



2020

Environmental Report

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1. Chairman's Letter

The Environmental Declaration presented by the Port Authority of Valencia (PAV) is the evidence of our commitment to the protection of the environment and sustainability in the transactions completed on a daily basis at the port premises of Valencia, Sagunto and Gandía.

One important fact provided by this Declaration – once again – is the maintenance of the most demanding environmental and energy certifications at sectoral level, such as ISO 1,001, ISO 5,001, the EMAS III Register and PERS (Port Environmental Review System), which places us at forefront of the companies committed to the execution of initiatives geared towards improving the performance of the PAV and the port premises it manages year after year.

Over the course of 2020, the principal actions and those to which PAV has dedicated most resources are those relating to the improvement of energy efficiency and the reduction of CO2 emissions in order to see the Port of Valencia meet the 2030 “zero emissions” objectives, which we are working towards in the completion of the Strategic Energy Plan, which allows us to meet the target and pre-empt European targets, which are set for 2050.

During this year, the relevant authorisation to undertake the construction of the new electrical substation at the Port of Valencia was eventually obtained, which will allow us to undertake more ambitious projects like the electrical connection of vessels calling at the quays of the Port of Valencia, thus reduction emissions of atmospheric pollutants. The project to replace the road lighting within the ports of Valencia and Sagunto and to improve the energy efficiency of the climate plant at the port of Valencia were also undertaken thanks to the financial assistance of FEDER and IDAE funds within the programme for Energy Renewal of existing buildings and infrastructure of the General State Administration.

The PAV has also continued to explore the possibility of implementing renewable self-consumption energies at the ports it manages, initiating the processes for the launch of diverse generation projects from the photovoltaic facilities at Valencia and Gandía and wind facilities at the port of Valencia, thanks to the amendment of the legislation in the Comunidad Valenciana, fostering implementation in ports.

The decarbonisation of LNG (liquid natural gas) and H2 (hydrogen) transport have been prominent actions within the energy transition, the first through the consolidation of LNG as marine fuel in Ro-Pax vessels on the Balearic Islands route and the second through the commitment to the future with the H2Ports project, which will allow us to test port machinery equipped with fuel cells generated from H2.

Here at the APV we are very much aware, of course, of need to meet the Sustainable Development Goals (SDGs) adopted by the UN in 2015 and we have integrated them into the daily management of the company. Those most closely related to the environment at ports include initiatives aimed at promoting the use of sanitation systems in the companies in the port of Valencia, improving energy efficiency, promoting the use of renewable energies and improving and promoting ferry lines in the ports.

None of the above could be achieved without the participation of the PAV in R&D projects in which it has been participating for many years and which have provided many successes in management. 2020 saw the continued development of activities relating to the CORE LNG AS HIVE initiative, which was extended until the end of 2021; the H2Ports project (mentioned above), which aims to test the feasibility of using hydrogen as a fuel in port applications; the ECCLIPSE projects have also begun, with the aim of defining a methodology for the adaptation of ports to the effect of climate changes; and GREEN-C-PORTS, which is a project that integrates digitalisation and smart networks for better management of traffic and port operations at different levels, including the environmental level. As well as these, there are two more projects that will mark a before and after in the implementation of equipment for the electrical connection of vessels during calls at port under the umbrella of EALING (EALING-OPS and EALING-Works).

We should also underline that the PAV has an important presence on the committees of several international port organisation like the Sustainability Committee, the Energy Committee of the ESPO (European Seaports Organization) and the Climate and Energy Committee of the IAPH (International Association of Ports and Harbours) and also holds the vice-presidency of the Business Development Committee of the Medports Association, which aims to establish common frameworks for improvements in relation to environmental sustainability.

All of these initiatives and achievements are regularly communicated to both the port community and society in general through the publication of this Environmental Declaration, press releases, the publication of videos and news on social media (twitter, LinkedIn etc.) events with educators and the publication and dissemination of “environmental advice” and relevant news in the Environmental Bulletin through the “Ecoport” working group. This information is disseminated internally and externally through the intranet and the PAV website (www.valenciaport.com), to raise awareness among our staff and the port community.

To finish, I would like to highlight and place on record my appreciation for both the staff of the PAV and all members of the port community, who have been involved and collaborated with us to make ports more sustainable places. Without them, we would not be able to do this work to disseminate the results contained in this declaration.

Aurelio Martínez Estévez

Chairman of the Port Authority of Valencia





2. Introduction Background

The Port Authority of Valencia has used sustainability criteria for years for the development of our business strategy. We have designed and incorporated the environmental commitments assumed in the Environmental and Energy Policy within our Corporate Social Responsibility policy, whose principal working lines are focused on the achieving zero-emissions ports by 2030. In this regard, in 2020 we also launched a series of environmental and energy initiatives aimed at meeting the target set and aligning the port with the principal Sustainable Development Goals set by the UN. To do this however, it has been necessary to work through a series of stages over this time:

In 1998, the PAV launched the ECOPORT Project: Towards a Port Community Respectful of the Environment, which was financed by the European Commission's LIFE Programme. The fruit of this work was the drafting of a Methodology for the Implementation of Environmental Management Systems in Port Facilities. This methodology has become a reference for port management at national and international level and was subsequently implemented in a different port environments. With ECOPORT, the bases were established for the development of the Environmental Management System of the organisation and whose functioning is summarised in this documents, giving it, as early as 1998, responsibilities exclusively concerned with environmental protection.

On 12 April 2000, the Board of Directors of the PAV approved the Environmental Policy, which has been reviewed in the years since, last updated on 11 November 2016. Over those years, the PAV has extended its commitment to environmental management, as the Environmental Management System has matured, accepting new challenges.

In 2003, the PAV was the first Spanish port to obtain the PERS (Port Environmental Review), granted by the Lloyds Register and supported by the ECOPORTS Foundation and the European Maritime Ports Association, ESPO. In 2006, the SGA was certified in accordance with Standard ISO 1,001 and 2008 was registered on the EMAS register of the Region, the first Spanish port to obtain that certification.

In the year 2008, the Port Authority of Valencia received the Eco-excellent Company award at Ecofira, proposed by the Clean Technologies Centre (CTL) of the Regional Ministry of the Environment, Territory and Housing of Valencia.

The PAV has also acquired a number of international commitments of a voluntary nature, including the signing, in 2006, of the Sydney Declaration for the Sustainable Development of Port Cities, under the auspices of the International Association of Cities and Ports and, in July 2008, of the "World Ports for a Better Climate Declaration" in Rotterdam.

The PAV, in its commitment to environmental improvement and the reduction of greenhouse gases, calculated and registered the Carbon Footprint of the Port of the Valencia on the Carbon Footprint, Compensation and CO2 Absorption Register created by the Ministry of Agriculture, Food and the Environment, obtaining the "calculation" seal. Along these lines, in 2016, the PAV obtained the certification of the Energy Management System in accordance with standard ISO 5,001, integrating both environmental and energy policies in a single Environmental and Energy Policy.

As a continuation of the above, the Port Authority of Valencia continues to work on numerous initiatives in relation to the environment, energy and the fight against climate change, participating actively in different R&D projects with the aim of environmentally improving the performance of activities and to act as a catalyst for the companies that form part of our Port Community. Among these actions, we can highlight:

- » The improvement of control tools and policies and measuring the principal environmental aspects generated in the ports it manages, along with energy and water consumption, etc.
- » Policy to replace vehicles with others with better environmental performance, along with the replacement of lighting within buildings and roads for more energy efficient bulbs.
- » Monitoring of environmental aspects generated by extensive works at the ports of Valencia and Sagunto through the Environmental Monitoring Plan.
- » Creation of the ECOPORT III project, the evolution of ECOPORT II, which aims to measure the levels of eco-efficiency within the Valenciaport community and establishing the strategy to improve the energy-environmental performance through the definition of indicators like the carbon footprint.
- » Maintenance of the Environmental Management System, whose functioning ensures the information contained in this Declaration and allows us to improve our environmental performance year after year.
- » Fostering the implementation of renewable energies on port premises with the aim of decarbonising activities carried out therein and reducing the carbon footprint.
- » Study of the 2030 Zero-Emissions Plan in the port of Valencia.



3. Description of the Port

The Port Authority of Valencia (PAV), trading as Valenciaport, is the public body responsible for the management of the three state ports located on an 80-kilometre stretch of Spain’s Mediterranean east coast: Sagunto, Valencia, and Gandía.

The privileged geo-strategic location of Valenciaport in the centre of the Western Mediterranean Arch, in line with the east-west corridor that crosses the Suez Canal and the Straits of Gibraltar, positions Valenciaport as the first and last call for the principal shipping companies operating regular lines between America, the Mediterranean Basin and the Far East.

3.1 LOCATION. PHYSICAL DATA

The ports of Sagunto, Valencia, and Gandía are located on the Iberian Mediterranean side, with a subtropical Mediterranean climate of moderate winters and rather hot summers.

PORT	LOCATION	TOTAL SURFACE AREA	WATER SURFACE AREA	QUAYS BERTHING LINE
SAGUNTO	LONGITUDE 0° 13' W LATITUDE 39° 39' N	2,397,800 M²	2,206,000 M²	14 QUAYS 5,801 M BERTHING LINE MOORING
VALENCIA	LONGITUDE 0° 18.1' W LATITUDE 39° 26.9' N	5,626,534 M²	5,746,000 M²	27 PIERS 14,002 M BERTHING LINE MOORING
GANDÍA	LONGITUDE 0° 9' W LATITUDE 38° 59' N	245,000 M²	284,000 M²	6 QUAYS 1,573 M BERTHING LINE MOORING



PORT OF SAGUNTO YEAR 2017.



PORT OF VALENCIA YEAR 2019.



PORT OF GANDÍA YEAR 2017.

3.2 LEGAL FRAMEWORK

The legal regime of the Port Authorities is described in Royal Decree 2/2011, of 5 September, approving the revised text of the Law on State Ports and the Merchant Navy.

The Port Authority of Valencia is a Public Law entity with its own status and equity, independent of the State, reporting to the public body Puertos del Estado, which is responsible for the administration, management, control and operation of the ports of Sagunto, Valencia, and Gandía. Its principal functions are the regulating of the public port domain, the granting of concessions and authorisations, the planning, design and construction of the necessary works, monitoring and policing within the service area of the ports and the maintenance of signals to assist navigation, among others.

The law grants exclusive competency for the Ports of General Interest to the General State Administration (Art.149.1. 20 of the Constitution) and establishes the designation of the government bodies of the Port Authorities to the Autonomous Communities. The bodies of the Port Authority of Valencia are the following:

- a) **Governance:**
 - Board of Directors
 - Chairman
- b) **Management:**
 - CEO
- c) **Assistance**
 - Navigation and Port Committee

In relation to legal action, the Port Authority of Valencia has a periodic identification and assessment system of legal requirements and other requirements of an environmental nature. Thus, compliance, among others, of the update of pertinent authorisations in environmental matters, and environmental obligations of an ad hoc nature.

The Port Authority of Valencia considers compliance with current legislation, and environmental legislation especially, to be essential. It complies with environmental requirements in all areas such as:

- » Waste: Through the control of the production of hazardous and non-hazardous waste, and appropriate storage, labelling, separation, transport and management of waste using duly authorised transporters and managers.
- » Emissions: with the corresponding vehicle inspection control registers as well as control of other types of emissions such as those generated by the existing boiler.
- » Discharges, despite not being a representative aspect, as existing discharges at the facilities are of a domestic nature (from toilets and showers installed and controlled by the organisation).
- » Noise, using periodic measurements, demonstrating compliance with legal requirements.

We also lead the promotion of compliance with legal environmental requirements among both port authority staff and the concessions based on the port premises, conducting training activities on the legal requirements that facilities must fulfil such as hazardous waste, environmental responsibility and discharges.

The main environmental legal regulations applicable to the company during the year 2020 are described in the following table:

EMAS

- » REGULATION (EC) NO 1221/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), repealing Regulation (EC) No 761/2001 and Commission Decisions 2001/681/EC and 2006/193/EC
- » COMMISSION REGULATION (EU) 2017/1505 of 28 August 2017 amending Annexes I, II and III to Regulation (EC) No 1221/2009 of the European Parliament and of the Council on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)
- » COMMISSION REGULATION (EU) 2018/2026 of 19 December 2018 amending Annexes and III to Regulation (EC) No 1221/2009 of the European Parliament and of the Council on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)

GENERAL

- » Royal Legislative Decree 1/2016, of 16 December, approving the consolidated text of the Law on the integrated prevention and control of contamination.
- » Law 5/2014, of 25 July, of the Regional Government of Valencia, on Territorial Planning, Urban Development and Landscape of the Region of Valencia.
- » Law 6/2014, of 25 July, on Environmental Prevention, Quality and Control in the Region of Valencia
- » Law 11/2014, of 3 July, amending Law 26/2007, of 23 October, on Environmental Responsibility (Official State Gazette (BOE) No. 162 of 04/07/2014).
- » Law 21/2013, of 9 December, on Environmental Assessment.
- » Royal Legislative Decree 2/2011, of 5 September approving the consolidated text of the State Ports and Merchant Navy Act.
- » Law 6/2010, of 24 March, amending the consolidated text of the Law on the Environmental Impact Assessment of Projects, approved by Royal Legislative Decree 1/2008, of 11 January.
- » Law 33/2010, of 5 August, amending Law 48/2003, of 26 November, on the economic regime and the provision of services in ports of general interest.
- » Royal Legislative Decree 1/2008, of 11/01/2008, approving the consolidated text of the Law on the Environmental Impact Assessment of projects. (Official State Gazette (BOE) No. 23 of 26/01/2008).
- » Law 26/2007, of 23 December, on Environmental Responsibility.

WASTE

- » Royal Decree 553/2020, of 2 June, regulating the transfer of waste within the State's territory.
- » Law 22/2011, of 28 July, on waste and contaminated soils.
- » Law 10/2000, of 12 September, on waste in the Region of Valencia
- » International Convention for the Prevention of Pollution from Ships, of 2 November 1973 (Marpol Convention) and subsequent amendments.
- » Royal Decree 1381/2002 on Port Facilities for the reception of waste generated by vessels.

ENERGY AND WATER

- » Royal Legislative Decree 1/2001, of 20/07/2001, approving the consolidated text of the Law on Waters. (Official State Gazette (BOE) No. 176 of 24/07/2001).
- » Royal Decree 817/2015, of 11 September, establishing the monitoring and assessment criteria for the assessment of the state of surface waters and environmental quality rules.

EMISSIONS

- » Royal Decree 100/2011, of 28 January, updating the catalogue of potentially atmosphere-polluting activities and establishing the basic provisions for their application.
- » Law 34/2007, of 15/11/2007, on Air Quality and Atmospheric Protection. (Official State Gazette (BOE) No. 275 of 16/11/2007).

NOISE

- » Royal Decree 1367/2007, of 19 October, developing Law 37/2003, of 17 November, on Noise Pollution, relating to acoustic zoning, quality objectives and acoustic emissions.
- » Law 37/2003, of 17/11/2003, on noise pollution. (Official State Gazette (BOE) No. 276 of 18/11/2003).

CONSUMPTION

Royal Decree 56/2016, of 12 February, transposing Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, relating to energy efficient with regard to energy audits, accreditation of service providers and promoting the efficiency of energy supply.

OTHER

- » Royal Decree 178/2021, of 23 March, amending Royal Decree 1027/2007, of 20 July, approving the Regulation of Heating Facilities in Buildings.
- » Royal Decree 513/2017, of 22 March, regulating fire-protection facilities.
- » Royal Decree 337/2014, of 9 May, approving the Regulation on technical conditions and safety guarantees at high-voltage electrical facilities and their Complementary Technical Instructions ITC- RAT 01 a 23.
- » Royal Legislative Decree 1695/2012, of 21 December, approving the National System to Respond to Marine Contamination.

Among the main environmental authorisations and obligations, we should highlight the following:

- Environmental Impact Declaration of the Extension of the Port of Valencia.
- Environmental Monitoring Plan for the Extension of the Port of Valencia
- Registration as Small Hazardous Waste Producer No. 3631/P02/RP/CV.
- Annual declaration of Possession of Devices containing PCBs.
- Log Book for potentially polluting activities.
- Atmospheric pollution.
- International Convention for the Prevention of Pollution from Ships, of 2 November 1973 (Marpol Convention).



CLOCK BUILDING.

3.3 BASIC MAGNITUDES OF PORT TRAFFIC

	2019	2020	Δ20/19 dic acum	Δ20/19 nov acum	Tendencia Anual
Autoridad Portuaria de Valencia					
Tráfico total (t)	81.063.555	80.882.224	-0,22%	-1,70%	-0,22%
Granel Líquido	3.120.013	2.673.188	-14,32%	-13,43%	-14,32%
Granel Sólido	2.190.118	1.859.496	-15,10%	-15,77%	-15,10%
Mercancía No Containerizada	14.585.870	12.747.552	-12,60%	-14,35%	-12,60%
Mercancía Containerizada	60.831.738	63.264.401	4,00%	2,49%	4,00%
Pesca	1.495	1.516	1,44%	1,53%	1,44%
Avituallamiento	334.321	336.071	0,52%	-2,82%	0,52%
Buque (ud)	7.891	6.851	-13,18%	-14,17%	-13,18%
G.T.	273.705.368	243.421.390	-11,06%	-11,88%	-11,06%
Contenedores (TEU)	5.439.827	5.428.307	-0,21%	-1,65%	-0,21%
Pasajeros (ud)	1.112.727	419.121	-62,33%	-62,54%	-62,33%
Línea Regular	677.111	392.835	-41,98%	-41,07%	-41,98%
Cruceros	435.616	26.286	-93,97%	-93,86%	-93,97%
Automóviles (ud)	722.758	533.137	-26,24%	-28,80%	-26,24%
Tráfico RoRo (toneladas)	12.580.586	11.223.554	-10,79%	-12,03%	-10,79%
UTIs	456.147	402.228	-11,82%	-13,09%	-11,82%
Tráfico Ferroviario (toneladas)	3.075.911	2.662.077	-13,45%	-16,77%	-13,45%
TEU	209.990	200.098	-4,71%	-5,93%	-4,71%
Vehículos	44.930	23.294	-48,15%	-48,71%	-48,15%
Puerto de Valencia					
Tráfico total (t)	73.715.925	74.584.893	1,18%	-0,10%	1,18%
Granel Líquido	1.367.338	1.074.487	-21,42%	-17,82%	-21,42%
Granel Sólido	1.530.847	1.167.941	-23,71%	-18,76%	-23,71%
Mercancía No Containerizada	10.200.466	9.191.414	-9,89%	-11,18%	-9,89%
Mercancía Containerizada	60.318.952	62.839.866	4,18%	2,66%	4,18%
Pesca	367	367	0,20%	0,60%	0,20%
Avituallamiento	297.955	310.818	4,32%	0,63%	4,32%
Buque (ud)	6.099	5.538	-9,20%	-9,63%	-9,20%
G.T.	243.918.494	221.413.234	-9,23%	-9,98%	-9,23%
Contenedores (TEU)	5.386.309	5.382.303	-0,07%	-1,53%	-0,07%
Pasajeros (ud)	1.027.821	416.228	-59,50%	-59,73%	-59,50%
Línea Regular	592.205	389.942	-34,15%	-32,86%	-34,15%
Cruceros	435.616	26.286	-93,97%	-93,86%	-93,97%
Automóviles (ud)	565.430	425.999	-24,66%	-27,08%	-24,66%
Tráfico RoRo (toneladas)	10.764.492	9.816.939	-8,80%	-9,97%	-8,80%
UTIs	399.605	360.972	-9,67%	-10,82%	-9,67%
Tráfico Ferroviario (toneladas)	2.075.401	1.927.279	-7,14%	-8,84%	-7,14%
TEU	209.990	200.098	-4,71%	-5,83%	-4,71%
Vehículos	44.930	23.294	-48,15%	-48,71%	-48,15%

Puerto de Sagunto					
Tráfico total (t)	6.961.504	6.015.027	-13,60%	-16,89%	-13,60%
Granel Líquido	1.752.675	1.598.701	-8,79%	-10,01%	-8,79%
Granel Sólido	659.271	691.555	4,90%	-9,24%	4,90%
Mercancía No Containerizada	4.020.059	3.276.461	-18,50%	-21,26%	-18,50%
Mercancía Containerizada	512.006	424.535	-17,08%	-17,29%	-17,08%
Pesca	112	143	27,04%	30,21%	27,04%
Avituallamiento	17.381	23.632	35,96%	42,97%	35,96%
Buque (ud)	1.371	1.206	-12,04%	-15,05%	-12,04%
G.T.	24.721.221	21.365.955	-13,57%	-14,98%	-13,57%
Contenedores (TEU)	53.442	46.004	-13,92%	-14,63%	-13,92%
Pasajeros (ud)	105	68	-35,24%	-34,95%	-35,24%
Línea Regular	105	68	-35,24%	-34,95%	-35,24%
Cruceros					
Automóviles (ud)	156.400	107.138	-31,50%	-34,68%	-31,50%
Tráfico RoRo (toneladas)	1.707.708	1.391.385	-18,52%	-20,19%	-18,52%
UTIs	51.992	41.230	-20,70%	-22,49%	-20,70%
Tráfico Ferroviario (toneladas)	1.000.510	734.798	-26,56%	-32,64%	-26,56%
TEU	0	0			
Vehículos	0	0			

Puerto de Gandía					
Tráfico total (t)	386.125	282.305	-26,89%	-28,88%	-26,89%
Granel Líquido					
Granel Sólido					
Mercancía No Containerizada	365.345	279.677	-23,45%	-25,51%	-23,45%
Mercancía Containerizada	780				
Pesca	1.015	1.007	-0,79%	-0,83%	-0,79%
Avituallamiento	18.985	1.621	-91,46%	-91,51%	-91,46%
Buque (ud)	421	107	-74,58%	-75,19%	-74,58%
G.T.	5.065.653	642.201	-87,32%	-87,80%	-87,32%
Contenedores (TEU)	76	0			
Pasajeros (ud)	84.801	2.825	-96,67%	-96,49%	-96,67%
Línea Regular	84.801	2.825	-96,67%	-96,49%	-96,67%
Cruceros					
Automóviles (ud)	928	0			
Tráfico RoRo (toneladas)	108.386	15.230	-85,95%	-85,40%	-85,95%
UTIs	4.550	26	-99,43%	-99,42%	-99,43%



4. Description of environmental management system

4.1 ENVIRONMENTAL POLICY



4.2 CERTIFICATIONS



THE PORT AUTHORITY OF VALENCIA IS AMONG THE ENTITIES CERTIFIED THROUGH THE PERS MODEL (PORT ENVIRONMENTAL REVIEW SYSTEM)



SINCE 2006, THE PORT AUTHORITY OF VALENCIA IS CERTIFIED BY ISO STANDARD 14001. IN OCTOBER 2020, WE RENEWED THE CERTIFICATE UNDER THE NEW STANDARD 14001:2015





DECLARATION OF VERIFICATION OF ADHERENCE TO ISO 14064 FOR THE CALCULATION OF THE CARBON FOOTPRINT OF THE PORT OF VALENCIA FOR THE YEAR 2016



SINCE 15 JANUARY 2008, THE PORT OF VALENCIA HAS BEEN REGISTERED WITH THE REGIONAL MINISTRY OF INFRASTRUCTURE, TERRITORY AND ENVIRONMENT WITH NUMBER ES-CV 000023 IN COMPLIANCE WITH THE ENVIRONMENTAL MANAGEMENT SYSTEM IN ACCORDANCE WITH REGULATIONS (CE) 1221/2009 AND 761/2001

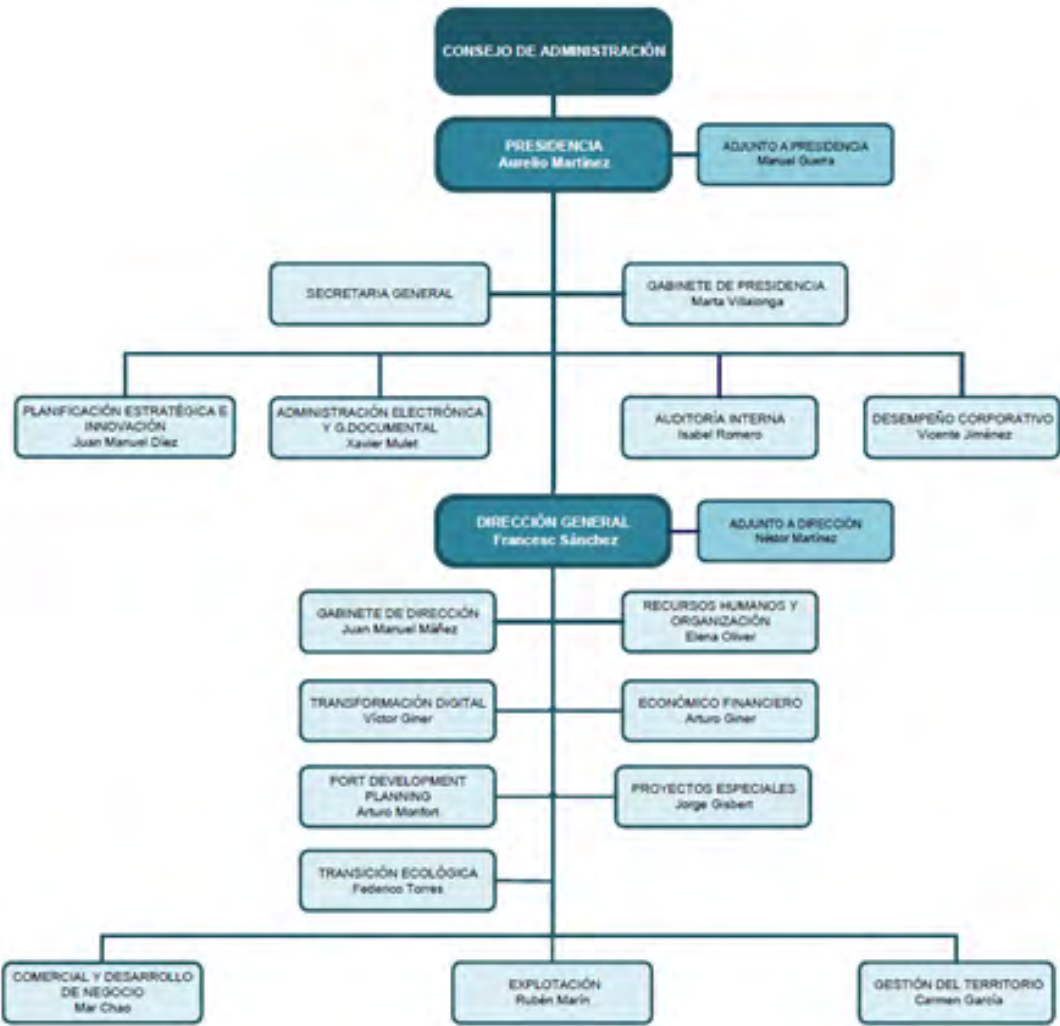


IN 2016, THE PORT AUTHORITY OF VALENCIA OBTAINED ISO 50001 CERTIFICATION FOR THE PORT OF VALENCIA

4.3 DESCRIPTION OF THE SYSTEM



4.4 FLOW CHART



Within the Management System, responsibilities are assigned as follows:

» **The Board of Directors is responsible for:**

- Approving the environmental policy of the Port Authority of Valencia.

» **The CEO is responsible for:**

- Reviewing the Environmental and Energy Management System and approving the Review Act:

» **The Head of the Ecological Transition Area is responsible for:**

- Reviewing/approving the documentation comprising the Environmental and Energy Management System and the objectives and the Environmental and Energy Management Programme, prior to approval.
- Ensuring that the Environmental and Energy Management System complies with the requirements of International Standards.
- Reporting to senior management on the performance of the environmental management system, including environmental performance.
- Creating an energy management team.

» **The Environment Officer or designated person is responsible for:**

- Keeping the Environmental and Energy Management System and the documentation thereof up to date, proposing objectives, targets and environmental programmes, verifying the corrective and preventive actions, and drafting the Audit and Supervision Programme for the completion of environmental audits.
- Identifying and evaluating environmental aspects arising from the activities and services of the Port Authority of Valencia, and the port facility for the purpose of focusing control on those that are significant.

- Identifying the legal and other requirements applicable to the Port Authority of Valencia in relation to the environment and verification of compliance.
- Identifying possible accidents and emergency situations that may have environmental consequences and establish the preventive measures and steps of action. Conducting, together with the Head of Security, monitoring of the preventive measures established for each emergency situation through drills. Complying with the Emergency Report.
- Managing the monitoring tasks, supervising compliance with environmental objectives of the Port Authority of Valencia, the operational control operations with the management of discharges, waste, consumption of resources, noise and emissions to the atmosphere
- Detecting the training needs for personnel of the Port Authority of Valencia in environmental sphere and collaborate with the Director of Human Resources in the drafting of the Position Files and the Environmental Training Programme.
- Ensuring training of personnel who work in the name of the Port Authority of Valencia through the drafting and distribution of the Environmental Best Practice.
- Providing continuous support and advice to the rest of Departments involved in environmental management.
- Processing the management of complaints from stakeholders relating to environmental aspects of the activities and services of the Port Authority of Valencia and the management of internal and external communications of environmental content.
- Drafting the Report on the Review of the Environmental Management System.
- In summary, ensuring that the environmental management system is established, implemented and maintained in accordance with the requirements of the standards and regulations and reporting to the senior management on the performance of the environmental management system, including the recommendations for improvements.

For any additional information, you can contact the following email:

medioambiente@valenciaport.com

4.5 ENVIRONMENTAL ASPECTS

The Port Authority of Valencia has established, in its Environmental Management System, a Procedure for the identification and assessment of Environmental aspects (PMA-03) which, from the perspective of the life cycle, establish the methodology to identify and assess the environmental aspects linked to activities and services, and those generated on the port premises, both directly and indirectly.

In that procedure, both direct and indirect environmental aspects are identified, both in normal and abnormal situations. Similarly, the potential environmental aspects are identified based on accidents and emergency situations that have occurred in the past and the analysis of the installations and activities developed.

It considers:

Direct environmental aspects: Element of activities, products and services of an organisation that may interact with the environment.

Indirect environmental aspects: Generated as a consequence of the development of activities and upon which the organisation does not have full control in management.

Significant environmental aspects are the first to be taken into account when it comes to defining objectives and targets geared towards reducing those aspects.

Environmental impact: Any change in the environment, whether adverse or beneficial, as a total or partial result of the environmental aspects of the organisation.

Normal conditions: The common or routine production conditions.

Normal conditions: The conditions that, although controlled, are special, such as the maintenance, cleaning, start-up, stops, etc.

Emergency situations: Uncontrolled situations, which includes both incidents and accidents.

For the assessment of the direct environmental aspects, the methodology used is summarised in accordance with the corresponding SGA procedure. Each is analysed separately, using the aforementioned methodology, which uses the Frequency criteria, generating the environmental and severity aspect, which is determined by the calculation of the level of danger and the quantity of the aspect.

The Frequency for each type of aspect is classified in accordance with three categories: Low, Medium and High. Both the Quantity and the Danger, which establishes the Severity, are classified as Low, Moderate, Medium and High. Those aspects evaluated with High Severity, regardless of frequency, shall be considered significant, as observed in the following table.

		SEVERITY			
		LOW	MODERATE	MEDIUM	HIGH
FREQUENCY	LOW				
	MEDIUM				
	HIGH				

For indirect environmental aspects, the Frequency criteria are used generating the environmental aspect and Consequences that assess the magnitude for each of the aspects identified. The Frequency is classified according to the category: Low, Medium and High and the Consequences are classified as: Low impact, Moderate impact and High impact.

Those aspects whose consequences are considered High impact or Medium impact with High frequency, as shown in the table, are considered significant.

		CONSEQUENCE		
		LOW IMPACT	MODERATE IMPACT	HIGH IMPACT
FREQUENCY	LOW			
	MEDIUM			
	HIGH			

In terms of the environmental aspects identified in emergency situation, they are assessed in accordance under the criteria Frequency, Magnitude of Impact and Sensitivity of the Environment are awarded scores defined in the methodology established in the EMS. The total score is thus obtained with the sum of the scores awarded for each criterion and for each aspect. Once all the aspects identified are assessed, a ranking is established in the order of decreasing score.

The 20% with the highest score are considered significant. Aspects not falling within this segment but with the same score as the last aspect considered significant, they will also be considered significant.

The possible aspects of the activities Port Authority of Valencia (PAV) may have for the environment, directly or indirectly, and the objectives established in relation to them, are summarised in the following table:

DIRECT:	OBJ.	INDIRECT	OBJ.
GENERATION OF WASTE		GENERATION OF WASTE IN THE PORT PREMISES	
EMISSIONS TO THE ATMOSPHERE	NO. 64 NO. 65 NO. 70	EMISSIONS ARISING FROM PORT OPERATIONS IN THE PORT PREMISES	NO. 64 NO. 65
WATER QUALITY		ENVIRONMENTAL PERFORMANCE OF CONCESSIONS	NO. 66
NOISE, VISUAL IMPACT		NOISE ON ROADS ON THE PORT PREMISES	
WATER CONSUMPTION		WATER CONSUMPTION ON THE PORT PREMISES	
ENERGY CONSUMPTION ELECTRICITY	NO. 67 NO. 68 NO. 70 NO. 71	ELECTRICITY CONSUMPTION ON THE PORT PREMISES	NO. 67 NO. 70
CONSUMPTION OF RAW MATERIALS		CONSUMPTION OF RAW MATERIALS ON THE PORT PREMISES PORTUARIO	

In addition to the environmental aspects described above, the environmental aspect “environmental performance of concessions” is established. The assessment criterion used is the percentage of concessions in the different levels defined in Ecoport.

Following the assessment criteria established in the “Procedure for the Identification and Assessment of Environmental Aspects” the significant environmental aspects are presented below.

SIGNIFICANT ASPECTS				
DIRECT:	OBJ.		OBJ.	INDIRECT
ENERGY CONSUMPTION ELECTRICITY*	NO. 67 NO. 68 NO. 70 NO. 71		NO. 66	ENVIRONMENTAL PERFORMANCE OF CONCESSIONS
			NO. 64 NO. 65	EMISSIONS ARISING FROM PORT OPERATIONS

(*) THE DIRECT ASPECT “ELECTRICITY CONSUMPTION” IS NOT SIGNIFICANT IN THE ASSESSMENT DUE TO THE PURCHASE OF ENERGY FROM RENEWABLE SOURCES AND THE REDUCTION OF CONSUMPTION. BUT IT WAS DECIDED TO CONSIDER IT SIGNIFICANT TO CONTINUE ACTING ON THE IMPROVEMENT OF ENERGY EFFICIENCY.

The list of aspects is reviewed every year, updating it where considered necessary.

Objectives (see point 4.5) are established for the improvement of the principal aspects and especially the significant aspects.

In the case of works of general interest, the identification and assessment of the significant of the environmental aspects will be conducted in accordance with an Environmental Impact Study, and they are monitored through the Environmental Impact Declaration and the Environmental Monitoring Plan.

4.6 OBJECTIVES AND TARGETS

4.6.1 FULFILMENT OF OBJECTIVES PLANNED FOR 2020

The objectives planned and carried out in 2020 are differentiated by colour coding according to the legend described below and these were the following:

	OBJECTIVE SET IN PREVIOUS YEARS AND NOT COMPLETED.
	OBJECTIVE SET THIS YEAR BUT LINKED TO ANOTHER SET IN PREVIOUS YEARS.
	NEW OBJECTIVE SET THIS YEAR.

Nº 59 INSTALLATION OF SUBSTATION AT THE PORT OF VALENCIA.
Approval was received for the project from the Regional Ministry of the Environment in April. In December, authorisation was received from the Regional Ministry of Industry. The technical specifications for the hiring of site management, substation and electricity outlet. **The objective remains as envisaged for 2021.**

Nº 64: IMPROVEMENT OF AIR QUALITY IN THE PORT OF SAGUNTO THROUGH THE INSTALLATION OF A PARTICLE PICKUP SYSTEM.
Initially, the purpose of the installation of the particle pick-up unit was proposed. After the start of drafting of the specifications document for the purchase and installation of the GREEN C PORTS project with European funds. Said project includes the supply and installation of 2 immission cabins with 2 particle capture devices, 3 sound level meters and 2 weather stations for the port of Valencia. A change of criteria in the installation of equipment is assessed, moving from the initial idea of particle pick-up units to atmospheric control stations. Once the purchase of the units established in that project, transferring one of the existing complete stations in the port of Valencia to the port of Sagunto.

In 2020, the wording of the specifications document for the supply and installation of the units was amended and put to the tender. At the same time, progress has been made in the preparation of lands and the preparation of electricity supplies and fibre optic cable located in the cabins. It is expected to be completed and in full working order for receiving data in real time in the first quarter of 2021. **The objective continues for 2021.**

Nº 65: EXECUTION OF A CAMPAIGN FOR MEASUREMENT OF WIND RESOURCES IN THE PORT OF VALENCIA.

In 2019, a unit for the measurement of wind resources was installed at heights of between 80 and 120 metres, necessary for the calculation of energy production that can be obtained from wind. The LiDAR (Light Detection and Ranging) is a device that measures the wind speed and direction through pulsating lights, allowing the measurement of the vertical wind profile.

This unit has been functioning for one year to compile complete data throughout all the stations and thanks to the data obtained, it will be possible to accurately estimate the intensity of wind intensity and direction at the height of the generator blades, so that the annual hours of work and energy production corresponding to the prevailing wind can be obtained at any time. The wind resource campaign established in the port of Valencia in 2019 was completed. **The objective established was fulfilled.**

Nº 66: PHASE II ECOPORT III: STUDY AND STATISTICAL ANALYSIS OF THE LEVELS OF ECO-EFFICIENCY OF THE PORTS OF THE PAV, STRATEGIC DEFINITION OF ROADMAP AND UPDATE OF GEIS INVENTORY OF THE PAV.
The objective has been undertaken and the Presentation of Ecoport III was made at the meeting of the Ecoport group in December. The steps to be followed for Phase II of the Statistical Study and Analysis of the levels of Eco-efficiency of Valenciaport and Strategic Definition of the roadmap for improvement, and how to carry out said study. **The objective continues for 2021.**

Nº 67: DRAFTING OF A PAV STRATEGIC ENERGY PLAN IN THE PORT OF VALENCIA.
Design has begun on the Strategic Zero Emissions Plan provided for in the PAV Energy Plan and which aims to trace lines of action geared towards achieving the strategic objectives established.

Progress is being made in drafting the plan. The consumption of vessels calling to ports and container terminals were analysed.

Working meetings were held with the terminals to present advances and ascertain what their future plans were in relation to energy. Work has begun on modelling photovoltaic production. **The objective continues for 2021.**

Nº 68 REDUCTION OF 10% IN ELECTRICITY CONSUMPTION OF PUBLIC LIGHTING THROUGH THE DRAFTING OF THE PLAN FOR RENEWAL OF EXTERIOR LIGHTING USING LED TECHNOLOGY IN THE PORT OF VALENCIA.
The administrative process for the tender for procurement of lights was put in place. **The objective continues for 2021.**

Nº 70 IMPROVEMENT OF ENERGY EFFICIENCY THROUGH THE IMPLEMENTATION OF PHOTOVOLTAIC PANELS IN THE FACILITIES OF THE PORTS OF VALENCIA AND GANDÍA.
A resistance problem was detected in the silo due to overweight of the photovoltaic facility in the port of Valencia which is being reviewed. An expert will complete an inspection of Gandía to establish the conditions of the physical site of the facility to assess the inclusion, if necessary, of new requirements in the technical specifications document. **The objective continues for 2021.**

Nº 71 IMPROVEMENT OF ENERGY EFFICIENCY IN THE CLIMATE PLANT OF THE PORT OF VALENCIA BY 15%
In drafting the technical report. The hydraulic system will modify to variable flow with the aim of achieving significant electricity savings. Moreover, the efficiency of cold and hot water management will be improved in the TRANE thermodynamic units installed, through the integration of a communications card. A subsidy has also been requested from the IDAE. **This objective remains for 2021**

4.6.2 4OBJECTIVES PLANNED FOR 2021

The objectives planned for 2021 tackle the principal environmental aspects relating to PAV activities and the processes developed and that have implications of an environmental nature. The objectives are grouped together below in accordance with these criteria, colour coded as explained above:

1. ENVIRONMENTAL ASPECTS:

a) ATMOSPHERE:

Nº 64 IMPROVEMENT OF AIR QUALITY CONTROL IN THE PORT OF SAGUNTO THROUGH THE INSTALLATION OF A PARTICLE PICKUP UNIT.
This objective is pursued for the purpose of extending the control measures on activities that may affect air quality.

Starting situation: Air quality equipment available.

Situations envisaged: improve air quality control and access air quality in the port of Sagunto in real time.

Result: improvement of air quality control in the port of Sagunto. **Lines of the Policy:** Analyse and assess, systematically and periodically, the activities, products and services of the company that may interact with the environment, for the purpose of knowing and managing the environmental risk it may generate.

b) NOISE:

Nº 74 UPDATING OF THE NOISE MAP IN THE PORT OF VALENCIA, INCLUDING THE NORTH EXTENSION.

With this objective, the aim is to update the existing noise maps for the Port of Valencia, including the areas that are not considered in the previous map.

Starting situation: Noise maps prepared in previous years.

Situation envisaged: Preparation of a new noise map that includes changes to the facilities that have taken place since the last map was prepared.

Result: improvement of control of acoustic quality in the Port of Valencia. **Lines of the Policy:** Analyse and assess, systematically and periodically, the activities, products and services of the company that may interact with the environment, for the purpose of knowing and managing the environmental risk it may generate.

2. FOR THE IMPROVEMENT OF PROCESSES / ACTIVITIES

a) ECO-EFFICIENCY:

Nº 59 INSTALLATION OF SUBSTATION AT THE PORT OF VALENCIA.

This objectives is pursued with the aim of covering forecast future use and power and to improve the energy system at the Port of Valencia.

Starting situation: Provision of current information relating to the energy management of the Port of Valencia

Situation envisaged: Viable alternative actions to tackle the energy future of the port of Valencia.

Result: Energy assessment of the port. **Lines of the Policy:** Integrate the environmental and energy considerations into planning processes, ordering, management and conservation of the port public domain, serving for the definition of targets and objectives of both systems.

Nº 67 PAV STRATEGIC ENERGY PLAN IN THE PORT OF VALENCIA.

The aim is to trace defined lines of action geared towards achieving the strategic objectives established and aimed at energy improvements.

Starting situation: diverse measures carried out aimed at improving energy efficiency.

Situation envisaged: Define and plan future lines of action.

Result: Planning of actions to be implemented. **Lines of the Policy:** Integrate the environmental and energy considerations into planning processes, ordering, management and conservation of the port public domain, serving for the definition of targets and objectives of both systems.

Nº 68 10% REDUCTION IN ELECTRICITY CONSUMPTION OF PUBLIC LIGHTING THROUGH THE DRAFTING OF THE PLAN FOR RENEWAL OF EXTERIOR LIGHTING USING LED TECHNOLOGY IN THE PORT OF VALENCIA.

This objective is carried out with the aim of reducing electrical consumption in the port of Valencia, taking specific actions to improve energy efficiency.

Starting situation: The necessary control is available to ascertain consumption on roads.

Situation envisaged: carry out actions necessary to reduce electricity consumption with respect to the previous year.

Result: Improvement of energy efficiency. **Lines of the Policy:** Measure, control and manage consumption of natural resources and energy, incorporating eco-efficiency criteria in general and energy efficiency in particular, in order to achieve adequate environmental and energy performance of the services provided.

Nº 70 IMPROVEMENT OF ENERGY EFFICIENCY THROUGH THE INSTALLATION OF PHOTOVOLTAIC PANELS IN THE FACILITIES OF THE PORTS OF VALENCIA AND GANDÍA.

This objective aims to improve energy efficiency through the implementation of renewable energies.

Starting situation: There is a small network of photovoltaic panels in the port of Valencia.

Situation envisaged: extend the existing network and reduce electricity consumption incorporating renewable energies that improve emissions and the carbon footprint of the Port of Valencia.

Result: Improvement of energy efficiency. **Lines of the Policy:** Measure, control and manage consumption of natural resources and energy, incorporating eco-efficiency criteria in general and energy efficiency in particular, in order to achieve adequate environmental and energy performance of the services provided.

Nº 71 15% IMPROVEMENT IN ENERGY EFFICIENCY OF THE CLIMATE PLANT AT THE PORT OF VALENCIA.

With the roll-out of this objective, the aim is to improve energy efficiency by reducing the consumption of the plant through the incorporation of elements that improve performance.

Starting situation: Data available on current consumption of the climate plant.

Situation envisaged: improve existing equipment and reduce electricity consumption improving the energy efficiency of the climate plant.

Result: Improvement of energy efficiency. **Lines of the Policy:** Measure, control and manage consumption of natural resources and energy, incorporating eco-efficiency criteria in general and energy efficiency in particular, in order to achieve adequate environmental and energy performance of the services provided.

Nº 72 REDUCTION OF PUBLIC LIGHTING ELECTRICITY CONSUMPTION IN THE PORT OF SAGUNTO BY 40% OF THE TOTAL ROAD CONSUMPTION THROUGH THE PLAN FOR RENEWAL OF EXTERIOR LIGHTING USING LED TECHNOLOGY

This objective aims to improve energy efficiency through the reduction of electricity consumption through changes in equipment for more efficient alternatives.

Starting situation: The necessary control is available to ascertain consumption on roads.

Situation envisaged: carry out actions necessary to reduce electricity consumption with respect to the previous year.

Result: Improvement of energy efficiency. **Lines of the Policy:** Measure, control and manage consumption of natural resources and energy, incorporating eco-efficiency criteria in general and energy efficiency in particular, in order to achieve adequate environmental and energy performance of the services provided.

Nº 73 PRELIMINARY DESIGN FOR THE INSTALLATION OF AEROGENERATORS IN THE NORTH EXTENSION OF THE PORT OF VALENCIA

The aim is to analyse the equipment to be installed at the port of Valencia.

Starting situation: there are data available on the potential wind resources in the port of Valencia.

Situation envisaged: drafting of preliminary design establishing the equipment to be installed at the port of Valencia according to the wind resource data obtained for the port.

Result: improve the energy efficiency of the port of Valencia, assessing the incorporation of renewable resources. **Lines of the Policy:** Use and provide the use of technology improvements that are visible in each activity.

b) MANAGEMENT:

Nº 66 PHASE II ECOPORT III: STUDY AND STATISTICAL ANALYSIS OF THE LEVELS OF ECO-EFFICIENCY OF THE PORTS OF THE PAV, STRATEGIC DEFINITION OF ROADMAP AND UPDATE OF GEIS INVENTORY OF THE PAV.

This objective is pursued with the aim of ascertaining the level of eco-efficiency of port premises of the ports managed by the PAV and the inventory of the GEIS, to trace future lines of action.

Starting situation: in the framework ECOPORT III, where the majority of companies participate in the port community, environmental and energy initiatives, where the members of ECOPORT participate, pursuing joint objectives.

Situation envisaged: complete an initial study to establish joint strategies.

Result: improvement of emissions and GEIS in ports managed by the PAV. **Lines of the Policy:** Integrate the environmental and energy considerations into planning processes, ordering, management and conservation of the port public domain, serving for the definition of targets and objectives of both systems.

4.7 NEEDS AND EXPECTATIONS OF STAKEHOLDERS

Detailed below are the needs and expectations detected are detailed to the interested parties:

GRUPOS INTERESADOS	NECESIDADES/EXPECTATIVAS	REQUISITO	ACCION
CLIENTES	NI	Mantener los principios de protección del Medio Ambiente	SI SEGUIMIENTO SISTEMA DE GESTION AMBIENTAL (EMAS)
CLIENTES	EX	Dar el mejor servicio ambiental al mejor precio	NO PUESTA A DISPOSICION DE MEDIDAS Y MEDIOS AMBIENTALES
CLIENTES	EX	Aumentar certificaciones en materia ambiental	SI PROMOCION DE NUEVAS CERTIFICACIONES Y PROYECTOS AMBIENTALES
PROVEEDORES	NE/EX	Mantener la Política de Compras fortaleciendo exigencias ambientales	SI DEFINICION CRITERIOS AMBIENTALES. LEY CONTRATOS SECTOR PUBLICO. KMO. PRODUCTO ECO. (EMAS. 14001. 14004. 16001)
SUBCONTRATISTAS	NE/EX	Mantener la Política de Contratación fortaleciendo exigencias ambientales	SI DEFINICION CRITERIOS AMBIENTALES. LEY CONTRATOS SECTOR PUBLICO. KMO. PRODUCTO ECO. (EMAS. 14001. 14004. 16001)
TRABAJADORES	EX	Consolidación y promoción en la organización Mayra de la Formación Ambiental considerada para proyectos	SI PLAN DE FORMACION AMBIENTAL
ADMINISTRACION PUBLICA	NI	Cumplimiento de requisitos legales y otros en materia ambiental	SI IDENTIFICACION Y EVALUACION DE REQUISITOS LEGALES PERIODICO
ADMINISTRACION PUBLICA	EX	Mantener proactividad en la gestión ambiental (EMAS)	SI SEGUIMIENTO SISTEMA DE GESTION AMBIENTAL (EMAS)
ADMINISTRACION PUBLICA	EX	Mantener al nivel de exigencia ambiental	SI PROMOCION DE NUEVAS CERTIFICACIONES Y PROYECTOS AMBIENTALES
VECINOS	EX	Eliminación de molestias ambientales	NO CONTROL DE ASPECTOS AMBIENTALES Y FOMENTO DE ACTIVIDADES DE COMUNICACION/INFORMACION SOCIAL



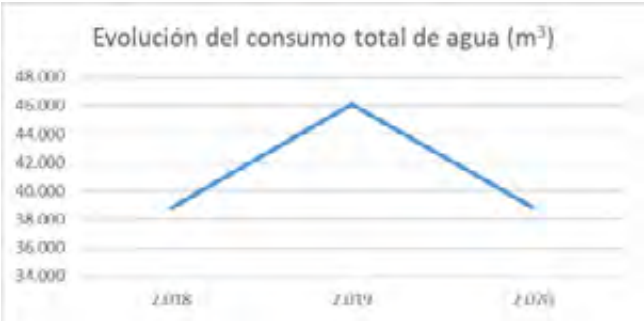
5. Management of natural resources

5.1 WATER

The PAV’s water consumption corresponds to the consumption registered in buildings and for irrigation of gardens. Total consumption of water of PAV in 2020 was 38,875 m³, an increase of almost 15.6% with respect to the previous year.

Consumption per port was distributed as follows:

WATER M³	2,018	2,019	2,020
VALENCIA	33,049	40,903	33,560
SAGUNTO	3,137	4,591	4,673
GANDÍA	603	573	642
TOTAL	38,807	46,067	38,875



The Port of Valencia has seen a reduction in water consumption, mainly due to lockdown. It must be taken into account that in 2019 there was a leak due to a breakage detected, which was repaired, and new supply services were also included, such as the Mosteganem service which was not in operation in 2020.

Sagunto saw a slight increase on the previous year, which may be due to a leak that was detected and quickly repaired.

In Gandía, consumption is relatively stable, although there was a slight increase on the previous year due to the maintenance work in gardens.

The decision was taken not to include objectives in this respect given that they are ad hoc data expected to continue the trend of previous years.

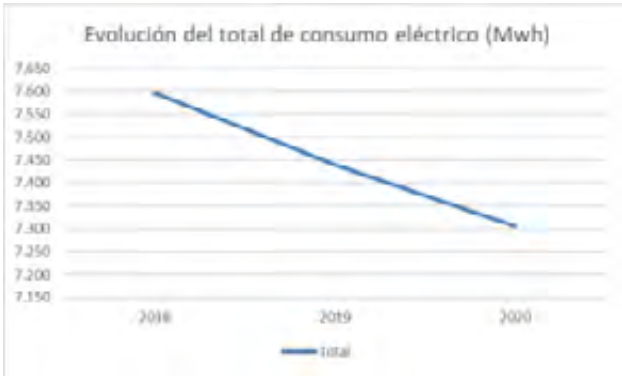
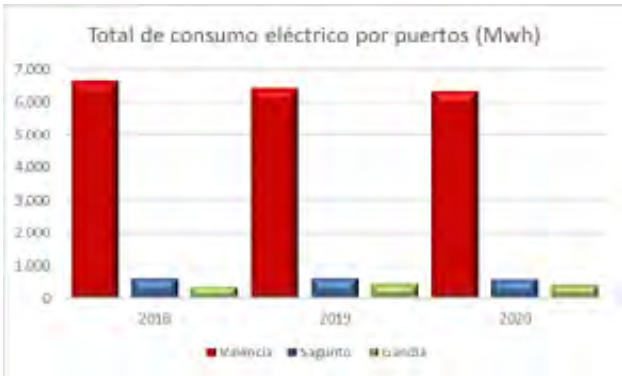


5.2 ELECTRICITY

In 2020, the total energy consumption of the Port Authority of Valencia was 7,306.619 kWh (7,306.62 Mwh), reduction of 1.78 % on the previous year.

Consumption was distributed across the ports as shown below:

ELECTRICITY MWH	2018	2019	2020
VALENCIA	6,650	6,412	6,342
SAGUNTO	608	603	569
GANDÍA	340	425	396
TOTAL	7,598	7,439	7,307



In terms of the source of electricity consumed, the supply company has certified that the energy is sourced 100% from renewable sources. The consumption certified by the supplier corresponds to the entire Port Authority , which included the total electricity supplied to Valencia, Sagunto and Gandía.

Certificación Garantías de Origen

Gas Natural Comercializadora S.A., a través del sistema de Garantías de Origen, y según se recoge en la ITC/2914/2011, certifica la solicitud de redención de los CUPS del cliente AUTORIDAD PORTUARIA DE VALENCIA (100% energía suministrada)

Nº de Garantías de Origen: 80.120 MWh
Año: 2020

La Comisión Nacional de los Mercados y la Competencia CERTIFICA la redención de la energía con Garantía de Origen 100% renovable a cada uno de los consumos de los CUPS solicitados del cliente, a través del portal gdo.cnmec.es

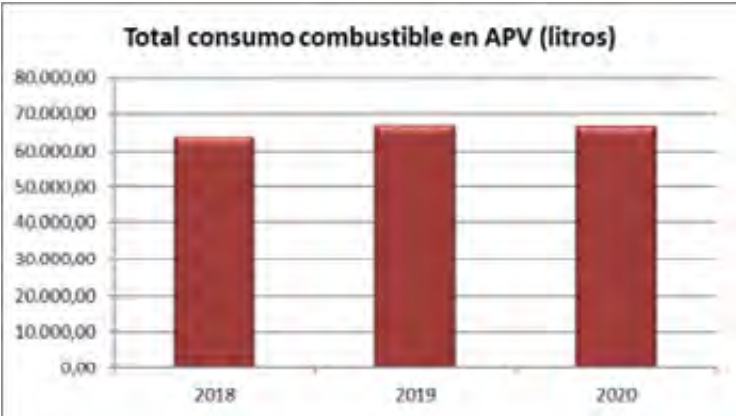
Francisco José García Vizcaíno
Director Territorial Ventas Este

Este documento es informativo y no tiene validez legal

5.3 FUEL

In 2020, the fuel consumption of the vehicles of the PAV in the ports managed was 14,305.29 litres of gasoline and 48,246.41 litres of diesel. Total consumption is 62,551.70 litres. This includes:

FUEL (LITRES)	2018	2019	2020
GASOLINE	16,855,00	19,970,84	14,305,29
DIESEL	47,121,00	47,239,52	48,246,41
TOTALS	63,976,00	67,210,36	62,551,70



As can be observed in the previous graphic, the consumption of fossil fuels has fallen almost 7% from the previous year. It must be taken into account that lockdown did not affect the port maintenance and police service, therefore the vehicles of the PAV fleet continued to be used.

Fuel consumption is not broken down per port because the service is centralised in Valencia

The PAV vehicle fleet in 2020 consisted of the following:

- » Cars: there are a total of 30 cars, compared to 28 the previous year (10 electric).
- » Vans: 22 compared to 27 last year, one of which is electric.
- » Motorcycles: 2, as per the previous year, both electric.
- » Lorries: 3 compared to 4 last year.

In addition to the vehicles of the PAV, there are several generator sets and other auxiliary equipment that consume fuel. These sets are used to generate electricity in those areas of the piers where they are required.

5.4 PAPER CONSUMPTION

From the year 2010, conventional paper has been replaced with “organic” (Triotec IQ) paper which has the guarantee of Forest Stewardship Council (FSC) certification. With the purchase of FSC paper, the consumer is guaranteed that the paper has been produced in a sustainable manner and that its use contributes to the conservation of forests and respect for the environment.

- » The virgin fibre used in its production is obtained with respect for the environment, maintaining the biodiversity of forest ecosystems and guaranteeing that forests can be used by future generations.
- » The whitening is performed without chlorine.
- » The rights of local communities that live or work in the forest are respected.

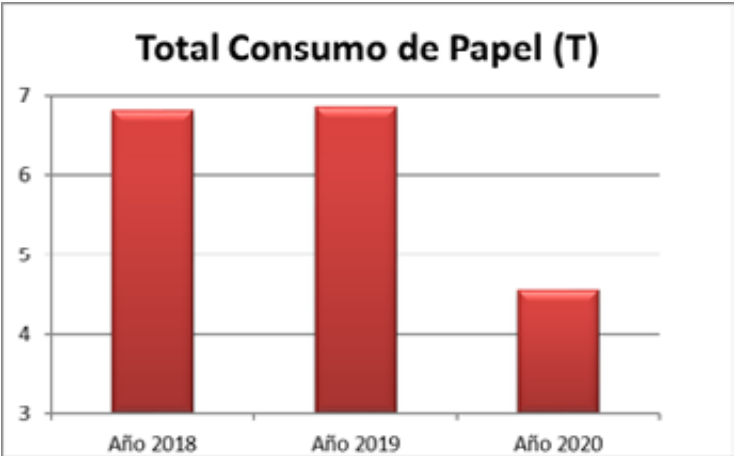
The paper used at the PAV is 100% organic paper.

In 2020, 4.63 t of paper was consumed, a reduction of 33.27% on the previous year.

Over recent years, measures have been implemented aimed at the reduction of paper consumption, such as the austerity plan implemented at the PAV, raising awareness among employees, configuration of printers for double-sided printing and reuse of paper for drafts.

Nevertheless, the important reduction achieved this year is mainly due to the implementation of remote working for most of the staff at the PAV over the lockdown period.

Fuel consumption per port is not specified because the service is centralised en Valencia.



5.5 SUMMARY OF INDICATORS

5.5.1 EMAS INDICATORS

In accordance with the requirements of Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), and its amendment through Regulation EU 2018/2026, the following indicators are proposed:

2020 INDICATOR	ANNUAL TOTAL	COMPARISON
ELECTRICITY CONSUMPTION	7,306.62 MWH	15,253 (MWH/WORKER)
WATER CONSUMPTION 100% FROM NETWORK	38,875	81,158 (M³/WORKER)
TOTAL FUEL CONSUMPTION	619.734 MWH	1.29 MWH/WORKER
TOTAL SURFACE AREA	3,674,576 M²	7,671.35 (M² TOTAL SURFACE AREA/ WORKER)
TOTAL SEALED SURFACE AREA	3,201,497 M²	6,683,71 (M² TOTAL SURFACE AREA/WORKER)
TOTAL SURFACE AREA IN THE CENTRE NATURE-ORIENTED	48.656,95 M²	101.58 (M² TOTAL SURFACE AREA/WORKER)
TOTAL UNSEALED SURFACE AREA	473,079 M²	6,683,71 (M² TOTAL SURFACE AREA/WORKER)
PAPER	4.63 T	0.009 (T/ WORKER)
HAZARDOUS WASTE	4.08 T	0.008 (T/ WORKER)
NON-HAZARDOUS WASTE	13.98 T	0.029(T/ WORKER)
EMISSIONS OF CO2 EQUIVALENT ** (DIRECT)	162,886 TCO2EQ	0,34 (T CO2 EQ/ WORKER)
EMISSIONS OF CO2 EQUIVALENT ** (INDIRECT)	0 T02EQ	0 (T CO2 EQ/ WORKER)
TOTAL EMISSIONS CO2 EQUIVALENT** (DIRECT + INDIRECT)	162,886 TCO2EQ	0.34 (T CO2 EQ/ WORKER)

*AVERAGE NUMBER OF STAFF 2020 = 479. DATA PROVIDED BY HUMAN CAPITAL

In terms of the annual evolution of the relative indicators calculated, we can observe:

RELATIVE INDICATOR	2018	2019	2020
ELECTRICITY CONSUMPTION	17.46	16.20	15.253
WATER CONSUMPTION	89.211	102.324	81.158
FUEL CONSUMPTION	1.453	1.443	1.29
TOTAL SURFACE AREA	8,054.25	7,794.35	7,671.35
TOTAL SEALED SURFACE AREA	6,973.67	6,816.45	6,683.71
TOTAL SURFACE AREA IN THE CENTRE	106,36	100,79	101,58
NATURE-ORIENTED	106.36	100.79	101.58
TOTAL UNSEALED SURFACE AREA	1,080.58	977.89	987.64
PAPER	0.015	0.014	0.009
HAZARDOUS WASTE	0.010	0.012	0.008
NON-HAZARDOUS WASTE	0.022	0.035	0.029
EMISSIONS OF CO2 EQUIVALENT ** (DIRECT) (T CO2)	153.83	0.343	0,340
EMISSIONS OF CO2 EQUIVALENT ** (INDIRECT) (T CO2)	0	0	0

** Emissions of CO2 Equivalent: The Port Authority of Valencia as an organisation does not generate CO2 emissions beyond those directly associated with its own vehicles (direct emissions) and indirect emissions associated with energy consumption. For the calculation of total emissions in T CO2 eq the conversion factors for the years 2018, 2019 y 2020 published in the scope 1 and 2 carbon footprint calculators v.11 of the Ministry of Agriculture and Fisheries, Food and the Environment for the corresponding years were used.

5.5.2 OTHER INDICATORS

Since 2008, the Carbon Footprint of the entire Port of Valencia has been calculated. These calculations were made according to ISO 14064, and have been validated by the Lloyd’s Register.

Displayed below is the trend in emissions, cargo moved and Carbon Footprint between 2008 and 2016. The Footprints for 2017, 2018 and 2019 are currently being calculated, which will be validated in 2021.

Año	2008	2010	2012	2014	2016
Emisiones(tCO2)	161.685	158.026	160.770	159.100	166.115
Toneladas (t)	51.897.937	56.893.676	60.517.225	59.359.080	64.361.045
Huella de Carbono (kgC O2/t)	3,12	2,74	2,66	2,58	2,58

In the following graphic the trend can be seen from the start of the calculation.





6. State of the Environment

6.1 WASTE

The PAV is responsible for the management of waste produced directly by the activity of the company through the figure of the Producer (Law 22/2011, of 28 July, on waste and contaminated soils).

The PAV also assumes responsibility, indirectly, for the correct management of waste produced on the port premises of Valencia, Sagunto and Gandía, which are managed by the PAV as Holder.

6.1.1 OWN WASTE

The PAV produces waste as a result of the activity conducted by the company in its offices, workshops and in the Valencia clinic, as well as in the maintenance staff offices in the Ports of Sagunto and Gandía.

As set out in Law 22/2011, of 28 July, on waste and contaminated soils, for the waste produced directly by the company’s activity, the PAV has the status of Producer of hazardous waste with registration number 3631/P02/RP/CV and Producer of sanitary waste with registration number 21384/P02/CV.

The total waste generated by the activity of the PAV in 2020 was 18.06 t of which 13.98 t corresponds to non-hazardous waste and 4.08 t to hazardous waste.

To analyse the data obtained in 2020 in the following graphic we can observe the trend in the production of waste generated by the PAV from 2015 to 2020, both inclusive.

FIGURE 1.



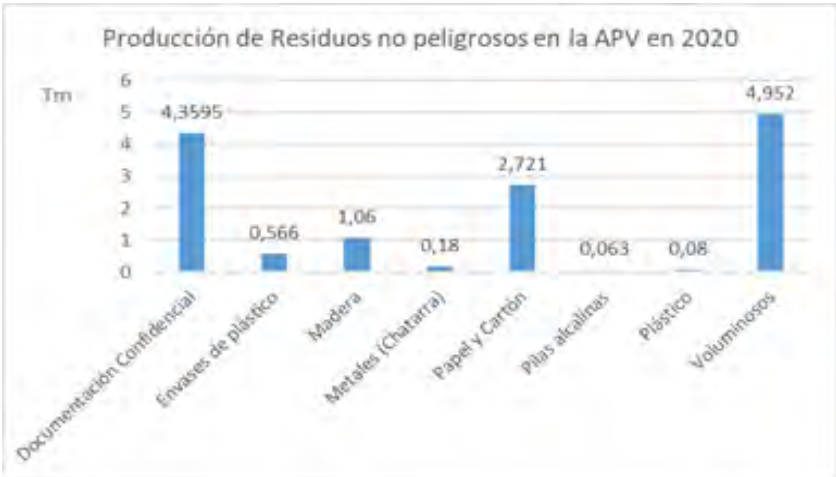
As indicated in the data in Figure 1, there was a clear reduction in the production of both non-hazardous and hazardous waste in 2020 compared to 2019 figures.

Below, figures 2 and 3 show the data for the production of hazardous and non-hazardous waste caused by the activity of the PAV in the year 2020.

FIGURE 2.



FIGURE 3.



A) In the case of hazardous waste, there was a reduction in the production of waste in general, reaching a total production figure of 4.08 t in 2020.

Figure 2 shows that the highest hazardous waste production figures are for “Waste Electrical and Electronic Equipment” (WEEE) and “Aqueous cleaning solution” from the washing machines installed at the electricity and mechanics’ plant at the Port of Valencia. These figures are 1,963 t y 1,148 t respectively for 2020.

Figure 4 shows that WEEE remains on the same downward trend Since 2018:

FIGURE 4.



Furthermore, Figure 2 shows, with respect to the heading “Aqueous cleaning solution” that in 2020 the production figure remained similar to 2019, with 1,148 t produced in 2020 compared to 1,169 t in 2019.

B) In the case of non-hazardous waste, in 2020 a production figure of 13.98 t was reached.

Figure 3 it can be observed that, in, as has occurred since 2020, the most significant volume of non-hazardous waste generate by the PAV corresponds to the heading “Confidential Documentation”.

It must be noted the fact that this result is related to the State of Emergency declared in March 2020 due to the COVID-19 pandemic, with production of confidential documentation reduced by 24.4% on the previous year. The fact that PAV workers were working from home until 1/07/2020 (except for those performing essential services that could not be completed remotely) is a factor in this reduction, with workers working remotely using electronic documents. For this reason, production of large voluminous waste, previously second in the table, topped the table.

6.1.2 WASTE FROM THE PORT PREMISES

The companies located on Port Authority of Valencia premises are obliged to adequately manage the waste they generate at their facilities.

In order to foster adequate management waste in companies on the premises of the ports of Valencia, Sagunto and Gandía, in 2005, a Centre of Waste Transfer (WTC) was opened, located in the Port of Valencia and which allowed for the collection and storage of waste generated in port facilities. This waste is stored in the CTR for subsequent transport to treatment plants where it will be reused, recycled assess or eliminated, respecting the Hierarchy of waste as established in Article 8 of Law 22/2011 of 28 July on waste and contaminated soils.

With the WTC the Port Authority of Valencia:

- » Facilitates the collection and management of waste generated in the ports of Sagunto, Valencia and Gandía.
- » Facilitates the administrative processes relating to the removal and management of waste.
- » Contributes to maintaining the port premises in harmony with its environment

The Port of Valencia WTC is located at the Xitá Pier, with a total surface area of 3,235.18 m², of which 2,400 m² is used for the storage of waste prior to transfer for final management.



For the storage of non-hazardous waste, there is 1 20m³ container for voluminous waste, 1 20m³ container for wood, various 3m³ containers for light packaging and plastics, 1 11m³ container for glass, 2 11 and 25m³ containers for metals (scrap), 1 11m³ for used tyres and several de 3m³ containers of paper-cardboard.

The WTC also has a calibrated weighing scale and an authorised vehicle for the transport of hazardous materials.

The companies located in the port facilities managed by the Port Authority of Valencia therefore have access a facility where it is possible to manage the waste comfortably and flexibly in accordance with current legislation and benefiting from the savings generated by the economies of scale.



In the case of the waste assumed by the PAV, whether because it appears fortuitously, or in a controlled manner, in the port premises of Valencia, Sagunto or Gandía, the PAV has the Status of Holder (in accordance with the adaptation to Law 22/2011, of 28 July, on waste and contaminated soils) with registration numbers P05, P05 and P05, respectively.

The waste produced in the port premises of Valencia, Sagunto and Gandía is classified under two headings:

- » **Waste produced in a controlled manner** and deposited in containers installed in facilities or waste that has been generated as a result of ad hoc cleaning, which may produce voluminous, inert waste, rubble, etc.
- » **Waste generated on an ad hoc basis** as a result of leaks caused by traffic accidents, waste that may arrive by sea (such as wood, buoys and other remains of maritime signalling), waste from marine pollution emergency actions, abandoned waste, etc.

In relation to the total volume of waste produced at the three port facilities managed by the PAV, a total of 28.13 t was managed in 2020 broken down as follows:

- » Controlled waste: a total of 7.02 t of non-hazardous waste.
- » Ad hoc waste: a total of 21.11 t, was generated, broken down into 11,55 t non-hazardous and 9,57 t of hazardous waste.

Therefore the PAV has assumed direct or indirect responsibility (in the capacity as Producer or Holder) of a total of 32.55 t of hazardous waste and 13.64 t of non-hazardous waste, for a total of 46.19 t of waste in the year 2020.

Waste generated in the port premises of Controlled Origin

Below, the types of waste accounting for the greatest volume in 2020 was “Paper/cardboard” under the non-hazardous waste heading, as not hazardous waste was produced during the period studied, at 6,38 t.

The origin of the “paper/cardboard” heading related to the paper and cardboard deposited in containers provided specifically for that purpose in the different points of the port premises of Valencia, Sagunto and Gandía.

FIGURE 5.



Ad hoc waste generated in the port premises

In the case of ad hoc waste generated, as can be observed in figures 6 and 7, within the heading non-hazardous waste, “Voluminous waste” is prominent, and within the hazardous waste category, “Contaminating soils” features prominently with figures of 6.37 t and 5.83 t, respectively.

In terms of “Contaminated soils” considered hazardous waste, it must be noted that these are produced from the cleaning of leaks and discharges both on land at sea, which occur as a result of traffic accidents within the port premises, discharges of bilge water into the sea, etc.

FIGURE 6.

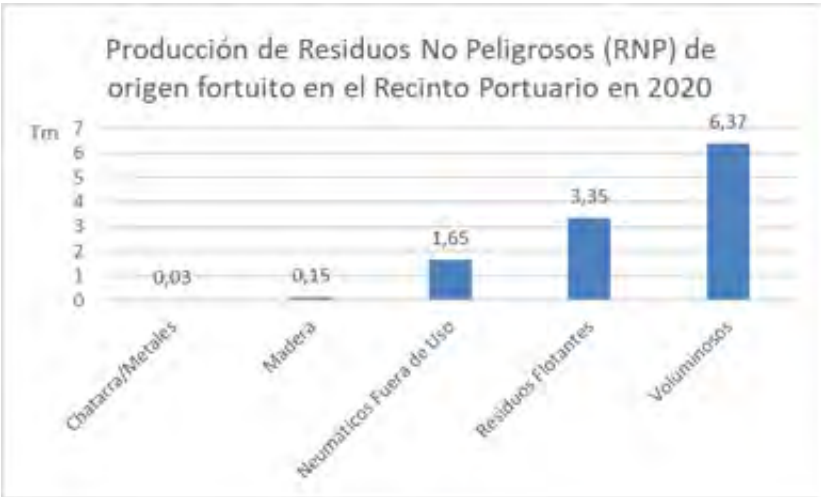


FIGURE 7



6.1.3 WASTE FROM VESSELS

The Marpol International Convention 73/78 to prevent marine pollution from ships, is one of the tools backed by the IMP for prevention. It contains six annexes that include detailed rules on the different sources of pollution. These are:

- Annex I – Rules to prevent hydrocarbon pollution.
- Annex II – Rules to prevent pollution from noxious bulk liquid substances.
- Annex III – Rules to prevent pollution from hazardous substances transported by sea in packaged form.
- Annex IV – Rules to prevent pollution from dirty waters of vessels. Annex V – Rules to prevent pollution from waste and rubbish.
- Annex VI – Rule to prevent atmospheric pollution from ships

Royal Decree 1381/2002, of 20 December, on port facilities for the reception of waste generated by vessels and cargo waste, establishes the compulsory requirement for all vessels calling at the Ports of Sagunto, Valencia, and Gandía to submit waste subject to the Marpol Convention to a Marpol- authorised facility, except for the established exceptions.

To comply with Article 132 of the consolidated Text of the State Ports and Merchant Navy Act, the PAV charges ships calling at port a fixed fee regardless of whether they use the waste reception service or not. This measure prevents all discharges at sea as vessels can discharge all waste included in annexes I and V of the Marpol Convention as needed.

The volume of waste generated in 2020 at the three ports was 57,860.13 m³ of Marpol I and 15,651.14 m³ of Marpol V, broken down as follows:

	2020	
	MARPOL I	MARPOL V
VALENCIA	52,499,29	13,601,18
SAGUNTO	5,118,98	1,943,93
GANDÍA	241,86	106,03
TOTAL	57,860,13	15,651,14

Below, Figure 8 shows the trend in the production of Marpol I and Marpol V waste over the period 2016 to 2020 both included.

FIGURE 8



6.2 AIR QUALITY CONTROL

The Port Authority of Valencia performs monitoring and control of the different parameters impacting the quality of the environment. In this regard, the monitoring of the air quality is one of the objectives that the Department of Environmental Policy has set as a priority. To carry out this monitoring, the Port Authority of Valencia (PAV) has an instrumentation and monitoring network that supplies air quality data on a continuous basis, allowing us to analyse the state of the environment in real time. Specifically, there is control and monitoring of the concentrations of different pollutants, impacting the air quality in the port premises, such as particles (measured in concentrations of PM10, PM2.5 and PM1), sulphur oxide, nitrogen dioxide, carbon monoxide and ozone. At the same time, meteorological data are registered through five weather stations installed at important positions on the port premises.

The map below shows the strategic location of the equipment comprising the air quality network in the Port of Valencia.

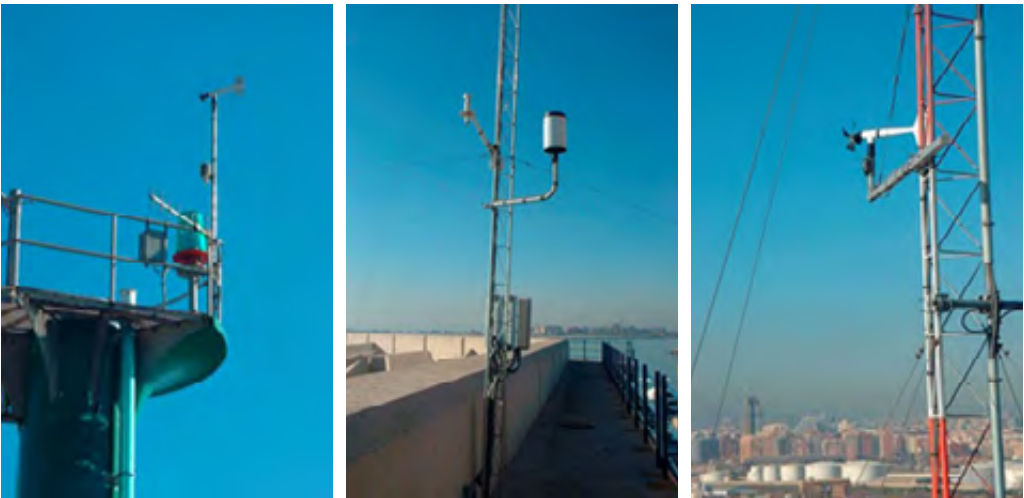


The sensors are integrated into an Air Quality Control Cabin located according to the recommendations of the CIEMAT, in the Transversal quay of the Poniente dock. Said location, at the port-city interface, allows us to ascertain the presence of contaminants and their possible influence on the area between the port and the city, making it possible to anticipate solutions to possible episodes of atmospheric pollution. There is also another particle capture device located at the port-city interface, in the area close of the neighbourhood of Nazaret.

Both the equipment at the Air Quality Control Cabin and the Weather Stations and the Particle Capture device have a maintenance plan and periodic data validation ensuring the correct data are obtained.

In addition to the station represented in the previous map of the port of Valencia, there are three more weather stations: two at the Port of Sagunto and another at the Port of Gandía. This year, the position of one of the weather stations at Sagunto was changed to improve information and operations.

AIR QUALITY CONTROL STATIONS IN THE PORT OF VALENCIA



1. EAST BREAKWATER BEACON WEATHER

2. PRÍNCIPE FELIPE WEATHER STATION

3. SILO WEATHER STATION



4. WEATHER STATION XITA



5. WEATHER STATION TURIA



6. INMISSION CABIN PARTICLE CAPTURE

WEATHER STATIONS AT THE PORTS OF SAGUNTO AND GANDÍA



WEATHER STATION SAGUNTO OFFICES



NEW WEATHER STATION LEVANTE QUAY SAGUNTO



WEATHER STATION SERPIS QUAY GANDÍA

6.2.1 AIR QUALITY IN THE PORT PREMISES IN THE YEAR 2020

Numerous epidemiological studies have shown the existence of adverse effects on health from ad hoc or prolonged exposure to elevated levels of atmospheric particulate matter. The most recent studies point to lower-diameter particulate matter as causes of major respiratory diseases. From here it has been demonstrated that there is a need for control of atmospheric pollution through particulate matter, not just PM10 but also PM2.5 AND PM1.

The PAV, as well as measuring air quality within the port premises, implements several measures to control operations that may have an impact on air quality.

Among these measures, the control of wind direction and intensity variables is a particular highlight. This control establishes that when these variables surpass certain values of intensity and time duration, loading, unloading or handling of powdery materials are suspended, all through the air quality control network and supervised by the Emergency Control Centres of the PAV.

The PAV has also, and to reduce the negative impact of particulate emissions, invested in the construction of physical barriers that minimise the movement of particles in the area for handling of bulk in Sagunto.

Furthermore, the inclusion of measures to minimise particulate emissions for any operation performed in the premises of the PAV, such as cleaning of the common areas and concession space, maintenance of equipment, good handling practices, determination of maximum height of heaps in the case of bulk storage, etc.

The monitoring and control of these concentrations was made in accordance with the reference limits Required in Royal Decree 102/2011, of 28 January, on the improvement of air quality.

ASSESSMENT OF THE RESULTS OBTAINED IN THE YEAR 2020 ACCORDING TO THE REGULATION BENCHMARK VALUES

The Port Authority of Valencia has been completing a monthly report of the data, assessing the trend for the purpose of identifying the possible causes. This is completed using tables reflecting the quality limit value according to the benchmark regulation and the number of exceedances or average accumulated value in each case.

The atmospheric indices registered in the year 2020 were the following:

NUMBER OF EXCEEDANCES OF CONCENTRATION LEVELS OF SULPHUR DIOXIDE (SO2)

SO2 (SULPHUR DIOXIDE)		2020
µG/M³	125 µG/M³ DAILY AVERAGE < 3 EXCEEDANCES PER YEAR	350 µG/M³ HOURLY AVERAGE < 24 EXCEEDANCES PER YEAR
INMISSION CABIN	0 EXCEEDANCES	0 EXCEEDANCES

MAXIMUM DAILY VALUE OF EIGHT-HOUR MOBILE AVERAGES OF CARBON MONOXIDE (CO) CONCENTRATION LEVELS

CO (CARBON MONOXIDE)	2020
MG/M³	10 MG/M³ MAXIMUM DAILY VALUE OF EIGHT-HOUR MOBILE AVERAGES
INMISSION CABIN	THE LIMIT VALUE IS NOT EXCEEDED IN ANY CASE

NUMBER OF EXCEEDANCES AND AVERAGE ANNUAL VALUE OF NITROGEN DIOXIDE (NO2) CONCENTRATION LEVELS

NO2 (NITROGEN DIOXIDE)	2020	
µG/M³	200 µG/M³ HOURLY AVERAGE < 18 EXCEEDANCES PER YEAR	40 µG/M³ ANNUAL LIMIT
INMISSION CABIN	0 EXCEEDANCES	17 µG/M³

NUMBER OF EXCEEDANCES OF OZONE CONCENTRATION LEVELS (O3)

O3 (OZONE)	2020
µG/M³	120 µG/M³ TARGET VALUE FOR PROTECTION OF HUMAN HEALTH SALUD HUMANA DAILY MAXIMUM FOR EIGHT-HOUR MOBILE AVERAGES
INMISSION CABIN	0 EXCEEDANCES

NUMBER OF EXCEEDANCES AND AVERAGE ANNUAL VALUE OF CONCENTRATION LEVELS OF PM10 PARTICLES

PM10 (PARTICLES <10 µM)	2020	
µG/M³	50 µG/M³ DAILY AVERAGE < 35 EXCEEDANCES PER YEAR	40 µG/M³ ANNUAL LIMIT
INMISSION CABIN	3 EXCEEDANCES	12 µG/M³

AVERAGE ANNUAL VALUE OF CONCENTRATION LEVELS OF PM2.5

PM2.5 (PARTICLES <2.5 MM)	2020
µG/M³	25 µG/M³ ANNUAL LIMIT
INMISSION CABIN	5 µG/M³

CONCLUSIONS AIR QUALITY RESULTS

After the analysis of the data corresponding to the year 2020 (January - December) and the assessment of these with respect to applicable limit values, the following conclusions are reached:

- » None of the other hourly limits, maximum eight-hour values or daily limits set out in the table above was exceeded for any of the SO2, NO2, O3 or CO environmental parameters.
- » In terms of the annual limits, the average annual value of NO2 is below the annual limit value and the average annual value for SO2 is below the established critical level. The average annual value of PM10 and PM2.5 are also below the annual limit values for each parameter.
- » At the Inmission Cabin station, three exceedances of the daily PM10 limit were recorded. Given that the maximum number of exceedances according to Royal Decree 102/2011 for the entire year is 35, the objectives established for this parameter are also met. The increase corresponding to the influence of African air masses, commonly referred to as Saharan influences, in 2020 and episodes of which can be check on the website of the Ministry for Ecological Transition, have not been deducted from this calculation.
- » The average annual values of all the parameters mentioned, which are presented together in the following section with the values for the same year, 2020, for other stations in the city of Valencia.

In conclusion, in the year 2020, both at the Immission Cabin and in the River Turia Cabin, the data registered complied with the air quality limit values defined in Royal Decree 102/2011 of 28 January, on the improvement of air quality.

6.2.2 ENVIRONMENTAL CONCENTRATIONS IN THE SURROUNDING AREA OF THE PORT OF VALENCIA IN THE YEAR 2020

With the aim of assessing the results obtained in the port premises, the data of the measures taken in the city of Valencia by the Regional Ministry of Agriculture, Environment, Climate Change and Rural Development were collected. The statistical data displayed in the following table were obtained from the information on the Regional Ministry’s website.

Annual average values of the city of Valencia:

STATION	SO2 μG/M³	NO2 μG/M³	O3 μG/M³	CO MG/M³	PM10 μG/M³	PM2.5 μG/M³
AVDA. FRANCIA	4	16	54	0.1	12	7
BULEVARD SUR	4	12	54	-	-	-
MOLÍ DEL SOL	4	14	49	0.1	16	14
PISTA DE SILLA	5	22	49	0.2	14	9
POLITÉCNICO	3	12	53	-	15	11
VIVEROS	3	20	51	-	-	-

The average annual values obtained at the Port of Valencia stations were:

STATION	SO2 μG/M³	NO2 μG/M³	O3 μG/M³	CO MG/M³	PM10 μG/M³	PM2.5 μG/M³
IMMISSION CABIN PORT OF VALENCIA	3	17	40	0.1	12	5

The environmental assessment made according to the regulation indicates that all parameters are under the lower assessment threshold”, below which it would be possible to limit the use of modelling techniques to assess air quality.

In those cases where the alert and/or information thresholds for the half hour, no half-hour values exceeding those thresholds were recorded in the case for sulphur dioxide, nitrogen dioxide and tropospheric ozone.

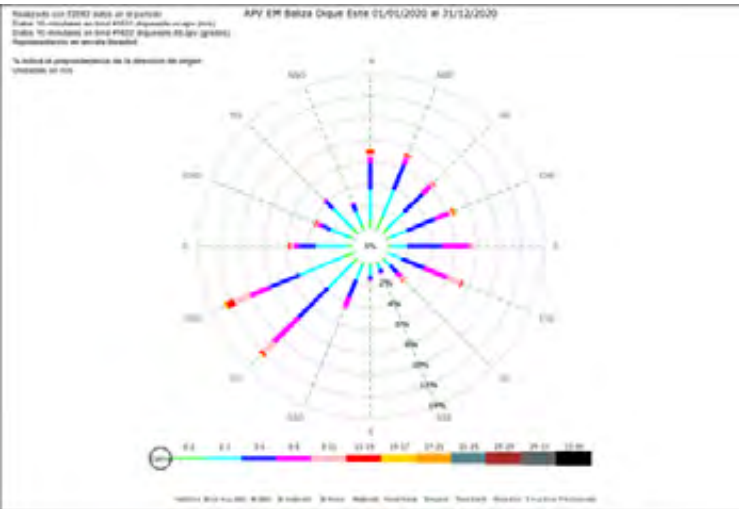
In general, the parameters of the stations of the Network of the Port Authority of Valencia are within the range of normality and correlation with respect to the automatic stations nearby in the city of Valencia. Thus, for the year 2020 in the Port Authority of Valencia Network, it can be concluded the results of the data obtained complied with the air quality limit values defined in Royal Decree 102/2011, of 28 January, relating to the improvement of air quality.

Monthly statistical values at the weather station
VALENCIA EAST BREAKWATER BEACON EM1 - Year 2020

	DD (grd)		VV (m/s)				TMP (°C)			
	Muestras	Media	Muestras	Media	Max	Min	Muestras	Media	Max	Min
Enero	31	243	31	4,2	12,7	2,1	31	11,5	16,8	8,4
Febrero	29	223	29	3,2	6,9	1,7	29	14,2	18,7	11,3
Marzo	31	180	31	5,1	11	2,1	31	14,0	19,4	10,4
Abril	30	108	30	3,5	10,6	1,1	30	15,7	27,6	11,2
Mayo	30	139	30	3,8	8,3	1,5	30	19,8	22,9	16,9
Junio	28	67	28	4,1	8,7	2,1	28	22,6	25,2	17,8
Julio	31	61	31	3,7	6,1	2,4	31	26,0	27,6	24,7
Agosto	31	63	31	3,9	5,6	2,3	31	26,7	27,6	22,6
Septiembre	30	157	30	4,1	6,9	2,2	30	23,9	25,8	20,1
Octubre	31	205	31	4,6	8,6	1,5	31	19,6	25,1	16,6
Noviembre	30	236	30	3,8	10,6	1,9	30	16,9	20,6	13,4
Diciembre	31	241	31	5,5	9,7	1,1	31	13,7	20,1	10,3

NOTE: DATA CALCULATED ACCORDING TO HOURLY BASE

Wind rose
VALENCIA EAST BREAKWATER BEACON EM1- Year 2020

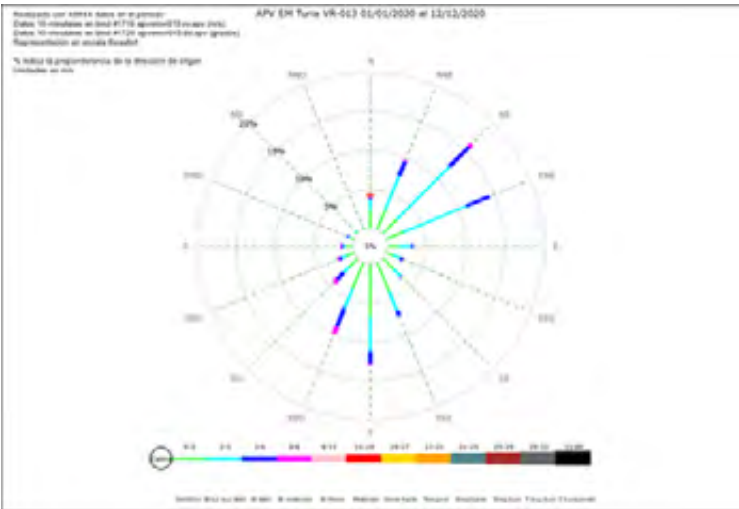


Monthly statistical values at the weather station
VALENCIA TURIA. EM5 - Year 2020

	DD (grd)		VV (m/s)				PBR (mbar)			
	Muestras	Media	Muestras	Media	Max	Min	Muestras	Media	Max	Min
Enero	31	161	31	2,3	11	1,1	31	1022	1029	1013
Febrero	29	131	29	1,8	4	1	29	1021	1029	1009
Marzo	31	124	31	2,9	6,4	1,3	31	1013	1023	1003
Abril	30	90	30	2,1	5,8	0,9	30	1012	1025	1002
Mayo	30	81	30	2,3	4,7	1,5	30	1012	1022	1000
Junio	30	85	30	2,4	4,8	1,6	30	1008	1015	999
Julio	31	68	31	2,2	3,5	1,6	31	1009	1014	1004
Agosto	31	77	31	2,2	3,1	1,6	31	1006	1011	999
Septiembre	30	117	30	2,2	3,8	1,5	30	1011	1016	1006
Octubre	31	149	31	2,3	4,6	0,9	31	1012	1021	993
Noviembre	30	135	30	1,9	5,8	1	30	1018	1025	1003
Diciembre	11	197	11	3,7	5,2	1,3	11	1005	1015	994

NOTE: DATA CALCULATED ACCORDING TO HOURLY BASE

Wind rose
VALENCIA TURIA. EM5 - Year 2020



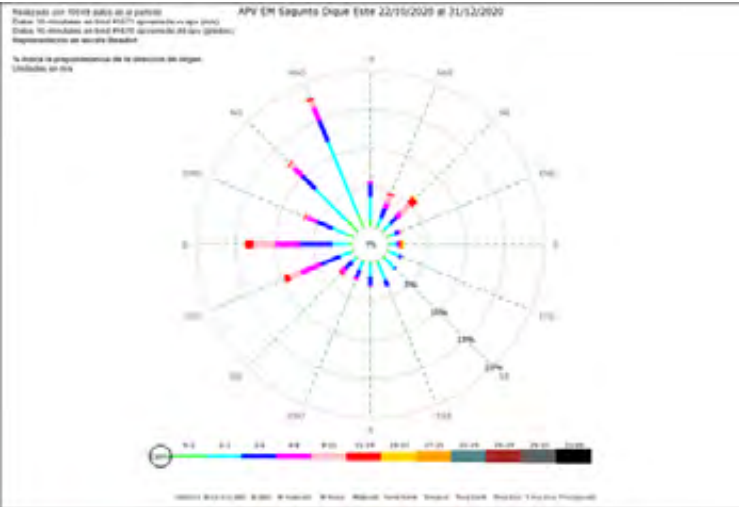
Monthly statistical values at the weather station
SAGUNTO LEVANTE PIER. EMS2 - Year 2020

	DD (grd)		VV (m/s)				TMP (°C)				HR (%)				PBR (%)			
	Muestras	Media	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min
Enero	0	-	0	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-
Febrero	0	-	0	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-
Marzo	0	-	0	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-
Abril	0	-	0	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-
Mayo	0	-	0	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-
Junio	0	-	0	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-
Julio	0	-	0	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-
Agosto	0	-	0	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-
Septiembre	0	-	0	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-
Octubre	9	298	9	4,4	8,7	2,1	9	17,5	19,3	16,2	9	56	76	38	3	1024	1025	1023
Noviembre	30	183	30	3,8	10,3	1,9	30	15,6	18,8	12,3	30	77	94	54	30	1022	1029	1006
Diciembre	29	297	29	5,0	7,7	1,6	29	12,7	17,7	10,1	29	58	88	35	29	1013	1024	994

NOTE: DATA CALCULATED ACCORDING TO HOURLY BASE

NOTE2: IN JANUARY 2020, THIS WEATHER STATION WAS DAMAGED BY STORM GLORIA, WHICH MADE IT NECESSARY TO ACQUIRE A NEW STATION AND POSITION IT AT MORE SECURE LOCATION, THEREFORE NO DATA WAS GENERATED UNTIL OCTOBER.

Wind rose
SAGUNTO LEVANTE PIER. EMS2– Year 2020

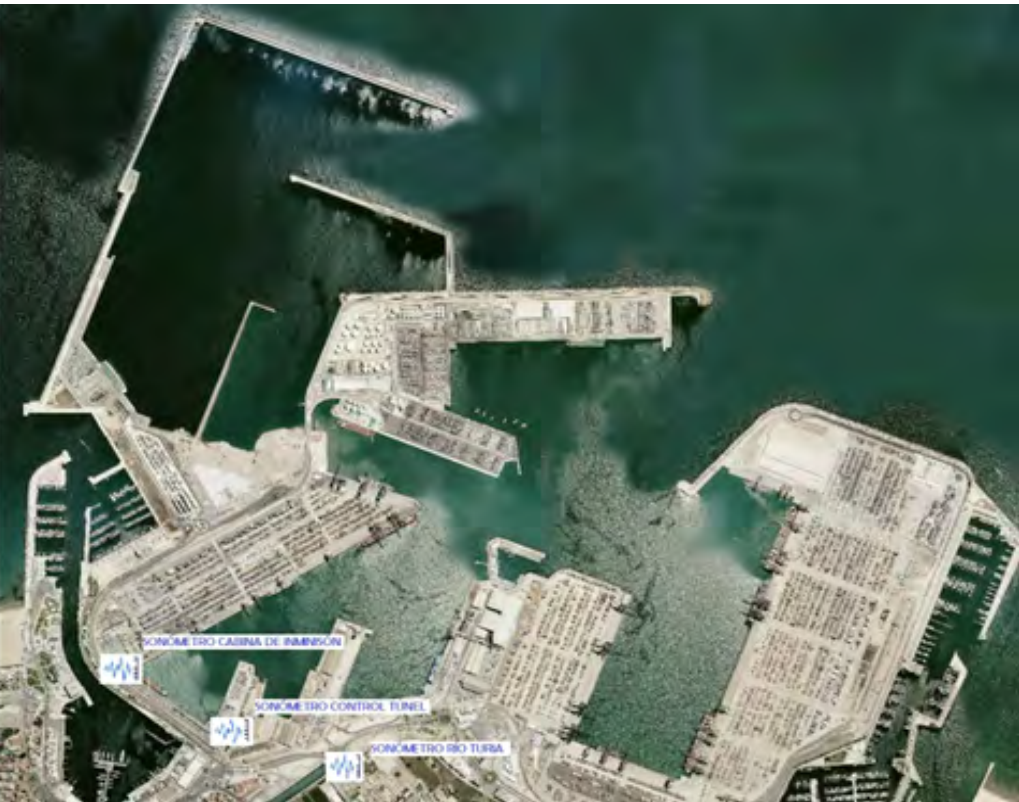


6.3 ACOUSTIC QUALITY CONTROL NETWORK

The Port Authority of Valencia monitors and controls acoustic emissions from the port environment. In this regard, the monitoring of acoustic quality is another of the objectives that the Department of Environmental Policies has set as a priority.

To carry out this monitoring, the Port Authority of Valencia has three sound level meters strategically distributed on the port-city interface, which allows us to analyse the acoustic quality in almost real time.

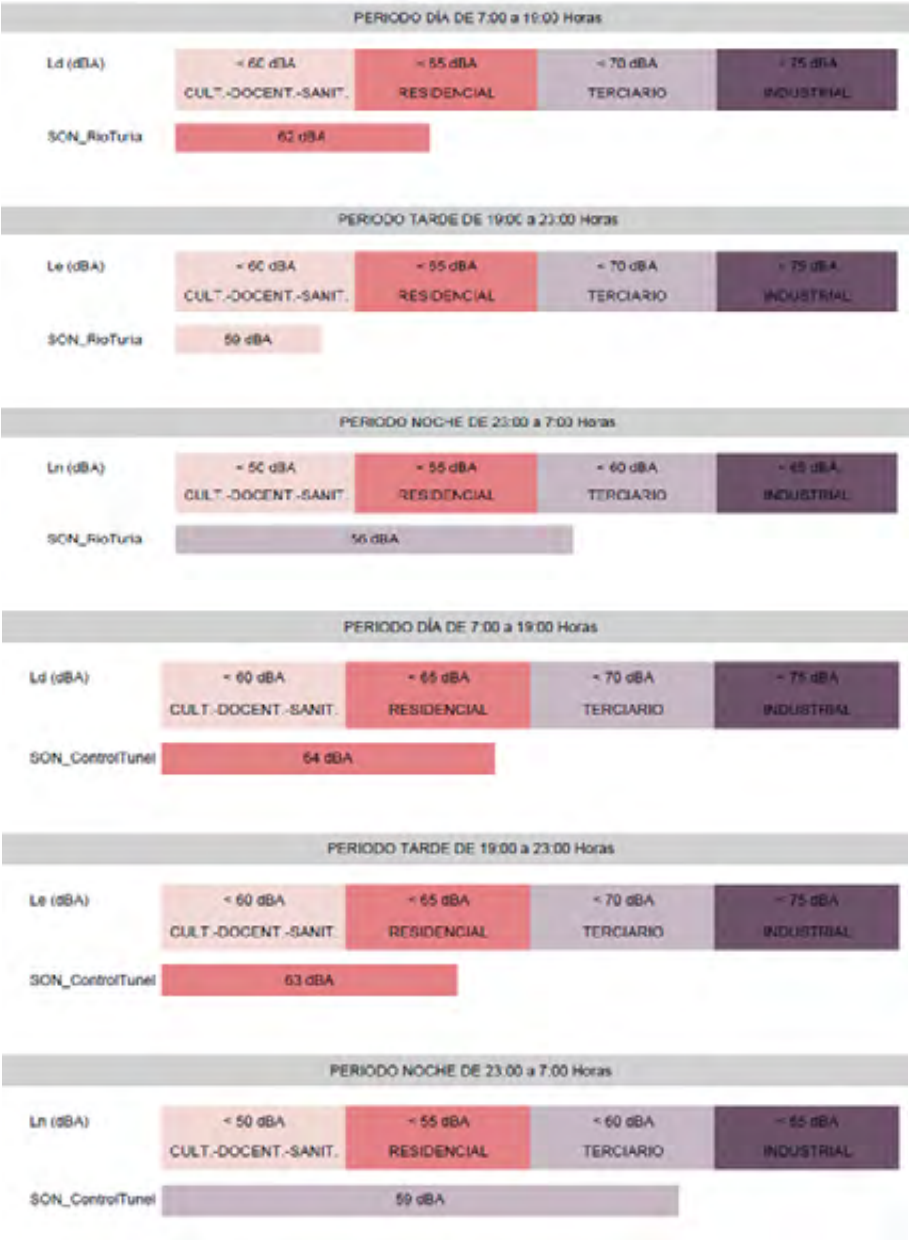
The location of acoustic control terminals can be seen in the following image:



6.3.1 RESULTS OBTAINED IN THE YEAR 2020 ACCORDING TO THE BENCHMARK REGULATION VALUES

In 2020, monthly reports were drafted on the trajectory of the data registered for the purpose of identifying trends. Presented below is a graphic evaluation per station of the 2020 annual average, using, as a reference, the acoustic quality objectives applicable to urbanised areas existing in Table A of Annex II of Royal Decree 1367/2007, of 19 November, for the 3 assessment periods (annual measure for the daytime and evening period must be below 75 dB and for the night period must be under 65 dB):





After the analysis of data in the annual period assessed (January–December 2020), it can be concluded that all stations measuring noise levels comply with the acoustic quality objectives for predominantly industrial sectors established in Royal Decree 1367/2007, of 19 October, developing Law 37/2003, of 17 November, on Noise, in relation to acoustic zoning, quality objectives and acoustic emissions.

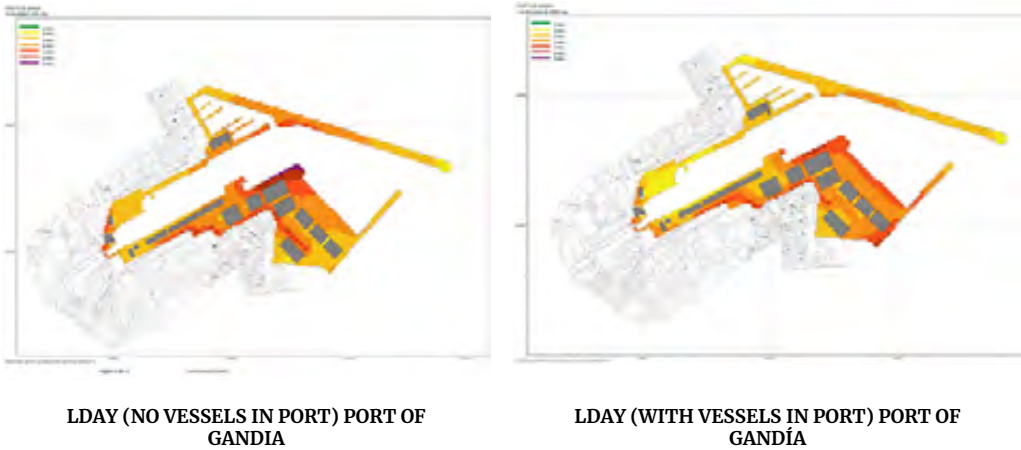
6.3.2 “STATIC” ACOUSTIC MAPS

Some years ago, the Port Authority of Valencia drafted static acoustic maps of the ports of Gandía, Sagunto and Valencia. These maps were drafted with on-site measurements in different representative locations within the port premises and the corresponding noise maps were prepared on the basis of these measurements.

The result of these maps reflected that the effect of the noise generated in the Gandía, Sagunto and Valencia port environments was, in general, confined to the service area.

For the drafting of the static acoustic map of the Port of Gandía, measures were taken at 32 10-minute control points in each hourly period. These measures were taken over two days; one with the presence of vessels and the other in the absence thereof, in order to analyse the impact of their presence on the determination of noise levels in the area.

Subsequently, continuous measurements were taken over 24 hours at two representative control points close to the port–city interface.



These maps concluded that the noise levels emitted to the external atmosphere of the three acoustic areas in daytime, evening and night periods, measured over the 30 days of November and 1 December of 2009 were below the immission limit values for noise applicable to port infrastructures and activities established in Royal Decree 1367/2007 for sectors of the territory with predominantly industrial use land.

6.3.3 “PREDICTIVE” ACOUSTIC MAPS

From 2011, updates are available for the predictive acoustic maps of the ports of Sagunto and Valencia, while in 2012, work began to update the predictive acoustic map of the port of Gandía, which was completed in late 2013. For these updates, the Predictor calculation programme version 8 was used, with the model HARMONOISE NOMEPORTS.

PORT OF VALENCIA

In the specific case of the port of Valencia, for its calculates, the initial information with which the 2008 map was drafted was updated and adapted to the new circumstances of the port: vehicle traffic on roads, type of activities carried out, acoustic level of machinery used in each area, timetables and shifts, etc.

Thus, and with all above information compiled, after a a modelling process, the programme allowed for the drafting of a set of different maps, segregated by activities, timetables, etc., as a management tool for acoustic levels in the port environment. An analysis of these maps provides the following conclusions:

- » The most important focus of noise in the daytime-evening period is vehicle traffic
- » The most important focus of noise in the night period is industrial noise.
- » Lden average (Average noise generated in daytime, evening and nocturnal hours) Most influenced by industry.
- » The railway has no significant impact on the noise levels of the Port.

The compliance maps indicate that, with regard to the noise levels attributable to the port, at no point of the bordering urban area did noise levels exceed the 60 dB(A) established by R.D. 1367/2007 for the daytime period, or the 50 dB(A) established for the night period.

In 2016, the predictive noise map of the port of Valencia was updated to include the new North Extension. The maps prepared are presented below:



L DAY PORT OF VALENCIA
LDEN. AVERAGE NOISE GENERATED IN DAYTIME, EVENING AND NOCTURNAL HOURS



LEVENING PORT OF VALENCIA



LNIGHT PORT OF VALENCIA

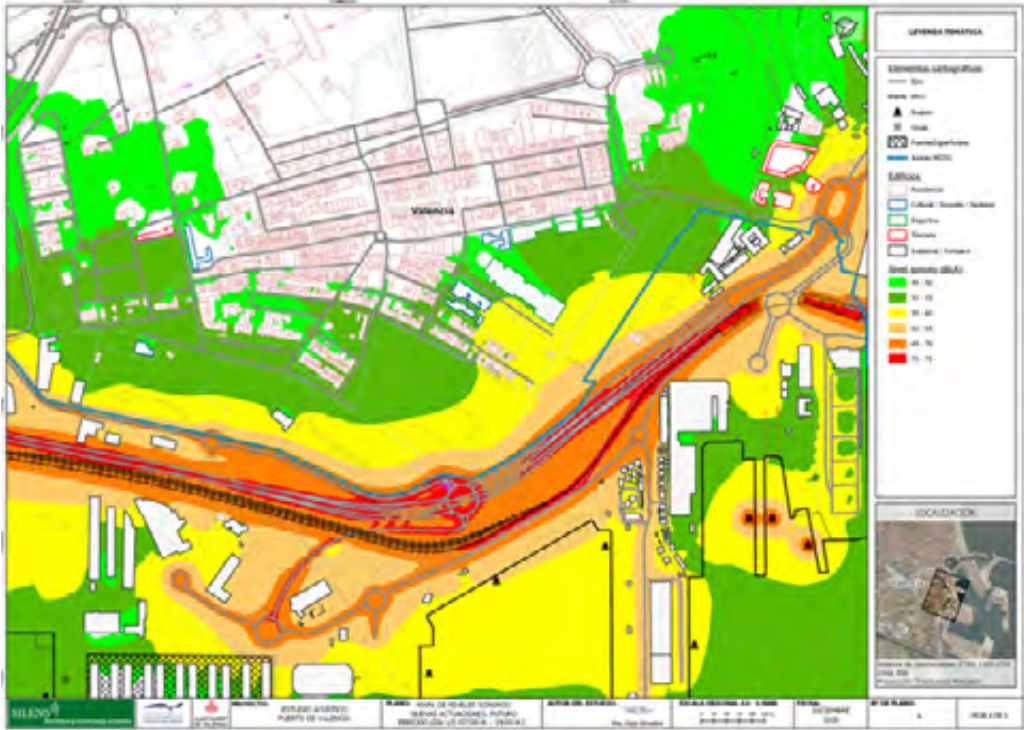
In 2020, a study was carried out with the amendments arising from the implementation of the Special Plan for South Zone 2 of the Port of Valencia. The following image shows the area of study and its environment. The red line represents the scope of PEZS2 and the blue line represents the area where the acoustic effects of the new actions:



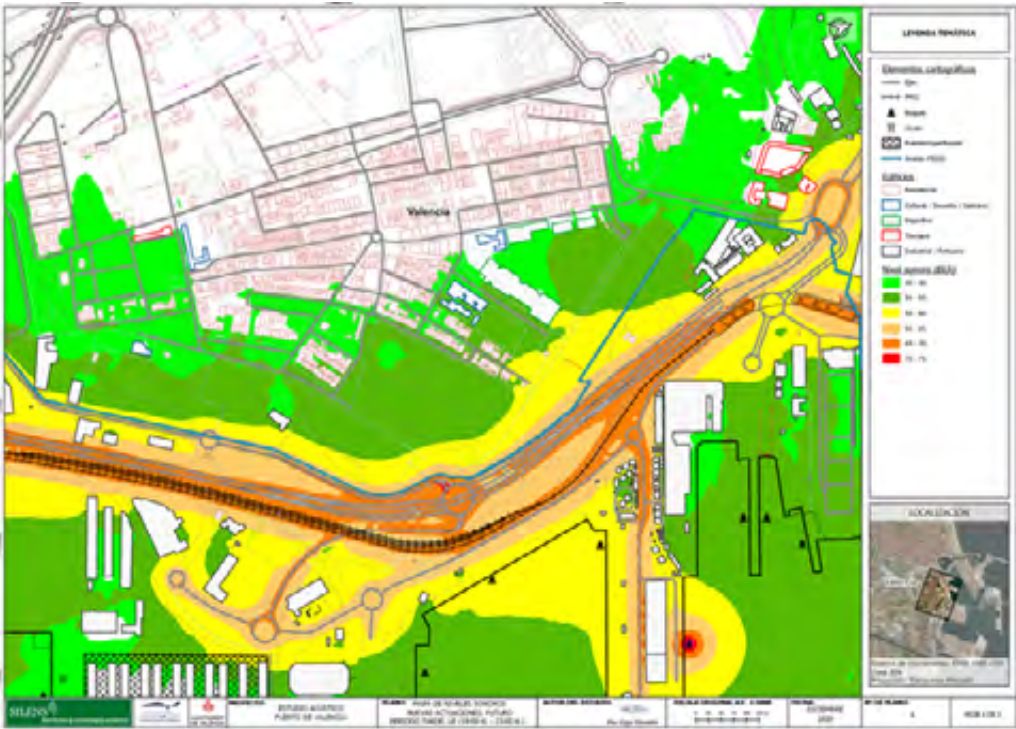
As shown in the image above and based on the location of the new planned actions, the residential areas within the surroundings of the sector, and therefore the most sensitive to acoustic impact, are the neighbourhoods of Nazaret and Poblados Marítimos.

The study includes predictive maps including remodelling of the rail and road network.

The maps prepared are presented below:.



LDAY PORT OF VALENCIA



LEVENING PORT OF VALENCIA

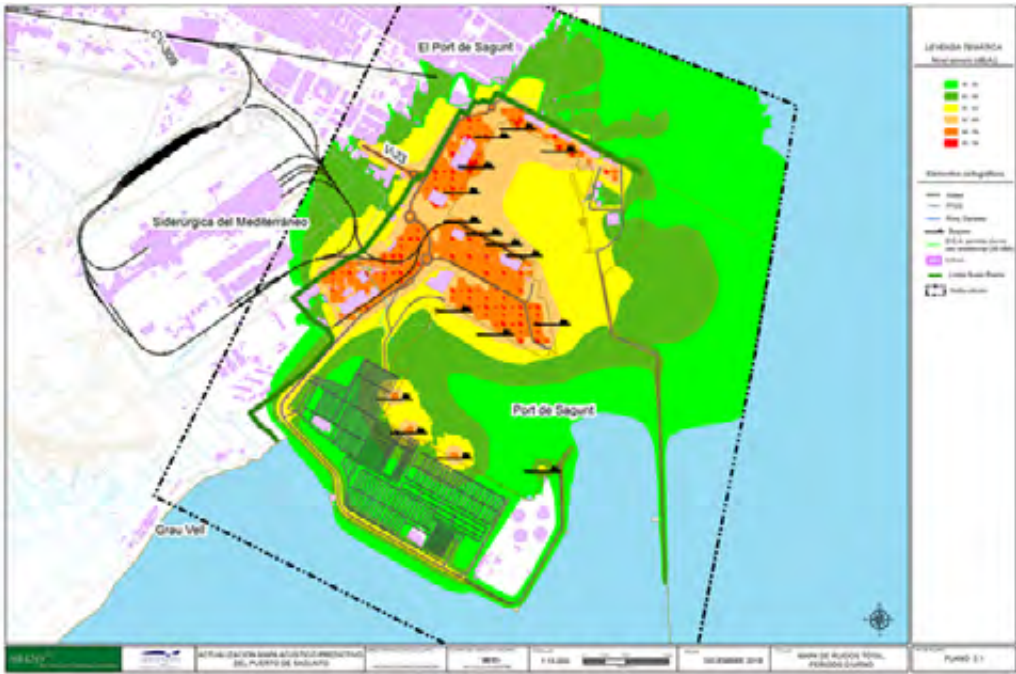


LNIGHT PORT OF VALENCIA

In none of the scenarios calculated are sound levels recorded in excess of the current legislation for industrial or for urbanised areas. According to the study, it is not necessary to apply additional corrective measures. For the execution of the remodelling of roads, the plan is to apply sound-absorbing asphalt as this is considered an acoustic attenuation measure.

PORT OF SAGUNTO

In 2018, the predictive noise map of the port of Sagunto was updated. The maps prepared are presented below:



LD TOTAL PORT OF SAGUNTO



LN TOTAL PORT OF SAGUNTO

The principal conclusions reached from the above sound level maps is that residential areas close to port infrastructures are not exposed to levels above those established in table AD1 of Annex III of RD 1367/2007 due to the activity of ports.

PORT OF GANDÍA

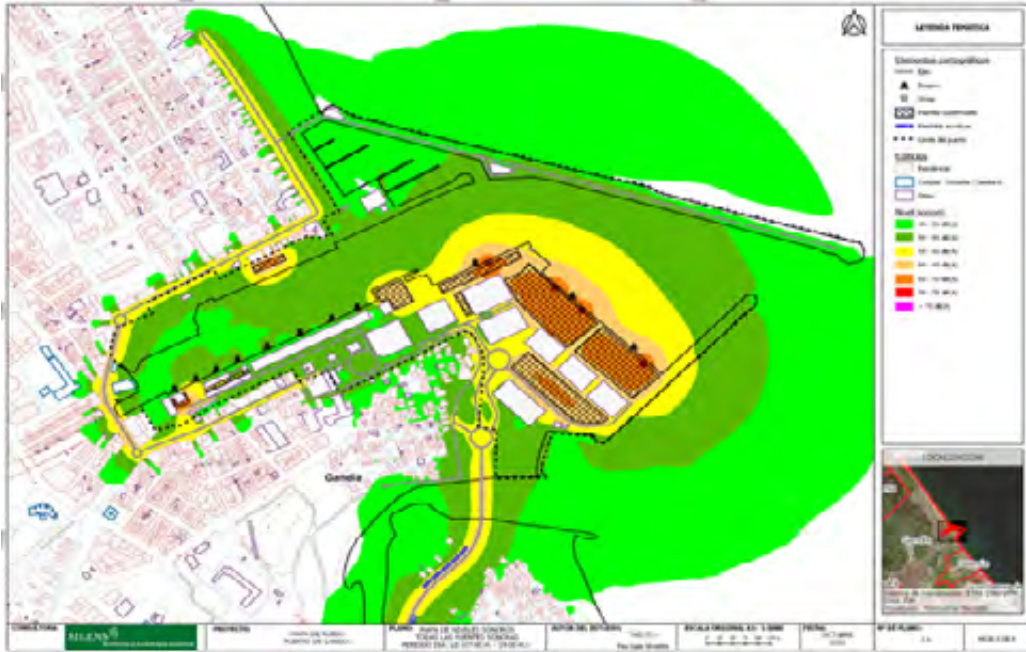
In 2013, the first predictive study was carried out with the new extension planned at the port of Gandía, and the day and night period maps were published. As a conclusion, it has been shown that the sound levels obtained in the prediction do not exceed the acoustic quality objectives defined in Law 7/2002 of the Regional Government of Valencia on neighbouring and nearby areas.

In 2019, the updating of the predictive acoustic map of the Port of Gandía began due to the new road access entrance to the port, which avoids heavy vehicles having to cross the city to access the port. The results of the study, completed in October 2020, are presented below:

Acoustic zoning map:



Acoustic maps for the port of Gandía including all existing sources:



LDAY PUERTO DE GANDÍA



LEVENING PORT OF GANDÍA



LNIGHT PORT OF GANDÍA

In terms of the variations detected with respect to the 2013 map, the main change with this update is the new south entrance with the section of the N-337 motorway that connects the N-332 with the entrance. This means that heavy vehicles have changed their access routes, eliminating the need to pass through the centre of Gandía. In acoustic terms, it is noted that a reduction of 5 dB was recorded from the levels shown in the 2013 map.

From the analysis of the thresholds set out in RD 1367/2007 and the noise maps drafted, it can be observed that said thresholds were not exceeded in any period in the residential areas surrounding the port of Gandía.

6.4 WATER QUALITY

6.4.1 WATER FROM VESSELS

The Water Directive (2000/60/EC) establishes that the Member States must protect, improve and regenerate all surface water bodies, with the aim of reaching good condition for these water bodies no more than 15 years after the entry into force of the Directive (2015). In the case of artificial or heavily modified water bodies, such as the case of the ports of Valencia, Sagunto and Gandía, the Directive determines that the Member States must protect and improve them for the purpose of reaching good ecological condition and good chemical status, all in accordance with the guidelines established in Royal Decree 817/2015 of 11 September, establishing the monitoring and assessment criteria on the state of surface water and the environmental quality standards.

In 2013, the document ROM 5.1-13 was published on the “Coastal water quality in port areas” (hereinafter ROM 5.1-13) drafted by Puertos del Estado, compiling the standards and protocols for the analysis and assessment of intraport water bodies. This document is compatible with Royal Decree 817/2015 is specifically drafted for the extension of ports, the reason for which the PAV is implementing said methodology in the three port premises it manages for the assessment of the environmental quality of the waters

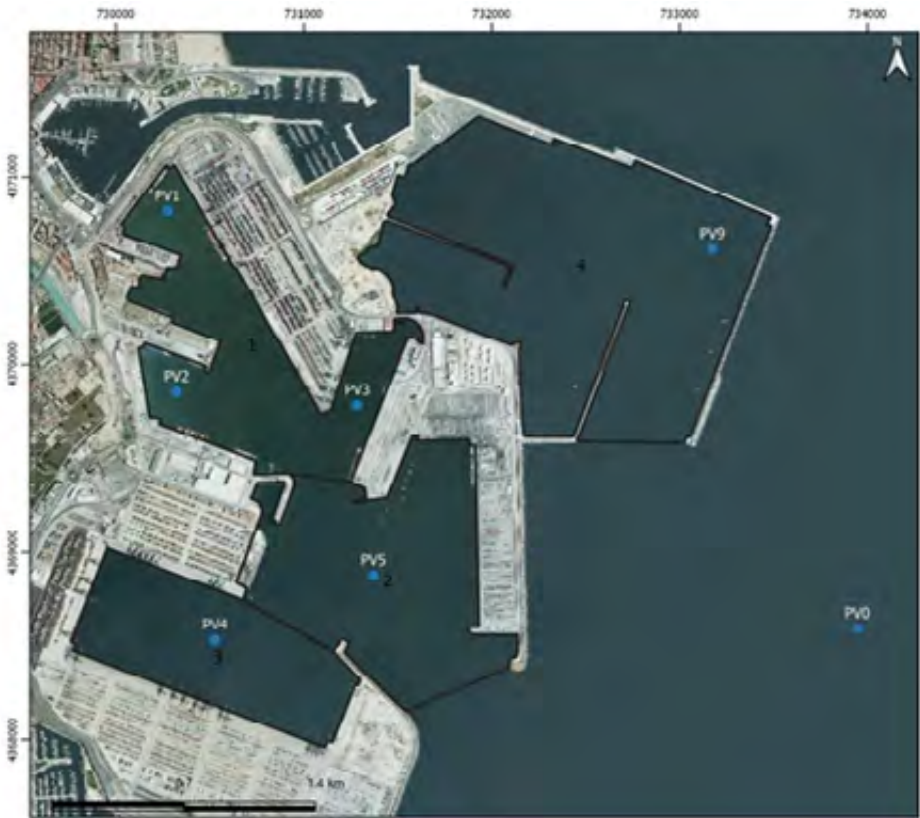
6.4.2 AREAS OF STUDY

In the year 2020, periodic sampling campaigns were completed for the control of the quality of waters in the three ports managed by the Port Authority of Valencia:

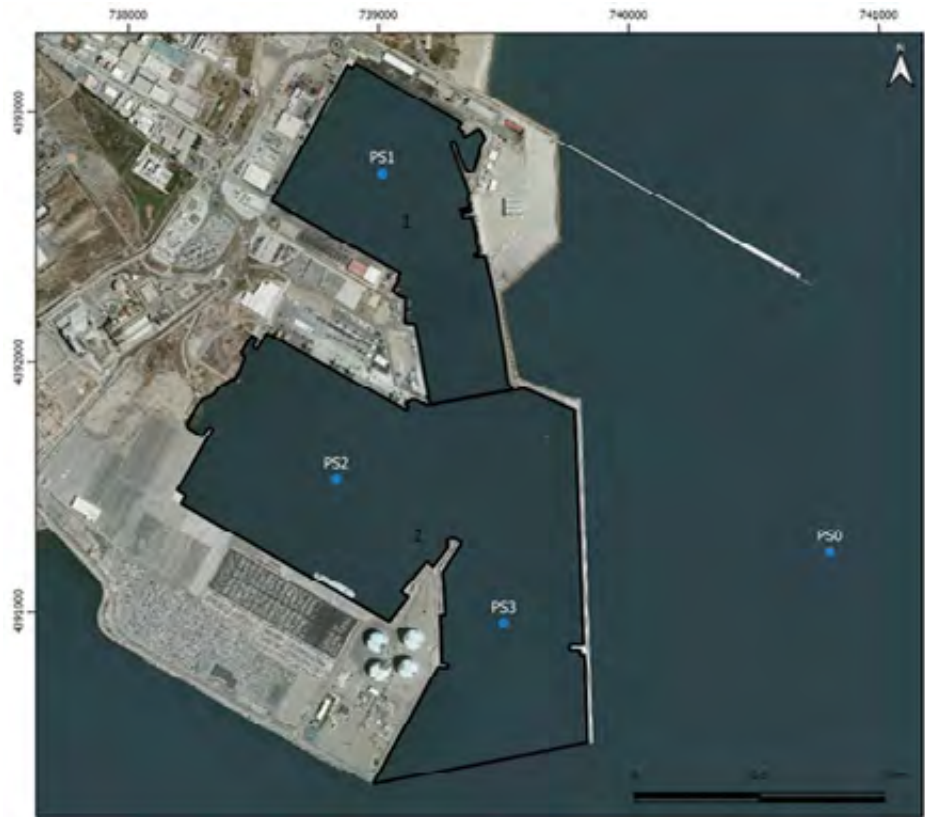
- » Port of Valencia
- » Port of Sagunto
- » Port of Gandía

The area of study includes both intraport waters (water bodies heavily modified due to the presence of ports), and a control station, located outside the ports, representing the extraport waters (coastal water body) at each port.

The locations of the control points established for each of the port premises are displayed below:



DISTRIBUTION OF SAMPLING POINTS IN THE PORT OF VALENCIA



DISTRIBUTION OF SAMPLING POINTS IN THE PORT OF SAGUNTO



DISTRIBUTION OF SAMPLING POINTS IN THE PORT OF GANDÍA

6.4.3 DETERMINATION OF THE PORT AQUATIC MANAGEMENT UNITS (PAMUS)

To assess the environmental quality of port waters, following the criteria established in the ROM 5.1-13, the Port Aquatic Management Units (hereinafter PAMUs) were delimited and defined as an instrument for the planning of the aquatic environment of the Port Services Zone (PSZ). In this context, these PAMUs, constituted as basic units for the management of port water quality and have been created in accordance with the following aspects:

- » » Uses and activities carried out in the PSZ
- » » Physical and hydromorphological characteristics
- » » Hydrodynamic conditions

All PAMUs have been classified as:

PORT	PAMU	CATEGORY	CLASS	TYPE
VALENCIA	PAMU-1	COASTAL WATERS	HEAVILY MODIFIED WATERS	CM3: MEDITERRANEAN COASTAL WATERS WITH LOW RENEWAL RATE
	PAMU-2	COASTAL WATERS	HEAVILY MODIFIED WATERS	CM3: MEDITERRANEAN COASTAL WATERS WITH LOW RENEWAL RATE
	PAMU-3	COASTAL WATERS	HEAVILY MODIFIED WATERS	CM3: MEDITERRANEAN COASTAL WATERS WITH LOW RENEWAL RATE
	PAMU-4	COASTAL WATERS	HEAVILY MODIFIED WATERS	CM3: MEDITERRANEAN COASTAL WATERS WITH LOW RENEWAL RATE
SAGUNTO	PAMU-1	COASTAL WATERS	HEAVILY MODIFIED WATERS	CM3: MEDITERRANEAN COASTAL WATERS WITH LOW RENEWAL RATE
	PAMU-2	COASTAL WATERS	HEAVILY MODIFIED WATERS	CM3: MEDITERRANEAN COASTAL WATERS WITH LOW RENEWAL RATE
GANDIA	PAMU-1	COASTAL WATERS	HEAVILY MODIFIED WATERS	CM3: MEDITERRANEAN COASTAL WATERS WITH LOW RENEWAL RATE

Indicated below are the PAMUs considered for each port:



PAMU ESTABLISHED FOR THE PORT OF VALENCIA



PAMU ESTABLISHED FOR THE PORT OF SAGUNTO



PAMU ESTABLISHED FOR THE PORT OF GANDÍA

6.4.4 VARIABLES STUDIED

The monitoring of the intraport water quality was conducted based on the indicators considered for environmental quality assessment in ROM 5.1.13 which are, for each of the PAMUs, the following:

- » » PC sediment quality indicators: Organic Quality Index (OQI)
- » » Biological water quality indicators: phytoplankton (concentration of chlorophyll a) and benthic invertebrates (BOPA)
- » » PC water quality indicators: turbidity, oxygen saturations, total hydrocarbons, faecal contamination and nutrients.
- » » Chemical quality of water and sediment: priority substances and other contaminants

For the classification of the ecological potential and chemical state of the water bodies, monitoring has been carried out on the biological and physio-chemical indicators in the case of ecological potential, and through the analysis of priority substances and other contaminants in the case of chemical state.

The parameters analysed in 2020 are detailed below:

MATRIZ	MEDICIONES IN SITU	ANÁLISIS EN LABORATORIO	PUNTOS DE MUESTREO
WATER COLUMN	<div>- CHLOROPHYLL A</div> <div>- TEMPERATURE</div> <div>- SALINITY</div> <div>- DISSOLVED OXYGEN</div> <div>- TURBIDITY</div> <div>- TOTAL HYDROCARBONS</div>	<div>- FAECAL CONTAMINATION: E. COLI AND INTESTINAL ENTEROCOCCI.</div> <div>- NUTRIENTS: NITRATES, NITRITES, AMMONIUM AND PHOSPHATES.</div>	<div>PORT VALENCIA: PV1, PV2, PV3, PV4, PV5, PV0</div> <div>PORT SAGUNTO: PS1, PS2, PS3 AND PS0.</div> <div>PORT GANDÍA: PG1, PG2, PG3 AND PG0.</div>
		<div>- TOTAL ORGANIC CARBON</div> <div>- KJELDAHL NITROGEN</div> <div>- TOTAL PHOSPHOROUS</div> <div>- BENTHIC FAUNA OF INVERTEBRATES (BOPA)</div>	<div>PORT VALENCIA: PV2, PV3, PV4, PV5, PV9, PV0</div> <div>PORT SAGUNTO: PS1, PS2, PS3, PS0</div> <div>PORT GANDÍA: PG1, PG2, PG3, PG0.</div>

VARIABLES ANALYSED FOR STUDY OF ECOLOGICAL POTENTIAL.

MATRIZ	ANÁLISIS EN LABORATORIO	PUNTOS DE MUESTREO
WATER COLUMN	<div>PERFLUOROOCETANESULFONIC ACID AND DERIVATIVES (2-ETILHEXIL), ACLONIFEN, A- 2-ETILHEXIL, B- 2-ETILHEXIL, D- 2-ETILHEXIL, LINDANE, ALACHLOR, ALDRIN, DIELDRIN, ENDRIN, ISODRIN, ATRAZINE, BIFENOX, CYBUTRYNE, CYPERMETHRIN, CHLORFENVINPHOS, CHLORPYRIFOS, DICHLORVOS, DICOFOL, DIURON, ENDOSULFAN, HEXABROMOCYCLODODECANE (2-ETILHEXIL), HEXACHLOROBENZENE, ISOPROTURON, P,P'- 2-ETILHEXIL, PENTACHLOROBENZENE, PENTACHLOROPHENOL, QUINOXYPHENE, SIMAZINE, ADD 2-ETILHEXIL TOTAL, TERBUTRYN, TRIFLURALIN, BROMINATED DIPHENYL ETHERS, CHLOROALKANES, BENZENE, HEXACHLOROBUTADIENE, TETRACHLOROETHENE, CARBON TETRACHLORIDE, TRICHLOROETHENE, 4-N-NONYLPHENOL, 4-TERC-OCTILFENOL, BIS (2-ETHYLHEXYL) PHTHALATE, ANTHRACENE, BENZO(A)PYRENE, BENZO(B)FLUORANTHENE, BENZO(K)FLUORANTHENE, BENZO(GHI)PERYLENE, INDENE(1,2,3-CD) PYRENE) FLUORANTHENE, NAPHTHALENE, CADMIUM, MERCURY, NICKEL, LEAD, 1,2-DICHLOROETHANE, DICHLOROMETHANE, HEPTACHLOR, HEPTACHLOR EPOXIDE, TRICHLOROBENZENES, TRIBUTYL TIN (TBTS), CHLOROFORM.</div>	<div>PORT VALENCIA: PV5 AND PV9</div> <div>PORT SAGUNTO: PS1 AND PS3</div> <div>PORT GANDÍA: PG1 AND PG3</div>
	<div>ANTHRACENE, BENZO (A) ANTHRACENE, BENZO(A)PYRENE, BENZO(G,H,I) PERYLENE, CHRISENO, PHENANTHRENE, FLUORANTHENE, INDENE, PYRENE, ARSENIC, CADMIUM, COPPER, CHROMIUM VI, MERCURY, NICKEL, LEAD, ZINC, PCB 18, PCB 28, PCB 31, PCB 44, PCB 52, PCB 66, PCB 95, PCB 101, PCB 105, PCB 110, PCB 118, PCB 138, PCB 149, PCB 153, PCB 156, PCB 170, PCB 180, PCB 187, PCB 194, TRIBUTYL TIN (TBTS).</div>	<div>PORT VALENCIA: PV5 AND PV9</div> <div>PORT SAGUNTO: PS1 AND PS3</div> <div>PORT GANDÍA: PG1 AND PG3</div>

VARIABLES ANALYSED FOR THE STUDY OF CHEMICAL STATUS.

The “in-situ” measurements of the different hydrological variables were taken continuously throughout the water column, using high-precision CTD oceanographic probe (model SBE 19 plus v2). The laboratory tests were performed by an ENAC accredited laboratory.

Detailed below are the sampling and analysis methods of the variables studied:

PARAMETER	UNITS	SAMPLING LEVEL	SAMPLING METHOD	ANALYSIS METHOD
TEMPERATURE	°C	WATER COLUMN PROFILE DE AGUA	MULTIPARAMETER PROBE SBE 19PLUS V2	THERMOMETRY
SALINITY	PSU	WATER COLUMN PROFILE DE AGUA	MULTIPARAMETER PROBE SBE 19PLUS V2	CONDUCTIMETRY
DISSOLVED OXYGEN	MG/L Y % SAT.	WATER COLUMN PROFILE DE AGUA	SBE 43 SENSOR COUPLED TO MULTIPARAMETER PROBE 19PLUS V2	METHOD POLAROGRAPHIC
TURBIDITY	NTU	WATER COLUMN PROFILE DE AGUA	SEAPOINT SENSOR COUPLED TO MULTIPARAMETER PROBE 19PLUS V2	NEPHELOMETRY
CHLOROPHYLL <i>a</i>	µG/L	WATER COLUMN PROFILE DE AGUA	CYCLOPS- 7 SENSOR COUPLED TO MULTIPARAMETER WAVE PROBE 19PLUS V2	FLUOROMETRICS

PARAMETER	UNIT	TESTING PROCEDURE
NITRATES	MG/L	COLORIMETRY
NITRITES	MG/L	COLORIMETRY
AMMONIUM	MG/L	SPECTROPHOTOMETRY
PHOSPHATES	MG/L	COLORIMETRY
E.COLI	UFC/100 ML	FILTRATION, INCUBATION AND RECOUNT
INTESTINAL ENTEROCOCCI	UFC/100 ML	FILTRATION, INCUBATION AND RECOUNT
ALACHLOR	µG/L	CHROMATOGRAPHY GAS/MASS
ANTHRACENE	µG/L	CHROMATOGRAPHY GAS/MASS
ATRAZINE	µG/L	CHROMATOGRAPHY GAS/MASS
BENZENE	µG/L	CHROMATOGRAPHY GAS/MASS
BROMINATED DIPHENYL ETHERS	µG/L	CHROMATOGRAPHY GAS/MASS
CADMIUM	µG/L	ICP/MASS SPECTROSCOPY
CARBON TETRACHLORIDE	µG/L	CHROMATOGRAPHY GAS/MASS
CHLORALKANES C10-C13	µG/L	CHROMATOGRAPHY GAS/MASS
CHLORFENVINPHOS	µG/L	CHROMATOGRAPHY GAS/MASS
CHLORPYRIFOS (CHLORPYRIFOSSETHYL)	µG/L	CHROMATOGRAPHY GAS/MASS
ALDRIN	µG/L	CHROMATOGRAPHY GAS/MASS
DIELDRIN	µG/L	CHROMATOGRAPHY GAS/MASS
ENDRIN	µG/L	CHROMATOGRAPHY GAS/MASS
ISODRIN	µG/L	CHROMATOGRAPHY GAS/MASS
DDT TOTAL (ADD DDT, DDD AND DDE)	µG/L	CHROMATOGRAPHY GAS/MASS
PP-DDT	µG/L	CHROMATOGRAPHY GAS/MASS
1,2-DICHLORO-ETHANE	µG/L	CHROMATOGRAPHY GAS/MASS
DICHLORO-ETHANE	µG/L	CHROMATOGRAPHY GAS/MASS
FTALATO DE DI(2-ETILHEXILO) (DEHP)	µG/L	CHROMATOGRAPHY GAS/MASS
DIURON	µG/L	CHROMATOGRAPHY LIQUID-MASS
ENDOSULFAN	µG/L	CHROMATOGRAPHY GAS/MASS
FLUORANTHENE	µG/L	CHROMATOGRAPHY GAS/MASS
HEXACHLOROBENZENE	µG/L	CHROMATOGRAPHY GAS/MASS
HEXACHLOROBUTADIENE	µG/L	CHROMATOGRAPHY GAS/MASS
HEXACHLOROCYCLOHEXANES(α-HCH, β-HCH, δ-HCH, LINDANE)	µG/L	CHROMATOGRAPHY GAS/MASS
ISOPROTURON	µG/L	CHROMATOGRAPHY LIQUID-MASS
LEAD AND ITS COMPOUNDS	µG/L	ICP/MASS SPECTROSCOPY

PARAMETER	UNIT	TESTING PROCEDURE
1,2-DICHLOROETHANE	µG/L	GAS/MASS CHROMATOGRAPHY
DICHLOROMETHANE	µG/L	GAS/MASS CHROMATOGRAPHY
DI (2-ETHYLHEXYL) PHTHALATE (DEHP)	µG/L	GAS/MASS CHROMATOGRAPHY
DIURON	µG/L	CHROMATOGRAPHY LIQUID-MASS
ENDOSULFAN	µG/L	GAS/MASS CHROMATOGRAPHY
FLUORANTHENE	µG/L	GAS/MASS CHROMATOGRAPHY
HEXACHLOROBENZENE	µG/L	GAS/MASS CHROMATOGRAPHY
HEXACHLOROBUTADIENE	µG/L	GAS/MASS CHROMATOGRAPHY
HEXACHLOROCYCLOHEXANES	µG/L	CROMATOGRAFÍA GASES/MASAS
(Σ-HCH, Σ-HCH, Δ-HCH, LINDANE)	µG/L	GAS/MASS CHROMATOGRAPHY
ISOPROTURON	µG/L	CHROMATOGRAPHY LIQUID-MASS
LEAD AND ITS COMPOUNDS	µG/L	ICP/MASS SPECTROSCOPY
MERCURY AND ITS COMPOUNDS	µG/L	ATOMIC FLUORESCENCE
NAPHTHALENE	µG/L	GAS/MASS CHROMATOGRAPHY
NICKEL AND ITS COMPOUNDS	µG/L	ICP/MASS SPECTROSCOPY
NONYLPHENOLS (4-NONYLPHENOL)	µG/L	GAS/MASS CHROMATOGRAPHY
OCTIFENOLS ((4-(1,1',3,3'-TETRAMETHYLBUTYL)- FENOL))	µG/L	GAS/MASS CHROMATOGRAPHY
PENTACHLOROBENZENE	µG/L	GAS/MASS CHROMATOGRAPHY
PENTACHLOROPHENOL	µG/L	GAS/MASS CHROMATOGRAPHY
BENZO(A)PYRENE	µG/L	GAS/MASS CHROMATOGRAPHY
BENZO(B)FLUORANTHENE	µG/L	GAS/MASS CHROMATOGRAPHY
BENZO(K)FLUORANTHENE	µG/L	GAS/MASS CHROMATOGRAPHY
BENZO(G,H,I)PERYLENE	µG/L	GAS/MASS CHROMATOGRAPHY
INDENE(1,2,3-CD)PYRENE.	µG/L	GAS/MASS CHROMATOGRAPHY
SIMAZINE	µG/L	GAS/MASS CHROMATOGRAPHY
TETRACHLOROETHYLENE	µG/L	GAS/MASS CHROMATOGRAPHY
TETRACHLOROETHYLENE	µG/L	GAS/MASS CHROMATOGRAPHY
TRIBUTYLTIN COMPOUNDS (TRIBUTYLTIN CATION)	µG/L	GAS/MASS CHROMATOGRAPHY
TRICHLOROBENZENES	µG/L	GAS/MASS CHROMATOGRAPHY
TRICHLOROMETHANE	µG/L	GAS/MASS CHROMATOGRAPHY
TRIFLURALIN	µG/L	GAS/MASS CHROMATOGRAPHY
DICOFOL	µG/L	GAS/MASS CHROMATOGRAPHY
QUINOXYFEN	µG/L	CHROMATOGRAPHY LIQUID-MASS
PERFLUOROOCETANESULFONIC ACID AND ITS COMPOUNDS (PFOS)	µG/L	CROMATOGRAFÍA GASES/MASAS
ACLONIFEN	µG/L	CHROMATOGRAPHY LIQUID-MASS
	µG/L	GAS/MASS CHROMATOGRAPHY

PARAMETER	UNIT	TESTING PROCEDURE
CYBUTRYNE	µG/L	CHROMATOGRAPHY LIQUID-MASS
CYPERMETHRIN	µG/L	GAS/MASS CHROMATOGRAPHY
DICHLORVOS	µG/L	CHROMATOGRAPHY LIQUID-MASS
HEXABROMOCYCLODODECANE (HBCDD)	µG/L	GAS/MASS CHROMATOGRAPHY
HEPTACHLOR	µG/L	GAS/MASS CHROMATOGRAPHY
HEPTACHLOR EPOXIDE	µG/L	GAS/MASS CHROMATOGRAPHY
TERBUTRYN	µG/L	GAS/MASS CHROMATOGRAPHY
ETHYLBENZENE	µG/L	GAS/MASS CHROMATOGRAPHY
TOLUENE	µG/L	GAS/MASS CHROMATOGRAPHY
1,1,1-TRICHLOROETHANE	µG/L	GAS/MASS CHROMATOGRAPHY
XYLENES (ADD O, M, P)	µG/L	GAS/MASS CHROMATOGRAPHY
TERBUTHYLAZINE	µG/L	GAS/MASS CHROMATOGRAPHY
ARSENIC	µG/L	ICP/MASS SPECTROSCOPY
COPPER	µG/L	ICP/MASS SPECTROSCOPY
CHROMIUM VI	µG/L	COLORIMETRY
SELENIUM	µG/L	ICP/MASS SPECTROSCOPY
ZINC	µG/L	ICP/MASS SPECTROSCOPY

LABORATORY TEST METHODS FOR WATER SIMPLES

PARAMETER	UNITS	ANALYSIS METHOD
COT	MG/KG	CATALYSED COMBUSTION. NON-DISPERSIVE INFRA-RED
KJELDAHL NITROGEN	MG/KG	KJELDAHL DISTILLATION
TOTAL PHOSPHOROUS	MG/KG	INDUCTIVELY COUPLED PLASMA (ICP)
ORGANIC MATERIAL	MG/KG	DICHROMATE OXIDATION
GRANULOMETRY	%	LASER DIFFRACTION
METALS: CADMIUM, LEAD, COPPER, NICKEL, ZINC, ARSENIC, CHROMIUM VI	MG/KG	INDUCTIVELY COUPLED PLASMA (ICP)
MERCURY	MG/KG	ATOMIC ABSORPTION SPECTROMETRY
POLYCHLORINATED BIPHENYLS (PCBS)	µG/KG	GAS/MASS CHROMATOGRAPHY
TRIPHENYLTIN COMPOUNDS (TBTS)	µG/KG	GAS/MASS CHROMATOGRAPHY
HAPS	µG/KG	GAS/MASS CHROMATOGRAPHY
BENTHIC FAUNA OF INVERTEBRATES (BOFA)	IND/M²	OPTICAL MICROSCOPY

LABORATORY TEST METHODS FOR SEDIMENT SIMPLES

6.4.5 WATER QUALITY MONITORING RESULTS 2020

The environmental quality of the heavily modified PAMUs is assessed based on the hierarchical integration of the quality elements indicated below:



As observed, the final classification of the bodies of water may be: Good, Moderate, Deficient or Poor

The results obtained for each PAMU and port are displayed below with the different indicators:

ENVIRONMENTAL QUALITY ASSESSMENT RESULTS 2020.

PORT	PAMU	QUALITY INDICATORS FQ SEDIMENT	BIOLOGICAL QUALITY INDICATORS OF WATER AND BENTHOS	FQ WATER QUALITY INDICATORS	CHEMICAL QUALITY CLASSIFICATION OF WATERS	BY QUALITY OF ENVIRONMENTAL SEDIMENT
VALENCIA	PAMU 1	GOOD	GOOD	GOOD	NA	GOOD
	PAMU 2	VERY GOOD	GOOD	GOOD	GOOD	GOOD
	PAMU 3	VERY GOOD	GOOD	MODERATE	NA	MODERATE
	PAMU 4	VERY GOOD	GOOD	GOOD	GOOD	GOOD
SAGUNTO	PAMU 1	GOOD	MODERATE	GOOD	NOT REACHED GOOD	MODERATE
	PAMU 2	GOOD	MODERATE	GOOD	GOOD	MODERATE
GANDÍA	PAMU 1	GOOD	MODERATE	GOOD	NOT REACHED GOOD	MODERATE

The result show that the classification of environmental quality is Good for PAMUs 1, 2 and 4 of the port of Valencia, and moderate for PAMU 3. With respect to the ports of Sagunto and Gandía, the classification of the PAMUs is moderate.

If we compare the classification of PAMUS from the year 2020 with the previous year, there was a significant improvement at the port of Valencia, where PAMUs 1 and 2 went from a moderate to good. The ports of Sagunto and Gandía remained stable with the same water status as in 2019.

The results obtained for each PAMU and port are displayed below with the different indicators:



RESULTS OF PAMU EVALUATION AT THE PORT OF VALENCIA.



RESULTS OF PAMU EVALUATION AT THE PORT OF SAGUNTO.



RESULTS OF PAMU EVALUATION AT THE PORT OF GANDÍA

The PAV also works to minimise the possible effects on water quality through initiatives such as that to allow for the cleaning of floating waste from the water mirror. In 2003, the Maritime Security and Rescue Society, part of the Directorate-General of the Merchant Navy, transferred the vessel LIMPIAMAR III to the Port Authority of Valencia, which assumes responsibility for the service, which is currently provided through a private company.

Said vessel has the mission, fundamentally, of collection of solid and liquid water waste, and to contribute to the service to combat episodes of accidental marine pollution, which will be considered another unit.



6.5 DREDGING MANAGEMENT

As a result of the sedimentation of sands and silts in the inbound channels to the ports and the construction of new piers, the Port Authority of Valencia periodically conducts dredging work for maintenance based on the needs for access and manoeuvrability of the ports managed.

No dredging operations were completed at the ports of Sagunto, Valencia, and Gandía in 2020.

6.6 ENVIRONMENTAL MONITORING PLAN

Since 2008, works have been conducted on the Extension project of the Port of Valencia. These works follow the instructions of the Environmental Impact Declaration (EID) of the Project of 30 July 2007, with the complete Environmental Monitoring Plan with the aim of ensuring compliance with the corrective and preventive measures Construction and Operating phase and ensuring that the impact levels do not exceed those in the impact assessment.

With the aim of complying with the prescriptions included in the EID, the Plan in execution for several years, included the monitoring of the following environmental factors:

- » Quality of water and sediments
- » Marine biocenosis
- » Fishing resources
- » Evolution of seafood resources
- » Monitoring of avifauna
- » Atmospheric pollution
- » Noise pollution
- » Monitoring of archaeological prospecting
- » Coastal dynamics

Complementing the above monitoring, during 2008, and in order to comply with instructions of the EID, a study was carried out on the potential effect of the Project for the Dispersion of the Discharge from the Cabañal Spillway and the Vera Emissary, concluding that there was no effect on the initial situation.

In April 2012, the first phase of the works on the extension were completed. The principal result was the confinement of the waters of the new dock. In August 2012, the work began on the project "Cruise Liner Quay - Phase I", which was completed in the year 2013.

The environmental monitoring of the vectors mentioned previously continued in the year 2020, simultaneously with the development of the works carried out.

From the start-up of the works, and therefore, the planned Environmental Monitoring Plan, in the year 2008, and taking into account the data obtained and reflected in the existing annual reports at that time, the conclusion reached was that the environmental impact of the actions corresponding to the North Extension of the Port of Valencia were within the margins provided for and therefore there was no significant effect on the environment.

6.7 SOIL MANAGEMENT

From the Security, Environment and Facilities Area of the PAV, an environmental control of the concessions was completed, through which the following actions are taken:

- » Compilation of the Reports of the Soil Situation of concession-holders/authorised companies subject to the provisions of Article 3 of Royal Decree 9/2005, of 14 January, establishing the list of potentially soil-contaminating activities and the criteria and standards for the declaration of contaminated soils (hereinafter, Royal Decree) before the competent environmental body.
- » Request for the most detailed complementary reports, data or analysis that allow for the contamination of soil, in accordance with the provisions established in Article 3.3 of the Royal Decree, which the environmental authority has requested, ex officio or through the Integrated Environmental Authorisation.
- » Report, through the Internal Feasibility Reports of the PAV, on the obligations companies must fulfil in relation to the soil.

In 2020, the Puertos del Estado signed a management amendment with EMGRISA, a company specialised in soils. From that moment, a diagnosis phase was undertaken by this company to diagnose the situation of the management status of the different ports. As a result of this study, a general methodological proposal was obtained for the improvement of soil at ports. In this regard, the PAV has initiated contact and communication, facilitating the information required for said diagnosis.

The PAV has not undertaken any specific environmental soils and groundwater characterisation studies in the ports of Valencia, Gandía or Sagunto in 2020.

6.8 VISUAL IMPACT

This year, the Port Authority of Valencia continues, once again, to pay special attention to the maintenance of green areas in the interior of the port premises. In the year 2020, the total surface green area of the Port of Valencia was approximately 39,612.95 m² of which 21,600.00 m² was pasture 18,012.95 m² cultivation with no pasture. The surface areas have increase slightly with respect to the previous year, not because new green areas have been created, but because some which were located in areas under concession have been returned to port management.

In the Port of Gandía, the total occupied surface area of the gardens and green area to maintain is 1,675.00 m², broken down as follows: 425,00 m² of grass pasture and 1.250,00 m² of maintenance and conservation gardening wooded areas, shrubs, creeping plants and flower, palm species, hedges, etc.

The total surface area occupied by gardens and green areas to maintain in the Port of Sagunto is 7,369.00 m², broken down as follows: 3,059.00 m² of pasture and grass and 4,310.00 m² of maintenance and conservation of gardens, trees, shrubs, creeping plants and flowers, palm species, hedges, etc.

Sprinkler irrigation and automatic drip are used for the maintenance of green areas, contributing the reduction of water consumption.

6.9 MOBILITY PLAN

The Port Authority of Valencia, in accordance with its policy to reduce atmospheric emissions, undertook its first study of mobility in the Port of Valencia in 2011. As a result of this study, the action plan for the period 2012–2017 was developed, which defines the guidelines of the mobility policy and the roll-out of specific actions responding to the commitment of the Port Authority of Valencia for the promotion of sustainable mobility in the Port of Valencia.

With regard to the proposed actions, the following 6 strategic lines were defined:

- » Strategic line I: Management of mobility generated by the port
- » Strategic line II: Promote walking
- » Strategic line III: Promote cycling
- » Strategic line IV: Promote the use of public transport
- » Strategic line V: Encourage rational use of motor vehicle (light and heavy)
- » Strategic line VI: Education of the port community on issues of mobility

Different programmes and projects were proposed for each of the strategically defined lines, including:

- » Constitution of a Mobility Commission within the PAV
- » Appointment of a PAV mobility manager
- » Creation of a monitored bicycle parking area for PAV workers
- » Installation of dressing rooms for workers cycling to work
- » Creation of a carsharing app within the Port of Valencia
- » Improvement of passenger route at the Nazaret bridge roundabout
- » Improvement of distribution and pedestrian connections to parking spaces reserved for persons with reduced mobility in PAV carparks

In late 2020, the general management proposed a reinforcing of mobility actions in the PAV. As a result of this initiative, work is being carried out on a new Mobility Commission, which is expected to be formed in 2021, with greater departmental representation and greater powers of execution, which has started to consider new initiatives such as the refurbishment of motorcycle parking facilities and the installation of new bicycle parking facilities.

6.10 OTHER ACTIONS

The specific actions carried out in 2020 were the following:

- » Since May 2019, the Port Authority of Valencia co-chairs the Sustainability Committee of the MEDPORTS Ports Association.
- » Celebration of World Environment Day, 5 June 2020, through the virtual platform, with data dedicated to different environmental issues like innovation and climate change.



7. Emergency responses

The main aim of the Port Authority of Valencia is to make the ports of Sagunto, Valencia and Gandía areas with the greatest guarantees of security, as well as to provide more effective collaboration with other administrations with competencies in police, civil protection, fire prevention, rescue and pollution control.

For this reason, and in defence of the public interest, it is necessary to make compatible the outstanding increase in port traffic that is being registered in the Ports of its competence, with the maintenance of the integrity of people, the environment, infrastructures and goods.

To fulfil this goal, the Port Authority has a Port Police Service, a Fire Brigade in close collaboration with the Valencia Town Council, oil pollution control equipment with specialised personnel, and a medicalised ambulance, among other operational resources, active twenty-four hours a day, three hundred and sixty-five days a year. The coordination of resources, as well as with other administrations called upon to intervene, is carried out from the Emergency Control Centre.

From this Centre, the Port Authority supervises operations with dangerous goods, manages emergencies and cooperates in the preventive routines of industrial, operational, labour and environmental safety in the ports of Sagunto, Valencia and Gandía, both on land and in port waters.

INCIDENTS	2016	2017	2018	2019	2020
URGENT HEALTH CARE	218	287	326	266	186
SMALL DISCHARGES OF SEA ORIGIN	12	4	9	17	6
SMALL DISCHARGES OF LAND ORIGIN (SPILLS)	8	7	18	17	16
COLLECTION OF OBJECTS	11	10	15	2	18
CLOSURE OF THE PORT	16	12	9	14	15
FIRES OR OUTBREAKS	1	7	6	6	8

The personnel and teams of the Control Centre are on permanent alert to intervene immediately in any incident that may occur. In the meantime, there are constant operations for the maintenance of equipment, improvement of procedures and training of personnel, implementation of technological innovations, etc...

In this training effort, the exercises and drills that are periodically carried out are key. The following have been carried out in 2020:

DRILLS	2016	2017	2018	2019	2020
1. PAV EMERGENCY PLANS					
1.1. LED BY THE PAV:	7	7	5	6	0
FIRE	6	7	5	6	
HYDROCARBON SPILL	1	0	-		
OTHERS	-	-	-		
1.2. IN COLLABORATION WITH OTHER ORGANISATIONS	3	1	2	1	0
IN DIFFERENT TERMINALS	1	-	2		
IN COLLABORATION WITH OTHER ENTITIES	2	1	-	1	
IN COLLABORATION WITH MOORERS	-	-	-		
2. IN TERMS OF PROTECTION:	11	11	17	14	13
TOTAL	21	19	24	21	13

The COVID pandemic situation made 2020 a very different year. It was not possible to carry out any simulation led by PAV and in collaboration with other organisations, or any training activity for this reason.

In terms of protection, 13 simulations were carried out.



8. Innovation and Cooperation

For the implementation of responsible and innovative environmental policies in the ports managed by the PAV, it is essential to acquire knowledge, both at a theoretical and practical level. This knowledge is gained through participation in cooperation and innovation projects. The PAV participates in these projects both directly, by implementing the results obtained in the projects directly in its own management, and indirectly, by making the knowledge acquired available to third parties for implementation in their facilities.

The PAV fosters participation, both its own and that of the companies that form part of the Port Community, in all those innovative programmes and projects the purposes of which are in line with those set out in the Environmental and Energy Policy. This participation provides up-to-date knowledge of the latest trends, techniques and technologies available in the control and monitoring of the environmental situation of the ports it manages, as well as the gradual introduction of technologies for the energy transition towards more sustainable operations both in ports and in the companies that form part of the Port Community.

8.1 PROJECTS COMPLETED

To date, the PAV has participated in the following projects. From 2010 onwards they are detailed with more information:

- » **ECOPORT PROJECT (1998)** - LIFE Programme of the European Commission
- » **INDAPORT PROJECT (2000)** - Programme for the Promotion of Technological Research (PROFIT) of the Ministry of Science and Technology
- » **HADA PROJECT (2002)** - LIFE Programme of the European Commission
- » **ECOPORTS PROJECT (2002)** - Fifth Framework Programme of the European Commission
- » **SECURMED PROJECT (2004)** - European Commission Interreg Programme IIIB
- » **HADA PROJECT (2005)** - LIFE Programme of the European Commission
- » **MADAMA PROJECT (2005)** - Interreg IIIB Medocc Programme of the European Commission
- » **HADA PROJECT (2005)** - LIFE Programme of the European Commission

- » **ELEFSINA BAY 2020 PROJECT (2007)** - LIFE Programme of the European Commission
- » **ECO-LOGISTYPORT PROJECT (2008)** - Green Employment Programme of the European Social Fund
- » **IMPROVEMENT OF ENVIRONMENTAL MANAGEMENT IN THE PORTS OF THE GULF OF HONDURAS (2008)** - Funds from the Inter-American Development Bank and the Cooperación Española.
- » **EFICONT (2009)** - National R&D&I Plan of the Ministry of Public Works.
- » **CLIMEPORT PROJECT (2009)** - MED Programme of the European Commission

GREENCRANES PROJECT (2012)

The GREENCRANES project (Green Technologies and Eco-Efficient Alternatives for Cranes and Operations at Port Container Terminals) had a total budget of 3,688,000 euros, 50% financed by the European Union through the Transport Network (TEN-T) programme. The purpose of the project was to show the feasibility of new technologies and alternative fuels through pilot projects developed in TPCs in order to provide decision criteria and recommendations for policy development at European level and decision making by the port logistics industry.

The project was coordinated by the Valenciaport Foundation and involved the PAV, Noatum, ABB, Konecranes, the Port Authority of Koper (Slovenia) and the Italian Ministry of Infrastructure and Transport, the Port Authority of Livorno, RINA SpA, Global Service Srl and the Scuola Superiore di Sant'Anna (Italy).

The main results of the project were the design of two prototypes of port machinery with natural gas engines and the viability of this type of engine for work in container terminals.

The project ended in November 2014.

GREENBERTH PROJECT (2013)

The GREENBERTH project (Promotion of Port Communities SMEs role in Energy Efficiency and GREEN technologies for BERTHING operations), had a budget of € 1.616.115 and 75% financing through the EU Regional Funds under the MED programme. The project lasted 30 months.

GREENBERTH was led by the PAV in collaboration with the most important Mediterranean ports, such as Marseille (France), Livorno, Venice (Italy), Koper (Slovenia) and Rijeka (Croatia). In addition, other partners are involved in the technological aspect, such as FEPORTS (Port Institute of Studies and Cooperation of the Valencian Region), University of Cádiz and CERTH/HIT (Hellenic Institute of Transport).

The main purpose of the project was to promote the access of SMEs to the opportunities offered by the port sector towards the application of energy management improvement solutions and the implementation of renewable energies with a special focus on port–ship operations.

The most important results of the project were:

- 1. Development of action plans for the application and transfer of available technology including three pilot projects.
- 2. Design of Energy Plans for Mediterranean ports
- 3. Development of action plans for the application and transfer of available technology including three pilot projects.
 - a. Replacement of traditional engines in the port fleet with more efficient and less polluting engines
 - b. Implementation of the OPS-based technology and
 - c. Replacement of traditional engines with more efficient and less polluting engines in port terminal machinery and truck fleets.

The project ended in June 2015.

MONALISA 2.0 PROJECT (2013)

The main purpose of the project was to contribute to the promotion of Motorways of the Sea (MOS) by implementing a series of measures, in line with EU policies for maritime transport.

The PAV participated in this project by coordinating the vessel components on the sea leg and the shore-based port facility component in case of accidents or incidents focusing not only on large passenger vessels, but also on other vessels or facilities at risk.

The results pursued by the project were the elaboration of documents related to Contingency Plans in ports and the guidelines to be complied with, as well as the implementation of an exercise on mass evacuation in ports, as a pilot and the elaboration of the report corresponding to the mentioned exercise.

The MONALISA 2.0 consortium consisted of 39 partners from 10 EU countries. The project was 50% funded by the EU through the Trans-European Transport Network Executive Agency programme and had a budget of € 24,317,000.

The project ended in December 2015.

SEA TERMINALS PROJECT (2014)

The SEA TERMINALS (Smart, Energy Efficient and Adaptive Port Terminals) project had a budget of € 6,273,896 and 50% EU funding through its TEN-T programme.

The project was coordinated by the Valenciaport Foundation and involved the PAV, Noatum, Terberg, NACCO, the Instituto Tecnológico de la Energía (ITE), EDAE, Ampliatel, Baltic Ports Organization and the Italian Ministry of Infrastructures and Transport, as well as the Port Authority of Livorno, Global Service Srl, Offshore LNG Toscana and the Scuola Superiore di Sant’Anna (Italy) as executing agencies.

SEA TERMINALS aimed to drive the evolution of the port industry towards a progressive and efficient low carbon operating model, integrating smart and energy efficient technologies (hybrid machine concepts, liquefied natural gas as fuel, heavy duty electric vehicles) through innovative energy efficiency and business solutions, focusing on heavy duty machinery and equipment handling.

SEA TERMINALS took as a starting point the lessons learned from the GREENCRANES project, which has already been mentioned above.

The project ended in December 2015.

GAINN4SHIP INNOVATION PROJECT (2015)

The GAINN4SHIP INNOVATION project (LNG Technologies and Innovation for Maritime Transport for the Promotion of Sustainability, Multimodality and Efficiency of the Network), has a budget of € 15,025,564 and 50% EU funding through its CEF (Connecting Europe Facility) programme.

GAINN4SHIP INNOVATION aims to implement European environmental regulations through the conversion of the Diesel engines to LNG (Liquefied Natural Gas) engines of a Fast-Ferry vessel providing regular service in the Canary Islands. This project includes the final engineering projects on the prototype LNG-fuelled vessels and their adaptation to a real vessel.

Some results obtained from this study are as follow:

- » Definition of environmental indicators for LNG-fuelled vessels.
- » Definition of technical solutions for fuel intake.
- » Control of methane emissions to the atmosphere from LNG-fuelled prototype vessels

The project ended in March 2018

GAINN4MOS PROJECT (2015)

The GAINN4MOS project (Sustainable LNG Operations for Ports and Shipping - Innovative Pilot Actions), had a budget of € 41,314,934 and 50% EU funding through its CEF (Connecting Europe Facility) programme.

GAINN4MOS aimed to improve the Motorways of the Sea (MOS) network in 6 Member States (Spain, France, Croatia, Italy, Portugal and Slovenia) by carrying out engineering studies for the rehabilitation of existing vessels and/or new construction, development of LNG port infrastructure, refuelling stations and a large set of pilot projects.

GAINN4MOS included 14 detailed engineering studies on LNG infrastructure and bunkering stations and ship conversion and/or new building and 11 prototypes (4 ship conversions and 7 LNG bunkering stations at hub ports).

The project ended in September 2019.

8.2 DEVELOPMENT PROJECTS

CORE LNG AS HIVE PROJECT (2014)

The CORE LNG Operations project (for Ports and Shipping - Innovative Pilot Actions), had a budget of € 33,295,760 and 50% EU funding through its CEF (Connecting Europe Facility) programme.

The main purpose of this project is to provide Spain and Portugal with an adequate infrastructure and operational framework for the deployment of a global supply network for liquefied natural gas (LNG) for transport use in the context of the network formed by the Mediterranean and Atlantic corridors, and the connecting area through the Strait of Gibraltar.

The project consortium is composed of representatives from different status (public or private) and different sectors (energy, education, transport...), thus allowing the consideration of different interests and ensuring the market-oriented approach of the actions included in the proposal.

Pilot actions to be implemented include:

- » Adaptation of the SAGGAS terminal in the port of Sagunto to supply LNG to ships as fuel.
- » Basic project for the conversion of a tugboat from diesel to LNG.
- » Basic project for the installation of an LNG/CNG supply plant in the port of Valencia.

The project will be completed in December 2021, given it has been extended for a year due to the situation caused by the Covid-19 pandemic.

H2PORTS PROJECT (2019)

“H2PORTS – Implementing Fuel Cells and Hydrogen Technologies in Ports” is a project coordinated by the Valenciaport Foundation, in close collaboration with the Port Authority of Valencia, and funded by the Fuel Cell and Hydrogen Joint Undertaking (FCH JU) programme. It has a budget of nearly 4 million euros and 50% financing.

H2PORTS aims to provide efficient solutions to facilitate a rapid evolution from a fossil fuel-based industry to a low-carbon and zero-emission sector.

Within the framework of the project, three pilot projects will be tested in the Port of Valencia: a reach stacker for loading/unloading and transporting containers, powered by hydrogen; a terminal tractor for ro-ro operations, powered by hydrogen cells and a mobile hydrogen supply station that will provide the fuel necessary to guarantee the continuous working cycles of the aforementioned equipment and which in the initial phase of the project will work in the Grimaldi (Valencia Terminal Europa) and MSC terminals at the Port of Valencia.

The project will end in December 2022.

GREEN-C-PORTS PROJECT (2019)

The Green and Connected Ports (GREEN C PORTS) project is led by the Valenciaport Foundation and funded by the European Commission’s Connecting Europe Facility (CEF) Programme. This project has a total budget of € 7,175,700, which will be financed 50% by the Commission.

GREEN C PORTS has the overall goal of providing a set of digitisation tools and technologies to support the environmental sustainability of ports and the performance of port operations in the TEN-T network.

This project will address six business cases consisting of prototypes and pilot tests that will be implemented in different European ports and will serve as a basis for testing innovative technologies such as IoT, big data or predictive analytics through artificial intelligence models.

The project will end in March 2023.

ECCLIPSE PROJECT (2019)

European Project for the Assessment of Climate Change in Ports in south-western Europe (ECCLIPSE), led by the Valenciaport Foundation, co-financed by the European Commission through the Interreg V-B Southwest Europe Programme and in which the Port Authority of Valencia also participates. It has a budget of €1,045,253 and is financed by the Interreg Sudoe programme.

The main purpose of ECCLIPSE is to define a common methodology for analysing the impacts of climate change and its effects on the maritime-port environment.

To achieve this goal, early prediction tools and models have been developed to allow a thorough understanding of their impact on a local scale.

The project will also contribute to raising awareness of the impact of climate change and will define transnational strategies for prevention, adaptation and action in the SUDOE area (South-West Europe) that can minimise its effects.

The project will end in September 2022.

EALING- OPS PROJECT (2020)

European flagship Action for cold ironing in ports (EALING) is led by the Valencaport Foundation and financed by the European Commission’s Connecting Europe Facility (CEF). This project has a total budget of €7,290,800, of which 50% will be financed by the Commission.

EALING – OPS is a European project that expresses the need to accelerate the effective rollout of solutions for electricity connection for vessels (OPS) in the ports of the EU and it proposes the following objectives:

- » Assessing operational and environmental performances of the ports participating in EALING consortium, in charging different ships (ro-ro, ro-pax, container ships, passengers ships);
- » Contributing to the further development of an EU harmonised and interoperable framework for deployment of OPS infrastructure in line with the EU technical, legal and regulatory framework;
- » Leading all the necessary technical, environmental, socio-economic and financial studies in order to accelerate the works phase on OPS infrastructure;

- » Implementing OPS infrastructure and equipment in at least 16 EU ports belonging to different sea basins: Mediterranean, Black Sea, Atlantic and North Sea.

This project is planned to be completed in June 2023.

EALING – WORKS VALENCIAPORT PROJECT (2020)

The EALING – Works Valenciaport Project: Preparation of the electrical grid of the Port of Valencia for Onshore Power Supply is led by the Valenciaport Foundation and financed by the European Commission’s Connecting Europe Facility (CEF). This project has a total budget of €8,593,050, 20% of which will be financed by the Commission.

EALING – Works Valenciaport has the aim of preparing the electricity network of the port for Onshore Power Supply to container ships, ferries and cruise liners in the new terminals of the Port of Valencia (new container terminal and new passenger terminal). For this purpose, during the project, a new Gas-Insulated Switchgear (GIS) electricity substation will be built with an initial capacity of 60MW (extendible to 90MW in the future). The action also includes the works to install a new underground electricity line that will connect the substation to the general grid. Both interventions will allow the supply of OPS at the Port of Valencia in situations of high demand.

This project is planned to be completed in June 2023.

8.3 COMPANY SHAREHOLDINGS

As part of the objectives included in its Environmental Policy, the PAV is committed to disseminating and collaborating with third parties, so as to share the knowledge accumulated in the protection of the port environment and facilitate the extension of environmental management in other areas. Therefore, it participates in cooperation projects in which, through the contribution of this knowledge, it contributes to environmental improvement.

PARTICIPATION IN THE MEDPORTS ASSOCIATION

In June 2018, the MEDPorts association, which brings together twenty of the main ports and state port organisations in the Mediterranean, was formed and held its first General Assembly, at which its main objectives were defined: to promote collaboration between Mediterranean ports to meet the new challenges of international trade and logistics and to highlight the centrality and importance of the Mediterranean in the new global trade flows, among others.

The founding members of MEDPorts are the ports of Barcelona, Tarragona, Algeciras and Valencia (Spain); Civitavecchia, Taranto and Venice (Italy); Marseille-Fos and Toulon (France); Luka Koper (Slovenia); Arzew, Skikda and Bejaia (Algeria); Tanger MED (Morocco); Damietta (Egypt); Beirut (Lebanon); and Malta Freeport (Malta), as well as the state agencies Puertos del Estado (Spain); the Office de la Marine Marchande et des Ports (Tunisia); and Serport (Algeria).

For this purpose, the association has created six working committees dedicated to Training, Sustainability, Security, Relations with International Institutions, Market Analysis and Smart Ports, with the Port Authority of Valencia represented on all of them. In addition, the Port Authority of Valencia shares the presidency of the Sustainability Committee with the port of Civitavecchia.

In 2020 the Port Authority of Valencia participated in the following environmental and sustainability activities organised by the association:

- » Meeting of the Sustainability Committee, online, November 2020.
- » Meeting of the Executive Committee, online, November 2020.
- » Ro-ro webinar, online, December 2020
- » General Assembly, online, December 2020.

PARTICIPATION IN EUROPHAR EEIG

The PAV has been a member of the European Economic Interest Grouping EUROPHAR since 1997 and currently holds the presidency of the grouping. EUROPHAR is also made up of the Port Authorities of Toulon in France, as well as those of Genoa, Livorno, Piombino and Salerno in Italy. Other Spanish, French and Italian companies and institutions are also part of the Grouping, mainly linked to the field of safety and environmental protection in ports.

EUROPHAR is a preferred tool for communication and promotion of the PAV’s policies in the international arena, as well as a cooperation tool for the development of R&D&I projects. Therefore, EUROPHAR has participated in recent years in numerous projects such as the SIMPYC project and the SUPPORT project “Security Upgrade for Ports”, under the 7th Programme call for proposals, which ended in 2014. It is also worth highlighting its participation in the GREENCRANES and GREENBERTH projects as part of the Advisory Board.

In addition to the above, EUROPHAR is in contact with numerous environmental objectives participating within the panel of assessors and stakeholders. The PAV currently holds the presidency of EUROPHAR, and the Valenciaport Foundation acting as general secretary.

8.4 TRAINING

As stated in the environmental policy, the PAV endeavours to facilitate appropriate environmental training and awareness-raising, understood not only as a system for improving staff knowledge, but also as a means of acquiring new skills and abilities to make the ports of Sagunto, Valencia and Gandia more competitive. Therefore, courses and training sessions are scheduled annually to develop these skills in line with the activities carried out in this field. As far as possible, and as proposed in the ECOPORT II Project, these activities are carried out with the participation of the rest of the Port Community.

Within the training plan of the Ecoport II project, a package of environmental online initiatives and a three-hour access course for incoming members of the Port Polices on environmental issues were delivered.

Information mails

A series of environmental advice emails are sent monthly to both PAV staff and posted on the employee web ports, and the concession holders in the ports of the PAV.



9. Communication and Publications

The proximity of the Port Authority of Valencia to its different stakeholders allows it to be aware of their demands and concerns and serves as a basis for designing and developing specific actions for the fulfilment of the commitments undertaken. One of the purposes is to facilitate access to information to the maximum number of professionals and organisations in the fields in which it operates.

9.1 COMMUNICATION

In order to facilitate this knowledge, the PAV has different communication channels aimed at the different stakeholders. In particular, the following may be highlighted.

Website of the Port Authority of Valencia

The PAV website (www.valenciaport.com) continues to be one of the organisation's most important platforms for public communication in different areas, including the environment.

9.2 SPECIFIC ENVIRONMENTAL INFORMATION TALKS

The PAV, following the instructions of the health authorities throughout the COVID-19 pandemic, cancelled its programme of activities relating to visits to the port premises in 2020.

9.3 COLLABORATION AND ATTENDANCE AT FORUMS AND SEMINARS

The PAV took part in a large number of conferences and seminars on the environment in relation to ports, both nationally and internationally. Those worth mentioning in this regard include:

- » Port Police Force environmental course (Mallorca, February 2020)
- » UNCTAD Course (Santa Cruz, Bolivia, March 2020)
- » Master in Port Management and Intermodal Transport XXVIII Edition - Fundación Valenciaport (Valencia, April 2020)
- » Workshop on Environmental Management of the Port of Valencia, National Certification Service, SENACE (Peru, October 2020)
- » Participation in the MAP (Maritime Air Pollution) Europe virtual Conference (October 2020)
- » Participation in UNCTAD conference on "climate change adaptation for seaports", in support of Agenda 2030 for Sustainable Development (October 2020)
- » Master's in Logistics and Port Management, 1st Edition I (Brazil, November 2020)
- » Institutional workshop on the Circular Economy Loop- Ports (Valencia, November 2020)
- » Participation in meeting of Climate and Energy Committee of the IAPH (international Association of Ports and Harbours) (November 2020)
- » Participation in webinar for PORTOS project (Ports Towards Energy Self-sufficiency, November 2020)
- » Participation in "Sharing Experiences session 1" on Environmental Management of Ports with Luanda Angola, November 2020.
- » Participation in meeting of ESPO Energy Committee (December 2020)

9.4 PUBLICATIONS

The publications produced by the PAV include monographs and guides on specific subjects, as well as publications to disseminate information on the activities carried out. A distinction must be made between those published this year and those published before 2020.

Publications 2020

ENVIRONMENTAL REPORT 2019

As a key element of environmental communication, once again this year the Port Authority of Valencia has published the Environmental Report which includes the environmental actions carried out during 2019.



ENVIRONMENTAL INFORMATION PREVIEW 2020

One of the purposes of the Port Authority of Valencia is the dissemination of the environmental actions carried out during the period.

For this reason, a preview of environmental information for 2020 has been prepared for dissemination to the Organisation and the general public.



ENVIRONMENTAL BULLETINS

Since 1998, the Port Authority of Valencia has published a four-monthly environmental bulletin in which it publishes all the news and developments of interest in the environmental field of the port area, both nationally and internationally.

Continuing the trend of recent years, the environmental bulletin has established itself in 2020 as one of the preferred channels for the port sector to keep up to date on environmental issues. The contents of the bulletin are as follows:



- » Editorial on environmental issues.
- » Collaboration prepared by a person specialised in the maritime-port sector.
- » Opinion of a company in the port community.
- » Brief new stories related to port environmental issues.
- » New environmental legislative developments.
- » Agenda.

The following issues were published in 2018:

- » Environmental Bulletin No. 59, published in March 2020
- » Environmental Bulletin No. 60, published in July 2020
- » Environmental Bulletin No. 61, published in November 2020

PAV REPORT: SUSTAINABLE PORT

The Port Authority of Valencia has drafted a report on the main landmarks achieved in relation to the environment and energy, and its contribution to actions carried out in line with the Sustainable Development Goals (SDGs) approved by the UN in the 2030 Agenda for Sustainable Development.



Publications before 2020

Publications published in previous years by the PAV include:

ENVIRONMENTAL SUSTAINABILITY REPORT

The Environment Department of the Port Authority of Valencia has developed an Environmental Sustainability Report on the activities carried out in the port areas of the three ports under its jurisdiction, in order to have a comprehensive view of the environmental actions carried out by the Authority: Sagunto, Valencia, and Gandía.

PAV PROJECTS PROGRESS REPORT

La Autoridad Portuaria de Valencia ha realizado un informe de la evolución del proyecto Ecoport desde su inicio en el año 1998 hasta la actualidad, y de los proyectos en los que ha participado, con el objetivo de recopilar y compilar toda la información ambiental disponible.

GGUIDE TO CARBON FOOTPRINT CALCULATION AND MANAGEMENT AT PORT FACILITIES BY TIER LEVELS

This guide was published with the aim of supporting port companies in calculating and reducing their greenhouse gas emissions and has been drawn up by a team from the Port Authority of Valencia (PAV), the Polytechnic University of Valencia and the Valenciaport Foundation, which has been working on it for the last year.

The extensive document consists of a methodology for the calculation and management of the carbon footprint adapted to the needs of the port community and based on the study of good energy-environmental practices and successful energy efficiency projects of the last 8 years implemented in the ports of Valencia, Sagunto and Gandía.



The Guide proposes the inventory and study of the different sources of greenhouse gas emissions corresponding to direct emissions, which are those produced by the consumption of fossil fuels, and indirect emissions or emissions from electricity consumption. It also includes other emissions from terminal operations.

BOOK: VIVIR EL PUERTO AMBIENTALMENTE, UN RECORRIDO POR LOS PUERTOS DE SAGUNTO, VALENCIA Y GANDÍA (LIVING THE PORT ENVIRONMENT: A JOURNEY THROUGH THE PORTS OF SAGUNTO, VALENCIA AND GANDÍA).

The Port Authority of Valencia, aware of the social, economic and environmental value of the ports of Sagunto, Valencia and Gandía, commissioned the book “Living the Port Environment”, to communicate its responsible management of these historic spaces, vital for the development of both the municipalities in which they are located and their citizens, workers and employees, through their environmental protection and their integration into the society to which they belong.

With this book, the PAV provides a transparent and integrated vision of all the actions it carries out for the sustainable development of its ports, so that port activities comply with the highest levels of respect and current environmental protection without compromising its future economic, social and environmental capacity..

E4PORT GUIDE FOR THE IMPLEMENTATION OF TIERED ENERGY MANAGEMENT SYSTEMS IN PORT FACILITIES

This guide provides a specific methodology for the assessment of significant energy aspects applicable to port activities, as well as a three-level management model for the implementation of energy management systems for concessionary companies and port service providers pursuant to the current reference standards.



ECOPORT GUIDE FOR THE IMPLEMENTATION OF TIERED ENVIRONMENTAL MANAGEMENT SYSTEMS IN PORT FACILITIES.

The Port Community is made up of a large number of companies of different sizes, environmental situations and activities, so that the adoption of an Environmental Management System may involve different efforts and difficulties for each of them. With the idea of facilitating the access and participation of companies in this project and taking into account the characteristics of each one of them, the Port Authority has developed a guide that structures the requirements of an Environmental Management System in line with the ISO14001 standard and the EMAS II regulation into 5 levels.



According to this methodology, each company is assessed according to its environmental situation, starting from the level that best suits it and progressively working towards higher levels until reaching the last level that guarantees the definitive implementation of an Environmental Management System, which allows them easy and low-cost access to the implementation of such a system.

ECO-EFFICIENCY GUIDELINES

The Port Authority of Valencia (PAV) has published five Eco-efficiency Guides with the main objective of promoting sustainability criteria in companies in the port areas managed by the PAV: Sagunto, Valencia, and Gandía. The guidelines include various proposals and actions that allow the production of goods and services while consuming fewer natural resources and, as a consequence, reduce pollution through ecologically and economically efficient procedures.

These Guidelines have been drawn up after a thorough study of Eco-efficiency and Sustainability in the ports managed by the PAV and allow the application of eco-efficiency criteria in the following fields of action: energy eco-efficiency, preparation of an inventory of greenhouse gases, water use, waste generation and the use of materials in the execution of works.

GUIDE TO ENVIRONMENTAL RISK ASSESSMENT IN PORT FACILITIES

This guide aims to be an easy to use and effective tool for those companies located in the ports of Sagunto, Valencia and GANDIA that wish to carry out their own environmental risk assessment according to the UNE 150.008 standard.



GOOD ENVIRONMENTAL PRACTICE GUIDES

As part of the ECOPORT project, a series of Good Environmental Practice Guides in Ports was published in 2000 with the aim of raising awareness among the different groups working in port areas of the importance of applying environmentally friendly criteria in their daily work. Each of these Guides is dedicated to a specific port activity and provides useful tips to be applied to the typical processes of each activity, as well as legislation applicable to each specific case. The following Guides have been published so far:

- » Offices (published in 2000, reprinted in 2006 and 2009)
- » Workshops (published in 2000, reprinted in 2006 and 2009)
- » Land Road Transport (published in 2004 and reprinted in 2009)
- » Handling and Storage of Solid Bulk (published in 2005 and reprinted in 2009)



PORT AUTHORITY OF VALENCIA ENVIRONMENTAL REPORTS (ANNUALLY SINCE 2001)

The publication in 2002 of the first Environmental Report of the Port Authority of Valencia (the first in the Spanish port system), brought together all the actions that had been carried out in this area during 2001, in an attempt to take a step forward and fulfil a firm intention to inform society as a whole within the process of continuous improvement in which the PAV is immersed.

Since then and in consecutive years, the Port Authority of Valencia has been publishing these Reports, which recognise the institution’s special interest in consolidating its commitment to respect and care for the environment, setting out the main activities related to the protection of the environment carried out in the ports of Sagunto, Valencia and Gandía, as well as the main environmental management parameters and indicators associated with them, together with a detailed description of the results obtained.

GUIDE TO THE BIRDS OF THE PORT OF VALENCIA

With the publication of this Guide to the Birds of the Port of Valencia, the PAV aims to disseminate the great variety of birds that can be sighted in the port environment, providing experts with some initial knowledge from which to carry out their study and monitoring and, at the same time, providing any citizen with the possibility of identifying in a practical way the species that fly over our ports during the different seasons.



The idea for this guide arose as a result of the ECOPORT project and its publication fulfils two purposes: Firstly, to respond to the demand for information from society in general regarding knowledge of the biodiversity of our port. And secondly, to comply with the commitment to “provide adequate training and awareness-raising for staff to promote the development of this policy”, as stated in the Environmental Policy.

GUIDE TO FISHERY RESOURCES

The species that are marketed in the Fishermen’s Guilds of Sagunto, Valencia and Gandía are detailed here. The guide presents the species in their usual natural form.



GUIDE TO THE UNDERWATER FAUNA AND FLORA OF THE PORT OF VALENCIA.

According to the commitments adopted in its Environmental Policy, this Port Authority, in collaboration with the University of Valencia, has carried out a study of the underwater flora and fauna of the Port of Valencia. The special morphological characteristics of the port environment, the great diversity of commercial activities, as well as the maritime traffic in this inter-oceanic port make this study an effective tool for the knowledge of biodiversity in the port area. At the same time, the study not only provides initial information to subsequently determine the possible effects that port activity may have on the fauna and flora, but also highlights the richness and importance of the living beings that inhabit the port space.



As a result of this work, this guide has been published, which has the virtue that all the images shown in it have been taken in the Port of Valencia. The species listed here are the most representative of the study area and therefore constitute a small part of the extraordinary wider catalogue of species present.

VIDEO OF THE PORT AUTHORITY OF VALENCIA’S ENVIRONMENTAL ACTIONS PORT AUTHORITY OF VALENCIA

A video was produced, compiling the main environmental actions carried out to date by the Port Authority of Valencia in the ports it manages (Sagunto, Valencia GANDIA). Its purpose is making known what the main environmental actions have been and what the results obtained have been, thus contributing to enriching the environmental knowledge of the different actors involved in port activity, and especially of other port authorities with similar environmental problems.





10. Green Accounting

10.1 ENVIRONMENTAL SPENDING

During 2020, the PAV spent sums relating to the protection and improvement of the environment amounting to €4,462,108.28, which are detailed in the summary table below:

CONCEPTOS	EJERCICIO 2020	EJERCICIO 2019
GASTOS DE PERSONAL:	282.322,51	273.393,84
OTROS GASTOS DE EXPLOTACIÓN:	3.802.284,44	4.024.727,05
Recogida desechos generados por buques	3.069.312,53	3.324.492,84
Reparaciones y conservación	388.964,19	404.002,23
Servicios de profesionales independientes	166.031,69	125.206,58
Suministros y consumos	15.039,11	12.473,34
Otros servicios y otros gastos	162.936,92	158.552,06
AMORTIZACIONES DEL INMOVILIZADO:	377.501,33	366.506,06
TOTAL GASTOS Y COSTES MEDIOAMBIENTALES	4.462.108,28	4.664.626,95

10.2 TANGIBLE AND INTANGIBLE FIXED ASSETS

The PAV has the following investments in intangible and tangible fixed assets related to the improvement of the environment, with the following breakdown:

ACTIVOS MEDIOAMBIENTALES (importes brutos)	31/12/2019	Adiciones del ejercicio (+)	Bajas (-)	31/12/2020
ACCESOS MARÍTIMOS	3.748.162,71	-	-	3.748.162,71
OBRAS DE ABRIGO Y DÁRSENAS	146.247,29	-	-	146.247,29
OBRAS DE ATRAQUE	91.772,15	-	-	91.772,15
INSTALACIONES GENERALES	285.057,81	-	-	285.057,81
PAVIMENTOS CALZADAS Y VÍAS DE CIRCULACIÓN	5.899,45	-	-	5.899,45
MATERIAL FLOTANTE	126.147,18	-	-	126.147,18
MATERIAL DIVERSO	921.691,30	12.250,00	(12.335,98)	921.605,32
APLICACIONES INFORMÁTICAS	14.909,00	-	-	14.909,00
PROPIEDAD INDUSTRIAL	3.270,00	-	-	3.270,00
TERRENOS	63.534,43	-	-	63.534,43
TOTAL ACTIVOS MEDIOAMBIENTALES	5.408.691,32	12.250,00	-	5.408.605,34

AMORTIZACIONES DE ACTIVOS MEDIOAMBIENTALES	31/12/2019	Adiciones del ejercicio (+)	Bajas (-)	31/12/2020
ACCESOS MARÍTIMOS	1.360.998,60	78.185,22	-	1.447.183,82
OBRAS DE ABRIGO Y DÁRSENAS	65.355,40	2.969,28	-	68.324,68
OBRAS DE ATRAQUE	67.477,26	3.068,88	-	70.546,14
INSTALACIONES GENERALES	213.528,53	13.823,72	-	227.352,25
PAVIMENTOS CALZADAS Y VÍAS DE CIRCULACIÓN	5.899,45	-	-	5.899,45
MATERIAL FLOTANTE	67.900,90	9.546,10	-	97.535,16
MATERIAL DIVERSO	637.556,00	109.155,55	(12.335,98)	734.375,57
APLICACIONES INFORMÁTICAS	14.909,00	-	-	14.909,00
PROPIEDAD INDUSTRIAL	3.270,00	-	-	3.270,00
TOTAL AMORTIZACIONES DE ACTIVOS MEDIOAMBIENTALES	2.464.983,22	216.748,83	(12.335,98)	2.669.396,07



11. Sustainability Indicators

As in previous Reports, the following is a compiling of the environmental indicators used to report on the activity of this Port Authority.

Since 2011 the PAV has been working with three groups of indicators; the **first group** comes from the GRI (Global Reporting Initiative) methodology adapted to the characteristics of port activities and which were defined as a result of the MESOSPORT project.

The **second group** consists of the indicators required by Regulation EC1221/2009 EMAS III. In addition, the PAV is working on a third group of sustainability indicators to be included in the PAV Sustainability Report, as a result of the State Ports Sustainability Working Group, and which aims to unify criteria for reporting the sustainable behaviour of the Spanish Port System, which are not included in this Statement.

In this Statement only the most relevant of the first group are listed, in addition to those of the second group, as required by Regulation EC1221/2009 EMAS III.

FIRST GROUP:

A 14	TOTAL NUMBER AND VOLUME OF THE MOST SIGNIFICANT ACCIDENTAL SPILLS. SEE CHAPTER 7. EMERGENCY RESPONSES
A 15	INITIATIVES TO MITIGATE THE ENVIRONMENTAL IMPACTS OF PA ACTIVITY DE LA AP CERTIFICATIONS: SEE CHAPTER 4. DESCRIPTION OF THE ENVIRONMENTAL MANAGEMENT SYSTEM, SECTION 4.2. CERTIFICATIONS: UNE EN ISO 14001:2015 STANDARD ON ENVIRONMENTAL MANAGEMENT SINCE 2006. UNE EN ISO 50001:2011 STANDARD ON ENERGY MANAGEMENT SINCE 2016. EMAS III CERTIFICATION SINCE 2008. PERS (PORT ENVIRONMENTAL REVIEW SYSTEM) CERTIFICATE, THE LATEST RENEWAL CORRESPONDING TO 2015. FOR THE YEAR 2015 WATER QUALITY: CLEANING OF FLOATING WASTE FROM THE WATER MIRROR: USING VESSEL LIMPIAMAR III SEE CHAPTER 6, SECTION 6.4.5. WATER QUALITY MONITORING RESULTS 2018. FIGHTING AGAINST OIL SPILL POLLUTION: THROUGH THE EMERGENCY PLANS. THE PAV HAS EQUIPMENT TO MITIGATE THE EFFECTS OF CONTAMINATION. SEE CHAPTER 7. EMERGENCY RESPONSES WATER QUALITY CONTROL NETWORK. SEE CHAPTER 6. STATE OF THE ENVIRONMENT, SECTION 6.4. WATER QUALITY. AIR QUALITY: SEE CHAPTER 6. STATE OF THE ENVIRONMENT, SECTION 6.2. AIR QUALITY CONTROL: EXISTENCE OF CONTROL NETWORKS, CHAPTER 6. STATE OF THE ENVIRONMENT. ACOUSTIC QUALITY CONTROL NETWORK, SECTION 6.3. AIR QUALITY CONTROL, SECTION 6.2. WASTE MANAGEMENT: A WASTE TRANSFER CENTRE (WTC) IS AVAILABLE TO FACILITATE WASTE COLLECTION. SEE CHAPTER 6. STATE OF THE ENVIRONMENT, SECTION 6.1. OWN WASTE, SUB-SECTIONS 6.1.1. AND 6.1.2. WASTE FROM THE PORT PREMISES. THE PAV HAS THE PORT SERVICE FOR THE COLLECTION OF MARPOL I, IV AND V UNDER AN INDIRECT SEE CHAPTER 6. STATE OF THE ENVIRONMENT, SECTION 6.1. WASTE, SUB-SECTIONS 6.1.3. WASTE FROM VESSELS. INNOVATION AND COOPERATION PROJECTS: SEE CHAPTER 8. INNOVATION AND COOPERATION PROJECTS
A 17	COST OF SIGNIFICANT FINES AND NUMBER OF NON-MONETARY SANCTIONS FOR NON-COMPLIANCE WITH ENVIRONMENTAL REGULATIONS. NO FINES OR NON-MONETARY SANCTIONS HAVE BEEN IMPOSED FOR NON-COMPLIANCE WITH ENVIRONMENTAL REGULATIONS

SECOND GROUP:

See Chapter 5. Natural Resources Management, section 5.5. Summary of indicators.



12. Recommendations for Improvement

As the last section of this declaration, the Port Authority of Valencia wishes to promote the environmental improvement of our surroundings wherever possible, proposing to the reader, whether you're involved in a related industry, a member of the administration, a neighbour from the local community or any other stakeholder in the management system, the adoption of good practices will undoubtedly result in both current and future generations being able to continue enjoying a clean and healthy port area:

- » Reduce the generation of waste at source where possible.
- » Reuse in another part of the process what apparently seemed to be waste.
- » Separate different types of hazardous waste from other types of waste
- » Manage such waste appropriately through authorised hauliers and managers
- » Do not discharge unauthorised substances into the sewage system.
- » Check your vehicle(s); don't forget that they need regular inspections, they will consume less fuel and will not emit what they shouldn't.
- » The sea belongs to everyone; avoid dumping any substance, of solid or liquid nature, in port waters.
- » Water is a scarce commodity; use the water you need and no more, use drip irrigation for your plants, use low consumption push button cisterns, reuse it whenever you can.

Don't forget that:

“WE ARE NOT ONLY HEIRS OF THE EARTH, OF THE RIVERS, OF THE MOUNTAINS, OF THE WIND; WE ARE ITS GUARDIANS AND TRUSTEES”
Kyoto Protocol



13. Verification and Validation

This is the annual declaration for 2020 registered with the Regional Government of Valencia under number E/CV/000023. This was verified by internal audit conducted by Apprezia from 22 to 24 November 2021, and the external audit conducted by DNV GL Business Assurance España, on 26, 29 and 30 November 2021.

Verifying body: DNV GL BUSSINESS ASSURANCE ESPAÑA, S.L.U

VERIFIER: ES-V-0005