

**PVSA**  
PUERTO VENTANAS S.A.



# PORT ENVIRONMENTAL REVIEW SYSTEM (PERS) APPLICATION

*June, 2024*



**ECO  
SLC**  
Sustainable  
Logistic Chain

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**PUERTO VENTANAS S.A.**  
**Port Environmental**  
**Review System**  
**2024**



**PVSA**  
PUERTO VENTANAS S.A.



## 1. OUR COMPANY

Strategically located in the Bay of Quintero, Puerto Ventanas S.A has established itself as the main bulk port in the central area and as one of the most important maritime terminals in the country. Likewise, within the framework of its development plans, it proposed the challenge of diversifying its cargo and consolidating itself as a multipurpose port in the central area of Chile.

To this end, the Port has the necessary flexibility and resilience to offer its clients excellent services in comprehensive wharfing, as well as in the loading and unloading of liquid and solid bulk, striving to constantly renew its infrastructure to be at the forefront of the industry.

With modern facilities that allow efficient and reliable operation, the company maintains high standards of safety, quality, and respect for the environment, thus playing a prominent role in the sustainable development of the Bay of Quintero and Chile as a whole.

Following the fire that occurred in December 2022, Puerto Ventanas has been modernized by installing new structures that not only substantially improve operating conditions, but also reinforce the high environmental standards that the company has been implementing for years.





# FACILITIES AND EQUIPMENT

Puerto Ventanas S.A has the maritime dock with the greatest capacity in the central area of the country.

To fulfill the commitments made to its clients, the facilities 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 46,000 tons per day. The 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.

It also has logistics equipment that includes bonded warehouses, transport capacity and in-transit cargo handling. In addition to the multi-purpose warehouse inaugurated in 2021, with a capacity of 30,000 tons, there is the new Runge warehouse, which began operations in 2023 and can store 34,000 static tons of concentrate.



### **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.

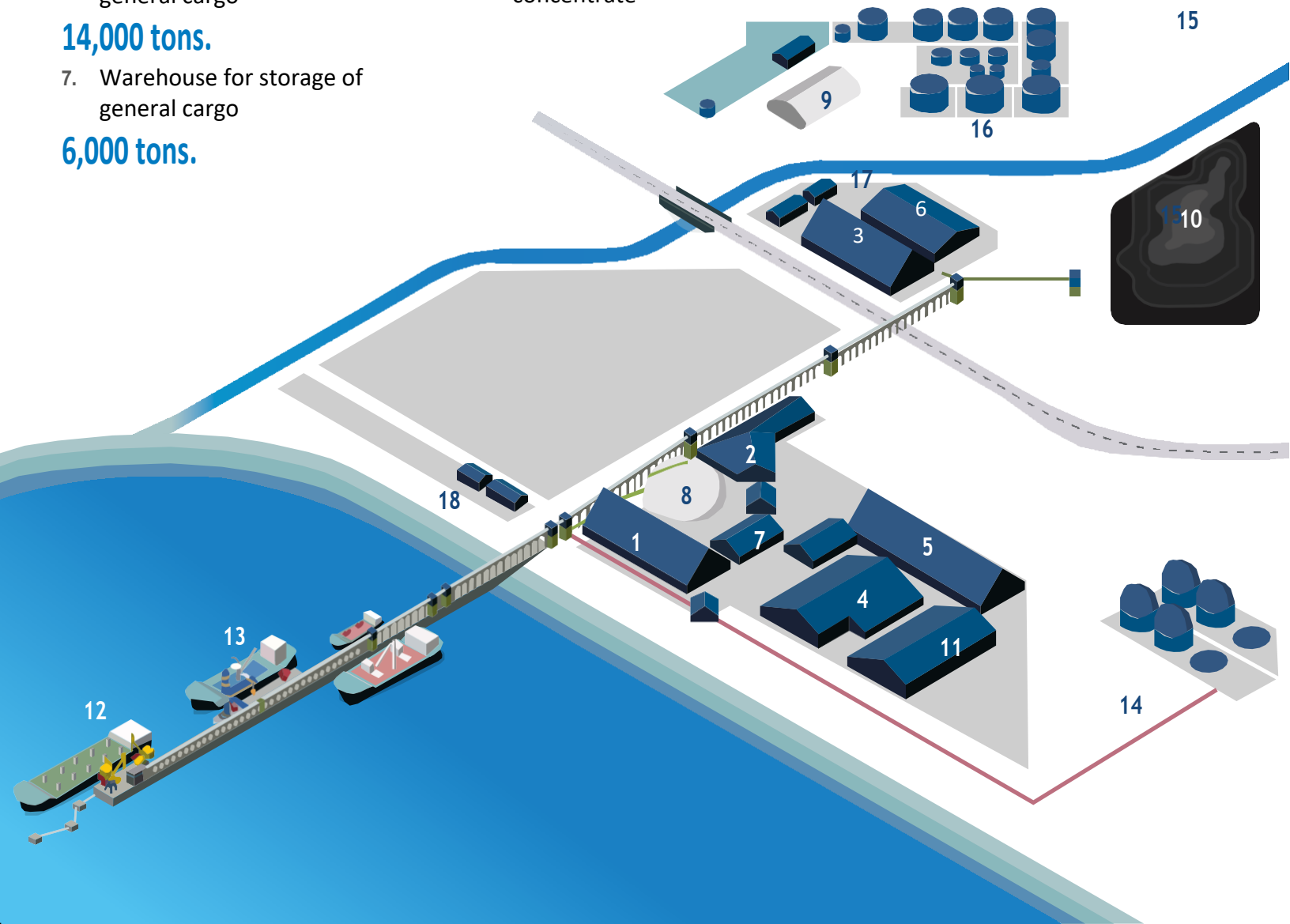
Valve box for fuel shipment or required by ships. Valve system for the unloading of fuel inputs.



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 (H<sub>2</sub>SO<sub>4</sub>)
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

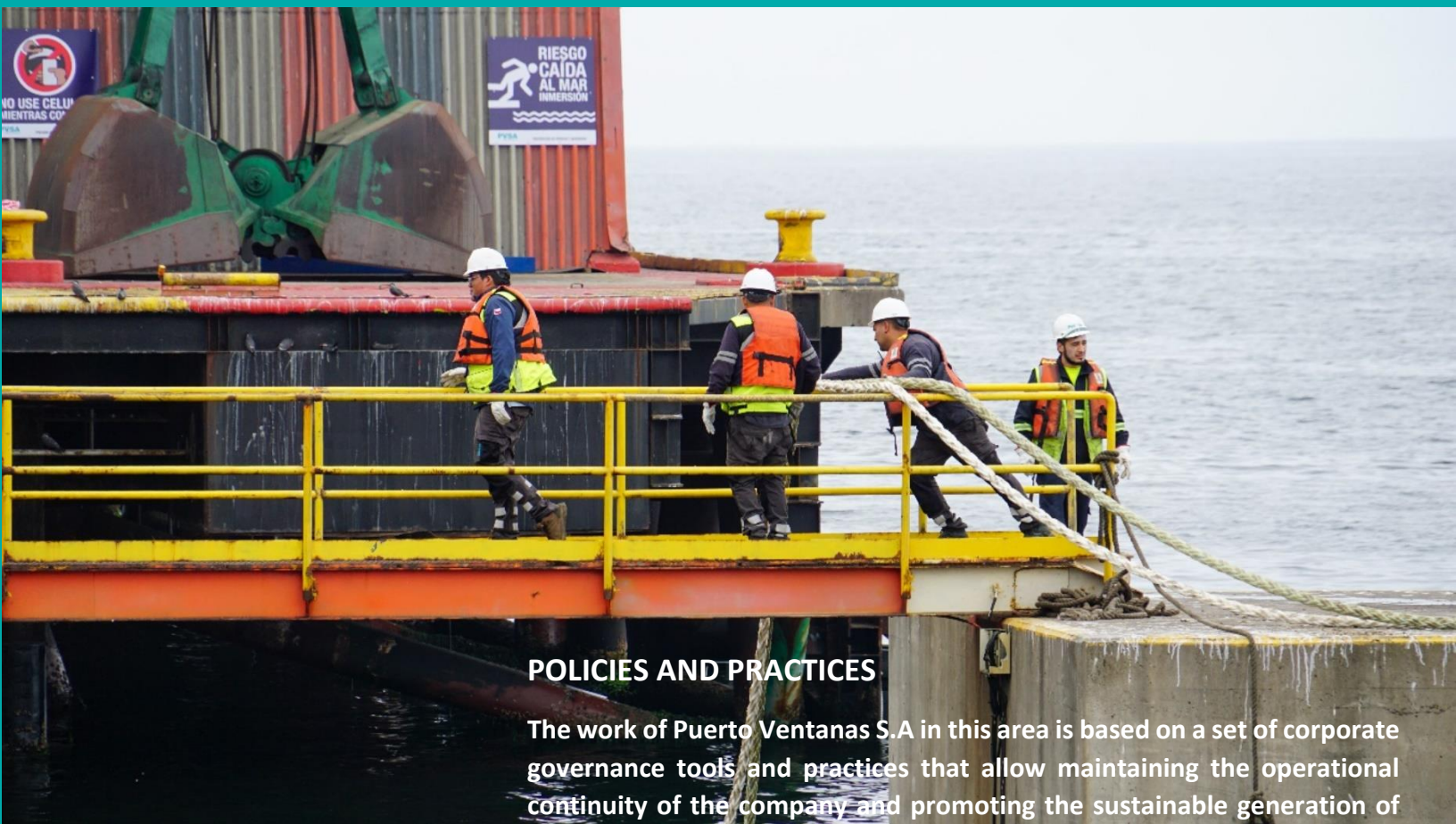
## EQUIPMENT FOR EFFICIENT AND SAFE OPERATION

### OTHER FACILITIES

1. Acid duct: shipment of sulfuric acid (H<sub>2</sub>SO<sub>4</sub>).
2. Railway maneuvering station yard
3. Multipurpose area of 4 hectares.
4. Asphalt and fuel lines
5. Approximate 18.1 hectares of land available for expansions and/or new businesses.
6. Offices.

- 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.
- Ship-loader
- Industrial vacuum cleaner
- Firetruck





## POLICIES AND PRACTICES

The work of Puerto Ventanas S.A in this area is based on a set of corporate governance tools and practices that allow maintaining the operational continuity of the company and promoting the sustainable generation of value for all its key audiences, both inside and outside. of the company. These practices seek to ensure the delivery of timely information, the equitable participation of shareholders, respect for the rights of interest groups and the strengthening of the company's senior management.

These policies are informed to all employees upon entering the company, at which time their full knowledge of these documents and their commitment to adhere to these standards is certified through a statement. 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

## CORPORATE GOVERNANCE

## 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 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 seek excellence and innovation.

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



## 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

## COLLABORATORS

At Puerto Ventanas S.A we maintain constant communication with our collaborators to guide our efforts on programs and benefits that align with their needs and comprehensive well-being. Along these lines, we encourage collaboration, provide training opportunities and cultivate a work environment based on respect and ethical behavior.

## INVESTORS AND SHAREHOLDERS

We focus our efforts on generating maximum profitability with a long-term perspective and exceptional quality standards. We foster transparent relationships by providing clear and relevant information to ensure timely decision-making.

## CLIENTS

We constantly remain at the forefront of technology to offer our clients innovative solutions, efficient operations adapted to their needs.

## SUPPLIERS

We have a strong commitment to the Puchuncaví commune, which contemplates the generation of shared value and mutual benefit with our suppliers, strengthening the productive capacity of local entrepreneurs, through fair treatment, with clear rules for both parties.

## COMMUNITY

We began our relationship with the community more than ten years ago and since then we have committed to fostering relationships based on trust and transparency, with the aim of generating shared value and an increasingly positive balance regarding the perception of impacts of port activity on the community. We take into account the interests and expectations of society, we value cultural identity and we encourage collaborative work with different communities. We generate instances of dialogue and promote social investment initiatives that contribute to local, regional and national development.



## **AUTHORITIES**

We maintain a relationship of collaboration and respect with local and government authorities. We are committed to complying with established rules and regulations, we establish open and transparent communication channels to ensure mutual understanding and we work together on initiatives that benefit the community and strengthen the harmony between port activity and the Bay of Quintero.

## **COMPETITORS**

In a dynamic business environment, we recognize the importance of fair and ethical competition. We strive to maintain professional relationships with our competitors, encouraging transparent business practices. We promote high standards of quality, safety and sustainability.

## **GREMIAL ASSOCIATIONS**

We collaborate closely with trade associations to address common challenges and promote the development of standards and practices of excellence that benefit the industry and its environment.





## THE STRATEGY AND MODEL OF BUSINESS

Puerto Ventanas S.A has consolidated its position as the main bulk port in the central area of the country for more than 30 years through strategic leadership and establishing a business model focused on providing comprehensive and flexible port services.

The success in the efficiency of its management is based on the efficient attention to customer needs, the adoption of innovative technologies, permanent modernization, and the constant optimization of processes, which has allowed PVSA to maintain operational continuity.

During this period, the company has also faced the challenges of international and national trade, as well as the substitution of cargo in the context of Chile's decarbonization plan. As a result, new opportunities and projects have been identified, including the diversification of cargo, such as iron, the transport of fruit and the evaluation of cargo such as cars.

PVSA's strategy and business model evolve to anticipate emerging trends in the port sector, such as the constant modernization evidenced in the replacement of its conventional belts in mechanized transfer systems, with tubular belts, thus adopting the best technology available in port operations for the transfer of solid bulk that ensure increasingly modern, efficient, safe, and environmentally friendly operations.



## CONTEXT AND STRATEGIC CHALLENGES OF PUERTO VENTANAS

At the end of 2022, Puerto Ventanas faced one of the most complicated situations in the Company's history. The fire that affected a section of our facilities meant that we spent a large part of 2023 rebuilding. This incident tested not only our technical and operational capacity, but also our resilience and ability to respond to large-scale emergencies.

In this reconstruction process, the high standard in the recovery of damaged structures and processes stands out. We use the best technology available, replacing bulk transfer belts with tubular belts in all our mechanized systems for the transfer of solid bulk, even in those that were not affected. This will allow us to have the highest levels of safety, efficiency, quality, and environment, aligned with our vision of being a modern, safe, and sustainable port.

In terms of the market context, we are going through a complex period characterized by the effects of the economic slowdown, both nationally and internationally, and the significant decrease in investments in the country. The above, added to the decarbonization process of the energy network and the modifications in the Intercommunal Regulatory Plan of the Valparaíso Region (PREMVAL), has implied new challenges to the operation of Puerto Ventanas that we have faced by expanding our client portfolio and a strategy of diversification of cargo and services. As for our connection with the Puchuncaví commune, it has been an invaluable asset that consolidates Puerto Ventanas' position as a committed and responsible player in the region. This commitment has been a priority for the company for several years, reflecting our firm belief that the economic results and development of the port must go hand in hand with the best quality of life for our neighbors.

By 2024, we face significant challenges that we will address with the same experience and commitment that distinguishes us, supported by a cohesive team that will allow us to continue consolidating our Port as a source of pride for the region and the country.

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

### 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.

### Climate Change:

**The sustainability strategy of Puerto Ventanas S.A** is focused on addressing the **challenges of climate change** through initiatives that not only aim to minimize environmental impacts, but also to safeguard natural resources. In this context, the company has made notable progress in aspects such as energy efficiency, carbon footprint reduction and water preservation, particularly relevant in an area affected by drought. These achievements have been recognized through certifications and awards that underline the company's commitment to sustainable management, demonstrating its alignment with the challenges posed by climate change.



## 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

The port industry, and in particular bulk ports, face complex and challenging scenarios. Puerto Ventanas S.A is exposed to various risks inherent to its operation, including variability in cargo volumes, fluctuations in prices of transported products, changes in demand for port services and global economic conditions. In addition, the company also faces risks associated with government regulations, environmental challenges, and potential supply chain disruptions. To face these challenges and ensure the generation of value for its stakeholders, Puerto Ventanas S.A implements mechanisms that seek to minimize the risks and uncertainties present in the business, carrying out a constant review of policies and management systems to adapt to changes. in the operating environment, while identifying opportunities for improvement and growth.

In addition, the port faced the reconstruction process after the 2022 fire, which entailed a challenge both in reconstruction and in the continuity of operations.



## A. OPPORTUNITIES

Particularly, 2023 presented challenges such as a slowing economy, the continuation of the decarbonization process and, with it, the diversification of cargo. In addition, as mentioned earlier, the reconstruction of Puerto Ventanas after the 2022 fire was faced. Despite this, this situation became an opportunity to modernize our facilities and improve quality, safety, and efficiency standards. It also contributed to consolidating the response capacity of our collaborators in emergency situations.

### A.1. STRENGTHENING OUR SEGMENTS

In June 2023, the operation and maintenance of the Puerto Andino in Mejillones began through our subsidiary Puerto Abierto S.A (PASA), allowing us to bring our service and experience to the Bay of Mejillones, a strategic pole for the development of mining. which will generate an increase in the supply of port services. The gradual decrease in coal discharges has meant greater availability of both ports (Puerto Ventanas and Puerto Andino in Mejillones). With this, the challenge of replacing nearly two million tons with new cargo has arisen, which has implied the strengthening of our commercial plan and business strategy.

### A.2. INFRASTRUCTURE AND PRODUCTIVITY

During 2023, PVSA. carried out the port reconstruction process. This reconstruction phase not only enabled the restoration of the affected infrastructure, but also focused on optimizing processes, improving their efficiency, safety, and quality.

The reconstruction of infrastructure damaged by the fire has been replaced with the best technology available for the transfer of solid bulk in the port industry. Thus, the implementation of tubular belts (2.3 km of conveyor belts) was considered throughout the dock area, beyond the damaged section, thus achieving a world-class standard throughout the bulk transfer system on the docks. Likewise, during 2023, the operation of the new Rungue warehouse began, with a storage capacity of 34,000 static tons of copper concentrate.

### A.3. INNOVATION AND CONTINUOUS IMPROVEMENT OF PROCESSES

Following the fire that affected part of the port facilities, the mechanized conveyor systems were replaced with tubular belts, which guarantee a permanent seal to prevent any type of dispersion. In addition, the capacity of the old four conveyor systems was reconfigured, consolidating them into three units with the same cargo capacity. This measure not only meant greater operational efficiency, but also contributed to the synergy and sustainability of Puerto Ventanas.

## B. STRATEGIC RISKS

With the aim of eliminating or mitigating uncertainty variables for our company, the Puerto Ventanas S.A team has a risk management strategy, which is responsible for safeguarding the stability and sustainability of the company. The identified risks are structured in a Risk Matrix that allows monitoring of legal, commercial, operational, supply chain, environmental and occupational health, and safety aspects, allowing the identification and evaluation of risks and opportunities, evaluation of existing controls and finally, define strategies and associated actions.



## B.1. DECARBONIZATION

Over the course of 2023, in line with the national plan to decarbonize the energy grid, a marked decrease in coal transportation continued to be evident at the Puerto Ventanas and Puerto Andino terminals.

The reduction in the percentages of imports of this material has generated the need for a continuous effort on the part of the company to diversify and consolidate strategic loads, while seeking to increase labor efficiency and flexibility.

The progressive incorporation of new cargoes, such as fruits, iron and automobiles, among others, as well as the development of services in other bays, are part of the strategy to adapt to a scenario that demands substantial changes in our activities, in our process of developing the transition towards more sustainable energy sources and in the transformations in international trade patterns.

## B.2. ECONOMIC CYCLE

The port industry is susceptible to variations in economic cycles and the dynamics of global trade. This sensitivity is accentuated due to the type of cargo that the company handles, the majority being commodities. Now, the company has managed to considerably reduce this risk thanks to the implementation of long-term contracts and the signing of agreements that include “take or pay” clauses, also known as “guaranteed purchases.”

Furthermore, it should be noted that the year 2023 was characterized by the economic slowdown and reduced investments, a trend that has persisted since 2020 in the post-pandemic panorama at the national and international level. This scenario may affect the supply and demand of certain products that Puerto Ventanas S.A ships and unloads daily.

## C. OPERATIONAL RISKS

### C.1. NATURAL DISASTERS

Given that our country repeatedly faces the possibility of natural disasters, Puerto Ventanas S.A continuously develops contingency, and mitigation plans according to these risks. These actions are an integral part of a proactive strategy that seeks not only to minimize the potential impact of risks, but also to guarantee the integrity of the company's operations.

The primary objective of these measures is to ensure operational continuity, while protecting the health and safety of our collaborators. At the same time, these initiatives contribute to strengthening the resilience of Puerto Ventanas S.A, providing it with the ability to face and recover quickly from possible incidents.

### C.2. WEATHER CONDITION

In 2023, the closure of Puerto Ventanas due to storm surges was extended for 129 days. Thus, the interruption of operations due to weather conditions, especially storm surges, continues to be one of the most recurring challenges for the company.

Among the measures that Puerto Ventanas S.A has developed over the years to reduce this risk, is firstly the implementation of a dynamic ship mooring system, which seeks to mitigate the growing effect of storm surges. Likewise, it collaborates closely with the maritime authority for the exchange of information, to anticipate possible events and is developing studies with both the maritime authority and the academy. This seeks to evaluate risks related to storm surges and determine new wave height parameters for the safe docking and undocking of ships, to improve the availability and efficiency of the port.

### C.3. ENVIRONMENTAL IMPACT

With the purpose of preventing and reducing possible harmful effects on the environment, Puerto Ventanas S.A has generated significant investments in infrastructure aimed at reinforcing the safety of its operations. Likewise, it has an environmental management system that enables anticipation in the identification of operational risks, allowing the adoption of preventive measures that result in high environmental and safety standards, in line with compliance with the regulations currently in force.

Along these lines, Puerto Ventanas S.A has demonstrated a firm commitment to environmental management, as evidenced by the certifications obtained in June 2023 through the Huella Chile Program of the Ministry of the Environment. These certifications recognize Puerto Ventanas' efforts in measuring and reducing its carbon footprint since 2015, thus contributing to the global challenge of mitigating the effects of climate change.

This is in addition to previous recognitions that Puerto Ventanas S.A has received, such as Ecoport-PERS and the I-REC certificate, which ensure that all the electrical energy consumed comes from renewable sources. Likewise, it has previously been awarded the seal of energy excellence and the APL certificate.

These achievements underscore Puerto Ventanas' adoption of sustainable business practices, which not only translate into recognition and certifications, but also demonstrate its continued commitment to preserving the environment and reducing its environmental impact.

#### C.4. THIRD-PARTY STOPPAGES

As with all companies in the industry, Puerto Ventanas S.A is exposed to the risk of stoppages by third parties. There may be stoppages due to possible demonstrations by organisations influenced by the social context, interruptions in the supply chain by suppliers or internal labor disputes. Puerto Ventanas S.A. has implemented a labour policy focused on people management programmes and benefits to mitigate risks. This includes professional development and improvement of the quality of life of its employees, as well as annual perception studies to anticipate social risks. In 2023, the position of Head of Labour Relations was established, responsible for ensuring compliance with labour regulations and promoting relations based on dialogue, trust, and collaboration between all areas of the company.

#### C.5. SECURITY OF THE INFORMATION

In the context of the growing use of digital tools, Puerto Ventanas S.A has implemented cybersecurity measures aligned with the guidelines of the Sigdo Koppers Group. These initiatives promote responsible use of technology and foster a culture of cybersecurity throughout the organization. In addition, they seek to reduce exposure to possible cyber threats and other risks of infiltration into systems.

## C.6. FIRES

In the context of our operations, despite their low probability, Puerto Ventanas S.A is in need of anticipating possible accidents or structural damage, such as fires. In this line, on December 22, 2022, Puerto Ventanas S.A faced the largest fire in the company's history. This originated in the solid bulk conveyor belt and spread to other facilities, with no injuries reported. This involved the activation of our emergency protocol and contingency plans that were successfully implemented, allowing us to safely resume some operations less than a month after the incident. In August 2023, 7 months after the incident, the first of the mechanized conveyor systems for loading solid bulk was started up, rebuilt after the fire.

Based on the above, Puerto Ventanas S.A has carried out various instances of dialogue with authorities and the community. In this sense, during the year 2023, we developed the Present and Future Port Development seminar, together with the Catholic University of Valparaíso and the newspaper El Mercurio de Valparaíso, together with authorities, regional councilors, members of the regional council and representatives of the private sector. During the seminar, the specific needs of the port were examined, highlighting the importance of integrating these elements in the planning of any strategy linked to the Valparaíso Metropolitan Regulatory Plan.

## C.7. LAND USE AND SPACE RESTRICTION (PREMVAL)

The process of modifying the Valparaíso Metropolitan Regulatory Plan (PREMVAL) implies a risk for the Quintero-Puchuncaví industrial zone, since the changes proposed to date could affect the support areas of the industrial zone and the areas with that Puerto Ventanas currently has for future use.



## D. FINANCIAL RISKS

### D.1. EXCHANGE RATE

Puerto Ventanas S.A uses the US dollar as its functional currency in its financial reporting, implementing hedging policies to mitigate foreign exchange risks. However, this strategy has resulted in variations in revenues and expenses, exacerbated in 2023 by the economic slowdown and the rising US dollar. In this way, the Chilean peso experienced a very significant annual depreciation against the dollar, without generating negative impacts on the company.

To minimize the risks of these fluctuations, Puerto Ventanas S.A implements currency forward contracts, which allow it to stabilize costs and income in foreign currency, providing greater predictability.

### D.2. MARKET ANALYSIS

In Chile, around 97% of the total cargo, that is, imports plus exports, is moved through the ports. In this context, Puerto Ventanas S.A is one of the three largest bulk ports in the country, where its main competitor in the central bulk cargo area is the Port of San Antonio.

Of the 57 main ports that exist in the country, 32 are for private use and 25 are for public use, and of them, 31 specialize in the transfer of solid and liquid bulk. That is why, considering that there is no guarantee of all activity, Puerto Ventanas S.A is constantly monitoring its client portfolio and looking for diversification opportunities. In this scenario, the company's challenge is to have long-term contracts and relationships with clients, guaranteeing conditions that ensure minimum activity levels, and thus maintain a stable market share despite the challenges of the industry.



## SUSTAINABILITY STRATEGY

Over the years, and following the guidelines established by the Sigdo Koppers Group, Puerto Ventanas has consolidated a Sustainability Strategy that simultaneously addresses socio-environmental aspects, safety, quality, and the constant need for innovation. This strategy is based on maintaining a commitment between social, environmental, and economic development, while promoting an efficient, safe operation, strongly linked to the community in which its workers are protagonists.

Among the objectives that govern the strategy are the safety and health of its workers, the preservation of the environment, operational excellence, and the building of long-term relationships with its main stakeholders.

In this context, the company has developed an investment and growth plan that involves the modernisation of facilities, the expansion of its capabilities and the continuous improvement of processes. This approach has been fundamental in consolidating the company's position as a leader in the port sector, both nationally and internationally.



## KEY ASPECTS OF THE SUSTAINABLE MANAGEMENT MODEL



### COMMUNICATION

- Internal / External
- Media management



### ENVIRONMENT

- ISO 14001 Certification
- Normative compliance
- Green Port



### SECURITY AND HEALTH

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



### QUALITY

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



### PEOPLE



### COMMUNITY LINKS

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

### INNOVATION AND CONTINUOUS IMPROVEMENT

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





## ACKNOWLEDGMENTS AND CERTIFICATIONS

### Puerto Ventanas S.A. is the first port in Chile to receive APL Azul certification.

Puerto Ventanas S.A was recognized with the **APL Azul certificate**, awarded by the Sustainability and Climate Change Agency, together with Fundación Chile, after the Terminal was able to certify its water footprint. This initiative seeks to contribute to the challenge of caring for water resources and moving towards an increasingly efficient and resilient use of water. It should be noted that **Puerto Ventanas S.A. is the first port to certify its water footprint** and within the quantification, the company defined its scopes and indicators, measuring and verifying its direct footprint and identifying the critical points for its reduction.





**ISO 9001**  
Quality Management Certification



**ISO 45001**  
Health and Safety Management Certification



**ISO 14001**  
Environmental Management Certification



**ISO 50001**  
Energy Management Certification



## PUERTO VENTANAS S.A RECEIVED THE ENERGY EXCELLENCE SEAL

After verifying the performance and efficient use of energy in Puerto Ventanas S.A, the Ministry of Energy and the Energy Sustainability Agency, awarded the company the Energy Excellence seal in the highest “Gold” category, a certificate that recognizes its performance in energy efficiency. For the Undersecretary of Energy, Julio Maturana, this seal of excellence “is for the company and all its workers, because we know that energy efficiency efforts are born from the first processes to management decisions and is part of a chain where everyone makes an effort to have a more sustainable company that joins the green economy”. He added that “this seal represents recognition by the Ministry of Energy and the Energy Sustainability Agency of the excellence that Puerto Ventanas S.A. has had in the efficient use of energy, and we encourage them to continue advancing in this matter.”

## 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.

## RECOGNITION FROM ASIVA IN INNOVATION AND DEVELOPMENT OF HUMAN CAPITAL

The awards were presented within the framework of the annual awards that ASIVA carries out to companies in the region that stand out for their good practices in different areas of their work. In this scenario, the award-winning projects were the wave energy project that the company has been developing since 2021 and the labor integration process between PVSA and its former subsidiary Agencia Marítima Aconcagua (AGMAC), which was completed in 2022.

The labor integration initiative allows the company to have a strengthened structure to face the challenges that the port faces in the short and medium term, with a team of workers who are cohesive, committed and aligned with our strategic objectives. Likewise, it allows for better management of equal opportunities for all Puerto Ventanas workers.

Regarding recognition in innovation, the wave energy project is in line with the sustainable operation policy, allowing us to contribute with innovation to the challenge of climate change.



## I-REC CERTIFICATION - ENERGY FROM RENEWABLE SOURCES

In March 2023, PVSA obtained for the second time the International I-REC Certificate, **which certifies that 100% of the energy consumed in its facilities comes from renewable energy sources in Chile.**





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

### HUELLA CHILE

In June 2023, Puerto Ventanas S.A. was awarded in the HuellaChile Program, under the direction of the Ministry of the Environment, for its efforts in measuring and reducing the Carbon Footprint. On this occasion, PVSA was recognized by the Footprint Quantification and Reduction Seals.

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.

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

Since 2013, Puerto Ventanas S.A established a management policy based on the ISO 9001 Quality, ISO 45001 Health and Safety, ISO 14001 Environment, and ISO 50001 Energy management standards.

Through this policy, Puerto Ventanas is committed to implementing practices that minimize the environmental impact of its operations and to continually seek and incorporate innovative ways to preserve and protect the environment in which it operates. This policy not only represents a declaration of principles, but also an active commitment to conserving the environment and contributing to a more sustainable future that ensures the well-being and quality of life of the next generations.

For Puerto Ventanas S.A, excellence in environmental management is key to the company's strategic objectives and is applied in all processes, operations, commercial strategies, and senior management decisions. In this area, all information is systematized according to the requirements of ISO 14001, maintained annually and recertified, which verifiably establishes systematic and proactive management of the entire organization for the protection of the environment. As well, this system ensures the monitoring of all legal and environmental commitments assumed by the company and allows all obligations to be identified by area and scope of responsibility, guaranteeing their 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 aspects.

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 2025**.



## 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.



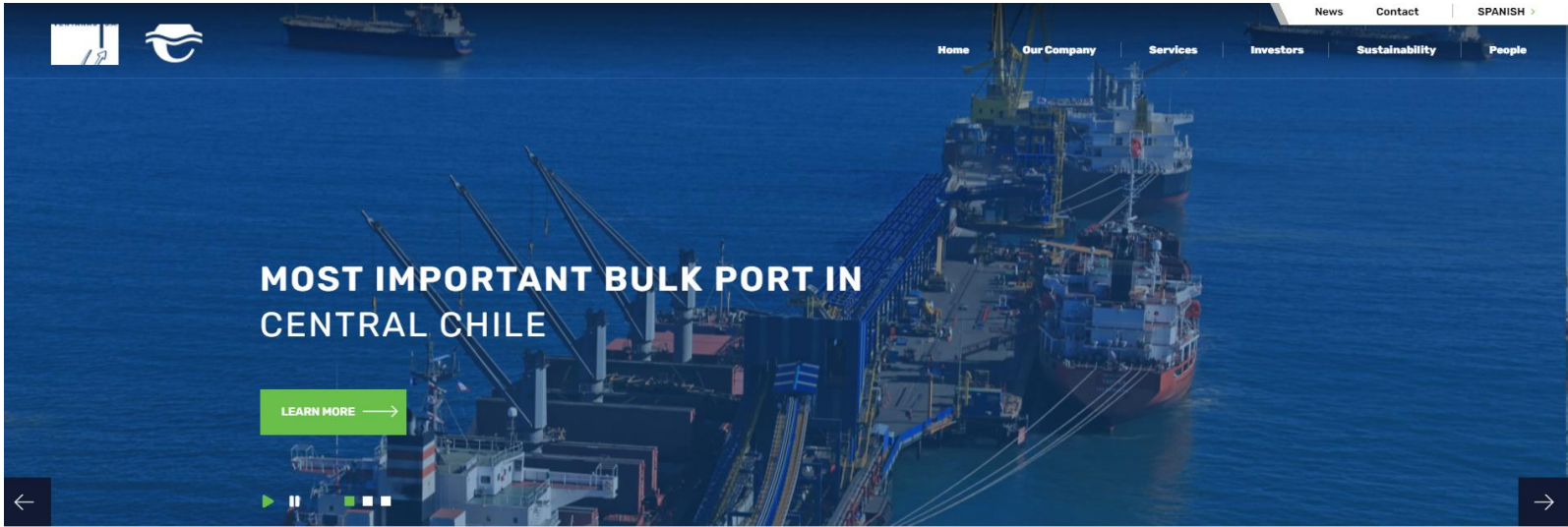
## PURPOSE OF PVSA

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](http://www.puertoventanas.cl)  
 (<https://puertoventanas.cl/en/sustainability/environment/>)



Lunes 06 De Mayo, 2024

## ARRIVALS SCHEDULE

SEE FULL CALENDAR →

SITE 3 M/N: MIGHTY OCEAN - ETA

04-03-2019

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



# ENVIRONMENT

In our view of a sustainable operation, we believe that a company can only prosper and project itself in the long term if -along with providing value to stockholders - it creates value for today's society and the future generations. We look to achieve the highest standards in the industry in operational efficiency, protection for the safety and health of our workers, the environmental performance of excellence, and our permanent integrating with the community, to contribute to their development and quality of life.



Environmental Report PERS



Integrated Management System Policy



The objectives of the Environmental management System are oriented according to the current integrated Management System Policy, shown on page 33. The objectives established for the fulfillment of environmental goals are identified below:

No.	Environmental Objective	Goal
1	Efficient use of energy: Reduce energy use by 2 to 5%	3.53 kWh/Ton transferred
2	GHG Emissions Reductions: Reduce GHG emissions by 2% (Scope 1 and 2)	53 tons.CO2e
3	Circular Economy: Develop efficient use of resources	Reduce waste generation by 5%
4	Water Footprint: Efficient use of water, recycling rainwater	Implementation and validation of the Blue Footprint
5	Biodiversity: Adding value to urban wetlands	Identify actions that promote the value of the Campiche wetland

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

### 2.2.1. Identification of aspects and assessment of environmental impacts

The purpose of this document is to establish and maintain a procedure to identify and evaluate the environmental aspects of activities, products or services that can be controlled and over which it can be expected to have influence within Puerto Ventanas S.A.

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	<b>Despicable:</b> It is confined to interior of buildings, to a team or activity, duration of a week.
2	<b>Low:</b> It is confined to the interior of property, in one or more areas, its effects can be extended to 1 month.
3	<b>Medium:</b> It can cause damage to the environment or damage to health, its effects can last for more than a year.
4	<b>High:</b> It can cause damage to the health of the community and/or the environment, with acute effects (damages instantly)
5	<b>Very High:</b> 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:

$$S = F \times Se \times L$$

Where:

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

- **Results analysis:**

Significance	Control Level	
From 1 to 45	<b>Significant</b>	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	<b>Very significant</b>	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 has an internal procedure that describes the methodology for identification, updating, registration, verification, communication, and compliance with the legal requirements that apply to environmental aspects, climate change, energy efficiency and other aspects of its activities and services.

The objective is to guarantee the continuity of PVSA's operations, which could be affected by possible sanctions due to regulatory non-compliance. This procedure applies to the management of legal and other requirements subscribed by the organization within all its processes and activities carried out by Puerto Ventanas.

**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 order to keep the identification of legal requirements and other requirements applicable to PVSA up to date, the EVA service will review and update the regulations for identification and compliance with the applicable Legal Requirements. This process will be coordinated by the Environment area.

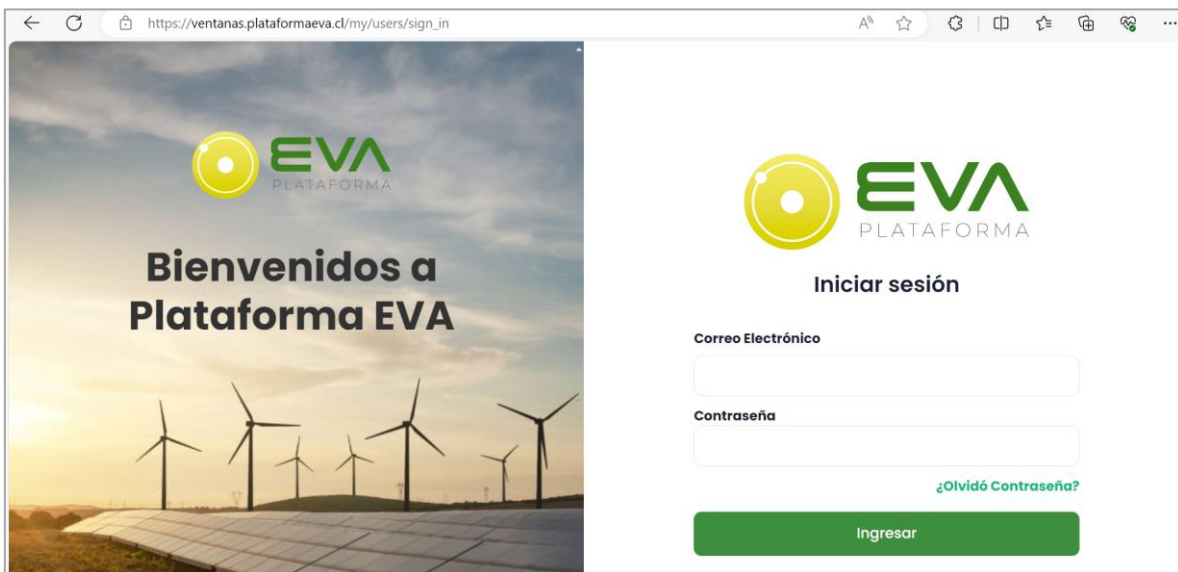


Figure 1: EVA platform home page

Once the update has been carried out by the software, the environmental area will inform which Puerto Ventanas process this regulation corresponds to. The evaluation of total compliance with the applicable requirements will be carried out by each Area Headquarters, giving priority to relevant topics as established by the organization.

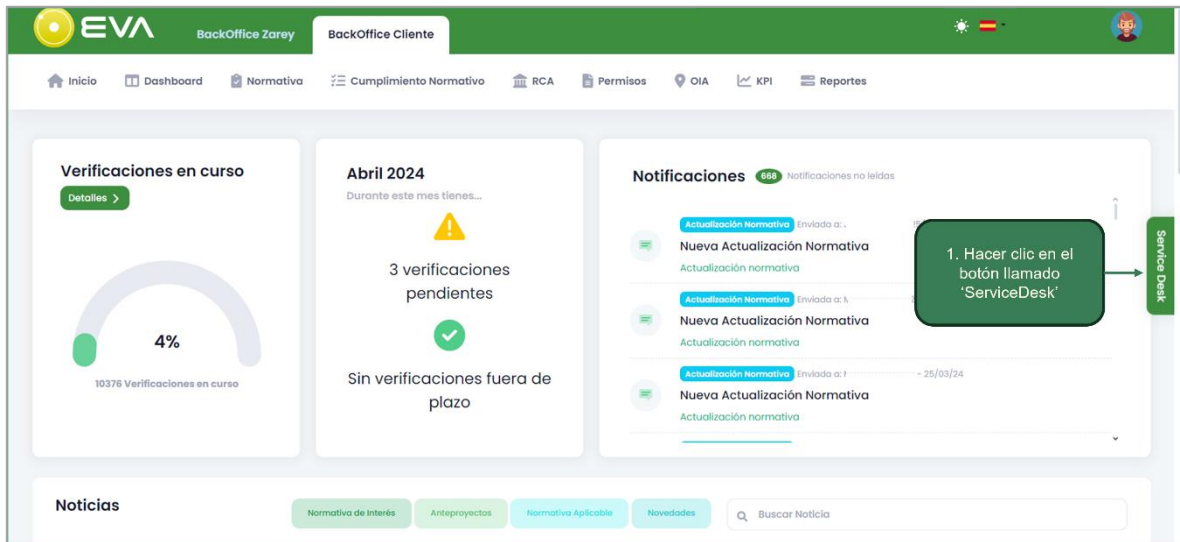


Figure 2: EVA Platform main menu.

Improvements have been made to the platform to better access information and from a visual perspective. New functions have been incorporated for more comprehensive data management.

Among the main options that the tool allows you to access are:

**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.

**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.

**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.

**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. Below are a part of them about the main processes.

Activity	Environmental Aspect	Environmental Impact	Responsible person / organization	Applicable Legislation	Legal Requirements	Control and Mitigation Measures
Cargo wheat unloading from silo to truck	Particulate Material, Presence of vectors	Air quality alteration, harm to flora and fauna	Head of Wheat Terminal	Decree No. 144/1961 (Art. 1), Supreme Decree No. 346/1993 (Art. 1), Decree 20/2013 (Arts. 1, 6, 12), Supreme Decree 138/2005 (Art. 3) Decree 112/2002, Decree 113/2002, Decree 114/2002, Decree 115/2002,	-Belts encapsulated with covers -Organizational standard: prohibition to store non-wettable fine granulometry products in the open air. -Cleaning of trucks prior to their leaving the warehouses (instructions included in I-001-TG unloading trucks in grains warehouse). -Warehouse gates always closed. -Periodic fumigation service and authorized documentation -Spill control sector Management of waste according to the Management Plan -Awareness of the use of electrical energy -Environmental Decontamination Plan	PO-001- TG Truck dispatch
Reception of trucks at the terminal for cargo wheat dispatch	Combustion gases, Organic waste generation	Air quality alteration, Soil contamination.	Head of Wheat Terminal	Decree N. 12/2011, Decree 10/2015. Supreme Decree No. 594/1999, Supreme Decree No. 148/2003 (Arts. 4,6,8,25,27,29,31,33,34,80,83), Statutory Decree 1/2013, Decree 75/1987.  Supreme Decree 105/2018		P-001-MA Comprehensive solid waste management
Trains reception, weighing and unloading	Particulate material	Air quality alteration	Head of Terminal Costa	Decree No. 144/1961 (Art. 1), Supreme Decree No. 346/1993 (Art. 1), Decree 20/2013), Decree No. 12/2011, Decree 10/2015 Supreme Decree No. 594/1999, Supreme Decree No. 148/2003, Statutory Decree 1/2013, Decree 75/1987.	Dust collection system in warehouses Dust extractors Keep gates closed in warehouses Towers and conveyor belts confined Keep sweeper circulating through the Terminal Copper Concentrate Spill Contingency Plan	1. Operation of warehouses with closed gates.
	Copper concentrate spill	Soil contamination	Head of Terminal Costa	EQR No. 263/2000 EQR No. 09/2010 EQR No.66/2015		2. Receiving hoppers with dust extraction systems.
	Combustion gases	Air quality alteration	Head of Terminal Costa	Supreme Decree 105/2018	Avoid the fall of copper concentrate from conveyor systems and storage warehouses  Environmental Decontamination Plan	3. Automatic curtains (Unloading System No.1, La Greda Warehouse, Andina Warehouse).
	Oil and fuel spill	Soil contamination	Head of Terminal Costa			4. Periodic inspections during tasks and actions.



<b>Transfer Operation</b>	Particulate Material	Air quality alteration	Head of Operations	Decree No. 144/1961 (Art. 1), Supreme Decree No. 346/1993 (Art. 1), Decree 20/2013 (Arts. 1, 6, 12), Decree No. 12/2011, Decree 10/2015. EQR No.249/2014	Conveyor belts and transfer towers confined Mesh use Dust collection systems	Encapsulated Conveyor Belts
	Copper concentrate on shore deck	Alteration of the environment				Hermetic transfer towers, stopping port activities over 18 knots (APL Client protocols)
	Copper concentrate spill on sea	Alteration of marine flora and fauna				Installation of wind deflection care net in vessel's hold doors, installation of mantles from vessel to shore deck
		Alteration of sea water quality				
Contaminated PPE	Waste Generation	Supreme Decree No. 594/1999, Supreme Decree No. 148/2003 (Arts. 4,6,8,25,27,29,31,33,34,80,83), Statutory Decree 1/2013, Decree 75/1987.	Management of hazardous waste according to the Management Plan	Compliance with requirements Maritime Authority according Ord. N° 12.000/463/12 included in operational procedures		
<b>Transfer Operation</b>	Particulate Material	Air quality alteration	Head of Operations	Decree No. 144/1961 (Art. 1), Supreme Decree No. 346/1993 (Art. 1), Decree 20/2013 (Arts. 1, 6, 12), Decree No. 12/2011, Decree 10/2015. Supreme Decree No. 594/1999, Statutory Decree No. 725 (Art. 73), Supreme Decree 90/2000 (Art. 4.1.2), Supreme Decree No. 1/1992.	Spill contingency Plan Management of hazardous waste according to the Management Plan Water monitoring in case of spills Emergency Plan Request for machinery documentation Spill control sector Request for machinery documentation Spill control sector Management of hazardous waste according to the Management Plan Operational Plan	PO-016-OM Coal unloading through conveyor system in pier site No.5
	Coal on shore deck	Soil contamination				Encapsulated conveyor belts
	Accidental coal downfall to the sea	Alteration of surface water quality				Hermetic and closed transfer towers
		Alteration of marine fauna				
				Supreme Decree No. 148/2003 (Art. 6), Decree No. 144/1961 (Art. 1), Supreme Decree No. 346/1993 (Art. 1), Decree 20/2013 (Arts. 1, 6, 12), Supreme Decree 138/2005 (Art. 3), Decree 112/2002, Decree 113/2002, Decree 114/2002. Operational Plan Resolution 08/2023, Supreme Decree 105/2018.		

### 2.2.3. Environmental Performance Indicators

Puerto Ventanas S.A monitors its environmental performance also using environmental indicators. This allows for continuous improvement in its environmental management system. A goal has been defined for each indicator.

Among the main environmental 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**

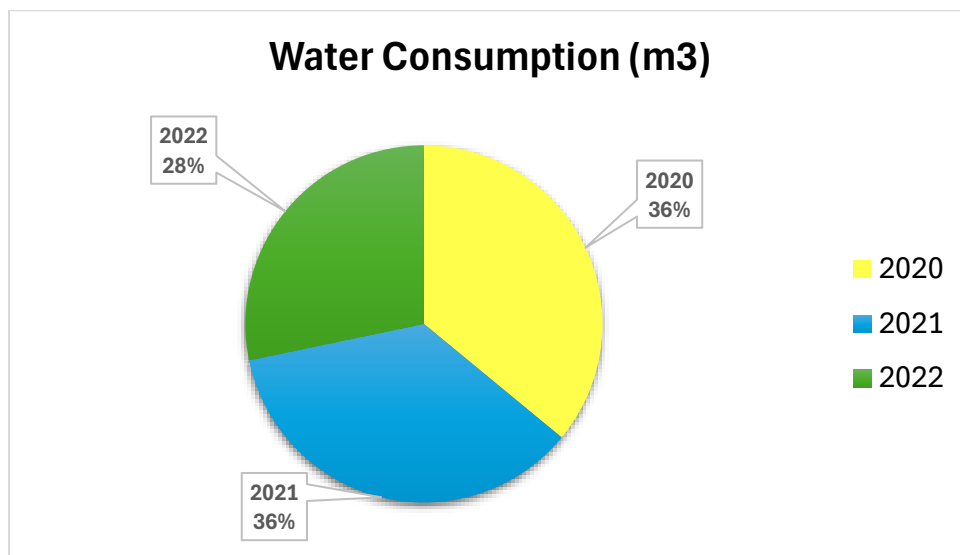
#### OTHERS MANAGEMENT INDICATORS

- **Compliance EQR:** Compliance 100% stage of construction and operation.
- **Incidents with environmental impact:** 0 between the years 2017 and 2023.
- **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. Furthermore, in Table 2, the performance indicator decreased from 0.005 to 0.004, which reflects better management in water use.

Table 1: Water consumption of all the facilities

Year	Water consumption (m3)
2020	31,267
2021	31,075
2022	24,569

Table 2: Indicator of water consumption per ton transferred.

Year	2019	2020	2021	2022	Unit
Transferred Cargo Functional Unit	0,005	0,005	0,005	0,004	m3/Ton

To demonstrate management in this regard, Puerto Ventanas S.A was recognized with the APL Azul certificate, delivered by the Sustainability and Climate Change Agency, together with the Chile

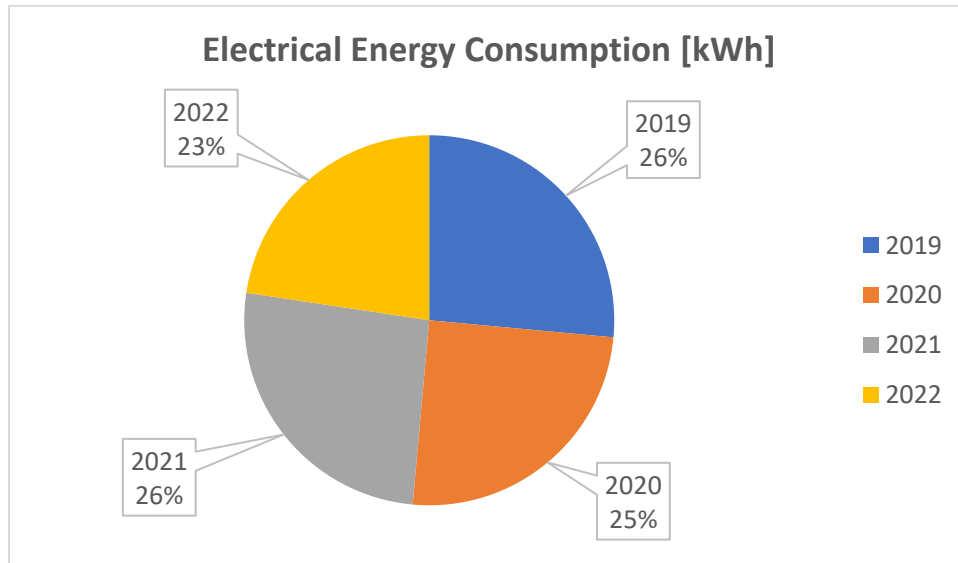


Foundation, after the terminal managed to certify its water footprint. This initiative seeks to contribute to the challenge of caring for water resources and moving towards increasingly efficient and resilient use of water. It should be noted that Puerto Ventanas S.A is the first port to certify its water footprint and within the quantification, the company defined its scope and indicators, measuring and verifying its direct footprint and identifying the critical points for its reduction.

## 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.





In the last 4 years from 2019, electricity consumption has been decreasing, this is also reflected in the reduction in the amount of GHG emissions and which will be seen later in the report. The year 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	2022	Unit
<b>Electrical Energy Consumption</b>	9,070,009	8,552,159	8,888,312	7,752,438	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 indicator (IDE):

- *Total electrical consumption per transferred Ton and by type of system and process (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.

Table 4: Energy performance indicator in PVSA processes

ACCUMULATED INDICATOR 2022	Loading and Receiving of Solid Bulk			Unloading of Solid Bulk		
	[KWh/Ton]			[KWh/Ton]		
	Actual Value	Expected Value	Variation (%)	Actual Value	Expected Value	Variation (%)
<b>AVERAGE</b>	1.17	1.30	<b>11.3%</b>	2.14	2.20	<b>3%</b>

The **final indicators show a positive percentage of improvement**. This means that, in 2022, on average, the solid bulk unloading process together with the copper concentrate loading and receiving processes used less energy to move 1 ton of cargo compared to the 2019 baseline (3% and 11% respectively).

These good performances are associated with the fact that operational controls have been applied correctly and the systems are being used efficiently, so that they only remain in operation when cargo is being transferred, preventing the conveyor belts from operating without cargo.

### 3. Gasoline Consumption

#### Target:

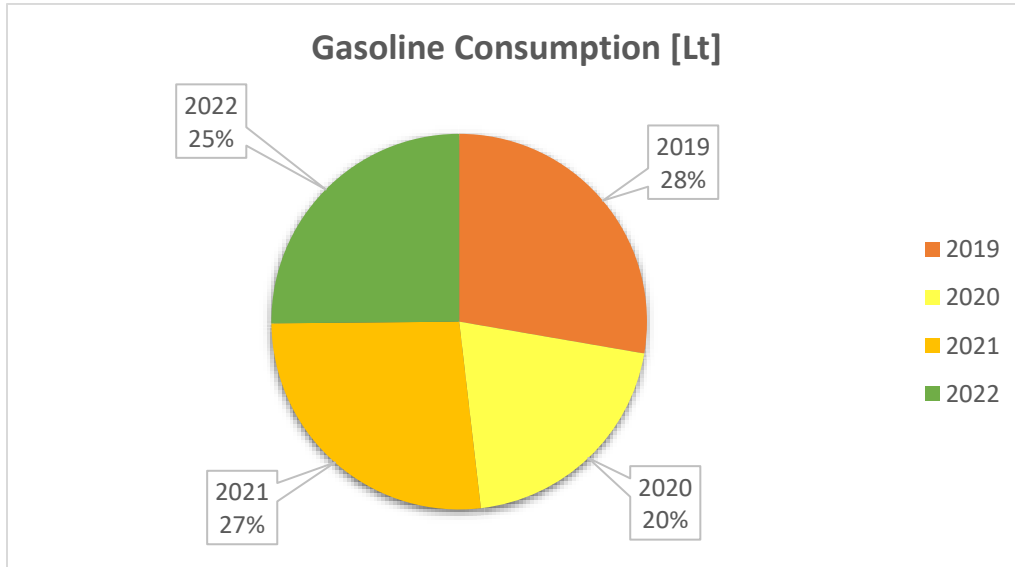
Maintain or improve between 2-5% the efficient use of gasoline consumption by vehicle (Lt-year / Vehicle), according to the 2019 baseline.

The gasoline consumption table is shown below:

Table 5: Gasoline consumption in vehicles

Year	2019	2020	2021	2022	Unit
<b>Gasoline Consumption</b>	26,100	19,249	25,144	23,680	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 2022, the total gasoline consumption per vehicle has decreased. Compared to 2019, in 2022 the gasoline consumption per vehicle **decreased by almost 10%**. This can be seen in the following table.

Table 6: Gasoline consumption per vehicle

Year	2019	2020	2021	2022	Unit
<b>Functional Unit per Vehicle</b>	4,350	3,208	4,191	3,947	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.

#### 4. Diesel Consumption

##### Target:

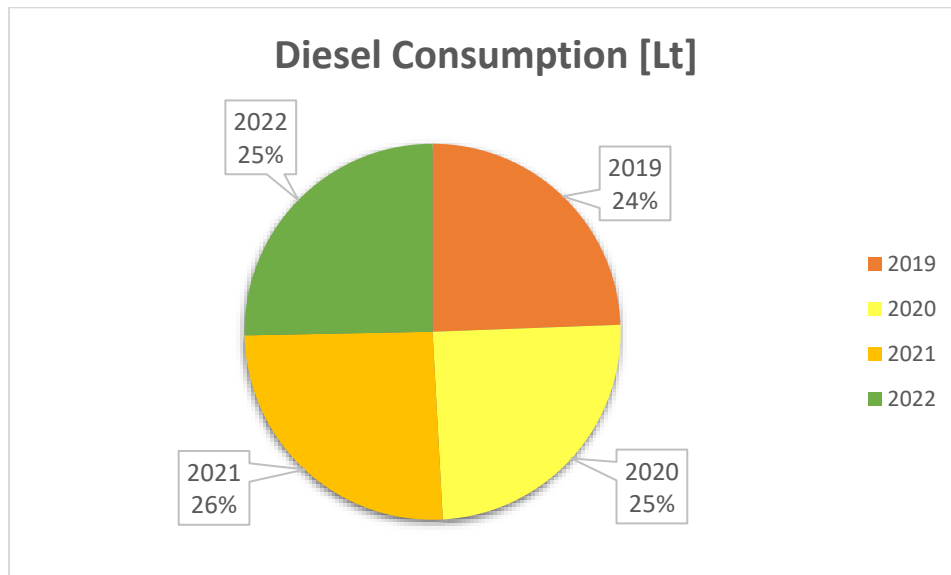
Maintain or improve between 2-5% the efficient use of diesel consumption (Lt / Ton), according to the 2019 baseline.

Diesel consumption between 2019 and 2022 can be seen in the following table:

*Table 7: Diesel consumption in machinery and vehicles*

Year	2019	2020	2021	2022	Unit
<b>Diesel Consumption</b>	80,219	81,247	83,995	83,174	Lt

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



Fuel consumption has been similar since 2019, so there have been no significant variations in the indicator of liters of fuel and tons of cargo moved, thus maintaining the expected performance.

*Table 8: Diesel consumption per ton transferred.*

Year	2019	2020	2021	2022	Unit
<b>Transferred Cargo Functional Unit</b>	0.01	0.01	0.01	0.01	Lt/Ton



## 5. Recycled Waste

### Target:

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

To reinforce environmental awareness, and to establish the concept of recycling as part of the culture and habits of PVSA staff, at least 1 campaign or training per year in the Company must be generated aimed at promoting reduction, reuse and recycling.

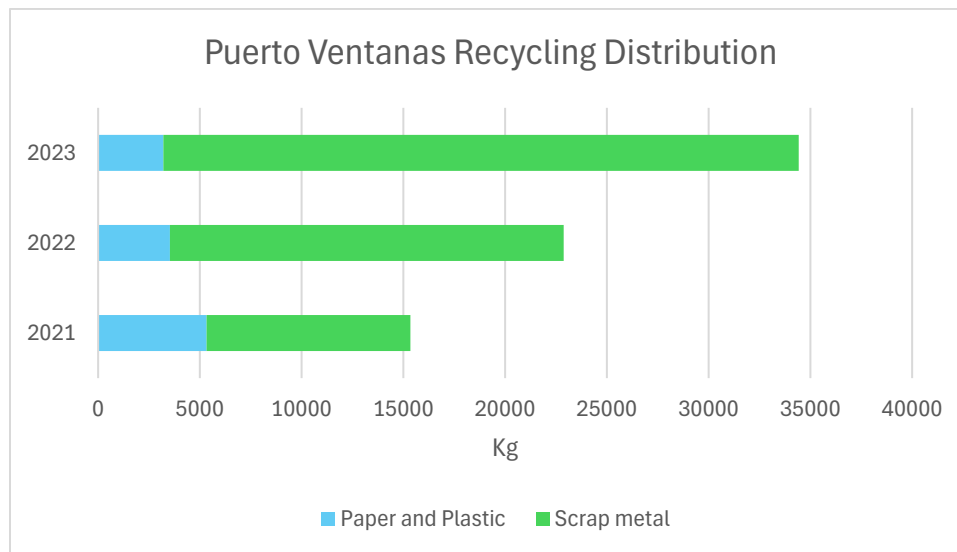
Waste that can be recycled is disposed of for recycling, including scrap metal, paper, cardboard, and plastics.

The collection of this waste is coordinated by the environment area, which are stored in a container for later final disposal.

The amount of recycled waste in 2021, 2022 and 2023 is as follows:

*Table 9: Waste recycled by type.*

Type of waste	2021	2022	2023	Unit
Paper and Plastic	5,325	3,526	3,205	Kg
				Kg
Scrap metal	10,020	19,350	31,220	Kg
<b>Total recycled waste</b>	<b>15,345</b>	<b>22,876</b>	<b>34,425</b>	<b>Kg</b>



PVSA's solid waste management is based on the concepts of reduction, reuse, recycling and clean production, where each "generator" must consider as basic principles of waste management:

- Minimize and segregate at source.





- Reuse and recycle.
- Carry out final disposal in authorized facilities.

Solid waste management is established through an internal procedure 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 10: Segregation of recyclable waste in PVSA

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

## 6. Puerto Ventanas Carbon Footprint

Since 2015, Puerto Ventanas S.A has been calculating its carbon footprint, which is verified by a certifying body. With this information, the company develops actions to mitigate greenhouse gas emissions.

The carbon footprint 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.

Puerto Ventanas S.A actively participates in the **HuellaChile** Program of the Ministry of the Environment.

HuellaChile Program is part of the NDC Support Program initiative of the United Nations Development Program, which is financed by the European Commission, the German government, and the Spanish government.

Among the objectives of this program are:

- 1.- Recognize the effort and commitment to the environment of the participating organizations.
- 2.- Promote the carbon market at the national level, by encouraging the acquisition of carbon credits from national projects to obtain neutralization recognition.
- 3.- Systematize and record information on GHG at the national level.

In June 2023, Puerto Ventanas S.A was awarded the **HuellaChile Program with the Quantification and Reduction Seals**.



Figure 3: Recognition of "Reduction" HuellaChile Program 2022-2023



Figure 4: Recognition of “Quantification” HuellaChile Program 2022-2023

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”**

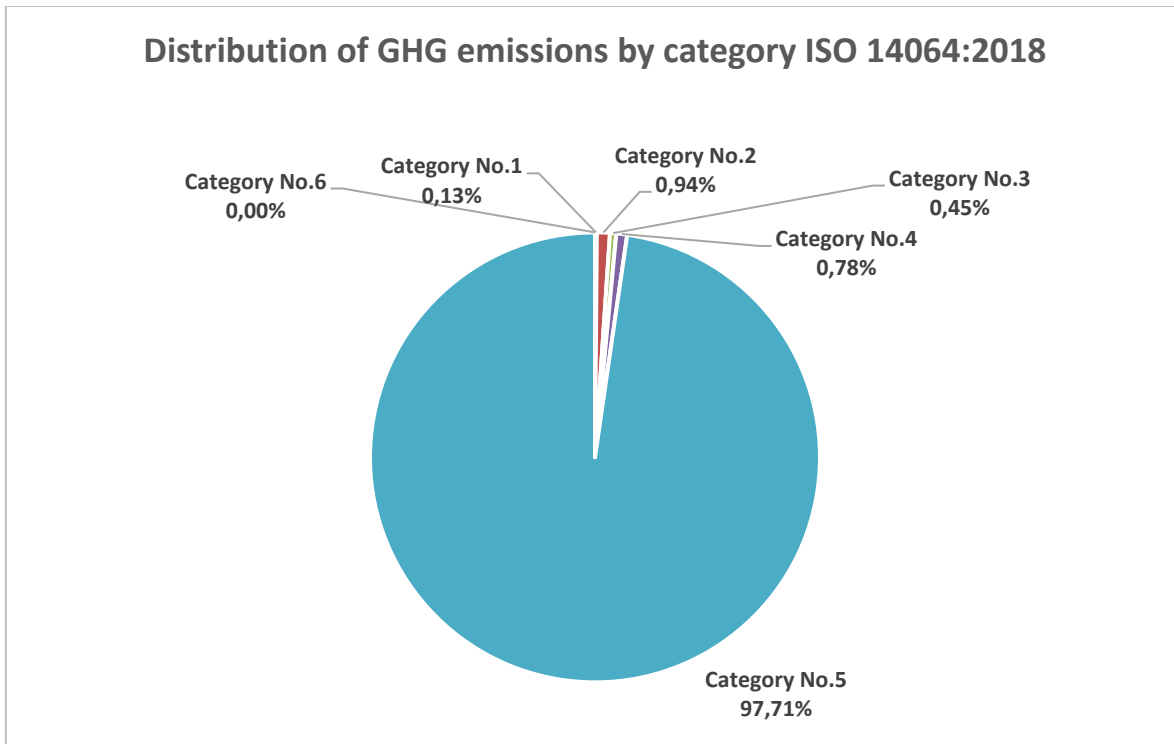
Unlike previous years, the verification and calculation of the carbon footprint for the year 2021 was carried out considering the 2018 version of the ISO 14064 standard and therefore **included the evaluation of the categories of greenhouse gas emissions that are part of the value chain**. from Puerto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

The distribution of GHG emissions by category is as follows:



Table 11: Distribution of GHG emissions by category ISO 14064:2018 – Year 2022

Category No.	Category name	GHG emission	
		tCO <sub>2</sub> e	%
1	Direct GHG emissions	345	0.1%
2	Indirect GHG emissions caused by imported energy	2,492	0.9%
3	Indirect GHG emissions from employee commuting and business travels	1,198	0.4%
4	Indirect GHG emissions from products used by the organization	2,067	0.8%
5	Indirect GHG emissions associated with the use of services from the organization	260,360	97.7%
6	Indirect GHG emissions from other sources	0	0.0%
	<b>Total GHG emission</b>	<b>266,461</b>	<b>100%</b>



Most of the emissions generated in the Port are due to scope 3, that is, indirect emissions due to the company's value chain. As can be seen in the previous graph, these represent approximately 99% of the total calculated emissions. These emissions are mainly due to the transport of cargo in trucks, trains and ships classified as category 5. Emissions from cargo transport by trucks represent 93.4% of total PVSA emissions.

Direct emissions are primarily due to mobile combustion of port-owned diesel vehicles and equipment, which account for approximately 51% of total category 1 emissions. However, they account for 0.066% of total emissions from PVSA.

Within the emissions of the year 2022, the direct emissions by scope 1 were 0.057 kgCO<sub>2</sub>e/Tons, the indirect emissions by scope 2 of GHG by energy were 0.414 kg CO<sub>2</sub>e/Tons and the indirect emissions scope 3 of GHG were 43.8 kg CO<sub>2</sub>e/Tons. The above allows us to establish that in 2022 there was a decrease of 21.3% compared to the base year 2021 in the total emissions of scopes 1, 2 and 3. This is mainly due to:

- Electricity consumption in 2022 decreased by 12.9% compared to 2021, and the electricity emission factor was additionally reduced, going from 0.3907 [kg CO<sub>2</sub>eq/kWh] for the year 2021, to a value of 0.3006 [kg CO<sub>2</sub>eq/kWh] in 2022. The latter is due to the significant increase in the integration of renewable energies into the national electrical grid that occurred during 2022.
- Emissions from moving cargo by truck in 2022, which represent the highest percentage of PVSA's total emissions, reaching 93% of indirect emissions by scope 3, decrease by 32% compared to the previous year. At the same time, there was a 12% decrease in the annual tons moved compared to 2021. This is because during 2022 PVSA transferred less cargo due to a decrease in demand, lowering its level of activity.

The following table shows the ratio of GHG emissions for the year 2022 compared to the base year 2021.

*Table 12: Analysis quantification of GHG emissions by Scope 1, 2 and 3*

Classification Scope	Total GHG Emissions (tCO <sub>2</sub> e)		Total GHG Indicator (tCO <sub>2</sub> e/Tons)	
	2021	2022	2021	2022
<b>1. DIRECT GHG EMISSIONS</b>	350	345	0,051	0,057
<b>2. INDIRECT GHG EMISSIONS DUE TO ELECTRICAL ENERGY</b>	3.712	2.492	0,54	0,41
<b>3. INDIRECT GHG EMISSIONS DERIVED FROM THE VALUE CHAIN</b>	387.784	263.625	55,9	43,7
<b>TOTAL 1 + 2 + 3</b>	<b>391.846</b>	<b>266.461</b>	<b>56,5</b>	<b>44,3</b>

The GHG Inventory and Report for the calendar year 2022 prepared by Puerto Ventanas S.A has been verified by LRQA. Assurance statement can be seen in the Appendix No.2.

## 7. Environmental Training

Puerto Ventanas S.A has a development strategy that prioritizes the continuous growth of its team, with the aim of jointly advancing towards the consolidation of a sustainable, competitive, and highly efficient port. Within the framework of diversification and adaptation to new cargo, as well as in the constant search for operational excellence, adequate opportunities are offered for the professional and personal development of collaborators. Thus, the company provides tools and promotes spaces for the contribution of innovative ideas aimed at improving port processes and security.

In February 2023, following the fire that affected the PVSA facilities, a strategic workshop was held on operational improvement opportunities, in which representatives from key areas such as operations, environment, risk prevention and safety participated. The main objective of this meeting was to advance the continuous improvement of processes, in line with the established operational contingency plan. In addition, the aim was to gather ideas to improve productivity and reinforce standards of environmental care, efficiency, and worker safety.

In the environmental aspect, staff is trained in accordance with the update of environmental regulations and according to the identification of topics that are weak and/or outdated, so that the worker can implement the knowledge provided in their functions. Such training will be carried out mainly dealing with the following topics:

- Matrix of environmental aspects and impacts of each area of PVSA. Indicating the associated control and mitigation measures.
- Management of waste generated by the activities and operations developed in PVSA.
- Environmental regulations applicable to the port Terminals.
- Compliance with Environmental Qualification Resolution commitments.
- Compliance with the PVSA Operational Plan.
- For new employees, a talk is given outlining the main environmental activities carried out and the presentation of the company's Integrated Management System.



Between 2022 and 2023, a **total of 465 workers participated in these training sessions.**

## 2.3. DOCUMENTED RESPONSIBILITIES AND RESOURCES ASSOCIATED WITH ENVIRONMENTAL ASPECTS

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

The management of the executive team at Puerto Ventanas S.A is the responsibility of the General Manager, who exercises direct leadership over management and assumes responsibility for directing the company's commercial operations. In addition to his functions in judicial representation, from his position, he provides essential guidelines for the effective management and supervision of the operation, actively committing to achieving the established objectives.

The fundamental mission of the main executives is to ensure compliance with the strategy, aligning it with the business challenges defined by the Board of Directors, and comprehensively supervise the administration of the company.

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

- *General Manager*
- *Sustainability and Human Resources Manager*
- *Planning and Management Manager*
- *Operation Manager*
- *Administration and Finance Manager*
- *Commercial Manager*
- *Infrastructure Deputy Assistant Manager*
- *Risk 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 and Human Resources 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.  
 Direct and supervise the processes and tools that promote the personal and professional development of people, the attraction and retention of talents through people management systems (hiring, selection, training, performance evaluation and others) according to requirements, strategic objectives of the company and labor standards. In addition, responsible for labor relations, administration of collective agreements and personnel benefits.  
 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; promote and ensure knowledge, internalization and implementation of company policies related to issues of Safety, Environment, Quality and Energy Efficiency; Lead the alignment, design, implementation and monitoring of the people development model, from the point of view of Organizational development
- **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 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:** *Juan Ignacio Nilo W. – Commercial 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.

During the year 2023 and with the purpose of strengthening operational risk management, its detection, analysis and monitoring of action plans, Puerto Ventanas defined the creation of a Risk Management.

- **Risk Manager:** *Sergio Hödar A. – Mechanical Naval Engineer.*

The Risk Manager must manage PVSA's operational risks, being responsible for their detection and analysis along with the generation of action plans and/or solutions that allow them to be eliminated or mitigated, ensuring their correct implementation through coordination with the different areas of the organization involved.

Among its main responsibilities are: Establish methodology for the detection and permanent analysis of the different operational risks to which PVSA may be exposed in its different operations and facilities, ensuring it is implemented safely, efficiently and in accordance with the company's internal standards and procedures; Development of a process risk map, identifying the assets involved, which must be permanently updated regarding the risks that may generate incidents in the successful development of operational activities; establish a continuous verification process on land, ensuring that the established control measures are effectively implemented, while detecting and correcting detected deviations in a timely manner; establish a new philosophy around PVSA risk control, through the formulation of a training plan that allows transmitting the bases and foundations of operational risk; fulfill the functions that DS 160 defines for fuel installations and API 570 regarding the piping engineer; knowing the company's policies in relation to Safety, Environment, Quality and Energy Efficiency, aligning its functions to the fulfillment of the same.

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

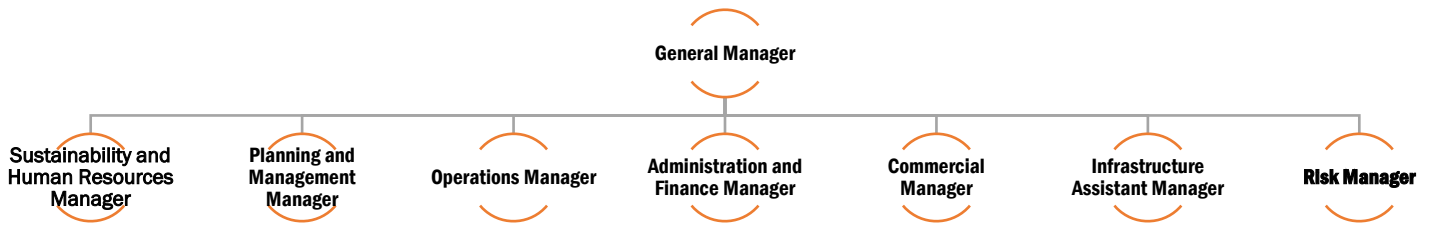


Figure 5: Puerto Ventanas S.A executive structure

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

- ✓ **Sustainability and Human Resources Manager** 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 and HR 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.
- ✓ **Head of Environment and Regulatory Compliance** at Puerto Ventanas S.A is the *Mariette Aros E., by profession Environmental Engineer*, a professional with over 14 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. Performs functions in the direction and management of essential and/or critical processes of the company.  
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; keep updated and ensure compliance with environmental regulations and standards that apply to PVSA; prepare, execute and monitor 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 50001, 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:

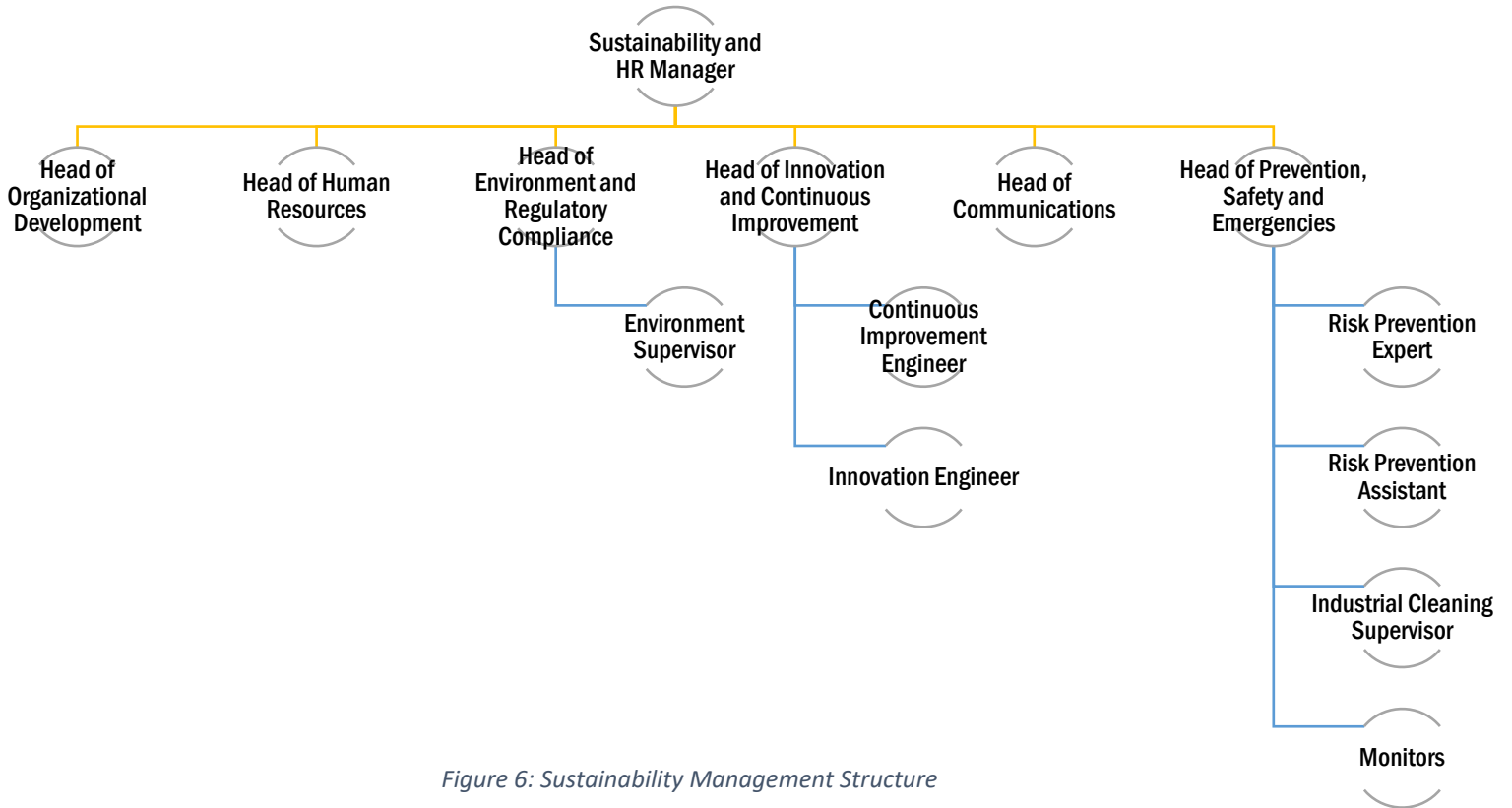


Figure 6: Sustainability Management Structure

### 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.

<b>For those areas for which the Port authority has responsibility, what personnel are responsible for the following functions?</b>		
	<b>Job Title or Name**</b>	<b>Department</b>
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 and HR Manager	Sustainability
Quality Management	Sustainability and HR Manager	Sustainability
On site Contractor Management	Contract Administrator	Maintenance and Infrastructure
Emergency Planning	Head of Prevention, Safety	Sustainability
Waste Management	Head of Environment and RC	Sustainability
Environmental Document Management	Head of Environment and RC	Sustainability
Environmental Data Management	Head of Environment and RC	Sustainability
Soil pollution assessment	Head of Environment and RC	Sustainability
Air Quality monitoring	Head of Environment and RC	Sustainability
Energy and Carbon Footprint monitoring	Continuous Improvement Engineer	Sustainability
Water Quality monitoring	Head of Environment and RC	Sustainability
Noise management	Head of Prevention, Safety	Sustainability
Vehicular Management of Terminal traffic	Head of Prevention, Safety	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 the last budget and each of the items considered in the environmental management:

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	
<b>TOTAL</b>	<b>USD 615,925</b>



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

Through the **Environmental Management System (EMS)**, Puerto Ventanas S.A. reflects the commitment to protect, respect and conserve the environment. The EMS is based on legal compliance and continuous improvement of environmental performance and provides the frame of reference for the annual establishment of environmental objectives.

The EMS of Puerto Ventanas is supported by documented information as indicated below:

1. Environmental Policy of the Sigdo Koppers Holding to which Puerto Ventanas S.A. belongs.
2. Policy of the Integrated Management System of Puerto Ventanas S.A.
3. Environmental Management Program
4. Environmental procedures and control records
5. Environmental Objectives
6. Actions to address risks and opportunities
7. Environmental Performance

The environmental aspects that we have identified associated with the Puerto Ventanas activity, especially those where operational controls are carried out in accordance with the procedures established to minimize the environmental impacts associated with them. The environmental indicators are evaluated from the life cycle developed for the organization.

The Port defines objectives within the framework of its Environmental Management System, considering the strategic objectives and the context in which the organization operates.

Different monitoring and control instances are defined to verify compliance or deviations, including internal audits, external audits, and management reviews, among others

In the case of the regulatory compliance review, this is carried out monthly through a digital platform (see page No.39), where the deviations that generate risks to the organization can be viewed, which are divided into regulatory permits, that is, those regulations that generate a resolution and on the other hand the general regulations.

Cumplimiento Histórico



**Historical Compliance:**  
**Green line:** Compliant  
**Blue line:** In process

**Regulatory Compliance:**  
 Compliant **98.77%**



The following tables show the general and environmental indicators that the EMS evaluates. Based on these, performance and continuous improvement are evaluated, linked to the environmental objectives and the integrated management system policy shown above.

### 1.1) Company indicators

Company indicators	Unit
Employees	No.
Women	No.
Men	No.
Foreigners	No.
Inclusion	No.
Commune	No. of workers Puchuncaví/Quintero
Transferred load	Ton Transfer

### 1.2) Input Indicators

#### a) Environmental Performance Indicator

Environmental Performance Indicators (Input Indicators)	Unit
Energy Consumption	MWh
Diesel Consumption	Lt
Gasoline Consumption	Lt
LPG Consumption	Kg
Water Consumption	m3

#### b) Transferred load

Transferred load indicators (Input indicators)	Unit
Coal	Ton Transfer
Copper concentrate	Ton Transfer
Calcine	Ton Transfer
Clinker	Ton Transfer
Bauxite	Ton Transfer
Sulfuric acid	Ton Transfer
Clean bulk	Ton Transfer
Iron	Ton Transfer

Petcoke	Ton Transfer
Asphalt	Ton Transfer
Fuel	Ton Transfer

### 1.3) Output Indicator

#### a) Waste Generation

Load transferred output indicators	Unit
Generation of household solid waste	Kg
Generation of waste at the Grain Terminal	Kg
Removal of waste from the Operations area	Kg
Removal of waste from the Maintenance area	Kg
Removal of waste from the South sector	Kg
Generation of industrial waste	Kg
Generation of hazardous solid waste	Kg
Disposal of hazardous waste	Kg
Generation of hazardous liquid waste	m3
Generation of wastewater	m3
Disposed waste	Kg
Percentage of Recovery/Disposed	%
Recovered waste (scrap)	Kg
Recyclable waste (paper and plastics)	Kg
Total (plastics, paper and scrap)	Kg
Total waste	Kg
Total non-hazardous waste	Kg

#### b) Emissions

Emissions	Unit
Isokinetic measurements (Results)	Unit
Dust collector system efficiency	%
Noise measurements (Results)	%

#### c) From System

System indicators	Unit
Environmental audits	No.
Environmental Audit Holding	No.
Deviations observed in audits	No.
Corrective measures carried out	No.
Observed findings	No.

Closed findings	No.
Swell conditions	Alert No.
Fog conditions	Alert No.
Wind conditions	Alert No.
Precautionary status	Alert No.
Total days of port closure	Days

d) Legislative

Legislative indicators	Unit
SMA inspections	No.
Seremi de Salud inspections	No.
Maritime Authority inspections	No.
Other environmental inspections	No.
Number of sanctions	No.
RCA compliance	%
RCA deviations	%
Fines	No.
Environmental incidents level 1	No.
Environmental incidents level 2	No.
Environmental incidents level 3	No.

e) Environmental Cost

Environmental cost indicators	Unit
Environmental investments	USD
Environmental protection operational costs	USD
Energy consumption cost	USD
LPG cost	USD
Gasoline cost	USD
Diesel cost	USD
Water consumption cost	USD
Wastewater cost	USD
Pest control cost	USD
Domiciliary waste cost	USD
Industrial warehouse/maintenance cost	USD
Industrial operations cost (dock and TC)	USD
Industrial TGL cost	USD
Cost of hazardous waste disposal	USD
Income from scrap sales	USD
Waste recycling cost	USD
Atmospheric measurement cost	USD
Air quality measurement cost	USD



Water quality measurement cost	USD
Environmental noise measurement cost	USD

f) Staff Training

Staff Training	Unit
Environmental training	No.
Environmental training for employees	%
Employees responsible for RCA	No.
Employees responsible for environmental legislation	No.

As mentioned above, all these indicators are evaluated and systematized monthly on a digital platform, which is managed by the environmental area.

#### 2.4.1. Result of the LRQA Audit

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 2025. The last maintenance audit of the ISO 9001, ISO 45001 and ISO 14001 standards was carried out on December 4 and 7, 2023.

- **Audit result:**

This visit is carried out to verify compliance with the Puerto Ventanas S.A management system in accordance with ISO 14001:2015, ISO 45001:2018 and ISO 9001:2015 as defined in the audit planning documentation. **The effectiveness of the management system was confirmed** through this audit process, and an extension to the next regular visit is recommended.

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"*

- **Continuous improvement:**

Continuous improvement has been demonstrated by the client in the following areas/processes:

- The demonstrated ability to overcome and adapt after the fire that affected the port stands out.
- The commitment to the environment is evident by incorporating technology and process improvements with tubular belts (care for the environment, recovery of dock capacity by installing less structure)
- A strong commitment of the interviewed personnel to attend to the evaluation and effective use of the system is evident.

- The commitment, demonstrated by Management, to the continuous improvement of the system stands out.
- Innovation initiatives and use of a sustainability model are evident that allow observing the expected improvements in this system.

- **Audit routes and sources of evidence.**

Among the evidence reviewed on the Environmental Unit is:

- Environment and Regulatory Compliance
- Legal Requirements Environment/Management Reportable MMA (MMA, SMA, Ventanilla Única, Seremi Salud)
- Environmental Management Program
- Monthly Declaration of Non-Hazardous Waste
- Estimation of emissions / VOC mass balance (Health Authority, Ministry of the Environment, AAMM).
- Legal Requirements/ Reportable Management/ Seremi Environment/ Seremi Salud // Concon, Quintero and Puchuncaví (PPDA) pollution and prevention plan.
- Legal Requirements/Permits: EVA Platform / RCA (5) and Regulations // Environmental Monitoring System (SSA)
- of the Ministry of Environment.
- Performance evaluation/ Indicators: Environmental performance indicators (input indicators)
- Permit management (Control of contractor company procedures)
- Service records: pest control, chemical toilet cleaning.
- Field Document Inspection Form.
- Compliance evaluation - water footprint certificate
- Knowledge acquisition, staff training

- **Conclusions:**

***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.***

Below are the current certifications of Puerto Ventanas S.A regarding the ISO 14001, ISO 45001, ISO 9001 and ISO 50001 standards, **which are verified every year by LRQA.**



LRQA Chile SpA  
Blanco 625, Of. 71, Valparaíso  
V Región, Chile  
T +56 (32) 2217665  
www.lrqa.com/cl

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

At.: Sr. Matías Navarro Campos  
Ingeniero de Mejora Continua

14th March, 2024

Dear Sirs:

To whom concern, through this communication, we confirm that LRQA Chile SpA, have valid agreements to provide certification services to Puerto Ventanas S.A. under the requirements of the following Standards;

	Agreement N°	Standard	Certificate Original Approval Date	Certificate Expiry date
1	VPO0703207	ISO 9001:2015	10 December 2008	09 December 2028
2	VPO0703207	ISO 14001:2015	25 December 2013	21 December 2025
3	VPO0703207	ISO 45001:2018	29 June 2021	21 December 2025
4	VPO6021363	ISO 50001:2018	09 January 2015	08 January 2027

This document is issued, for the purposes they deem convenient, without further responsibility for LRQA Chile SpA.

Best Regards,

Equipo Customer Service, Business Assurance  
Visit [www.lrqa.com/cl](http://www.lrqa.com/cl) or follow us on [LinkedIn](#) | [Twitter](#)

**YOUR FUTURE. OUR FOCUS.**

For more information on LRQA visit [www.lrqa.com/en/2016](http://www.lrqa.com/en/2016)

Below is a statement signed by a legal expert regarding the identification and compliance with legal and other requirements:

Santiago, May 7th, 2024

**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 2024 application for Environmental Port Review System (PERS).

Best regards,



**Rodríguez Rosende y Cía Ltda Law Firm**

✓ **Internal Audits:**

The purposes for developing internal audits are the following:

- \* Evaluate the adequacy of the Integrated Management System (IMS) with respect to the requirements of the reference standards, the organization's own requirements, and with the IMS's own planning (Objectives and Goals, product requirements, established processes, documents used, specific resources, control points, acceptance criteria, records, etc.) as well as the evaluation of compliance with legal requirements.
- \* Evaluate the adequacy of the GIS in terms of its implementation and performance.
- \* Evaluate its effectiveness and the opportunity for continuous improvement.

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.

The last internal audit was carried out in November 2023.

The target of the 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 November 2023 can be seen in Appendix No.4.

✓ **Management Review**

The Management of Puerto Ventanas S.A, plans and reviews the Integrated Management System in order to ensure its consistency, suitability and effectiveness. The management review must include the analysis of established management indicators.

The input information for this process includes the review of all aspects of the IMS. If the degree of compliance with the system's objectives and management indicators are not as expected, management must take the necessary actions to correct the course of action and achieve the expected compliance.

In August 2023 the last Management Review was carried out. Among the topics included in these reviews were:

- Company context
- The environmental, energy efficiency, safety, and health performance of the organization.



- 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:**

Since 2013, as part of the control and verification processes of the effectiveness and conformity of the Management System with the ISO 9001, ISO 14001, ISO 45001 and ISO 50001 standards, Puerto Ventanas is subjected to an external audit. The IMS is reviewed every 6 months by LRQA and includes the evaluation and performance in the effectiveness and implementation of the four standards.

As mentioned in point 2.4.1 of this report, the last maintenance audit of the ISO 9001, ISO 45001 and ISO 14001 standards was carried out on December 4 and 7, 2023.

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

As of December 31, 2023, the company has 5 Environmental Qualification Resolutions (EQR) in force, fully complying with the commitments acquired.

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**

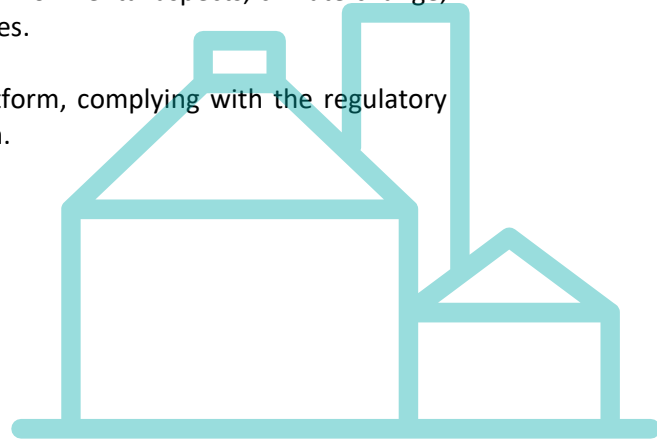
“Expansion, improvement and Modernization of the Copper Concentrate Transfer System in Puerto Ventanas”

**EQR No.066/2015**

“Improvement of Storage Conditions for Copper Concentrate, 46,000 tons”

As mentioned on page 39 of this report, Puerto Ventanas has an internal procedure that describes the methodology for identification, updating, registration, verification, communication, and compliance with the legal requirements that apply to environmental aspects, climate change, energy efficiency and other aspects of its activities and services.

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



## 2.5. ENVIRONMENTAL REPORT

Throughout its history, Puerto Ventanas S.A has acquired the commitment to cultivate reliable, transparent, and long-term relationships with its various interest groups, promoting active collaboration, permanent dialogue, and continuous listening, which allows it to contribute to the development social environment, guaranteeing the sustainability of the business.

This commitment, which extends to all interest groups, including shareholders, clients, workers, and suppliers, allowed us to address the tasks of reconstruction of the Port, responding in a timely manner to the trust placed in our organization by each of these groups.

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 13: Stakeholder List

Stakeholders	Quality Requirements	Environment Requirements	Health and Safety Requirements	Energy Efficiency Requirements
<b>Community people</b>	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)	NA	NA
<b>Fishing guilds and others</b>	Economic benefits	Economic benefits	NA	NA
<b>University community</b>	Know the port sector	Know the port sector	NA	NA
<b>Basic and Educational Community</b>	Improving Visiting Experiences: Example: Boarding a Ship	NA	NA	NA
<b>Customers</b>	Contract compliance	Environmental compliance	Security compliance	Secure facilities
<b>Suppliers</b>	Timely payments	Environmental compliance	Security compliance	Secure facilities
<b>Certifiers</b>	Comply with the implemented standards	Comply with the implemented standards	Comply with the implemented standards	Comply with the implemented standards
<b>Workers / Trade Unions</b>	Labor Union: quick coupling Definition of attributions and responsibilities	NA	Compliance in safety and work environment	Secure facilities Information on how to save energy

<b>Joint Committee</b>	NA	That the norms and requirements indicated in meetings are fulfilled.	That the norms and requirements indicated in meetings are fulfilled.	Secure facilities
<b>PVSA Owners</b>	Fulfill customer contracts	Regulatory compliance and EQR, Decontamination Plan and other Authority requirements. Do not appear in the media.	Regulatory compliance	Regulatory compliance
<b>Board of Directory</b>	Fulfill customer contracts	Regulatory compliance and EQR, Decontamination Plan and other Authority requirements. Do not appear in the media.	Regulatory compliance	Regulatory compliance
<b>PVSA Management</b>	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.
<b>Local Authorities</b>	NA	Regulatory compliance, EQR, and Decontamination Plan.	Regulatory compliance and fast and collaborative attention.	Regulatory compliance and fast and collaborative attention.
<b>Regional Authorities</b>	NA	Regulatory compliance, EQR, and Decontamination Plan.	Regulatory compliance and fast and collaborative attention.	Regulatory compliance and fast and collaborative attention.
<b>National Authorities</b>	NA	Regulatory compliance, EQR, and Decontamination Plan.	Regulatory compliance and fast and collaborative attention.	Regulatory compliance and fast and collaborative attention.
<b>Communication Media</b>	NA	Regulatory and Social Compliance.	Regulatory and Social Compliance.	NA
<b>Environmental Organizations</b>	NA	Regulatory compliance, go beyond basic compliance. Permanently monitor the behavior of companies to point out non-compliance.	NA	Energy Efficiency and use of NCRE.

As part of its sustainability strategy and permanent link with the community of Puchuncaví, Puerto Ventanas developed an educational project based on innovative and sustainable technologies, which is a concrete contribution to the problem of drought that has been affecting the central area of the country for more than 10 years, generating awareness and promoting efficient water use practices. The project is part of PVSA's aim to become a focus of sustainable and transformative innovation; to promote the circular economy and the culture of water efficiency by highlighting the value of Puchuncaví's rural roots.

**The initiative, called "Aula Viva"** ("Living Classroom"), consists of the development of a hydroponic cultivation center accompanied by training courses and workshops for students and the community of Puchuncaví. For this purpose, a greenhouse was built at La Greda School, which has the necessary technology to develop hydroponic cultivation, a technique that efficiently uses water resources. It is located on the east side of La Greda School, in front of the F-30E road, with an enabled surface of 750 m<sup>2</sup>; and with 100 m<sup>2</sup> built that includes a greenhouse and a dome.

**The purpose of the project** is to become an instance of educational dissemination, based on innovative and sustainable technologies and to be a concrete contribution to the water needs resulting from the drought experienced by the region and the country and works on the basis of agricultural technicians' management and university research contribution (university extension / technology transfer).

For its development, **strategic alliances** were generated with the Technical Training Center of the Universidad Católica de Valparaíso, Universidad Santo Tomas, the Engineering Faculty of Universidad de Playa Ancha and the Municipality of Puchuncaví, through its Education Department.





### 2.5.1. Environmental Management



## ENVIRONMENTAL MANAGEMENT

Puerto Ventanas S.A's commitment to the preservation of the environment is manifested in each of the processes it carries out, as well as in the dedication of its employees to fulfill their responsibilities and contribute to environmental care from various perspectives. This commitment positions the company as leaders in its field, meeting the highest industry standards and maintaining a continuous connection with the community.

Through these actions, the company has managed to promote development and improve the quality of life of those around it. Since obtaining Ecoports-PERS certification in 2016, becoming the first port in the country to receive it, and its recertification until 2024, Puerto Ventanas S.A reaffirms its strategic focus on environmental protection in all its operations, decisions, and future development.

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

### ENVIRONMENTAL COMMITTEE: THE PVSA ENVIRONMENTAL COMMITTEE

Its purpose is to promote environmental responsibility and sustainable management of the port, monitoring and ensuring compliance with the company's environmental policy. The committee also ensures the strengthening of the culture of sustainable operations at all levels of the organization.



#### Their functions are:



- Monitor environmental risks and ensure they are under control.
- Promote awareness among workers.
- Identify opportunities for new technologies and process improvements aligned with PVSA's environmental policy.
- Strengthen the culture of sustainable and environmentally responsible operations.
- Visible leadership on the ground to identify opportunities and reinforce commitment.
- Formulate improvement proposals or environmental projects.
- Analyze environmental incidents.

## USE OF RENEWABLE ENERGY IN PUERTO VENTANAS S.A

Since 2021, at Puerto Ventanas S.A all the energy used in its operations comes from certified renewable sources. To achieve this, contracts have been formalized with energy suppliers that guarantee its renewable origin, thus ensuring a supply of green energy for all operational activities. This initiative not only demonstrates the company's firm commitment to sustainability, but also consolidates its position as a pioneer in the adoption of environmentally friendly practices in the Chilean port industry. **The Energy Supplier certification confirms that 100% of PVSA's energy consumption comes from renewable sources generated in Chile**, supported by certificates validated and granted in accordance with the standards established by **"The I-REC Standard"**. (Appendix No.5).

**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."**



## INTERNATIONAL BEACH CLEANUP DAY

In September 2023, PVSA participated in this activity, carried out in more than 120 countries, with the aim of collecting garbage and solid waste from beaches and identifying the sources of this waste. The activity was organized by the General Directorate of the Maritime Territory and Merchant Marine and Captaincy of the Port of Quintero.



**PVSA**   
PUERTO VENTANAS S.A. **ECO PORTS**  
PUERTO VENTANAS S.A. ESTABLECIDA EN 1978

» **DÍA INTERNACIONAL  
DE LIMPIEZA  
DE PLAYAS**

Como todos los años, los invitamos a sumarse a esta iniciativa en la que podemos ser activos partícipes del cuidado del medio ambiente y nuestras playas. Los esperamos el **próximo martes 26 de septiembre a las 8:30 am en la entrada del edificio administrativo del puerto**, desde donde serán guiados por nuestro equipo de medio ambiente, quienes coordinan esta importante actividad.

**Para inscribirte contacta a Gloria Benavides al fono +56 9 6879 1355 o al mail [gloria.benavides@pvsa.cl](mailto:gloria.benavides@pvsa.cl).**

**SÉ PARTE DEL CAMBIO  
QUE NUESTRO  
PLANETA NECESITA**

## Puerto Ventanas presented at The 5th Hemispheric Conference On Sustainable Port Management And Environmental Protection CIP-OAS

Puerto Ventanas was invited to participate as a speaker at the **Fifth Hemispheric Conference on Sustainable Port Management and Environmental Protection**, held in May 2022 and organized by the **Inter-American Committee on Ports (CIP)** and the **General Coordination of Ports and Merchant Marine of the Mexican Navy**.

At the conference, Luis Fuentes, Puerto Ventanas' Sustainability Manager, spoke about the topic: "**Sustainable Operations and Environmental Certification**," sharing the Port's successful experience in this area."

This was highlighted by Jorge Durán, Head of the Secretariat of the Inter-American Committee on Ports of the Organization of American States (OAS), who said that "*in this space we have invited the ports of the Americas to present their best practices and in this context I highlight the participation of Puerto Ventanas as an example in sustainable operations, since it represents a point of reference for us, both for sustainable management and in the relationship with its community.*"

He added that "*Puerto Ventanas has been recognized on two consecutive occasions with the Maritime Award of the Americas in the categories of green port and port-city relationship. Furthermore, it was the first Chilean port to be certified with the Ecoports green port seal.*"

According to the Puerto Ventanas Sustainability Manager, Luis Fuentes, "*being invited by the Inter-American Commission on Ports of the OAS to present the experience that the Port has had in its sustainable development represents a source of pride for us since we were the only port in Chile invited to present and share our good practices in terms of environmental care, innovation, community engagement and above all the process of cultural transformation that the organization has experienced in recent years, with a strong involvement of each of our workers.*"



## PUERTO VENTANAS PRESENTED ITS SUSTAINABILITY MODEL AT TOC AMÉRICAS 2023

During October 2023, PVSA presented its sustainability model and good practices at the international event **TOC Américas 2023 held in Panama**. This meeting brought together the Port Industry and Container Supply Chain Community in the Americas.

TOC (Technology and Operations Conference), an event that brings together the Port Industry and Container Supply Chain community in the Americas.

This year (version 23) it took place in Panama between October 17 and 19. The topics discussed were: Business Intelligence; Sustainability and Digitalization of Maritime Trade.

**PVSA was invited by the organization of the meeting to present its experience and strategy in sustainability.** The main initiatives carried out to maintain high environmental standards of efficiency and safety were highlighted, as well as the actions aimed at strengthening ties with the community that have allowed the development of shared value projects in different areas.



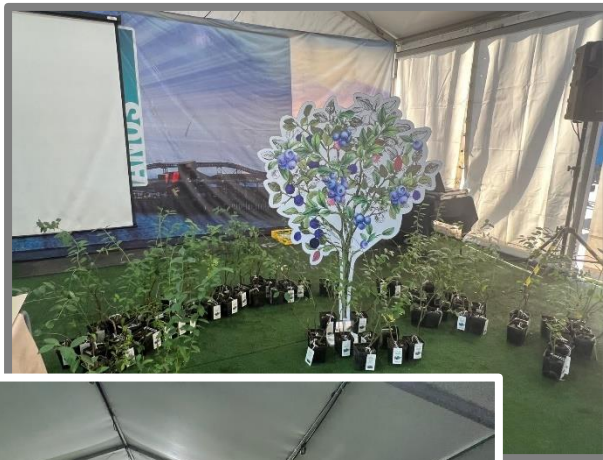


## ENVIRONMENTAL GYMKHANA

On June 5, we commemorate **Environment Day** with a special activity, where through play and teamwork we reinforce our commitment to the development of sustainable operations and care for the environment.



This first **Environmental Gymkhana** was carried out in three shifts and included a terrarium workshop and the delivery of blueberry trees to encourage self-consumption.

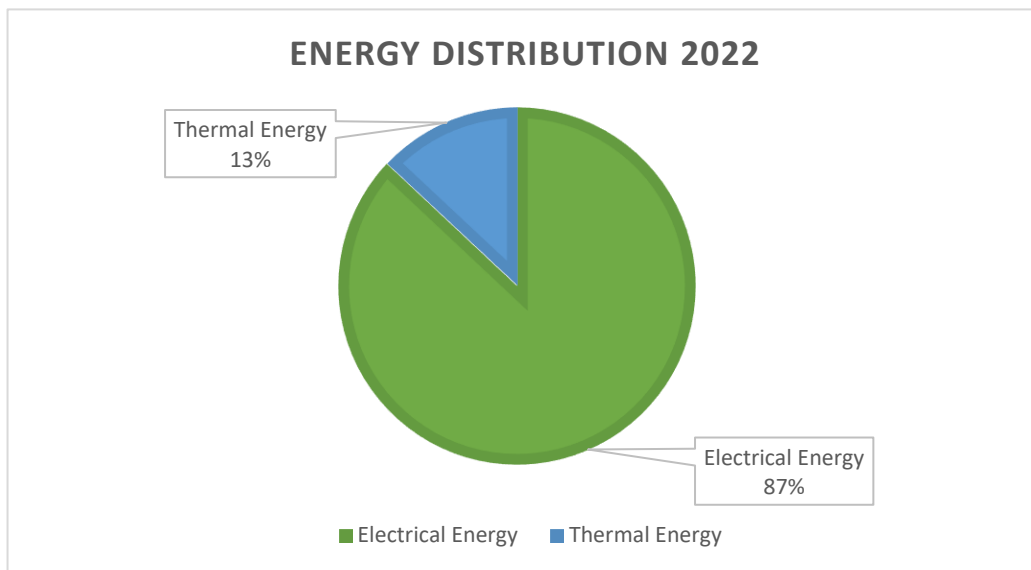


## ENERGY MANAGEMENT

### ENERGY CONTEXT

Since 2015, PVSA has maintained an Energy Management System (EMS) based on the ISO 50001 standard. This has allowed for the consolidation of efficient management of energy resources. In December 2023, Puerto Ventanas has recertified its EMS until 2027.

Electrical energy is one of the most relevant inputs in port operations, **representing 87% of the total energy used in 2022**. As a result of this energy efficiency program.



**In 2022**, after verifying the performance and efficient use of energy at Puerto Ventanas S.A, the **Ministry of Energy and the Energy Sustainability Agency** awarded the company the Energy Excellence Seal in the highest category “Gold”, a certificate that recognizes its performance in energy efficiency. For the Undersecretary of Energy, Julio Maturana, this seal of excellence “is for the company and all its workers, because we know that energy efficiency efforts are born from the first processes to management decisions, and it is part of a chain where everyone makes an effort to have a more sustainable company and join the green economy.” He added that “this seal represents a recognition by the Ministry of Energy and the Energy Sustainability Agency of the excellence that Puerto Ventanas S.A has had in the efficient use of energy, and we encourage them to continue advancing in this matter”. (see Appendix No.6)

The objective of the Energy Excellence Seal is to identify and reward organizations that have defined management, operational excellence, and energy efficiency as a cross-cutting policy. For the purposes of the above, it seeks to identify and annually 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.

## ISO 50001 – LRQA Audit

Generic objective of the visit:

**This has been a Certification Renewal** visit, carried out in accordance with previously notified objectives. The objectives of the visit, including any specific objectives (topic, focus) are confirmed in the audit plan.

- **Audit result:**

Based on the result of the audit, the Audit Team recommends the ISO 50001:2018 certification of Puerto Ventanas S. A for the agreed scope.

The report presents the results obtained in the audit of Renewal of the Certification of the Energy Management System of Puerto Ventanas SA (PVSA), which takes place on December 4 and 5, 2023, whose purpose of the visit is to verify that the system continues to meet the requirements of ISO 50001:2018 for the scope of certification.

The results indicate that:

- 1.- PVSA demonstrates that it has implemented a management system in accordance with the reference standard.
- 2.- No new findings are verified during this visit.
- 3.- The management indicators demonstrate that the management system has been effective in promoting energy efficiency.

Consequently, based on the evidence obtained from the audited samples, it is verified that PVSA has an energy management system in accordance with regulatory requirements and therefore, the renewal of its certification is recommended with the following scope:

***"Management Services in Loading, Discharging, Portage, Storage and Dispatch of Bulk, Liquid and Breakbulk Cargo"***

- **Continuous improvement:**

The Port suffers a fire that meant the interruption of operations, in response to which it develops a plan for cleaning, reconstruction and operations with alternative means. However, the company maintained management processes by planning, controlling and monitoring energy use in contingency conditions, evidencing its commitment to comply with its energy policy and promote its efficiency.

**In this way, LRQA has recertified PVSA in its energy management system until January 2027 under the ISO 50001:2018 standard.** (see Appendix No.7).





### Implementation and start-up of the wave energy project, which will allow generating sustainable energy from the movement of ocean waves.

Puerto Ventanas S.A has a sustainability model that simultaneously addresses socio-environmental, safety, quality and permanent need to innovate aspects. This has led to the search for and development of alternatives for the supply or generation of non-conventional renewable energy, in line with the Long-Term Climate Strategy of the State of Chile, which has defined as an objective, in a gradual process, that by 2050 Chile will be a carbon neutral country, which means that the tons of CO<sub>2</sub>e that it emits in all its processes are fully absorbed within the country.

In November 2022, a wave energy converter system, unique in Chile, was installed in the southwestern sector of site No.5 of the Terminal. This is a project developed within the framework of the Puerto Ventanas S.A innovation program, which has been carried out since 2021 with the support of the company Alu Energy and CORFO.

This system seeks to obtain clean energy for internal use in the first stage and then project it on a larger scale.

It is expected to position this system as a viable and clean energy alternative that contributes to the Chilean energy grid.

The system, involves a mechanism that converts the movement caused by the waves, connected to a conventional generator, from where the current is transmitted to land. Several devices are interconnected that convert the original electric wave into one capable of being transmitted and distributed in the conventional way.



## INNOVATION MANAGEMENT AND CONTINUOUS IMPROVEMENT

For Puerto Ventanas, innovation is considered one of the fundamental pillars to achieve sustainable management and excellence. In an environment characterized by constant changes in the economic, commercial, and socio-environmental spheres, the company recognizes the need to adapt and evolve to maintain its leading position in the industry and offer cutting-edge solutions to its current and potential clients.

In this context and considering the importance of keeping up to date with new technologies and transformations that affect the country, Puerto Ventanas has oriented its actions towards a proactive approach towards updating and renewal. To fully capitalize on its potential and remain a competitive option for freight movement, the company fosters a culture of innovation that

promotes critical analysis of existing processes and provides space for creative thinking among employees. In this way, PVSA constantly implements actions aimed at modernizing infrastructure and adopting cutting-edge technologies to boost efficiency and competitiveness in all areas of the organization. This commitment was evident more than ever during 2023, where the reconstruction of the port after the fire provided an opportunity to advance towards new and better technologies.



### Agreement with European companies for the supply of conveyor systems:

In March 2023, within the framework of the port reconstruction process, PVSA sealed two agreements for the rehabilitation of the copper concentrate conveyor systems that were damaged. Firstly, an agreement was generated with Duro Felguera, a Spanish company, for the supply of the enhanced system. In addition, a contract was generated with the company FAM, of German origin, for the supply of the copper concentrate conveyor belts of the old system. The latter incorporates significant improvements in technology, safety and environmental care, as it has a tubular strap design.

### New Integrated Operations Center (IOC):

In July 2023, the delivery of the new Integrated Operations Center (IOC) was completed, which incorporates high-resolution professional monitors and new habitability that gathers requests from operators. This allows improving aspects of ergonomics and lighting as it is located in the administrative building. This project was directed by the Terminal Operations Deputy Manager and had the support of the technical areas of PVSA and the Joint Hygiene and Safety Committee.

### Infrastructure improvements after the fire:

The reconstruction process, after the fire, has carried out a series of significant innovations to strengthen and modernize its operations.

- The installation of Flat Conveyor Belts and Tubular Conveyor Belts has allowed the implementation of the best available technology, making the port the first in the world to have three tubular solid bulk transfer systems, with a total extension of 2.3 km. This measure not only represents a technological advance, but also facilitates the transfer of grains, clinker and coal through a single tubular belt, which generates synergies and improvements in operational efficiency.

- 
- In terms of materiality, the new structures have been designed to require less maintenance as they incorporate non-stick technologies. In addition, tapes with a metal core have been implemented to reduce the risk of cuts and fire-retardant classification systems, which contribute to improving the safety and durability of the facilities.

- 
- 5 transfer towers have been removed. In addition to reducing environmental and safety risks, it frees up dock capacity equivalent to 400 tons less structure, providing greater flexibility and efficiency in port operations.



- 
- New dust collection systems have been introduced, allowing you to raise the environmental standard and anticipate the next requirements of the environmental authority.

- 
- Regarding structural integrity, new systems have been built that comply with the update of the 2023 seismic standard, implementing the latest requirements on the matter to guarantee the safety of the facilities.

- 
- A new fire network has been developed, incorporating intelligent electrical systems with 50% less pipes and wiring, which reduces risks and improves system reliability. In addition, the Dupline system has been implemented to optimize security control and sensorization based on fiber optic systems. The new network also includes fiber optic technology for temperature detection along the quay, along with an automatic extinguishing system at the quay and other facilities, raising the port's safety standard.
-



## RELATIONSHIP WITH THE COMMUNITY

### “PUERTO ABIERTO” COMMUNITY CENTER



For more than a decade, Puerto Ventanas S.A has maintained a firm commitment to establishing lasting relationships with nearby communities. This commitment is part of the sustainable development of the company and is reflected in our Strategic Community Relations Plan. Our objective is to build solid, long-term bonds of trust with the inhabitants of the Puchuncaví commune, seeking to improve their quality of life and positioning Puerto Ventanas S.A as a company that grows in harmony with the community.

In 2012, we inaugurated Puerto Abierto, a non-profit corporation whose mission is to promote the social and cultural development of the Puchuncaví commune to improve the lives of its inhabitants.

Despite the challenges faced in recent years, the Corporation has managed to maintain its commitment and strengthen ties with the organizations and community of Puchuncaví. This period has been a test of the resilience and importance of maintaining our focus on community engagement, ensuring its continuity in the future.

### 2.5.2. Control Measures and Monitoring

Puerto Ventanas maintains 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.	✓
Tubular transfer systems that prevent the dispersion of particulate material.	✓
Three industrial sweeper trucks were purchased for permanent street cleaning within the facilities	✓
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.	✓

As part of the reconstruction after the fire that affected the PVSA facilities, **the new Integrated Operations Center (IOC) was inaugurated in July 2023.**

Through the IOC, it is possible to efficiently and safely manage the operations of Puerto Ventanas, establish the dependency relationships between the different operations, monitor the main variables of the processes and in this way, have sufficient and timely information for decision-making.

**The Integrated Operations Center** has important benefits and has been a significant contribution to the response capacity to the rapid detection of failures and has thus had a positive impact on the efficiency and productivity of the company. This is because among its main attributes the following benefits stand out:

- It implements improvements that allow the solid bulk transport system to be operated in an automated manner through transfer belts, from the storage warehouse to the loading ship.
- It optimizes the response time in the event of operational problems during a loading, receiving and/or unloading of solid bulk.



- A single control room so that the personnel in charge of the operation know the status of each of the port's equipment.
- It shares the visualization and status of all the systems with the corresponding personnel and management via the web (on-line).
- It monitors the operation through a 360° closed circuit television (CCTV) system.
- It allows the storage of operational information within servers to keep a statistical record of PVSA's operations.
- It has a digital platform that allows future equipment that can operate in the port to be connected to the communications network and thus maintain the same control standard for all systems.

IOC Main Indicators	
Number of processes displayed in the IOC: 110	✓
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.	✓
Allows online viewing of meteorological information such as winds and temperatures	✓
Allows online viewing of oceanographic variables such as wave height	✓
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.	✓

## INTERNAL AND EXTERNAL COMMUNICATION

At Puerto Ventanas S.A, we understand that transparency in our relationships with different interest groups is essential to build and consolidate our reputation. For this reason, we have established a comprehensive communication strategy, both internal and external, with the aim of informing all our interested parties about relevant milestones.

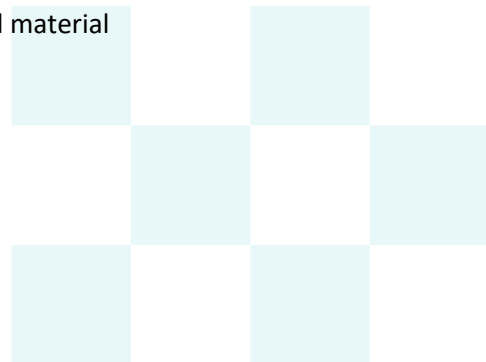
This strategy not only seeks to strengthen ties with our stakeholders, but also to disseminate messages, projects and actions aimed at improving our operational quality, strengthening collaboration with our employees, and contributing to the well-being of the community.

We also strive to share our initiatives in a timely manner, in line with our commitment to be a leading, modern company concerned with the sustainable development of the community and the creation of opportunities for its inhabitants. This approach becomes even more relevant in a context in which the community increasingly demands more information and where transparency and trust are constantly evaluated and put to the test.

**During 2023, Puerto Ventanas S.A generated more than 120 positive mentions between January and December**, mostly related to the actions carried out towards the community and news that position the port's reputation. Likewise, **more than 150 internal publications** were disseminated, including news, organizational activities, training, employee testimonials, new projects, among other initiatives.

The communications can be made through:

- **Internal 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
- Intranet and **Corporate website**
- National and international **Conferences**
- National and international **media**.









## 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: Luis Fuentes M.
- Job title/position: Sustainability and HR Manager
- Telephone: +56 – 322272800
- E-mail: luis.fuentes@pvsa.cl

##### b. Environmental issue:

- Air quality (1)
- Cargo spillage (handling) (4)
- Climate change (energy efficiency, reduction of GHG emissions and adaptation) (5)
- Energy consumption (11)
- Noise (19)
- Relationship with local community (32)

#### II. Title: Reconstruction of Puerto Ventanas with the highest technological standard of the port industry Tubular Conveyors Belts System

##### a. Project Description:

##### Context:

At the end of 2022 Puerto Ventanas was faced with one of the most complex situations in its history. A fire affected a sector of its facilities in an untimely and unforeseen manner, damaging the bulk solids conveyor belt and other facilities located on the Terminal.

However, this situation became an opportunity to modernize its facilities and improve the standards of quality, environmental, safety and efficiency which have characterized the Port for more than 30 years.

## Description of initiative

Over the years, and following the guidelines established by the Sigdo Koppers Group, Puerto Ventanas has consolidated a Sustainability Strategy that simultaneously addresses socio-environmental aspects, safety, quality, and the constant need for innovation. This strategy is based on maintaining a strong commitment between social, environmental, and economic development, while promoting an efficient, safe operation, strongly linked to the community in which its workers are protagonists.

Following this premise, the reconstruction of the infrastructure damaged by the fire was replaced with the best technology available for the transfer of bulk solids in the port industry. To make this change, international engineering companies and suppliers were engaged to supply conveyor belts whose system incorporated significant improvements in technology, safety and environmental care, by having a tubular belt design.

**The implementation of 2.3 kilometers** of tubular conveyor belts for the transfer of bulk solids, thus replacing all the port's conveyor belts, further ensuring the control of particulate matter emissions, thus achieving a world-class standard for the entire bulk transfer system at the port.

The arduous task of reconstruction meant that the conveyor belts used until then were replaced by a mechanized system of transferring bulk solids by tubular belts, which consist of an airtight and sealed tube through which the cargo is transported, allowing for the highest environmental, safety, efficiency, and quality standards.

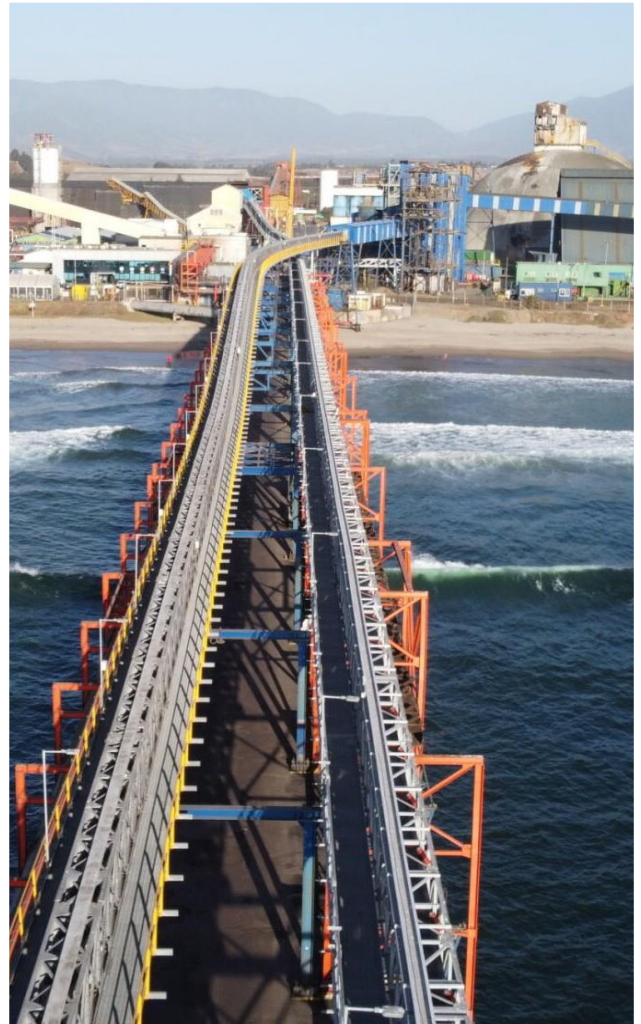
In the case of coal and copper concentrate, the replacement of conventional belts by tubular belts allowed the elimination of 2 transfer towers, which, together with structural integration, has also allowed an update of the 2023 seismic standard for all the infrastructure on the quay, with the latest requirements in this area.

From the point of view of materiality, this innovation brings with it new structures that require less maintenance, incorporating for example in the new tubular belts non-stick technologies and fire-retardant flame-retardant systems, also incorporating in the belts constructive features such as metal core for less risk of cutting.

The installation of these tubular belts has enabled the port to raise its environmental standards, as it has also incorporated new dust collection systems, in anticipation of possible requirements from the environmental authority.

This new system has also made it possible to generate synergies and improve efficiency in the transfer of grain, clinker, and coal by means of a single tubular belt.

2.3 KM.  
 OF TUBULAR BELTS



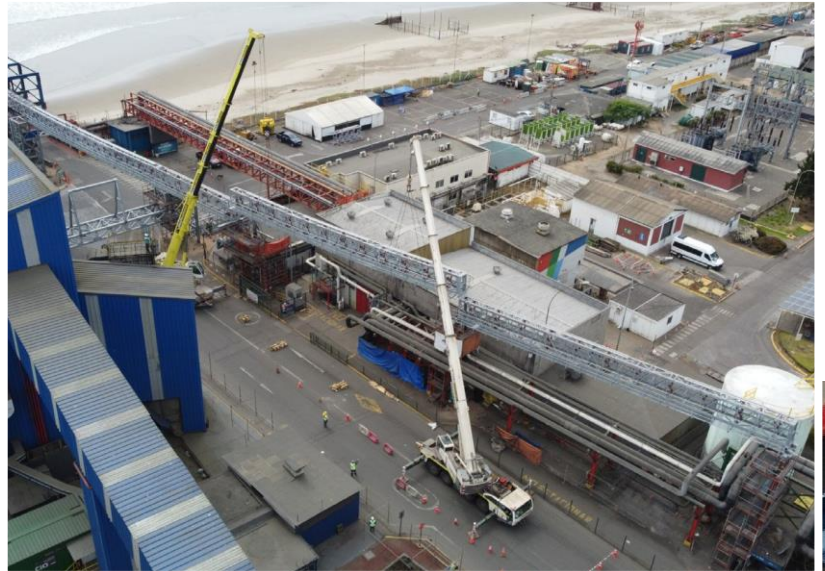


The reconstruction of the port started only weeks after the incident and the process not only enabled the restoration of the affected infrastructure, but also focused on the optimization of processes, improving their efficiency, safety, and quality.

This process was carried out with the important support of a team capable of adapting to the complex scenarios imposed by the fire and the reconstruction process. The first stage of this project was completed in August 2003, while the second stage, which covers from site N°5 to the port warehouse area, was completed and began operations in March of this year.

This project involved an investment of over 45 million dollars and ensures the handling of solid bulk cargo in the port with totally hermetic storage, transfer and loading systems, thus controlling the risk of dispersion of particulate matter during all stages of cargo handling inside the port.

**+45** Million dollars  
IN INVESTMENT





## Environmental contribution

The new infrastructure implemented will allow us to have the highest environmental, safety, efficiency, and quality standards, in line with our vision of being a modern, safe and sustainable port, leader in environmental matters.

It is the best technology available, thus making Puerto Ventanas the first port in the world with three tubular bulk solids transfer systems.

In addition to the 2.3 km of tubular belt for airtight cargo handling, the reconstruction process includes intelligent electrical systems technology, which allows for a **50% reduction in ducting and wiring** - reducing risk and increasing the reliability of the system, as well as **high quality IE certified energy-saving and energy-efficient electric motors**.

**-50%**

OF DUCTING AND WIRING

In addition, the elimination of five transfer towers - that is **400 tons less structure** - created more available space on the quay, which directly impacts on reduced environmental and safety risks, freeing up quay capacity.





## 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: Operational control for trains in the Andina copper concentrate reception system.

#### I. Project Description:

Puerto Ventanas has 4 copper concentrate storage warehouses and a blending warehouse, with a total storage capacity of 190,000 and 34,000 tons respectively. These facilities meet the highest standards of service, quality and sustainability required by modern industry.

Among these, the Codelco Andina warehouse stands out, which provides services for the storage of 55,000 tons of copper concentrate and for this purpose has one of the most modern systems for receiving containers by train. The material reception systems for Codelco Andina consist of conveyor belts that allow the copper concentrate material to be moved into the warehouse.

PVSA, with the objective of avoiding the unnecessary use of the reception systems for the Andina warehouse and thus optimizing the use of energy and improving the energy performance in said system, formalized operational controls to control the unloading of containers in the train reception area for the Andina warehouse.

1. Once the train arrives, it must be unloaded continuously and maintain the expected unloading rates for the container reception process.
2. Once the last container has been unloaded, the system will be ordered to stop after 4 minutes have passed since the load has finished passing through the conveyor system.

This will allow the system to work only with load and thus avoid the empty operation of the belts. Now, the conveyor belts of the Andina warehouse system work only when containers are received from the trains. The reception rates can reach an average of 600 tons per hour.

The following table presents a description of the action implemented and its contribution to the reduction of GHG emissions for the year 2022.

Reduction action	Year of analysis	Typology	Type of reduced GHGs (CO <sub>2</sub> , CH <sub>4</sub> , etc.)	GHG emissions			Removals (tCO <sub>2</sub> e)	Reduction (tCO <sub>2</sub> e)
				Baseline (tCO <sub>2</sub> e)	Project (tCO <sub>2</sub> e)	Leaks (tCO <sub>2</sub> e)		
Operational control for trains in the Andina copper concentrate reception system	2022	Energy efficiency	CO <sub>2</sub> e	74.90	57.00	NA	NA	17.89

The results were verified by an external entity, showing that the improvement in energy efficiency allowed the carbon footprint to be reduced by 17.89 tons.

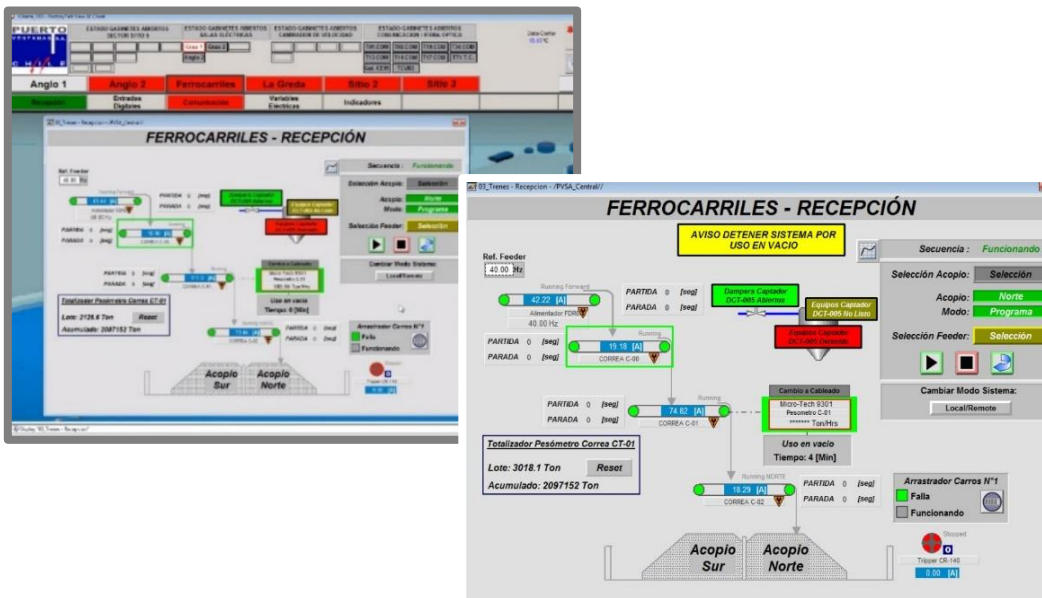


Figure 7: Control system for process of reception copper concentrate by trains from Andina Warehouse

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