease was 4%.

This can be seen in the following table:

Table 7: Gasoline consumption per vehicle

Year	2019	2020	2021	Unit
Functional Unit per Vehicle	4,350	3,208	4,191	Lt-year/vehicle

Puerto Ventanas has implemented actions for which it has generated very strict Leasing contracts on issues of vehicle efficiency, performance, and technology. In addition, every 100 thousand km the vehicles are renewed by a technology that improves the efficiency of gasoline consumption.

As an organizational measure and strategy, electromobility alternatives are being evaluated to improve the efficiency and performance of vehicle fleets. In addition to reducing the carbon footprint and promoting more environmentally friendly equipment.
Also, as will be described on page 80 of this report, Puerto Ventanas participated in 2021 in an initiative called the Electromobility Accelerator Program, whose objective is to identify opportunities for electric mobility in the company fleets and design an electromobility pilot project adapted to its conditions. This program was administered by the Energy Sustainability Agency and supported by the Ministry of Energy.

4. Diesel Consumption

Target:

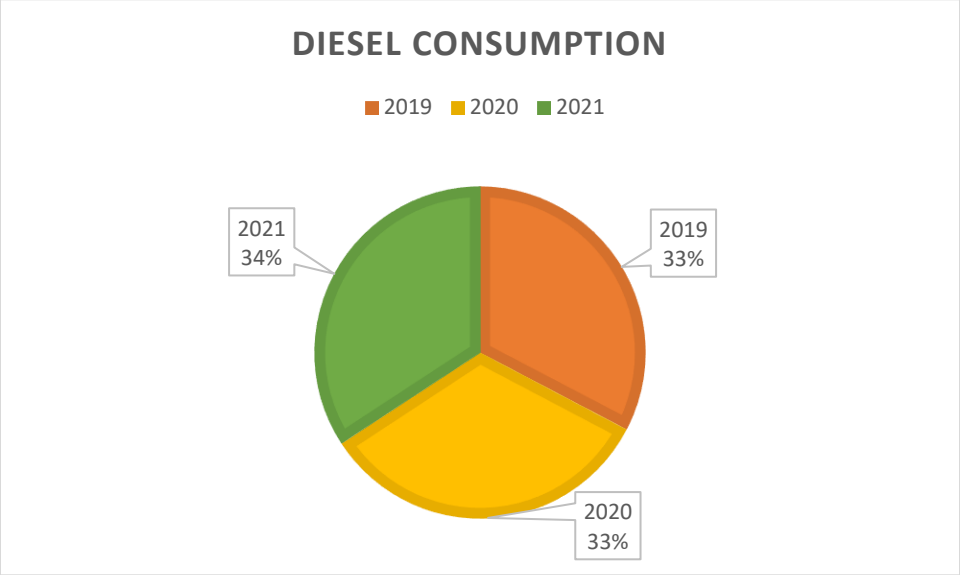
Maintain or improve between 2-5% the efficient use of diesel consumption (Lt / Ton), according to the 2019 baseline.

Diesel consumption between 2019 and 2021 can be seen in the following table:

Table 8: Diesel consumption in machinery and vehicles

Year	2019	2020	2021	Unit
Diesel Consumption	80,219	81,247	83,995	Lt

Diesel consumption is mainly necessary in cargo movement machinery activities (bulldozers and front loaders), personnel vehicles and support systems in the operation.



The target has been to maintain or improve the efficient use of diesel consumption (Lt / Ton). The table below shows the indicator of efficiency in the use of diesel according to the tons mobilized in the years 2019, 2020 and 2021.

Table 9: Diesel consumption per ton transferred

Year	2019	2020	2021	Unit
Transferred Cargo Functional Unit	0.01	0.01	0.01	Lt/Ton

5. Hazardous solid waste disposal

Target:

Reduce the hazardous solid waste disposal per ton transferred compared to 2019.

The tons of waste disposed are shown in the following table:

Table 10: Hazardous Solid Waste Disposal

Year	Solid Waste	Unit
2019	140,024	Kg
2020	23,000	Kg
2021	18,681	Kg

The numbers demonstrate a lower disposal of waste due to a lower generation of these between the years 2019 and 2021.

Table 11: Hazardous solid waste disposal per ton transferred

Year	2019	2020	2021	Unit
Transferred Cargo Functional Unit	0.0249	0.0044	0.0035	Kg waste disposed /Ton

From the table above, the ratio of waste disposed per ton transferred decreases, so it can be concluded that for each ton that was mobilized, less waste was disposed of. This is thanks to the efforts related to the management and control of waste in each area of Puerto Ventanas.

With this indicator it can be indicated that in 2 years **125 tons** of waste were avoided.

6. Recycled Waste

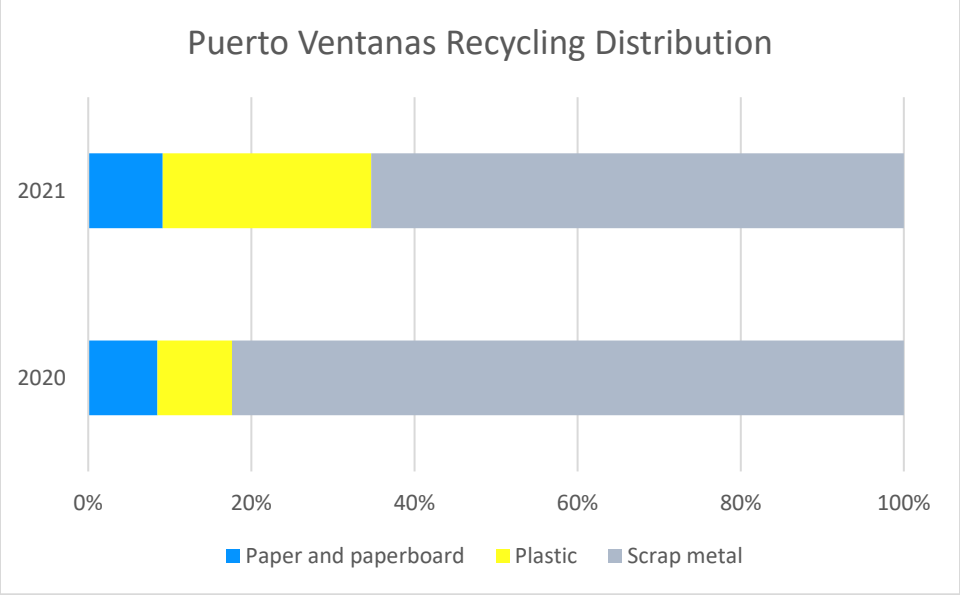
Target:

Strengthen the recycling culture in Puerto Ventanas personnel and "segregation at source" of all waste that can be recycled.

Every year Puerto Ventanas strengthens the culture of recycling for its workers.
Waste that can be recycled is disposed of for recycling, including scrap metal, paper, cardboard, and plastics.
The collection of this waste is coordinated between the heads of area and the environmental supervisor, which are stored in a container for later final disposal.
The amount of recycled waste in 2020 and 2021 is as follows:

Table 12: Waste recycled by type

Type of waste	2020	2021	Unit
Paper and paperboard	20,60	1,400	Kg
Plastic	2,223	3,925	Kg
Scrap metal	20,016	10,020	Kg
Total recycled waste	**26,319**	**17,366**	**Kg**



For the integral management of solid waste, there is a management procedure "P-001-MA" whose objective is to establish the bases to develop an integral management of solid waste generated in the operations of PVSA, in order to ensure proper management of these from its origin to its final disposal, considering its life cycle.

The specific objectives of this procedure are:

- Generate effective control of waste in areas of generation, handling at source, storage and final disposal.
- Identify waste flows to establish indicators and objectives associated with improving environmental performance.
- Segregation of origin, to have optimal management.
- Increase the percentage of contribution within recycling.
- Comply with applicable legislation for solid waste

Table 13: Segregation of recyclable waste in PVSA

Waste Type	Composition Detail	Location	Destination
MARKETABLE INDUSTRIAL WASTE			
 Plásticos	Plastic bottles for beverages, plastic bottles for products, packaging, and bags: PET-HDPE-LDPE- PP	All Terminals.	**Recycling**
 Papel y cartón	White and printed paper in large format, packaging cartons and boxes	All Terminals.	**Recycling**
	White and printed paper from offices and dining rooms, cardboard folders, notebook sheets, etc.	All offices.	**Recycling**
	Marketable metal scrap: Iron-Aluminum-Copper- Bronze.	Collection site for non-hazardous waste, south sector of Terminal Costa.	**Recycling**

7. Puerto Ventanas Carbon Footprint

As a response to the sustainable development commitments, Puerto Ventanas S.A. has calculated and verified its carbon footprint derived from the different port activities since 2013.
The carbon footprint defines the amount of Greenhouse Gas (GHG) emissions, because of the activity carried out in a company or building, the celebration of an event, or associated with the life cycle of a product. It is expressed as the amount of CO2 equivalent (CO2e). The objective has been to improve or maintain the amount of CO2e per ton transferred within the expected ranges

The quantification of the carbon footprint is a suitable tool for all those organizations that want to adhere to a system of voluntary commitment to reduce GHG emissions, which contributes to the demonstration to third parties of the commitment that the organization acquires with social responsibility, through its climate change mitigation requirements.
As an additional benefit, the determination of the carbon footprint makes it possible to identify opportunities for energy and economic savings, because of a better knowledge of the emitting sources and the possibilities of reducing emissions. PVSA has voluntarily applied and has been recognized by the **"HuellaChile" Program of the Ministry of the Environment** in the categories of *Quantification and Reduction of Carbon Footprint in 2020.*

Figure 3: Recognition of "Quantification" HuellaChile Program 2020-2021

Figure 4: Recognition of "Reduction" HuellaChile Program 2020-2021

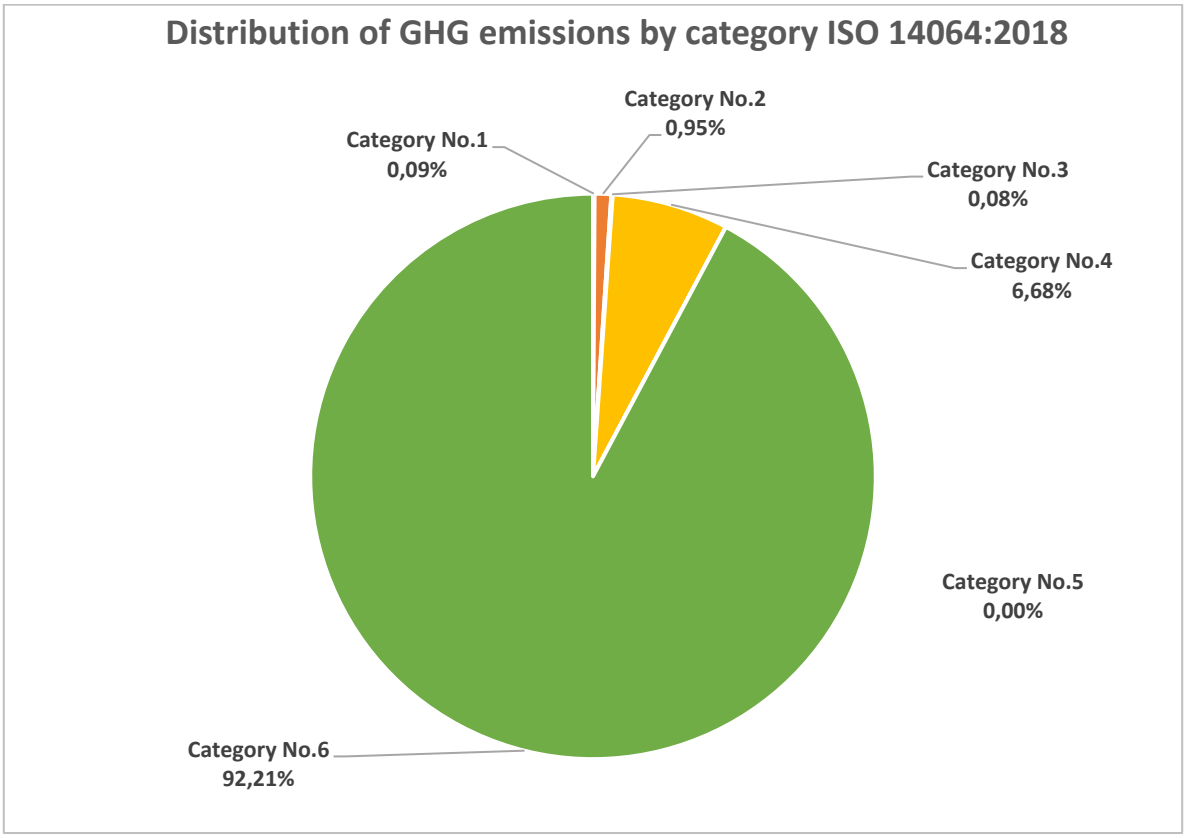
To calculate the carbon footprint of the activities of the port, the methodology described in the **international standard ISO 14064-1:2018**, prepared by the International Organization for Standardization, has been used. The ISO 14064 standard establishes the requirements for the quantification, monitoring, reporting and verification of greenhouse gas (GHG) emissions and/or removals on a voluntary basis to improve GHG management.
The requirements established in ISO 14064 are like those of the GHG Protocol since the elaboration of the ISO 14064 standard was based on said protocol.
In addition, **the verification process of the greenhouse gas emissions inventory was carried out by LRQA**, in accordance with the requirements established in the **ISO 14064-3:2019 standard "Greenhouse Gases. Part 3: Specification with guidance for validation and verification of greenhouse gases"**

Unlike previous years, the verification and calculation of the carbon footprint for the year 2021 was carried out considering the 2018 version of the ISO 14064 standard and therefore **included the evaluation of the categories of greenhouse gas emissions that are part of the value chain**. from Puerto Ventanas.

The distribution of GHG emissions by category is as follows:

*Table 14: Distribution of GHG emissions by category **ISO 14064:2018***

Category No.	Category name	GHG emission	
		tCO_2e	%
1	Direct GHG emissions and removals	350	**0,1%**
2	Indirect GHG emissions caused by imported energy	3.712	**0,9%**
3	Indirect GHG emissions caused by transportation	307	**0,1%**
4	Indirect GHG emissions caused by products used by the organization	26.162	**6,7%**
5	Indirect GHG emissions associated with the use of the organization's products	-	**-**
6	Indirect GHG emissions from other sources	361.315	**92,2%**
	Total GHG emission	**391.846**	**100%**



Regarding the results obtained in the quantification of the carbon footprint, the year 2021 will be considered as the base year because the scope and limits of the calculation have been extended to new categories of emissions.

As shown in the table above, most of the emissions generated at the Port are due to categories 3, 4 and 6, that is, indirect emissions due to the company's value chain. As can be seen in the graph

above, these correspond to approximately 99% of the total emissions calculated. These emissions derive from the use of drinking water, cargo transportation, the combustion of external machinery, and the generation of waste, among others. The equipment that represents the greatest number of greenhouse gas emissions is cargo transportation by trucks, which represents 94.7% of the total of categories 3, 4 and 6.

Direct emissions, due to mobile vehicles and diesel equipment owned by the port, represent approximately 0.1% of total emissions.
About GHG emissions of category No.2, the electricity consumption in 2021 associated with the Terminals increased by 5.46% compared to 2018, the electricity emission factor was reduced, going from 0.419 [kg CO2eq/kWh] for the year 2018, to a value of 0.3907 [kg CO2eq/kWh] in the year 2021. This is due to the integration of renewable energies into the national electricity grid.

The following table shows that the indicators have remained within the expected ranges according to tCO2e per ton transferred. There is no significant variation.

Table 15: Analysis quantification of GHG emissions Categories 1 and 2

Classification	Total GHG Emissions (tCO2e)		Total GHG Indicator (tCO2e/Tons)	
	2018	2021	2018	2021
1. DIRECT GHG EMISSIONS	326.49	350.26	0.00004	0.00005
2. INDIRECT GHG EMISSIONS DUE TO ELECTRICAL ENERGY	3,512.6	3,477.37	0.0005	0.0005
TOTAL 1 + 2	**3,839.1**	**3,827.63**	**0.00054**	**0.00055**

The GHG Inventory and Report for the calendar year 2021 prepared by Puerto Ventanas S.A has been verified by LRQA.
Assurance statement can be seen in the Appendix No.2.

8. Environmental Training

For Puerto Ventanas it is essential to maintain a culture and strengthen knowledge in environmental matters and operational leadership. In this sense, in 2021 workshops and training have been carried out to be able to professionalize port services in addition to contributing to the professional and personal development of its workers in matters of sustainability in port operations.

With the objective of strengthening and consolidating the capacities of the collaborators who lead teams, according to the challenges faced by the organization, from 2017 to date, Puerto Ventanas S.A. has developed the Leadership Training Program, which provides tools to area leaders to better manage the teams under their charge.
The program seeks to work on and strengthen the development of skills and abilities of leaders, based on collaborative relationships, mutual respect, encouraging open conversations and transparency of processes, along with working to be examples of the Puerto Ventanas worker profile, according to the values that govern the company. In 2021, the operational leadership workshops included 46 workers.

On the other hand, upon joining the Company, all employees receive training and sign their adherence to PVSA's internal policies, expressing their full knowledge, commitment, and adherence to them. This includes environmental management, quality, energy, and health and safety. In 2021, the corporate induction was carried out for 27 workers.
Finally, among others, training has been carried out in relation to waste management and a workshop on the Operational Plan in accordance with the legal requirement stipulated in Resolution 14/2020 of the Ministry of the Environment.

Workshop Name	Number of participants
Waste Management	91
Operational Plan PVSA – Environment	19
Interpretation of the Energy Management System ISO 50001:2018 standard	13
Carbon Footprint and interpretation of ISO 14064:2018	4
Carbon Footprint and its neutrality – Carbon Management	1

2.3. DOCUMENTED RESPONSIBILITIES AND RESOURCES ASSOCIATED WITH ENVIRONMENTAL ASPECTS

2.3.1. Responsibility of key employees at Puerto Ventanas S.A.

The executive team of Puerto Ventanas S.A has the mission of implementing and leading the strategic guidelines of the company,
ensuring that the value proposition is consistent with the purpose of the company, achieving responsible and sustainable growth. It is made up of the General Manager, who leads the managers of each area who develop and execute the initiatives proposed and approved by the Board of Directors.
In addition, he provides the necessary guidelines to manage and control the operation of the company adequately and effectively. Executives ensure compliance with the strategy, aligned with the business challenges established by the Board of Directors.

The executive team of Puerto Ventanas S.A. is represented for:

- *General Manager*
- *Sustainability Manager*
- *Planning and Management Manager*
- *Operation Manager*
- *Administration and Finance Manager*
- *Commercial Manager*
- *Engineering and Maintenance Assistant Manager*

a) Primary functions and responsibility of the Puerto Ventanas S.A. Executive Team

- **General Manager:** *Jorge Oyarce S. – Transportation Engineer.*
  The General Manager is appointed by the Board of Directors and is responsible for the company in general. He also has the direct control of the various Puerto Ventanas departments. The General Manager is the company's legal representative and has the right to be heard in the Board of Directors meetings.
  The General Manager is responsible for the company's processes being carried out in compliance with the regulatory framework that is applicable to the port's operations. The General Management Department approves the objectives of the Integrated Management System and authorizes the resources necessary for its due implementation along with the Puerto Ventanas S.A Integrated Management System Policy. The General Manager establishes, implement, and maintain an integrated policy within the scope defined by the

Management System related to Safety and Health, Environment, Quality and Energy Efficiency, appropriate to the purpose and context of the organization including the nature, magnitude, and impacts, provide a framework of reference and include a commitment to comply with legal requirements and continuous improvement of the same system.

- **Sustainability Manager**: *Luis Fuentes M. – Mining Engineer.*
  Sustainability Manager must keep the port in compliance in terms of environmental regulations, safety, energy efficiency and community relations, safeguarding its reputation in relation to communities and local and national authorities, guaranteeing its growth in the face of the demands of the society, regulations, and its reputation.
  Among its main responsibilities are: building and consolidating the reputation of PVSA, as a "Green Port", installing a culture where one of its pillars is Sustainability and HSEC (Health, Safety, Environment, Community), ensuring the compliance with all HSEC regulations for port operations, maintaining fluid and close relationships with political, governmental and union authorities, installing a collaborative, respectful and close relationship model with the community, ensuring the efficiency and quality of the company's processes, proposing, plan and direct the implementation of the port sustainability strategy, participate in the Executive Team to ensure the advancement of the PVSA objectives, design and implement the corporate and internal communications plan for PVSA; knowing, promote and ensure knowledge, internalization and implementation of company policies related to issues of Safety, Environment, Quality and Energy Efficiency.

  Consistent with its philosophy of sustainable operation and considering the current and future challenges to carry out a safe, efficient, environmentally responsible, innovative operation strongly linked to its workers and communities, ***in 2021 it was decided to incorporate the Human Resources area into Sustainability Management****. This change in the structure is intended to continue strengthening the work teams and internal capacities with the seal of sustainable operation of Puerto Ventanas S.A.*

- **Planning and Management Manager:** *Carlos Elgueta Olmos. – Civil Industrial Engineer.*
  Planning and Management Manager must design, direct, and control the processes related to the planning and evaluation of projects, maintaining the correct coordination of their evolution; corporate management control and budgetary control; in addition to assisting the general manager and business units in the development, communication, execution and support of corporate strategies and tactics, in relation to projects and management control, in order to generate a sustainable business model.
  Among its main responsibilities are: designing, directing and controlling the processes related to project planning and evaluation, generating economic evaluation models and maintaining the correct coordination of their evolution; controlling corporate management, through indicators, analysis trends, deviations and comparatives such as budgets and exercises from previous periods; assist the General Manager and business units in the development, communication, execution and support of corporate strategies and tactics, regarding projects and management control; participate in the executive committee, providing technical and operational criteria for decision-making; supporting the development of innovation and continuous improvement projects to maximize the productivity and efficiency of port operations; knowing the company's policies in relation to Safety, Environment, Quality and Energy Efficiency, aligning its functions to the fulfillment of the same; being able to identify risks and / or deviations in the different areas of PVSA.

- **Operations Manager:** *Rodrigo Pulgar – Mechanical Engineer.*
  Operations and Maintenance Manager must give strategic direction to operations management, ensuring an efficient, competitive, modern, and safe operation that is an example in his sector.
  Among its main responsibilities are: guarantee the execution of the service stipulated in the commercial plan according to the contracts agreed with each client, respecting the policies, norms and rules that govern port operations; participate in commercial and infrastructure development projects, evaluating the feasibility and analysis of the operational process of the services and tasks considered in these projects; manage the performance of teams and direct and indirect collaborators, to promote the development of the port; participate in the executive committee, providing criteria and operational techniques for decision-making; promoting and directing the development of innovation and continuous improvement projects to maximize the productivity and efficiency of port operations; ensuring alignment and coordination with ground operations, maritime operations and maintenance teams to guarantee the operational continuity and the fulfillment of the goals of the General Management; knowing the company's policies in relation to Safety, Environment, Quality and Energy Efficiency, aligning its functions to the fulfillment of the same; being able to identify risks and / or deviations in the different areas of PVSA.

- **Administration and Finance Manager:** *Jorge Concha M. – Civil Industrial Engineer.*
  Administration and Finance Manager must manage the resources of the company, taking care of their efficient and timely use, considering a coordination and supervision of the work teams of all the areas of Puerto Ventanas S.A and subsidiaries allowing an adequate decision making for profitability and business growth.
  Among its main responsibilities are: managing the financial and accounting statements of Puerto Ventana and Subsidiaries; generating the processes of protection of the company's information and the continuity of the computer systems that support the operation of the company in all work areas; advise on decision-making regarding the company's major investments, analyzing feasibility, return, adequacy to the operation, financial status of the port and viability of the same; analyze, manage, negotiate and resolve the financing of operations according to needs, definitions of the Board of Directors and company policies; control and manage the use of resources, guaranteeing operational continuity and adequate financial management in compliance with regulations; knowing, promote and ensure knowledge, internalization and implementation of company policies related to issues of Safety, Environment, Quality and Energy Efficiency.

- **Commercial Manager:** *Pablo Hojman A. – Civil Industrial Engineer.*
  The Commercial Manager must ensure the capture of new businesses and maintenance of current ones, loyalty to customers, trying to grow in services (inside and outside the port facilities), in line with strategic planning, the operational feasibility of the Port and the profitability of the business.
  Among its main responsibilities are: ensuring the capture of new businesses according to the strategic planning and operational feasibility of the Port; loyalty to current customers, permanently monitoring their needs, satisfying the services provided and generating improvements to current services; evaluate the feasibility of potential businesses in other markets, different from the current ones, projecting future profits and operational and financial implications; knowing, align, supervise and control compliance with the provisions

of the integrated policy, referring to issues of Safety, Environment, Quality and Energy Efficiency.

- **Infrastructure Assistant Manager:** *Eduardo Monsalve S. – Ocean Civil Engineer.*
  The Infrastructure Assistant Manager must lead the development of the projects that are carried out inside and outside the port facilities, complying with the regulations and supervising the specific areas that participate in the operation, which apply within the development of the Project.
  Among its main responsibilities are: reviewing and approving the necessary documentation to understand the project in progress, making each of the edges feasible to be implemented; supervising and ensuring compliance with the annual objective of the PVSA Projects area, reviewing and approving purchase orders and monitoring all the inputs required to execute the project, with opportunity and according to the defined budget; guaranteeing that the construction and commissioning of equipment and supplies are correctly executed under quality and safety standards of PVSA; knowing the company's policies in relation to Safety, Environment, Quality and Energy Efficiency, aligning its functions to the fulfillment of the same; being able to identify risks and / or deviations in the different areas of PVSA.

Puerto Ventanas S.A executive structure is shown as follows:

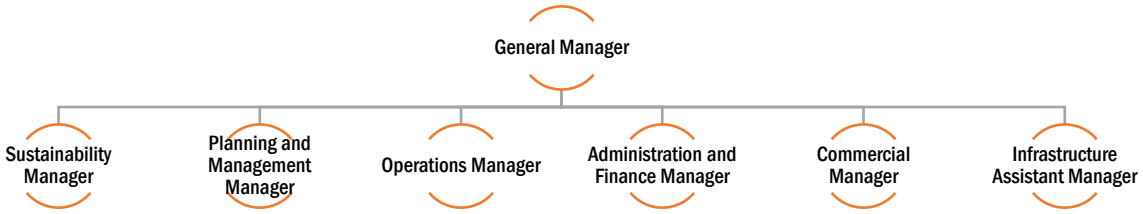


Figure 5: Puerto Ventanas S.A executive structure

b) Structure to support the Environmental Management at Puerto Ventanas S.A

- ✓ **The Sustainability Management** is responsible for the environmental management of the Port, for which it has a team of multi-disciplinary professionals and extensive experience to provide support with the environmental management of all areas of Puerto Ventanas.
  The Sustainability Management controls and monitoring necessary to ensure the compliance with the provisions of the Integrated Management System and the relevant legislation in matters of Quality, Environment, Energy, Safety and Occupational Health. In the same way, it informs the General Manager about the performance of the System.

- ✓ **The Environment Coordinator** at Puerto Ventanas S.A is the *Environmental Engineer Mariette Aros E.*, a professional with over 12 years of experience in public and private entities, whose purpose is to lead the environmental management of Puerto Ventanas guaranteeing compliance with environmental regulations and national and international

adherence standards defined by the company. In addition, design and ensure the correct implementation of an environmental management plan, according to the risks of the port, ensuring understanding and implementation in the different areas with opportunity and efficiency.

Among the main responsibilities, the Environment Coordinator must prepare and process environmental sanitary permits guaranteeing compliance with PVSA operations or improvements in accordance with established standards; ensuring that projects under development within the port operation comply with the Environmental Qualification Resolution; prepare the environmental program of PVSA according to internal policies and regulations; maintain continuous communication with Environmental Control Authorities; knowing, align, supervise and control compliance with the provisions of the integrated policy, referring to issues of Safety, Environment, Quality and Energy Efficiency, of the teams and/or areas under direct supervision.

- ✓ The **Head of Innovation and Continuous Improvement** is also part of Sustainability Management and must lead, manage, and control the processes and actions of innovation and continuous improvement within the organization, being responsible for monitoring key performance indicators for the different areas, according to the standards in which the PVSA is certified, ensuring for the effective implementation of management tools.

  Among the main responsibilities are: establish a methodology for the control of procedures and documentation related to the Integrated Management System, establishing control and monitoring standards for the different areas of PVSA; Generate monitoring of IMS performance, in relation to environmental and energy indicators, findings, training, prevention actions and updating of the company's process map in accordance with what is established by PVSA; coordinate organizational plan for innovation and continuous improvement by and for the different work areas of Puerto Ventanas, in order to permanently develop a culture of innovation; lead the internal and external audit plan and program, together with the Management Review, according to the defined methodology, guaranteeing that the areas meet the standards to be reviewed; knowing, align, supervise and control compliance with the provisions of the integrated policy, referring to issues of Safety, Environment, Quality and Energy Efficiency, of the teams and/or areas under direct supervision.

- ✓ Finally, a **Continuous Improvement Engineer** must maintain and improve the performance of the processes in the areas, ensuring the identification, documentation, and control of key performance indicators of the integrated management system and energy efficiency, ensuring compliance with current regulations and ISO 50001 standard.

  Among the main responsibilities are: prepare reports on consumption and energy balance, recording the energy performance of PVSA over time; execute the audit Plan and Program with the respective team of internal auditors, to determine the areas to be audited, together with the coordination of external audits; manage performance indicators and operational risks, in order to ensure their expected results; participate as support in the implementation of continuous improvement and innovation projects, including energy efficiency projects; Lead Certification, maintenance and/or re-certification of ISO 50,001, Carbon Footprint, Seal of Energy Excellence, HuellaChile and support the renewal of the Ecoport-PERS certificate; knowing the policies of the company, in relation to Safety, Environment, Quality and Energy Efficiency, aligning their functions to comply with the same; being able to identify risks and/or deviations in the different areas of PVSA.

The Sustainability Management Structure is shown next:

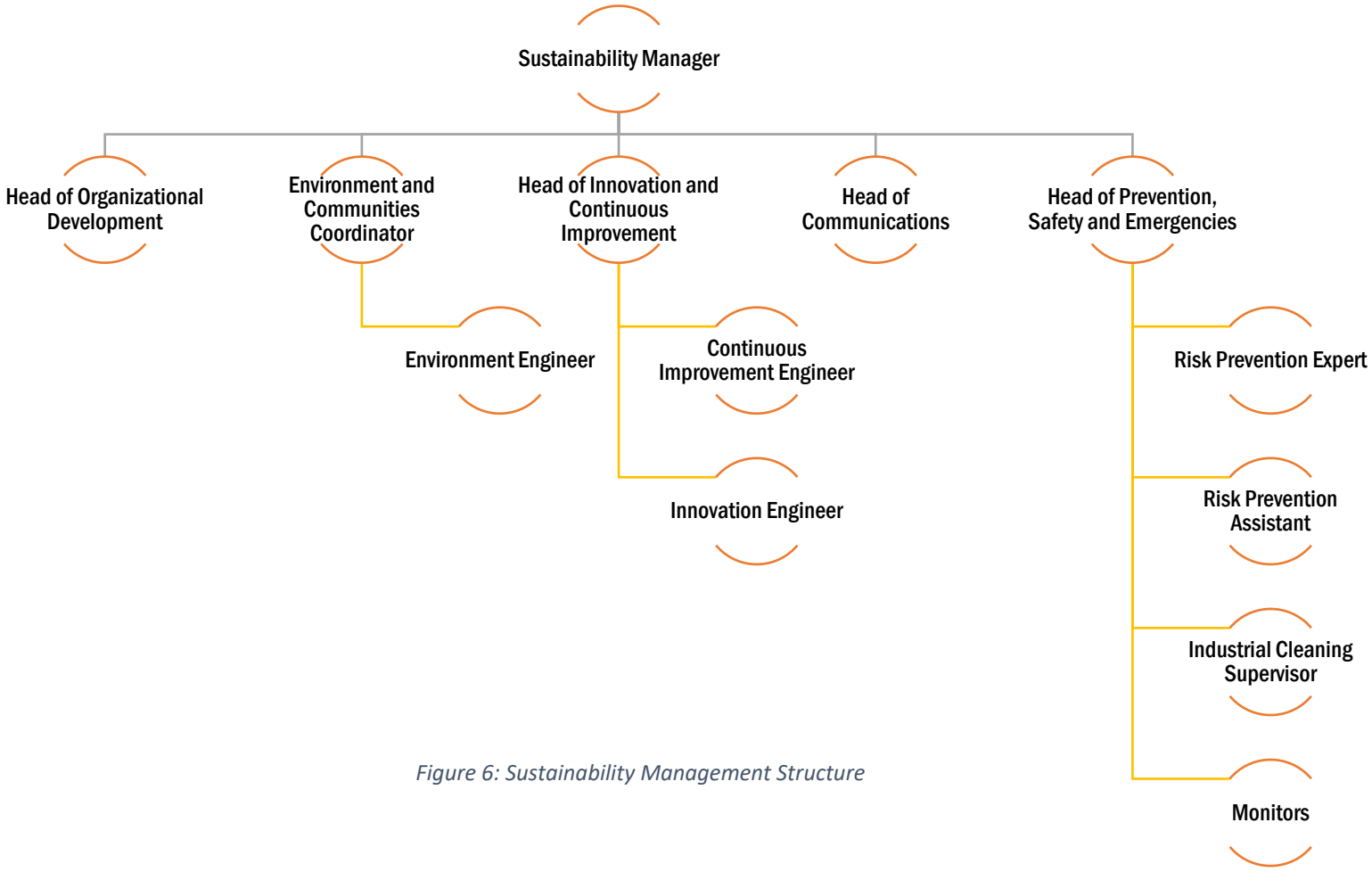


Figure 6: Sustainability Management Structure

2.3.2. *Environmental Responsibilities of Key Personnel:*

The functions, responsibilities, and authority of all the personnel that participate or manage the Port processes are duly documented and are communicated to the pertinent employees in the various Port areas. The documentation of the responsibilities is formalized through the position descriptions of each function and are defined in the operational procedures and instructions, which in their structure establish the responsibilities for compliance and supervision of the Environmental, Safety and Health, Quality and Energy Efficiency requirements that apply to each process.

For those areas for which the Port authority has responsibility, what personnel are responsible for the following functions?		
	Job Title or Name**	***Department***
Port Operations (Navigation)	Head of Operations	Operations
Port Operations (Shipping)	Ship Operator	Operations
Port Operations (Terminals)	Head of Operations	Operations
Cargo Handling Operations	Ship Operator	Operations
Jetty/Wharf Management	Operations Manager	Operations
Site Management	Head of Operations	Operations
Strategic Planning	Head of Operations	Operations
Supplies acquisition	Head of Supply, Contracts and Tenders	Administration
Licensing/Permits	Sustainability Manager	Sustainability
Quality Management	Sustainability Manager	Sustainability
On site Contractor Management	Contract Administrator	Maintenance and Infrastructure
Emergency Planning	Head of Prevention, Safety	Sustainability
Waste Management	Environmental Coordinator	Sustainability
Environmental Document Management	Environmental Coordinator	Sustainability
Environmental Data Management	Environmental Coordinator	Sustainability
Soil pollution assessment	Environmental Coordinator	Sustainability
Air Quality monitoring	Environmental Coordinator	Sustainability
Energy and Carbon Footprint monitoring Water Quality monitoring	Continuous Improvement Engineer Environmental Coordinator	Sustainability Sustainability
Noise management Vehicular Management of Terminal traffic	Head of Prevention, Safety Head of Prevention, Safety	Sustainability Sustainability
Energy efficiency	Continuous Improvement Engineer	Sustainability
Integrated Management System Coordinator	Head of Innovation and Continuous Improvement	Sustainability
Occupational health	Head of Prevention, Safety	Sustainability

Every year the environmental management budget is approved by the General Manager and the Board of Directors.
The following table shows each of the items considered in the environmental management of the port in 2021:

BUDGET	
• Final disposal of Hazardous and Non-Hazardous Industrial Waste	
• Cleaning septic tanks	
• Chemical toilets	
• Pest Control	
• Maintenance of bottle containers	
• Operational Cleaning Service	
• Beach Cleaning Service	
• Cleaning of Campiche estuary	
• Maintenance of Green Areas (plants, square, garden, trees)	
• Supreme Decree No. 90 Rainwater Treatment Plant	
• Campaigns Environment (environment day, international beach cleaning day, among others)	
• Cleaning of Wheel Washing System	
• Reagents System Wheel Washing	
• Dust equipment calibration (Dust Emissions Control)	
• Isokinetic Measurements for Dust Collector	
• Emissions Estimate	
• Noise Measurement	
• Water Footprint Calculation	
• Solid Waste Laboratory Analysis	
• Seabed Monitoring	
• Environmental Training	
• Training for Heads of Area on legal requirements	
• Purchase environmental management supplies (recycled containers, among others)	
• Sector Permits	
• Preparation of Environmental Impact Statements	
• Petcoke Terminal Trees Project	
TOTAL	**USD 623,701**

2.4. REVIEW OF COMPLIANCE BY THE ENVIRONMENTAL POLICY AND LEGAL REQUIREMENTS

In this chapter, compliance with the legal and regulatory requirements of Puerto Ventanas will be reviewed in accordance with the management policy.
As previously mentioned, Puerto Ventanas S.A is certified under the new upgrade standard ISO14.001: 2015 by LRQA and the certification is valid until December 2022.

2.4.1. *Result of the LRQA Audit*

The last maintenance audit of the ISO 9001, ISO 45001 and ISO 14001 standards was carried out on January 6 and 7, 2022.

It is concluded from the visit that the PVSA Management Systems operate in accordance with the regulatory requirements for the scope of the certificate:
"Management Services in Loading, Discharging, Portage, Storage and Dispatch of Bulk, Liquid and Breakbulk Cargo"

- **Audit result:**

This visit is carried out to verify compliance with the management system of Puerto Ventanas S.A. in accordance with ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 as defined in the audit planning documentation. The result of the audit is recorded below.
The purpose of this visit is to verify that the management systems remain implemented in accordance with the regulatory requirements of the ISO 90001:2015, ISO 14001:2015 and ISO 45001:2018 standards for the scope of the current certificate.
The results indicate, based on the evidence obtained from the samples audited in the business processes, that Puerto Ventanas maintains the management system in accordance with the aforementioned requirements and the commitments established by the organization itself. Likewise, its performance indicates that the objectives established in the reviewed processes are effective in achieving the expected results of its management system.
On this occasion, there are no findings that can be declared as non-Conformities.
Finally, it is concluded from the visit that the PVSA Management Systems operate in accordance with the regulatory requirements for the scope of the certificate.

- **Continuous improvement:**

The organization has planning supported by an appropriate documented system to achieve the expected results, in the same way, the audited processes show management methods consistent with the organization's policies, which highlights the development of initiatives to improve its management of satisfy your stakeholders. Evidence of this is the accountability practices by the heads of processes during the Management Review exercise, the proper application of its Emergency Response to an episode of environmental impact, as well as meeting the new demands for services to satisfy contractual commitments.

- **Audit routes and sources of evidence**

Among the evidence reviewed on the Environmental Unit is:

- Context of the process.
- Planning: Requirements Compliance Program for Operational Continuity
- Objectives: 2022 Focus on the Port Roadmap
- Documented information: Operational reports associated with contingency plans
- Objective: Measure the efficiency of dust collectors (90% of PM2.5 microns)
- Challenges 2022: Consolidation of data strategy – Environmental license to operate with reliability – Reportability to stakeholders
- Controls: Measurement DS N° 90 of rainwater - Measurement of water column
- Controls: Waste recycling
- Indicators: Energy consumption - Water consumption - Environmental expenses - Personnel training – Emissions (estimated 44 tons/year PM10)
- Corrective action: Formalization of the change of environmental permit of the contractors - Special Regulation of Contractor Companies
- Documented information: Environmental permit from 3 Jan 22' to contractor Serfusan S.A.
- Improvement: Anemometer installation (Art. 29) at Petcoke Terminal - waste management training
- Project: Evaluation of the construction of a green curtain

- **Evaluation and conclusions:**

From the interviews carried out, together with the shared background and the representativeness of the audited sample, it is evident that the Environment process has been adapted to the conditions of demand to meet the legal requirements and improve the environmental performance of the port, it is verified that has had planning, control, and monitoring to ensure compliance with the established goals.

It is concluded that this process maintains the environmental management system implemented in accordance with regulatory requirements and is effective in achieving the expected results.

The LRQA communication about valid certifications in Puerto Ventanas S.A is shown as follow:

Lloyd's Register Central &
South America Limited
Blanco 625, Of.112, Valparaíso
V Región, Chile
T +56 (32) 2217665
www.lrqa.com/es-cl

Puerto Ventanas S.A.
Camino Costero s/n
Ventanas
Puchuncaví

At.: Sr. Luis Fuentes Martínez
Gerente de Sostenibilidad

Miércoles 11 de Mayo, 2022

Dear Sirs:

To whom concern, through this communication, we confirm that Lloyd's Register Central and South America Ltd. – Agencia en Chile, have valid agreements to provide certification services to Puerto Ventanas S.A. under the requirements of the following Standards;

	Agreeement N°	Standard	Certificate Original Approval Date	Certificate Expiry date
1	VPO0703207	ISO 9001:2015	10 December 2008	9 December 2023
2	VPO0703207	ISO 14001:2015	23 December 2013	21 December 2022
3	VPO0703207	ISO 45001:2018	29 June 2021	21 December 2022
4	VPO6021363	ISO 50001:2018	09 January 2015	8 January 2024

This document is issued, for the purposes they deem convenient, without further responsibility for Lloyd's Register Central & South America Limited.

Best Regards,

Michael Ramdohr
Director of Business Development / Operations Coordinator
Business Assurance South America
Lloyd's Register Central & South America Limited

Below is a statement signed by a legal expert regarding the identified legal and other requirements:

ECO Sustainable Logistic Chain Foundation (ECOSLC)

Dear Sirs,

We declare that Puerto Ventanas S.A. identifies and complies with legal and other requirements applicable to significant environmental aspects, according with the Environmental Management Standard ISO 14.001: 2015, and which are included in the 2022 application for Environmental Port Review System (PERS).

Santiago, Chile

May 19th, 2022

Rodríguez Rosende y Cía Ltda Law Firm

The Port defines objectives within the framework of its Environmental Management System, considering the strategic objectives and the context in which the organization operates. **Objectives of the Integrated Manage System in 2021** are shown in the Appendix No.3, which includes the Port's environmental goals.
Different monitoring and control instances are defined to verify compliance or deviations, including internal audits, external audits, and management reviews, among others.

- ✓ **Internal Audits:**

  With the purpose of monitoring, reviewing the effectiveness and promoting the continuous improvement of the IMS, an annual internal audit program is established, in which the areas of the organization and the periods scheduled for the respective audits are indicated. This plan is formulated considering the results of the evaluations of external and internal audits, weaknesses observed in the areas, among others, to ensure that after one year the status of the main regulatory requirements has been evaluated.
  The internal audits of the Integrated Management System are carried out by a team of duly qualified internal auditors.
  The results of the audits are recorded in the internal audit reports, and the findings are treated with corrective and/or preventive action plans.

  In 2021, the internal audits were carried out in May and December.

  The target of the internal audit process is described below:

  - ***Target:*** Verification of the degree of implementation of the Integrated Management System, according to ISO 45001, ISO 50001, ISO 14001, and ISO 9001 standards.

  The Internal Audit results and reports carried out in December 2021 can be seen in Appendix No.4.

- ✓ **Management Review**

  The Management of Puerto Ventanas S.A, plans and reviews the Integrated Management System (IMS) in order to ensure its consistency, suitability and effectiveness. The review is carried out at least twice a year, including the evaluation of opportunities for improvement and the need to make changes to the IMS, incorporating the Integrated Policy and goals, among others.

  In June and October 2021, the Management Review was carried out. Among the topics included in these reviews were:

  - The environmental, energy efficiency, safety, and health performance of the organization.
  - The energy efficiency indicator
  - The performance of the processes
  - The degree of compliance with the goals

- Assessments of compliance with applicable legal requirements and other requirements
- Customer feedback
- Communications from external stakeholders, including complaints
- The results of participation and consultation
- The status of corrective and preventive actions
- Recommendations for improvement
- Review of the Integrated Management System Policy
- The effectiveness of actions taken to address risks and opportunities.

✓ **External audits:**

Puerto Ventanas S.A maintains an Integrated Management System since 2013, which constitutes the basis for its continuous improvement process that allows it to deliver a quality service guaranteeing the safety and health of all those who perform functions in the Port and the care of the environment.
The Integrated Management System includes ISO 9001 quality standards, ISO 45001 health and safety, ISO 14001 environment and ISO 50001 energy management through which it manages and optimizes operations in a sustainable and consistent manner, in accordance with the policies and strategic plan established by Puerto Ventanas S.A.

Puerto Ventanas has submitted to external verification the management and documentation in the different areas of its operation.
The IMS is reviewed every 6 months by LRQA and includes the evaluation and performance in the effectiveness and implementation of the four standards.

✓ **Learning due to unplanned events:**

Puerto Ventanas S.A works constantly to monitor safety and operations in order to identify risks and detect potential incidents in order to avoid or minimize the possible negative impact that they could have on employees, processes or the environment.
For the success of this management, it has a computer system that is accessible to all workers, who can directly record incidents and opportunities for improvement in the processes, each time they occur.

Regarding the total accumulated findings in the platform, the performance in the Management of Findings (Verified / Validated Findings) is as follows:

Table 16: Findings Management Performance

Year	Validated Findings	Verified Findings	Performance
2018	584	523	90%
2019	623	564	91%
2020	775	710	92%
2021	550	495	90%

- **Monitoring of EQR and Legal Compliance:**

As mentioned on pages 38 and 39 of this report, Puerto Ventanas has a management tool that manages and monitors compliance with all environmental requirements related to Environmental Qualification Resolutions (EQR).

The EQR involved are the following:

EQR No.263/2000

"Copper concentrate warehouse project in Puerto Ventanas"

EQR No.229/2004

"Site 6 Project" (Site 6)

EQR No.009/2010

"Expansion of Copper Concentrate Storage Capacity in Puerto Ventana"

EQR No.249/2014

"Expansion, improvement and Modernization of the Copper Concentrate Transfer System in Puerto Ventanas"

EQR No.066/2015

"Improvement of Storage Conditions for Copper Concentrate, 46,000 tons"

The internal procedure *"P-004-MA"* defines the formal criteria that will allow verifying and ascertaining when an environmental variable included in the Monitoring Plan has changed substantially in relation to what was verified.

The monitoring plan will be managed through the EVA Platform, complying with the regulatory requirements and the Environmental Qualification Resolution.

2.5. ENVIRONMENTAL REPORT

As mentioned on pages 11 and 12, it is important to know the groups that must be considered when executing some type of activity, since their influence and interest in the activities will be key to starting processes of mutual agreement that can influence positively and lead to continuous improvement.
Stakeholders may change the results intended by the system or those that could influence the strategic direction of the organization. And that is why they need to be considered.

From the identification of the stakeholders, a SWOT analysis is generated and is part of the input elements of the IMS Opportunities and Risks register. In this record, the actions of the Integrated Management System are prioritized in accordance with a risk analysis based on probability and impact criteria.

The following table shows the List of Stakeholders, identifying the requirements in each of them, from the point of view of quality, environment, safety and health, and energy:

Table 17: Stakeholder List

Stakeholders	Quality Requirements	Environment Requirements	Health and Safety Requirements	Energy Efficiency Requirements
Community people	Hiring local people	Hiring local people		
	Corporate Social Responsibility	Corporate Social Responsibility	Corporate Social Responsibility	Corporate Social Responsibility
	Various requirements (support for events and others)	Various requirements (support for events and others)		
Fishing guilds and others	Economic benefits	Economic benefits		
University community	Know the port sector	Know the port sector		
Basic and Educational Community	Improving Visiting Experiences: Example: Boarding a Ship			
Customers	Contract compliance	Environmental compliance	Security compliance	Secure facilities
Suppliers	Timely payments	Environmental compliance	Security compliance	Secure facilities
Certifiers	Comply with the implemented standards	Comply with the implemented standards	Comply with the implemented standards	Comply with the implemented standards

Workers / Trade Unions	Labor Union: quick coupling Definition of attributions and responsibilities		Compliance in safety and work environment	Secure facilities Information on how to save energy
Joint Committee		That the norms and requirements indicated in meetings are fulfilled.	That the norms and requirements indicated in meetings are fulfilled.	Secure facilities
PVSA Owners	Fulfill customer contracts	Regulatory compliance and EQR, Decontamination Plan and other Authority requirements. Do not appear in the media.	Regulatory compliance	Regulatory compliance
Board of Directory	Fulfill customer contracts	Regulatory compliance and EQR, Decontamination Plan and other Authority requirements. Do not appear in the media.	Regulatory compliance	Regulatory compliance
PVSA Management	Fulfill customer contracts	Regulatory compliance and EQR, Decontamination Plan and other Authority requirements. Do not appear in the media.	Regulatory compliance	Promote the good use of resources, promotion in the use of NCRE.
PVSA Headquarters		Regulatory compliance, EQR, and Decontamination Plan.		
Local authorities		Regulatory compliance, EQR, and Decontamination Plan.	Regulatory compliance and fast and collaborative attention.	Regulatory compliance and fast and collaborative attention.
Regional Authorities		Regulatory compliance, EQR, and Decontamination Plan.	Regulatory compliance and fast and collaborative attention.	Regulatory compliance and fast and collaborative attention.
National Authorities		Regulatory compliance, EQR, and	Regulatory compliance and	Regulatory compliance and

		Decontamination Plan.	fast and collaborative attention.	fast and collaborative attention.
Communication Media		Regulatory and Social Compliance.	Regulatory and Social Compliance.	
Environmental Organizations		Regulatory compliance, go beyond basic compliance. Permanently monitor the behavior of companies to point out non-compliance.		Energy Efficiency and use of NCRE.

As an initiative that is in line with the strategy of Puerto Ventanas S.A and the context of climate change mentioned on pages 14 and 15, it is that PVSA in its constant relationship with its stakeholders, considering its sustainability policy and its permanent concern to improve the quality of life of the inhabitants of Puchuncaví, has implemented in conjunction with the **Environmental Center of SOFOFA, the University of Applied Sciences of Tampere (Finland)**, the project called **"Sustainable classrooms, Educators for the future"**, a program that included the training of a group of teachers from the commune of Puchuncaví, based on the successful educational model of Finland with a focus on sustainability.
The program was conceived, based on previous experiences in Latin America conducted by the University of Tampere located in Finland, using cutting-edge practices and methodologies, to raise the quality of education from the dimension of sustainability and resilience.

The initiative trained a group of professors so that they can internalize methods and tools oriented to the development of projects with a **focus on environmental and energy management**, based on the sustainable development goals of the United Nations. This program, which is a pioneer in Chile, was implemented in the schools: Sargento Aldea Educational Complex, La Greda Basic School, La Chocota Basic School, Horcón and Maitencillo Basic School and in the General Velásquez School from commune of Puchuncaví.
The program, which was developed in April 2021, **benefited 21 teachers from 11 schools throughout Chile, of which 6 correspond to establishments in the commune of Puchuncaví**. The training was based on 5 modules, which considered **135 hours**.






2.5.1. Environmental Management

ENVIRONMENTAL MANAGEMENT

For Puerto Ventanas S.A, excellence in environmental management is key to the company's strategic objectives and is applied in all processes, operations, business strategies and General Management decisions. In this sense, all the information is systematized according to the requirements of ISO 14001, recertified annually, which verifiably establishes a systematic and proactive management of the entire organization for the protection of the environment.

At the same time, this system allows the monitoring of all the legal and environmental commitments assumed by the company and allows all obligations to be identified by area and scope of responsibility, ensuring compliance. In addition, it ensures the identification and monitoring of compliance with legal requirements applicable to the entire organization in areas such as safety, environment, quality, energy efficiency, occupational or environmental aspects, administration and finance or legal matters.

MODERNIZATION AND OPTIMIZATION
OF PROCESSES

With the aim of achieving a more efficient and competitive operation, guaranteeing greater security and commitment to the environment, Puerto Ventanas S.A has developed an investment plan and an infrastructure improvement strategy, which allow the incorporation of new technologies and the continuous improvement of processes, thus enabling the sustainable development of the operation.

NEW TECHNOLOGIES

The weather conditions have generated a significant impact due to the swells that affect the Port. This is why during the year 2021 the Terminal was closed for 126 days. To mitigate these impacts, Puerto Ventanas has incorporated new technologies such as a new dynamic mooring system, called **"Shoretension"**.

This is a state-of-the-art equipment that is used to complement the moorings of the ship, providing safety in the operation by stabilizing the movements of the ship, due to variations in the height of the waves or the wind.

NEW MULTIPURPOSE WAREHOUSE

In 2021 Puerto Ventanas S.A, inaugurated a new **Multipurpose Warehouse** that allows the port to increase its storage capacity, adding value to its services. The modern structure has a storage capacity of 30,000 tons, airtightness, LED lighting, an air renewal system, and an electric gate system. It also has perimeter walls and the possibility of expansion. In addition, the roof of the warehouse has translucent areas so that sunlight can enter and optimize energy use.

ACTIVITIES CARRIED OUT TO PROMOTE A **CULTURE OF SUSTAINABLE OPERATION**

PUERTO VENTANAS S.A IS THE FIRST PORT IN CHILE TO PARTICIPATE IN THE BLUE CERTIFICATE CPA OF THE MINISTRY OF THE ENVIRONMENT

Having met the admissibility requirements established in the Blue Certified Clean Production Agreement (CPA), the Coordination Committee of the Agreement approved the formal entry of Puerto Ventanas to be certified in sustainable water management. The Blue Certified CPA, promoted by the Sustainability and Climate Change Agency of the Ministry of the Environment, is a voluntary instrument through which companies from various sectors can implement specific resilience actions to face the adverse effects caused by climate change.
The public-private initiative promotes the sustainable management of water resources in Chile, through efficient and sustainable use in the production of goods and services, in order to contribute to the country's water security.

USE OF RENEWABLE ENERGY IN PUERTO VENTANAS S.A

During 2021, the company defined that the energy used in its operations comes from certified renewable sources, this means that the company has generated contracts with its energy suppliers, ensuring that the origin of it comes from renewable sources and therefore, energy green for operations (Appendix No.5). This reflects its commitment and reaffirms the seal of being the first green port in Chile.

The Energy Supplier certifies that 100% of PVSA energy consumption comes from renewable energy produced in Chile, through certificates validated and delivered by "The I-REC Standard"

THE INTERNATIONAL REC STANDARD

BEACH CLEANING PROGRAM

On the international beach cleaning day, about 50 workers from Puerto Ventanas S.A, its subsidiary AGMAC and the Terminal's contracting companies participated actively and voluntarily in cleaning the beach. The activity was organized by the Captaincy of the Port of Quintero and the General Directorate of Maritime Territory and Merchant Marine.

MEASUREMENT OF WATER FOOTPRINT PUERTO VENTANAS S.A.

Puerto Ventanas' goal with respect to its environmental performance is to reduce the impact of its operation year after year, without affecting the development of its economic activity. The company sees in the water footprint a useful tool to comprehensively address the management of water resources in their life cycle. For this reason, the Company adhered to the **Blue Certified Clean Production Agreement (Blue Certified CPA)**, whose purpose is to promote sustainable water management by the private sector, through the evaluation and subsequent management of the water footprint. As a Functional Unit (FU) of the study, a ton of cargo transferred in 2019 was selected, because that year better represents the normal operation of the port due to the effects of the pandemic during 2020. The FU represents the calculation base with respect to to which the inflows and outflows relevant for the evaluation of the water footprint are normalized.

The methodology used for the evaluation of the water footprint is in accordance with the ISO 14046 (2014) standard, which defines the water footprint as "metrics that quantify the potential environmental impacts related to water". The methodology includes the accounting of water in the different processes (inventory analysis), the evaluation of potential impacts caused by the use of water and the interpretation of the results. Its approach is based on Life Cycle Analysis (LCA), calculating the consumption and degradation of water quality in the value chain, and correlating these flows with impacts on human health and the quality of ecosystems that potentially could produce.
The analyzed system was divided into 5 main stages: 1) supply chain, 2) energy, 3) direct operation, 4) transportation and 5) waste treatment. The direct water footprint refers to the footprint produced by the “direct operation” stage (port operation), while the indirect water footprint is related to the footprint produced by the other life cycle stages included in the assessment. : “supply chain” that includes the production of the main inputs used; “energy” which includes the production and use of electricity and the fuels consumed; “transport” that includes the main land transport linked to the operation of the port (for this study, maritime transport by ship of loaded and unloaded cargo was left out of the analysis); “waste treatment” which includes the treatment of solid and liquid waste generated. In the study, a comprehensive evaluation of the water footprint was carried out, evaluating different environmental impacts related to the use of water (water footprint profile).

According to the results of the analyzed system, **the transport stage is the one that generates the largest water footprint**, in practically all the indicators evaluated, essentially due to the transport of copper concentrate by truck to the port and the transport of grain by truck from the port, given the large number of tons that are mobilized. **The energy stage presents a significant contribution to the indicators that address the impacts of altering the quality of water bodies, mainly due to the port's electricity consumption**. The direct operation stage generates a significant water footprint in the indicators that evaluate the impacts of consuming fresh water (consuming water refers to the extraction of water where there is no return to the basin of origin, because the water is evaporated, evapotranspired, incorporated into a product, transferred from a basin or discharged into the sea), mainly due to the evaporation of the water used for emission control. **Finally, the supply chain and waste treatment stages present a minor contribution to the water footprint**.

AGREEMENT FOR THE RECYCLING OF FACE MASKS

Puerto Ventanas launched a circular economy initiative in agreement with the Technological Development Unit (TDU) of the University of Concepción, which consists in recycling disposable face masks.

With the slogan **"reset your face mask"**, the company has started this campaign that involves all its workers so that they are part of the initiative and contribute to caring for the environment through the recycling of face masks, giving them a new use that, in in this case, they will become planters

The assistant director of the Department of Consulting and Innovation of the TDU, Carla Pérez, stated that *"this is a great circular economy initiative to which Puerto Ventanas has joined and that is in line with the care of the oceans and our environment in general. It is also an excellent opportunity for all port workers to actively participate in caring for the environment".*

The Environmental Coordinator of Puerto Ventanas, Mariette Aros explained that *"it is known that since the pandemic, disposable face masks generate 4,000 additional tons of waste, according to data from the Ministry of the Environment. From the sustainable vision of Puerto Ventanas, we have wanted to join this initiative that allows us to reduce waste in our environments and apply the principles of the circular economy to contribute to the care of our planet"*.

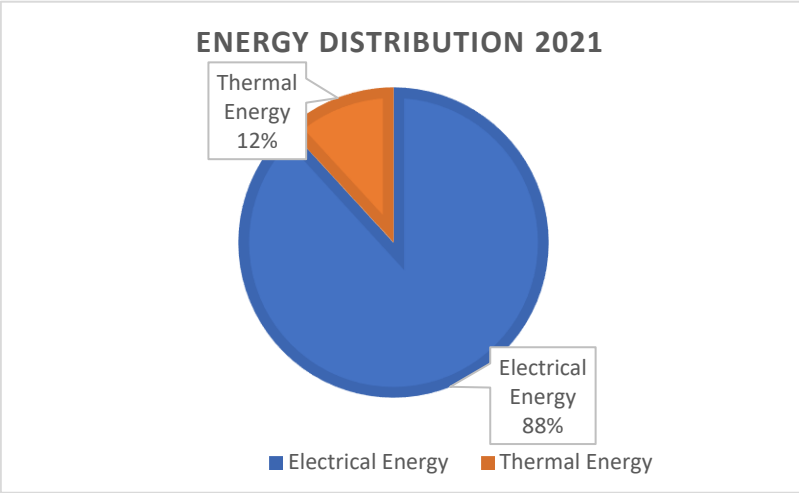
Containers have been arranged in the port for the disposal of face masks, which are then sent to the University of Concepción, under strict health security protocols, for their recycling process.

It should be noted that **for every kilo of face masks that is collected, 15 planters are generated** that can be used from the process of recycling them.

ENERGY MANAGEMENT

ENERGY CONTEXT

During 2015, with the support of the Energy Sustainability Agency, the company implemented an Energy Management System based on the ISO 50001 standard, where aspects related to the efficient use of energy have been addressed, both technologically and in terms of the strengthening of a culture of efficiency, involving all its workers through a training plan with the support of the Energy Sustainability Agency.



Electrical energy is one of the most relevant inputs in port operations, **representing 88% of the total energy used in 2021**. As a result of this energy efficiency program, between 2020 and 2021, energy consumption per transferred ton has decreased by **7.28%** through actions such as the incorporation of high energy efficiency equipment and operational controls established for this purpose.

As a result of its perseverance and management, the company has been recognized by different instances that promote the efficient use of energy: **Seal of Energy Excellence in its highest category (2014, 2017 and 2020), awarded by the Chilean Ministry of Energy and the Energy Sustainability Agency** for the implementation of Policies of Energy Efficiency with demonstrable results (see Appendix No.6). The specific objective of the Seal of Energy Excellence is to identify and reward organizations that have defined management, operational excellence, and energy efficiency as a crosscutting policy. This Seal seeks to annually identify and reward leading organizations that, through the initiatives presented, have managed to reduce energy costs, increase their competitiveness and productivity, in addition to reducing their greenhouse gas emissions and promoting good practices.

Additionally, in 2021 Puerto Ventanas was recognized with the **CEM Insight Award**. This distinction is awarded by The International Clean Energy Ministerial Forum and recognizes leadership in Energy Management in companies that have implemented energy management systems to achieve energy, economic and sustainability benefits. **PVSA has been the only port Chile to obtain this recognition in 2018 and 2021** (see Appendix No.7).

Result of the LRQA Audit

The last maintenance audit of the ISO 50001 standard was carried out on January 6 and 7, 2022.

It is concluded from the visit that the PVSA Energy Management System operate in accordance with the regulatory requirements for the scope of the certificate:
"Management Services in Loading, Discharging, Portage, Storage and Dispatch of Bulk, Liquid and Breakbulk Cargo"

- **Audit result:**

  The results indicate, based on the evidence obtained, from the samples audited in the business processes, that Puerto Ventanas maintains the management system in accordance with the requirements and the commitments established by the organization. Likewise, its performance indicates that the objectives established in the reviewed processes are effective in achieving the expected results of its management system.
  On this occasion, no new findings are verified that are declarable as non-conformity.

- **Continuous improvement:**

  The organization has planning supported by an appropriate documented system to achieve the expected results, in the same way, the audited processes show management methods consistent with the organization's policies, which highlights the development of initiatives to improve its management of satisfy its stakeholders. Evidence of this are the presentations of results by process leaders during the Management Review exercise.

It is important to mention that in June 2021, Puerto Ventanas S.A made the transition to the new version of the ISO 50.001:2018 standard, with this the certification is valid until January 2024 (see Appendix No.8).

Electromobility Accelerator Program

In 2021, Puerto Ventanas was one of the companies that participated in the third version of the **Electromobility Accelerator Program** promoted by the **Energy Sustainability Agency** (ES Agency).

The Transport Line of the Energy Sustainability Agency develops actions and programs with the aim of promoting the efficient and sustainable use of energy in the transport sector, both in energy management and in the promotion and fostering of new and best technologies in the sector
Electromobility is one of the technologies that the Transport Line seeks to promote. This new form of mobility entails important benefits associated with a more efficient use of energy, which results in fewer greenhouse gas emissions and lower operating costs.
In this context, the Electromobility Accelerator Program was created, with the aim of supporting the transition to electromobility in the industrial sector by implementing a methodology that helps the representatives of each company to identify opportunities for electric mobility in their fleets and design an electromobility pilot project adapted to its conditions.

The program included 6 days of work between a team from ES Agency and representatives from each of the organizations, where they worked on understanding the mobility system, prioritizing alternatives, designing the electromobility pilot project, and preparing of a technological roadmap for the organization. The proposed methodology had as its main focus the electrification of the fleets of each organization, so that, although various instances of learning about electromobility were generated, the final results were focused on the design of the pilot project and the roadmap associated with each beneficiary organization.

The PVSA team that participated in the development of this project was the Sustainability Manager, Environmental Coordinator, Continuous Improvement Engineer, Head of Innovation and Continuous Improvement, Head of Supply, Contracts and Tenders.

Green Hydrogen Accelerator Program

Puerto Ventanas was one of the 10 companies that were selected in Chile by the **H2V Green Hydrogen Accelerator**, promoted by the **Energy Sustainability Agency and the Ministry of Energy**, to develop initiatives for the use of hydrogen in its operations.
The company carried out its project with the technical and professional support of the consulting firm H2Sur and the Pontificia Universidad Católica de Valparaíso (PUCV). The objective of the initiative is to evaluate the implementation of a prototype with the use of fuel cells that use hydrogen as an energy source for the energization of areas in Puerto Ventanas, seeking to reduce the demand for electrical power during peak hours. In this sense and according to the definition of the scope of the project provided by the ES Agency for the second stage in terms of implementation times and the magnitudes of the energy demand that could be considered, some alternatives have been analyzed with the experts that are participating in H2Sur and the PUCV, evaluating, among others, the power used to meet the demand of some of the processes of the Port.

Daniel Serafini, Director of the consulting firm H2Sur, expressed that Puerto Ventanas has the potential to develop pilot projects with the use of this energy, stating that *"everything that ensures greater energy sustainability is very important and I think it is a very good attitude that Puerto Ventanas is having in piloting projects that may be viable and with a long-term vision, being an actor and promoter of a technological revolution such as the use of green hydrogen in the world."*

Another important objective that PVSA had in the development of the project was the exploration of the H2 ecosystem, in addition to the transfer of learning and knowledge of technology around the use of hydrogen. Additionally, this initiative seeks to assess the feasibility and opportunities for further scaling in the H2 value chain in terms of Storage-Production-Distribution, using the capabilities of the Port.

The H2V Accelerator began in August 2021 and provided technical, regulatory, and strategic support to promote pilot projects for future consumption of Green Hydrogen.

Agreement to develop Wave Energy Project

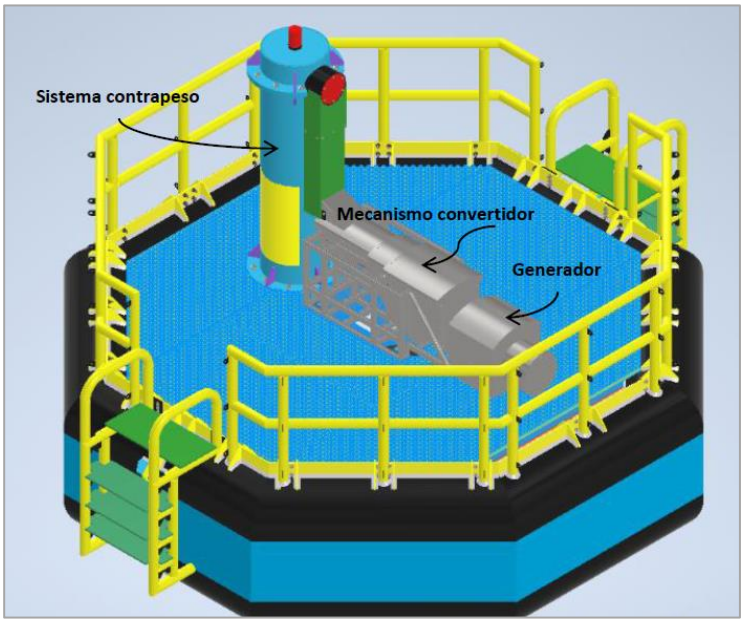
Puerto Ventanas S.A, in its long-term vision, proposes innovation and continuous improvement of its processes as a pillar of its sustainable development, because it understands that an early adaptation to the change in the technological and market scenario is vital for the survival of the business. The global trend of decarbonizing the energy grid, climate change, and being part of the mining logistics chain, challenges Puerto Ventanas to be innovative and propose solutions to these issues.
As a way to face these challenges, PVSA has focused its action on the development of innovative projects and one of these is a system for generating energy from the movement of sea waves.
In 2021 PVSA signed an important agreement with the company Alu Energy that will allow the development of a project for the generation of wave energy

The project called **"Generation of wave energy in a competitive market",** has the co-financing of "Corporation for the Promotion of Production (Corfo)" and the contribution of Puerto Ventanas and will be executed by the company Alu Energy between 2021 and 2022. In a first stage will validate a full-scale prototype and the real conditions of experimental energy supply to the port, where tests and functional adjustments of the equipment will also be carried out.
Puerto Ventanas had to assume the risk of validating the hypotheses regarding wave behavior with the technology developed to project towards competitive production. On the other hand, it is possible to mention the financial risk that the collaboration of the project implies, which considers an investment for the Port of USD 107,000.

- **Degree of Originality:**

The project is innovative in every aspect, because through it the technology that allows capturing the maximum potential energy from the continuous movement of sea waves is being validated and improved.

The wave power converter system **has been developed 100% in Chile** and is unique in its design. It considers a floating octagon that has a mechanism for converting the movement caused by the waves, connected to a generator, from where the current is transmitted to the ground.



- **Projection of the initiative:**

This project is an economical, accessible, and viable solution at the country level, improving equity in energy access.

Of a total potential country demand of 340.1 GWh, in the 20-year horizon, 734 MWh would be supplied, that is, 0.2% of the market, with our goal being 1% of the potential market and 5% of the non-conventional renewable energy market.

The project, being based on an available resource such as the waves of the sea, allows a stable energy source and at a lower cost for the consumer, in the same way, the technology used is friendly to the environment, without greatly altering the landscape and accessible to potential demand segments.

It is expected that the project can move on to the competitive production stage, in order to begin evaluating not only the internal consumption of the port, but also the generation of energy from the sea for the Puchuncaví area, fulfilling the triple impact (economic, environmental and social).

- **Indicators:**

Among the main indicators can be mentioned:

- ✓ Validation of the system at a competitive scale: Reduce the cost of the system US$/kW.
- ✓ Investment cost per unit installed power ($/kW), is highly dependent on the design of the SCU, the conversion efficiency and the wave height.
- ✓ Generate in the first stage of 154,245 kWh per year, conservatively, to supply energy to some operational process.
- ✓ Carbon footprint reduction with the wave energy project: 60 Tons of Co2 (eq)
- ✓ Increased conversion efficiency (CE): Increase the current state of the CE by 50%, depending on the position of the equipment in the testing stage
- ✓ Environmentally and socially innocuous system.
- ✓ Promote validation of projects that use the sea as a source of energy

INNOVATION MANAGEMENT

The port industry, and especially Puerto Ventanas S.A, face great challenges to maintain leadership, development, and projection. In this scenario, innovation and continuous improvement of processes has become an important strategic pillar, considering the importance of adapting to the change generated by new technologies and the transformations that are taking place in the country. This challenging context requires the maximum display of creativity to capitalize on the Port's potential as a specialist in handling solid and liquid bulk cargo, and to offer innovative solutions to its clients. Likewise, the organization demands all the innovative potential of its collaborators, which is why a pillar of its sustainable development is innovation and continuous improvement of its processes.

That is why a culture of innovation is encouraged within the organization, where there is space for critical analysis of current processes and instances are generated for the creative thinking of workers together with an investment plan in modernization and technology. During 2021 some initiatives can be highlighted:

Online Stock Prototype in Copper Concentrate Reception

The objective of the project points to the strategy of Puerto Ventanas in line with operational excellence. The challenge consists in making information available in the process of reception copper concentrate at Terminal Costa, in order to have real-time information on the stock of the products in the warehouses.

Nautical Fenders

The initiative developed by the area of operational technology and maintenance of the Port, seeks to measure the behavior of the fenders and their dynamic response to the impacts of the vessels, in order to anticipate their corrective maintenance through simulation and algorithms of prediction that include the degradation of defenses and their response over time. Within the information collected, it has been possible to obtain the following variables of the condition of the defenses: specific effort, wear, accumulated effort, and angle of deformation, among others.

Connectivity with “Pontificia Universidad Católica De Valparaíso” (Open Innovation)

During the year 2021, a project called "Convocatoria Zero" was carried out, where Puerto Ventanas made available three challenges aligned with the circular economy, so that undergraduate, postgraduate, and former PUCV students could present initiatives related to this matter.

As a result of this initiative, 6 projects were presented, of which 2 initiatives were selected for progress during 2022.

RELATIONSHIP WITH THE COMMUNITY

“PUERTO ABIERTO” COMMUNITY CENTER

A fundamental part of the sustainable development of Puerto Ventanas S.A is based on the relationship that the company has with its communities and stakeholders. To achieve this, a Strategic Plan for Community Relations has been developed with the aim of contributing to the economic, social, and environmental development of the Puchuncaví commune. This, through the establishment of long-term relationships, based on trust and transparency and the development of initiatives that contribute to improving the quality of life of the residents of Puchuncaví.

During 2021, remote activities were maintained, mainly aimed at strengthening digital capacities and education for the youth of the commune. Likewise, some face-to-face activities were resumed, with the protection of the prevention measures imposed by the health authority and the donation of protection elements against Covid 19 continued. One of these activities is described on page 71 of this report and corresponds to the program: **"Sustainable classrooms, Educators for the future"**, an initiative that was promoted by the Center for the Environment and Energy of SOFOFA.

2.5.2. Control Measures and Monitoring

Puerto Ventanas has established a series of controls that are based on the environmental care and sustainability of its operations.

Process control measures	
Conveyor belts and closed towers for the transport of solid bulks cargo.	✓
Encapsulated systems that prevent the dispersion of particulate material.	✓
Reception of copper concentrate by sealed containers which offers greater security for people, optimizes the time of operation, and contributes to the care of the environment.	✓
Solid bulk storage warehouses with last generation of emission control systems.	✓
Permanent industrial cleaning program for the entire conveyor system.	✓
High Vacuum Industrial System for Terminal cleaning tasks.	✓
Cover of trucks that enter and leave our facilities to avoid the dispersion of particulate material.	✓
Washing of truck wheels in order to avoid the dragging of material towards public roads.	✓
Rainwater Treatment Plant.	✓
Dust collectors installed in the transfer belt system to capture any suspended dust during the transfer of material.	✓
In the process of transferring bulk liquids such as fuel, asphalt and sulfuric acid, 6 and 10-inch quick coupling systems are used to make the connection/disconnection process of liquid bulk transfer hoses to the ship more secure and efficient; and the use of Break Away System (quick decoupling), for disconnection in case of emergency.	✓
Isokinetic measurements to verify efficiency conditions of dust collectors.	✓
Sprinkler System (Dust abatement in Hoppers).	✓
Ecological NEMAG shovels for solid bulk unloading process.	✓
Elimination of plastic bags in Puerto Ventanas S.A. Puerto was a pioneer in the elimination of plastic	✓

bags, which were replaced by gender bags for the delivery of work clothes and safety equipment.	
Waste management in Puerto Ventanas and the community of Puchuncaví: with the implementation of green points in the different areas of the Terminal and the community in order to recycle plastics, paper and other waste.	✓
Through the implementation of an ADCP equipment, it is possible to measure the conditions of waves, tides, and underwater currents. To this was also added a station for measuring the wind. This technology complements that used by the Maritime Authority so that better decisions are made that contribute to improving safety and operational continuity.	✓
Installation of an anemoscope to measure wind speed and direction at Petcoke Terminal in order to monitor and take immediate action when measurements exceed 10 m/s. Among these actions are increasing the humidification of the field when appropriate and stopping the movement of petcoke cargo inside the Terminal**.**	✓

Since 2018, PVSA has had an **Integrated Operations Center (IOC)** that controls the systems and monitors the operational variables of the production processes.

For the control and monitoring of PVSA operational systems, screen applications have been designed to clearly see each of the processes, equipment, and components.

The IOC is **based on the logic of a Distributed Control System (DCS) and supported under an Industrial Data Center (IDC)**. This allows the control and analysis of variables that directly influence quality, environment, safety, and energy standards.

IOC Main Indicators	
By 2021, the number of processes deployed in IOC screen applications reaches 200.	
Control of main variables of load flow and transfer speed.	
Environmental control: supervises the operation of the 18 dust collectors installed in the transfer belts system.	
Monitor operation processes through a television closed-circuit system. Installation of a camera system at pier site No.5 and No.3 and at the Petcoke Terminal, which show port operations online and uninterruptedly and which are viewed by the environmental authority in a milestone of transparency.	
The monitoring of variables such as energy, electrical power and energy performance are recorded and monitored by the control system to evaluate the instantaneous and final conditions of each process.	

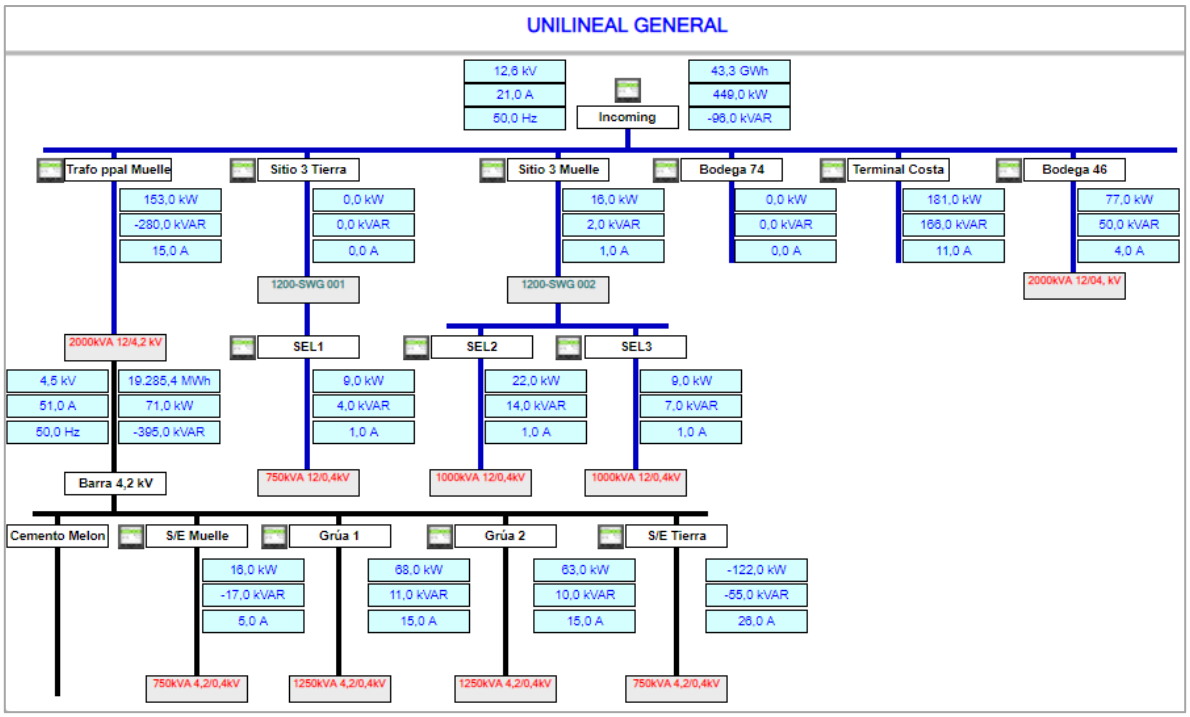


Figure 7: Puerto Ventanas Energy Measurement System

INTERNAL AND EXTERNAL COMMUNICATIONT

In order to strengthen relations with its main stakeholders, Puerto Ventanas S.A has developed a communications strategy aimed at positioning Puerto Ventanas as a green, innovative port and industry leader. Thus, through constant and permanent communication of the main milestones and activities carried out by the company, it has managed to project this image and consolidate its position among its stakeholders.

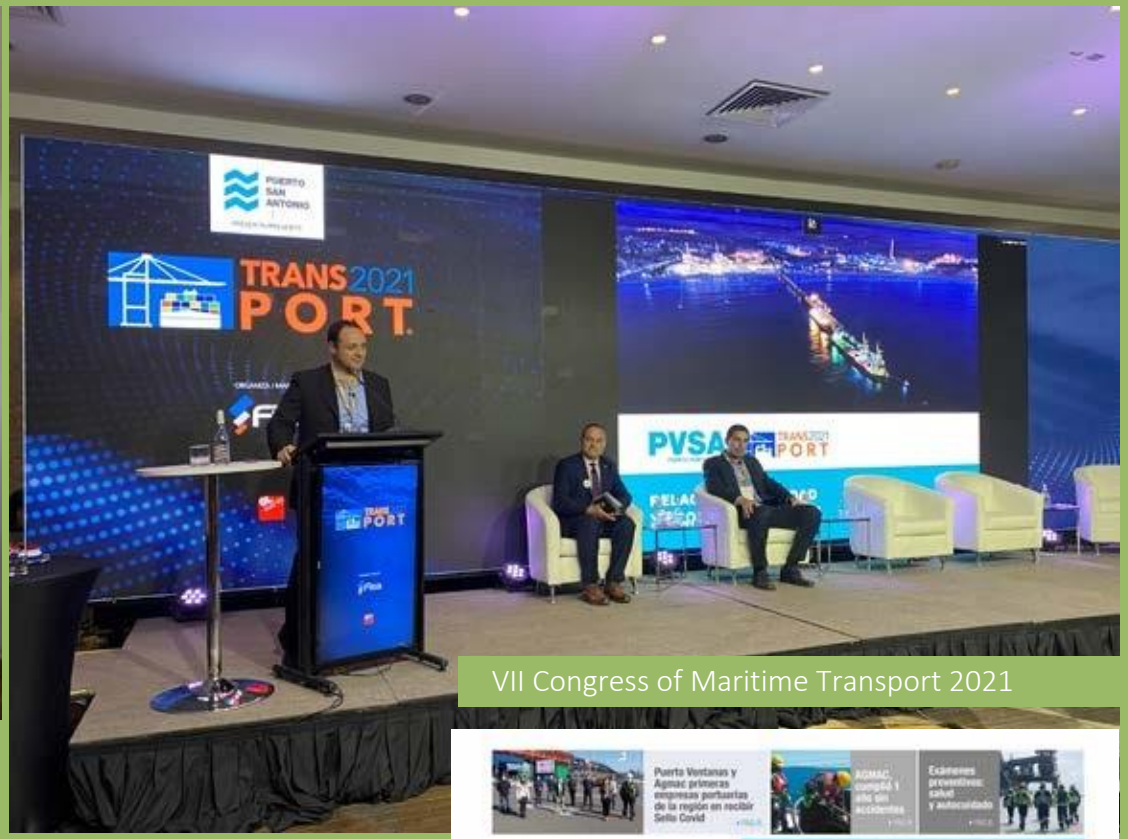
This strategy has also made it possible to strengthen and increase the transparency of operations, thus favoring a link with its internal and external audiences. The relationship with these audiences is not only transformed into the communication of the plans and actions carried out by the company, but also contributes to strengthening the corporate reputation and increasing adherence to the Port. This timely management of milestones of interest has allowed the organization to adequately convey its messages in national, regional, local and specialized media, positioning its image as a leading company, focused on sustainable development, concerned about the community and the care of their workers.

During 2021, Puerto Ventanas reached more than 150 positive appearances between January-December, mainly linked to the dissemination of actions to the community and news whose favorability enhances the reputational capital of the Port.

In 2021, more than 100 internal publications were published, including news, organization activities, training, worker testimonials, new Port projects, among others. Communications can be made through

- **Magazine "A Bordo"**
- **Mural newspaper "Puerto Informa"**, which is published monthly.
- Use of the social network **"WhatsApp"** to report internal campaigns with news of interest to employees and testimonies.
- **TV screen** for broadcasting videos and audiovisual material.

VII International Congress of Maritime Transport 2021



VII Congress of Maritime Transport 2021

Other external communications can be seen in Appendix No.9.

OTHER INTERNAL COMMUNICATIONS

Communication for World Oceans Day

We reinforce our commitment to caring for the oceans through safe and responsible

Communication on initiative: "Reset your mask"

This initiative makes it possible to recycle masks and transform them into flowerpots.

2.6. EXAMPLES OF THE BEST PRACTICES OR ENVIRONMENTAL MANAGEMENT SOLUTIONS

2.6.1. Practices or environmental management solutions No.1

I. Background

a. *Contact for information:*

- Port of: Puerto Ventanas S.A
- Contact name: Mariette Aros E.
- Job title/position: Environment Coordinator
- Telephone: +56 – 322272800
- E-mail: mariette.aros@pvsa.cl

b. *Environmental issue:*

- Air quality (1)
- Soil pollution (30)
- Relationship with local community (32)

II. Title: Petcoke Terminal Arborization

a. *Project Description:*

As part of the environmental management plan, **80 trees were planted in the Petcoke Terminal**.

The tree species is called "Brachichito" (Brachychiton populneus) which has a deep root and has been planted on the basis of hydrogel, an additive for the soil developed to retain water.
Tree planting has multiple advantages:

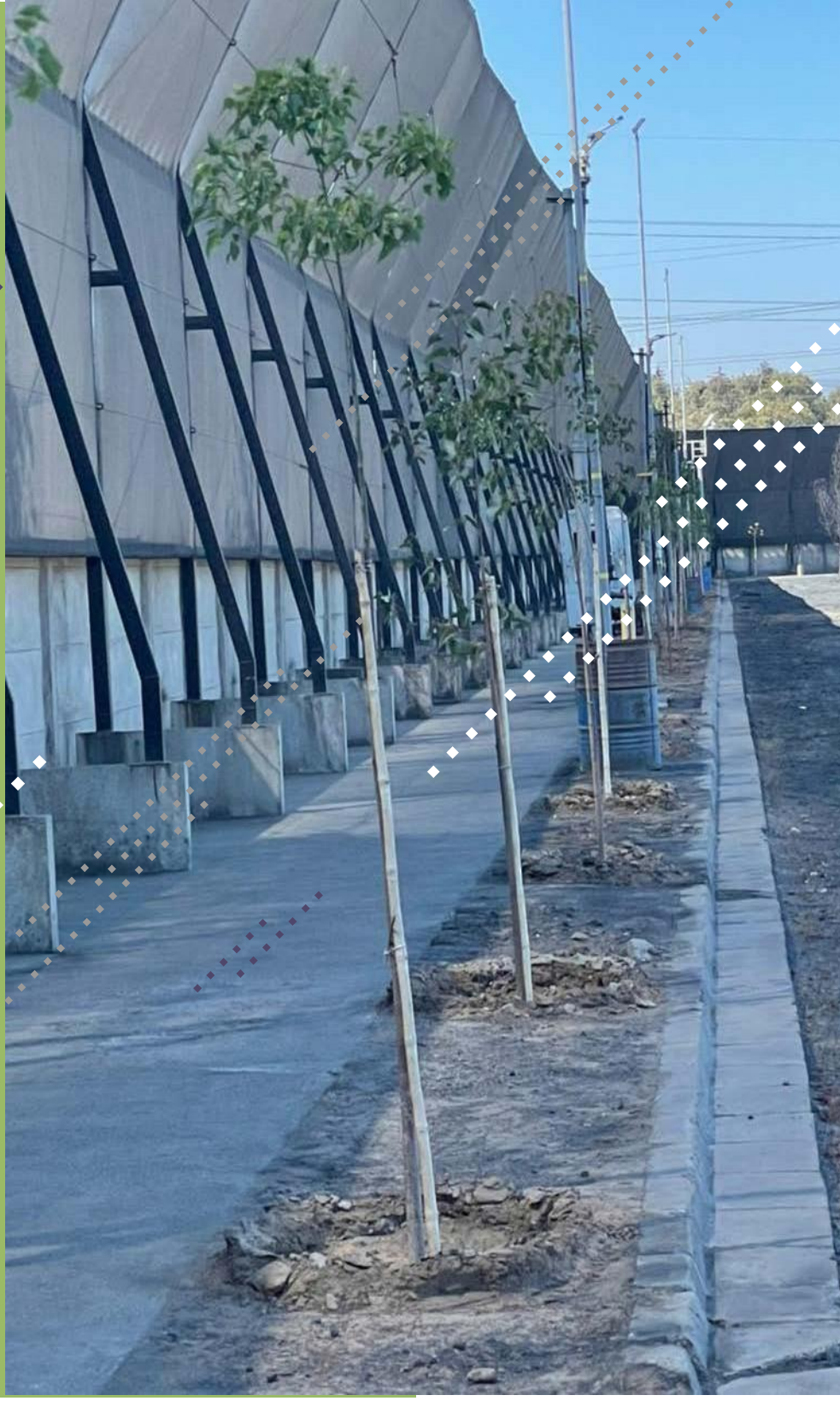
- ✓ It releases water vapor that refreshes the air, it functions as small ecosystems where animals and insects live.
- ✓ retains particles that circulate in the air
- ✓ dampens noise
- ✓ protect the soil

The investment made was USD 5,800 and in their adult stage, the trees are expected to help offset the direct carbon footprint of PVSA.
The initiative was coordinated by the Environment area and is one more measure that is in line with the vision of sustainable development in Puerto Ventanas.

Petcoke Terminal

Arborization

This initiative allows the air to be refreshed and enables the functioning of small ecosystems, retains particles that circulate in the air, dampens noise, and protects the soil.



2.6.2. Practices or environmental management solutions No.2

I. Background

a. *Contact for information:*

- Port of: Puerto Ventanas S.A
- Contact name: Luis Fuentes M.
- Job title/position: Sustainability Manager
- Telephone: +56 – 322272800
- E-mail: luis.fuentes@pvsa.cl

b. *Environmental issue:*

- Climate change (energy efficiency, reduction of GHG emissions and adaptation) (5)
- Energy consumption (11)
- Relationship with local community (32)

II. Title: Application of operational controls for the reception processes of copper concentrate in Andina and La Greda warehouses

a. *Project Description:*

Puerto Ventanas has four copper concentrate storage warehouses and a blending warehouse, with a total storage capacity of 224,000 tons. These facilities meet the highest standards of service, quality and sustainability required by modern industry.

Andina and La Greda warehouses have a storage capacity of 46,000 tons and 55,000 tons, respectively. Both warehouses provide services for the storage of copper concentrates for one of the most important mining companies in the country.
The process of reception copper concentrate by trucks and trains from La Greda and Andina warehouse can be discontinued, which caused the conveyor belt system to work part of the time empty, generating unnecessary energy consumption for the conveyor system.
PVSA, with the aim of optimizing the use of energy and improving energy performance in the copper concentrate reception system, established operational controls to control the partial unloading of trucks and trains in both warehouses, thus avoiding empty use of the conveyor belts.

For the analysis, the following equipment were considered:

Warehouse Area	Principal function	Equipment Identification ID	Equipment Type	Equipment Nominal Power (kW)
La Greda	Reception	LA GREDA - CORREA FDR-000 - ENERGIA (KWH)	Conveyor belt	37
La Greda	Reception	LA GREDA - CORREA CVR-001 - ENERGIA (KWH)	Conveyor belt	90

La Greda	Reception	LA GREDA - CORREA CVR-002 - ENERGIA (KWH)	Conveyor belt	30
La Greda	Reception	LA GREDA - CORREA SHL-001 - ENERGIA (KWH)	Conveyor belt	15
Andina	Reception	FFCC - CORREA C-00 - ENERGIA (KWH)	Conveyor belt	18.5
Andina	Reception	FFCC - CORREA C-01 - ENERGIA (KWH)	Conveyor belt	110
Andina	Reception	FFCC - CORREA C-02 - ENERGIA (KWH)	Conveyor belt	18.5

Within the results after the implementation of operational controls, it can be indicated that **the impact of the measure** (savings kWh per year / Total installation energy consumption kWh per year) **in 2021 was 15%**. This represents a saving of **31,435 [kWh]** and an avoided cost of **USD 3,988.**

The results were verified according to the International Measurement and Verification Protocol "IPMVP".

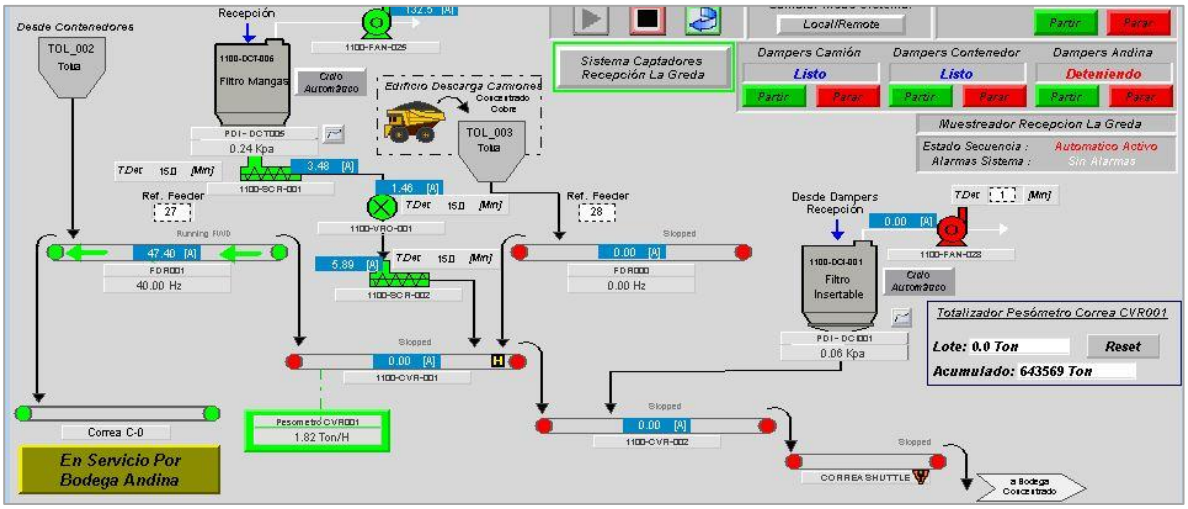


Figure 8: Control system for process of reception copper concentrate by trains from La Greda warehouse

It is important to mention that since it is a control and a good operational practice, **this project had no investment cost.**