



Environmental Declaration 2021



Contents

1. Chairman's letter	5	6. State of the environment	39	7. Emergency responses	93
2. Introduction. Background	6	6.1. Waste	39	8. Innovation and cooperation projects	95
3. Description of the Port	8	6.1.1. Own waste	39	8.1. Projects completed	96
3.1. Location. Physical data	8	6.1.2. Waste from the port premises	41	8.2. Development projects	100
3.2. Legal framework	9	6.1.3. Waste from vessels	45	8.3. Company shareholdings	102
3.3. Basic port traffic data	14	6.2. Air quality control	47	8.4. Training	103
4. Description of Environmental Management System	15	6.2.1. Air quality in the port premises	47	9. Communication and publications	103
4.1. Environmental policy	15	6.2.2. Air quality in the port premises in the year 2021	50	9.1. Communication	103
4.2. Certifications	16	6.2.3. Environmental concentrations in the surrounding area of the port of valencia in the year 2021	54	9.2. Specific environmental information talks	103
4.3. Description of the system	18	6.2.4. Data recorded at weather stations 2021	55	9.3. Collaboration and attendance at forums and seminars	104
4.4. Flow chart	19	6.3. Acoustic quality control network	64	9.4. Publications	104
4.5. Environmental aspects:	20	6.3.1. Results obtained in the year 2021 according to the benchmark regulation values	65	10. Green accounting	109
4.6. Objectives and goals	24	6.3.2. Acoustic "static" maps	68	10.1. Environmental spending	109
4.6.1. Fulfilment of objectives planned for 2021	24	6.3.3. Acoustic "predictive" maps	69	10.2. Tangible and intangible fixed assets	110
4.6.2. Objectives planned for 2022	26	6.4. Water quality	78	11. Sustainability indicators	110
4.7. Needs and expectations of stakeholders	30	6.4.1. From vessels	78	12. Recommendations for improvement	112
5. Management of natural resources	31	6.4.2. Areas of study	79	13. Verification and validation	113
5.1. Water	31	6.4.3. Determination of the port aquatic management units (PAMUS)			
5.2. Electricity	32	6.4.4. Variables studied	82		
5.3. Fuel	34	6.4.5. Water quality monitoring results 2021	86		
5.4. Paper consumption	34	6.5. Dredging management	90		
5.5. Summary of indicators	35	6.6. Environmental monitoring plan	90		
5.5.1. Emas indicators	35	6.7. Soil management	91		
5.5.2. Other indicators	37	6.8. Visual impact	91		
		6.9. Mobility plan	92		
		6.10. Other actions	93		

1. Chairman's letter

For yet another year, the Port Authority of Valencia (PAV), in compliance with its commitment to sustainability, respect for the environment and the fight against climate change, presents this Environmental Statement which includes the initiatives developed in this regard in the port areas of Valencia, Sagunto and Gandia throughout 2021.

The pillars on which the PAV's environmental and energy strategy is based are the sectoral certifications, which have been renewed for yet another year. The maintenance of the most demanding environmental and energy certifications at port level, such as ISO 14001, ISO 50001, the EMAS III Register and PERS (Port Environmental Review System), 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.

At the PAV we are aware of the importance of integrating into our day-to-day activities measures that contribute to the fulfilment of the Sustainable Development Goals (SDGs), adopted by the UN in 2015. Among the SDGs most closely related to the environment at ports are initiatives aimed at promoting the use of sanitation systems in the companies in the Port of Valencia, those aimed at improving energy efficiency, promoting the use of renewable energies and improving and promoting ferry lines in the ports.

During 2021, the project to build the new electrical substation at the Port of Valencia began, 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 reducing emissions.

On the other hand, and in the same line of energy efficiency, the projects to replace the street lighting in the ports of Valencia and Sagunto were completed. At the end of the year, the project to improve the energy efficiency of the climate plant at the Port of Valencia was at an advanced stage.

In addition, the GHG (greenhouse gas) reports of the PAV - Port of Valencia were drawn up for 2016, 2017, 2018 and 2019, showing a reduction in the carbon footprint, which enabled us to obtain the "reduzco" (reduce) seal from the MITECO Registry of Carbon Footprint, Offsetting and CO2 Removal Projects.

The above milestones are part of the strategy to which the PAV has dedicated more resources and which is related to the improvement of energy efficiency and the reduction of CO2 emissions with the aim of Port of Valencia meeting the "zero emissions" target by 2030. To achieve this, we are finalising the Strategic Energy Plan that will allow us to get ahead of the European targets, which are set for the year 2050.

Within the scope of this "Zero Emissions" target, the PAV has started the modernisation of its monitoring networks and energy distribution networks to make them compatible with the new needs that are going to arise in the port, such as the electrical supply to ships (On Shore Power Supply - OPS), the incorporation of electrical energy generation plants from renewable sources or the digitalisation in which the operational and management processes carried out in the port are immersed.

All the aforementioned lines are accompanied by a process of transition towards cleaner fuels, as demonstrated by the forthcoming start-up of the fixed-mobile hydrogen plant in the Port of Valencia, which will serve two prototypes of port machinery at the MSCTV and Valencia Terminal Europa terminals, making Valencia the first port in Europe to test hydrogen technology in port machinery.

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. 2021 saw the continued development projects such as H2Ports project, 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 in the near future will allow for the electrical connection of vessels during calls at port under the umbrella of EALING (EALING-OPS and EALING-Works).

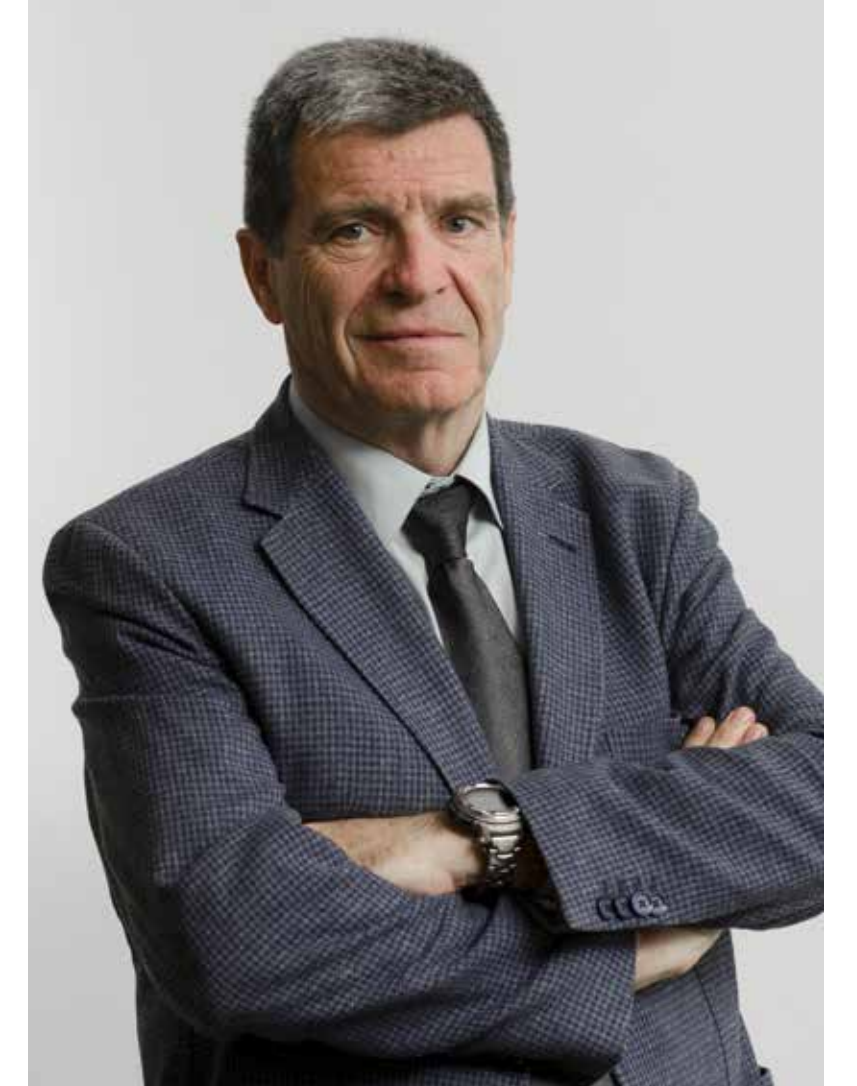
We should also underline that the PAV is represented on the committees of several international port organisations, such as the Sustainability Committee, the Energy Committee of the ESPO (European Seaports Organization) and the Climate and Energy Committee and the working group of the WPCAP (World Ports Climate Action Plan) initiative 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 matters related to environmental sustainability.

On the other hand PAV has an established channel of communication with the Port Community and society in general, not only through the publication of this Environmental Declaration, but also its website (www.valenciaport.com), 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.

To conclude, I would like to highlight and express my appreciation for both the staff of the PAV and all members of the Port Community, who have been involved with us to make ports more sustainable places. Without them, we would not have been able to achieve the results obtained nor set new improvement targets for the future.

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 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 objective 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 several stages during 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 document, 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 14001 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 "cálculo" (calculate) seal. Along these lines, in 2016, the PAV obtained the certification of the Energy Management System in accordance with standard ISO 50001, 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 extension 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 port community and establishing the strategy to improve the energy-environmental performance through the definition of indicators like the carbon footprint.
- Maintenance of the Environmental and Energy Management System, the operation of which ensures efficient management of resources, as well as improving the information contained in this Declaration year after year and allows us to improve our environmental and energy performance over time.
- Fostering the implementation of renewable energies on port premises with the aim of decarbonising activities carried out therein and reducing the carbon footprint.
- Development of the 2030 Zero-Emissions Plan in the port of Valencia.
- Registration of the Carbon Footprint in the Registry of the Ministry for Energy Transition and the Demographic Challenge and obtaining the "reduzco" (reduce) 2019 seal.

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 Gandia.

The prime 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.

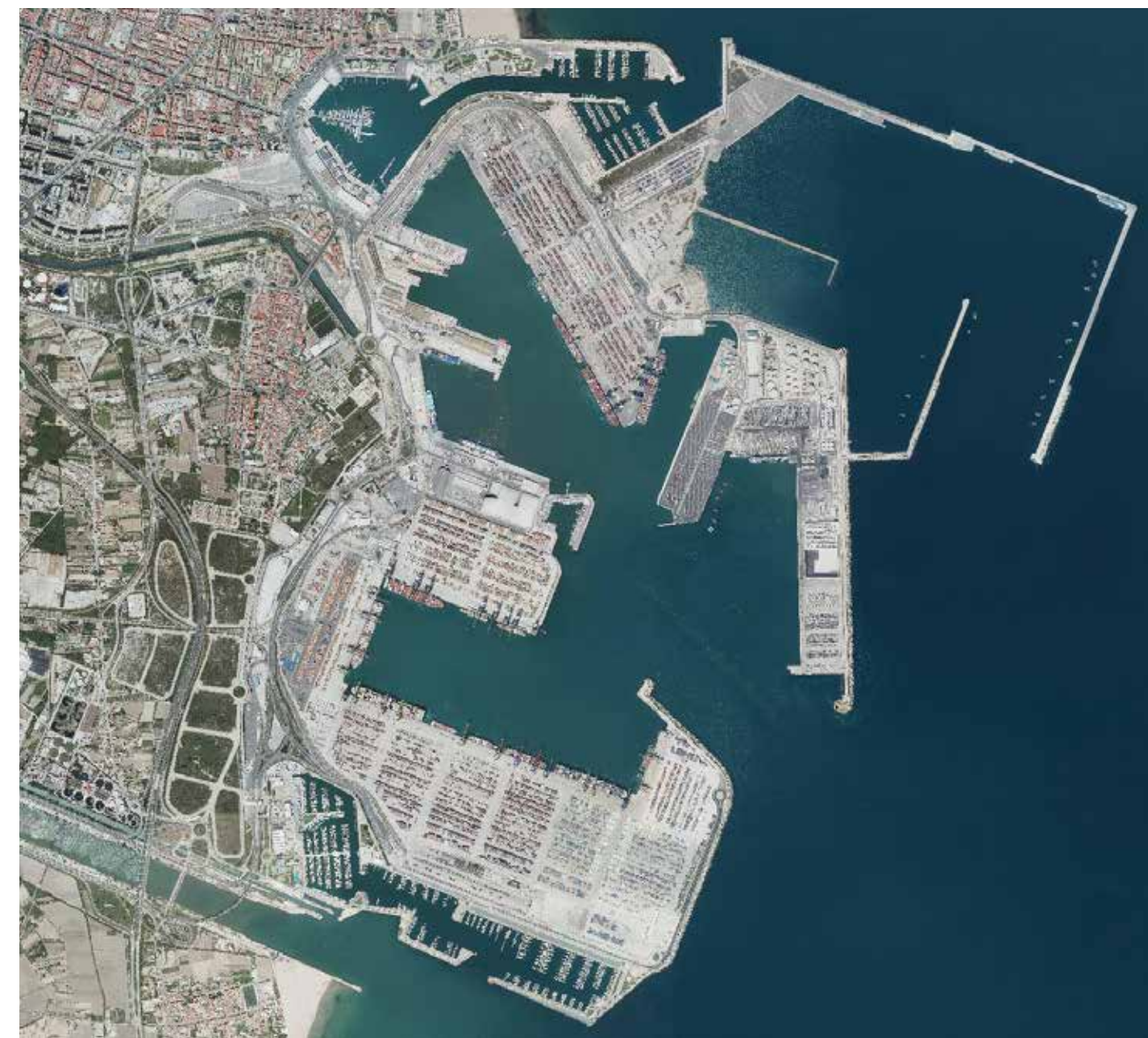
3.1. Location. Physical data

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

Port	Status	Total surface area	Waster surface area	Piers Berthing line
Sagunto	longitude 0° 13' W latitude 39° 39' N	2,397,800 m ²	2,206,000 m ²	14 piers 5,801 m berthing line
Valencia	longitude 0° 18.1' W latitude 39° 26.9' N	5,626,534 m ²	5,746,000 m ²	27 piers 14,002 m berthing line
Gandia	longitude 0° 9' W latitude 38° 59' N	245,000 m ²	284,000 m ²	6 piers 1,573 m berthing line



Port of Sagunto. Year 2020



Port of Valencia. Year 2020



Port of Gandia Year 2020

3. Description of the Port

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 State Ports, which is responsible for the administration, management, control and operation of the ports of Sagunto, Valencia, and Gandia. 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 that generate
- Runoffs, despite not being a representative aspect, as existing runoffs at 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.

It drives the promotion of compliance with legal requirements of an environmental nature, both among the personnel of the port authority and the concessions based on the port premises, conducting training activities on the legal requirements that facilities must meet such as hazardous waste, environmental responsibility, and runoff.

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

EMAS
25 November 2009 (EC) No 1221/2009 OF PARLAMENTO EUROPEO 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)

3. Description of the Port

GENERAL

LEGISLATIVE DECREE 1/2021, of 18 June, of the Council, approving the revised text of the Law on spatial planning, town planning and landscape

Royal Legislative Decree 1/2016, of 16 December, approving the consolidated text of the Law on the integrated prevention and control of pollution

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 Law on State Ports and the Merchant Navy

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 27/2021, of 19 January, amending Royal Decree 106/2008, of 1 February, on batteries and accumulators and the management of waste, and Royal Decree 110/2015, of 20 February, on waste from electrical appliances and electronics

Law 22/2011, of 28 July, on waste and contaminated soils

Royal Decree 1381/2002 on Port Facilities for the reception of waste generated by vessels

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

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

Order PCM/542/2021, of 31 May, amending Annex III of Royal Decree 1513/2005, of 16 December, which implements Law 37/2003, of 17 November, on Noise, with regard to the assessment and management of environmental 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)

3. Description of the Port

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 809/2021, of 21 September, approving the Pressure Equipment Regulation and its supplementary instructions

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 Decree 1695/2012, of 21 December, approving the National Response System for marine pollution

ROYAL DECREE 1027/2007, of 20 July, approving the Thermal Facilities in Buildings Regulation

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.
- Logbook for potentially polluting activities. Atmospheric pollution.
- International Convention for the Prevention of Pollution from Ships, of 2 November 1973 (Marpol Convention).



Clock Building

3. Description of the Port

3.3. Basic port traffic data

	2020	2021	Δ21/20 dic acum	Δ21/20 nov acum	Tendencia Anual
Autoridad Portuaria de Valencia					
Tráfico total (t)	80.882.224	85.269.726	5,42%	6,41%	5,42%
Granel Líquido	2.673.188	3.867.779	44,69%	35,30%	44,69%
Granel Sólido	1.859.496	2.159.064	16,11%	15,92%	16,11%
Mercancía No Containerizada	12.747.552	14.806.681	16,15%	17,15%	16,15%
Mercancía Containerizada	63.264.401	64.017.231	1,19%	2,59%	1,19%
Pesca	1.516	1.057	-30,30%	-31,45%	-30,30%
Avituallamiento	336.071	417.914	24,35%	27,93%	24,35%
Buque (ud)	6.851	7.295	6,48%	6,83%	6,48%
G.T.	243.421.631	255.632.142	5,02%	5,08%	5,02%
Contenedores (TEU)	5.428.307	5.604.478	3,25%	4,46%	3,25%
Pasajeros (ud)	419.121	635.689	51,67%	47,92%	51,67%
Línea Regular	392.835	504.820	28,51%	24,71%	28,51%
Cruceros	26.286	130.869	397,87%	373,04%	397,87%
Automóviles (ud)	533.137	493.697	-7,40%	-3,97%	-7,40%
Tráfico RoRo (toneladas)	11.223.554	12.863.187	14,61%	15,73%	14,61%
UTIs	402.228	453.945	12,86%	13,45%	12,86%
Tráfico Ferroviario (toneladas)	2.662.077	2.941.778	10,51%	12,37%	10,51%
TEU	200.098	213.216	6,56%	7,23%	6,56%
Vehículos	23.294	8.808	-62,19%	-60,36%	-62,19%

Puerto de Valencia					
	2020	2021	Δ21/20 dic acum	Δ21/20 nov acum	Tendencia Anual
Tráfico total (t)	74.584.893	77.532.462	3,95%	5,16%	3,95%
Granel Líquido	1.074.487	1.459.243	35,81%	27,31%	35,81%
Granel Sólido	1.167.941	1.449.017	24,07%	19,84%	24,07%
Mercancía No Containerizada	9.191.414	10.733.827	16,78%	17,98%	16,78%
Mercancía Containerizada	62.839.866	63.502.148	1,05%	2,46%	1,05%
Pesca	367	241	-34,26%	-35,96%	-34,26%
Avituallamiento	310.818	387.986	24,83%	28,71%	24,83%
Buque (ud)	5.538	5.854	5,71%	5,89%	5,71%
G.T.	221.413.475	231.492.866	4,55%	4,72%	4,55%
Contenedores (TEU)	5.382.303	5.546.796	3,06%	4,29%	3,06%
Pasajeros (ud)	416.228	635.675	52,72%	49,00%	52,72%
Línea Regular	389.942	504.806	29,46%	25,69%	29,46%
Cruceros	26.286	130.869	397,87%	373,04%	397,87%
Automóviles (ud)	425.999	396.097	-7,02%	-4,33%	-7,02%
Tráfico RoRo (toneladas)	9.816.939	11.454.311	16,68%	17,84%	16,68%
UTIs	360.972	412.202	14,19%	14,88%	14,19%
Tráfico Ferroviario (toneladas)	1.927.279	2.055.049	6,63%	7,30%	6,63%
TEU	200.098	213.216	6,56%	7,23%	6,56%
Vehículos	23.294	8.808	-62,19%	-60,36%	-62,19%

	2020	2021	Δ21/20 dic acum	Δ21/20 nov acum	Tendencia Anual
Puerto de Sagunto					
Tráfico total (t)	6.015.027	7.526.757	25,13%	23,86%	25,13%
Granel Líquido	1.598.701	2.408.536	50,66%	41,00%	50,66%
Granel Sólido	691.555	710.047	2,67%	8,24%	2,67%
Mercancía No Containerizada	3.276.461	3.863.959	17,93%	18,92%	17,93%
Mercancía Containerizada	424.535	515.083	21,33%	20,99%	21,33%
Pesca	143	73	-49,00%	-50,97%	-49,00%
Avituallamiento	23.632	29.059	22,96%	24,19%	22,96%
Buque (ud)	1.206	1.366	13,27%	14,88%	13,27%
G.T.	21.365.955	23.698.894	10,92%	10,11%	10,92%
Contenedores (TEU)	46.004	57.682	25,38%	24,77%	25,38%
Pasajeros (ud)	68	14	-79,41%	-79,10%	-79,41%
Línea Regular	68	14	-79,41%	-79,10%	-79,41%
Cruceros					
Automóviles (ud)	107.138	97.600	-8,90%	-2,50%	-8,90%
Tráfico RoRo (toneladas)	1.391.385	1.404.547	0,95%	1,83%	0,95%
UTIs	41.230	41.743	1,24%	1,07%	1,24%
Tráfico Ferroviario (toneladas)	734.798	886.729	20,68%	26,10%	20,68%
TEU	0	0			
Vehículos	0	0			

Puerto de Gandía					
	2020	2021	Δ21/20 dic acum	Δ21/20 nov acum	Tendencia Anual
Tráfico total (t)	282.305	210.507	-25,43%	-29,81%	-25,43%
Granel Líquido					
Granel Sólido					
Mercancía No Containerizada	279.677	208.895	-25,31%	-29,67%	-25,31%
Mercancía Containerizada					
Pesca	1.007	743	-26,22%	-27,06%	-26,22%
Avituallamiento	1.621	869	-46,39%	-55,23%	-46,39%
Buque (ud)	107	75	-29,91%	-33,33%	-29,91%
G.T.	642.201	440.382	-31,43%	-34,58%	-31,43%
Contenedores (TEU)	0	0			
Pasajeros (ud)	2.825	0			
Línea Regular	2.825	0			
Cruceros					
Automóviles (ud)	0	0			
Tráfico RoRo (toneladas)	15.230	4.329	-71,58%	-71,58%	-71,58%
UTIs	26	0			

4. Description of Environmental Management System

4.1. Environmental policy

THE PORT AUTHORITY OF VALENCIA'S ENVIRONMENTAL AND ENERGY POLICY

Shipping is an essential element in the flow and exchange of goods. Modern port management and market competition have led port companies to concentrate and increase the volume of their activities and accordingly, they use ever larger amounts of resources, which makes the inclusion of ecoefficient management criteria increasingly more important. One of the business strategy priorities of the Port Authority of Valencia, as the managing body of one of the main port areas in the Mediterranean, is sustainable development, combining respect for the environment with the economic and social growth of port activities in the facilities it manages.

The PAV is committed to developing an environmental and energy management system which, in addition to making all the members of its organisation aware of the responsibilities of sustainable management, also publicises and extends the need to adopt this ethical commitment to all the companies that operate on public port land, and involves customers, suppliers, official bodies, and other companies in the sector in this Environmental and Energy Policy. This commitment is specifically reflected in:

- The incorporation of environmental and energy considerations into public port land planning, organisation, management, and conservation processes to set goals and objectives for the improvement of both systems.
- Regular systematic analysis and assessment of the activities, products, and services of companies that may interact with the environment, in order to be aware of and manage the environmental risks they may create.
- Measuring, monitoring and managing the use of natural resources and energy, including eco-efficiency criteria in general, and energy efficiency criteria in particular, to ensure suitable environmental and energy performance in the services provided.
- Compliance with applicable environmental and energy legislation and requirements, aiming to go further than the demands required by law, whenever possible.
- Prevention and minimisation of emissions, consumption, discharges, noise, and waste produced as a result of its activities, aiming to recover as much as possible of the waste generated.
- Using and encouraging the implementation of the best, most viable technologies in each activity.
- The provision of suitable training and information for employees to encourage awareness and take-up of this policy.


As part of the voluntary commitments taken on to encourage environmental sustainability in the facilities it manages, the PAV supports a number of initiatives in its port community:

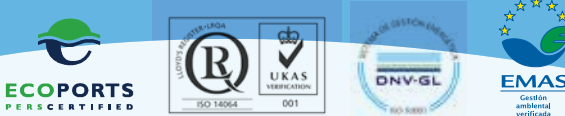
- Providing a forum where port companies can participate to establish common environmental initiatives and objectives, facilitate training for port company employees, and share concerns and needs linked to projects, communication and regulatory aspects which help to improve the environmental performance of all the participating firms.
- Encouraging port community companies to adopt the best technologies available to them through their participation in projects.
- Helping companies in the port community to implement energy efficiency improvements.
- Regularly assessing and measuring the impact of activities that take place in port facilities by calculating their carbon footprint.

Similarly, regular reports including a review of environmental initiatives will be drawn up and circulated to customers, suppliers, industry firms, members of the organisation and other stakeholders.

This Environmental and Energy Policy will be published and sent to all the members of the PAV so they can take part in improving the Environmental and Energy Management System. This policy will be updated when appropriate through a process of continuous improvement.

Approved by the Port Authority of Valencia's Board of Directors, on 12th April 2000, amended on 14th May 2015, and last updated on 11th November 2016 to include energy aspects.


Aurelio Martínez Estévez
Presidente de la Autoridad Portuaria de Valencia



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 14001. In October 2017, we renewed the certified under the new standard 14001:2015

4. Description of Environmental Management System



Certificate of Registration in the Carbon Footprint Register of the “calculo reduzco” (calculate reduce) seal of the Ministry of Ecological Transition for the year 2019



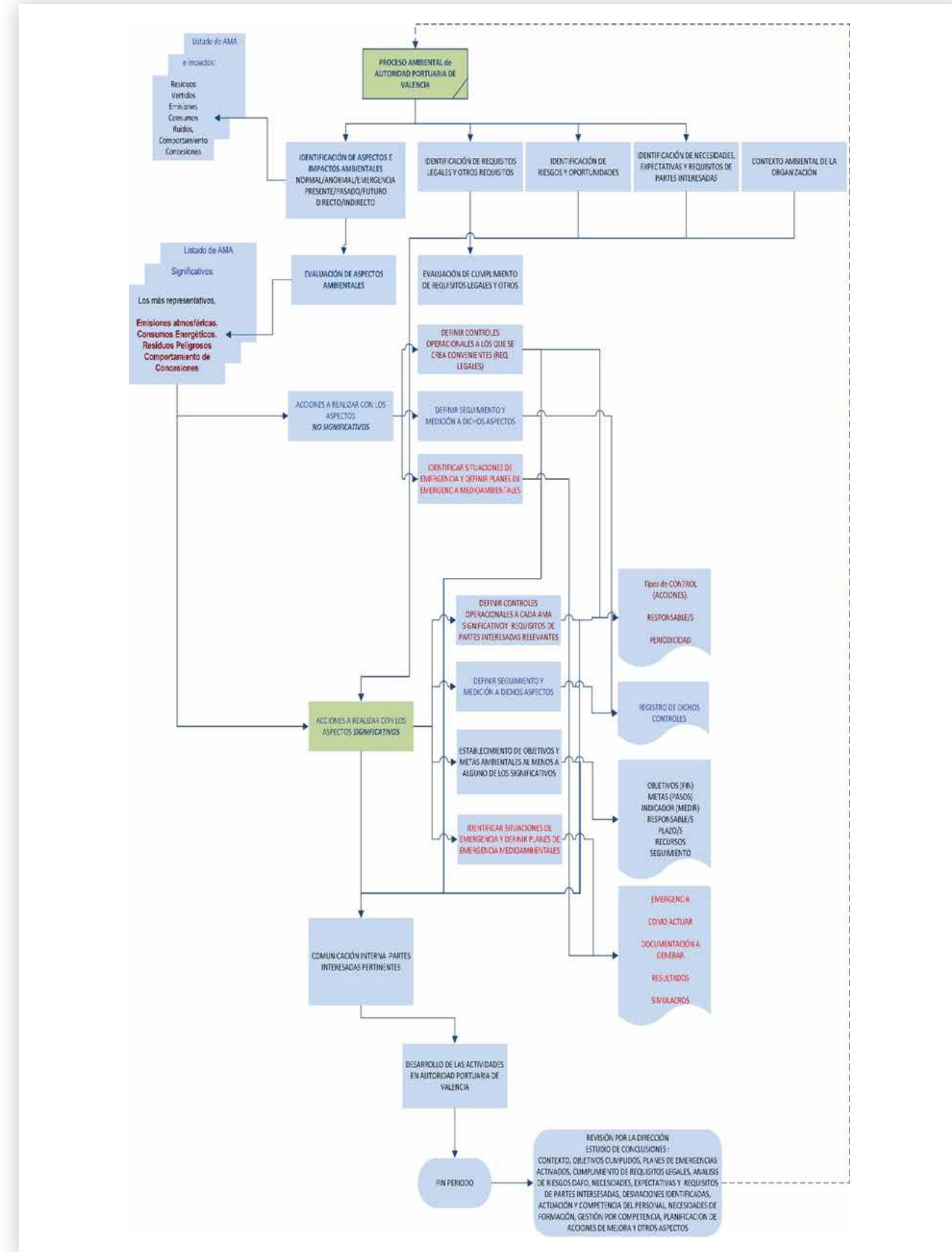
From 15 January 2008, the Port Authority of Valencia was registered by the Regional Ministry of Infrastructure, Territory and the Environment under number ES-CV 000023 in compliance with the Regulation (EC) 1221/2009 and 761/2001



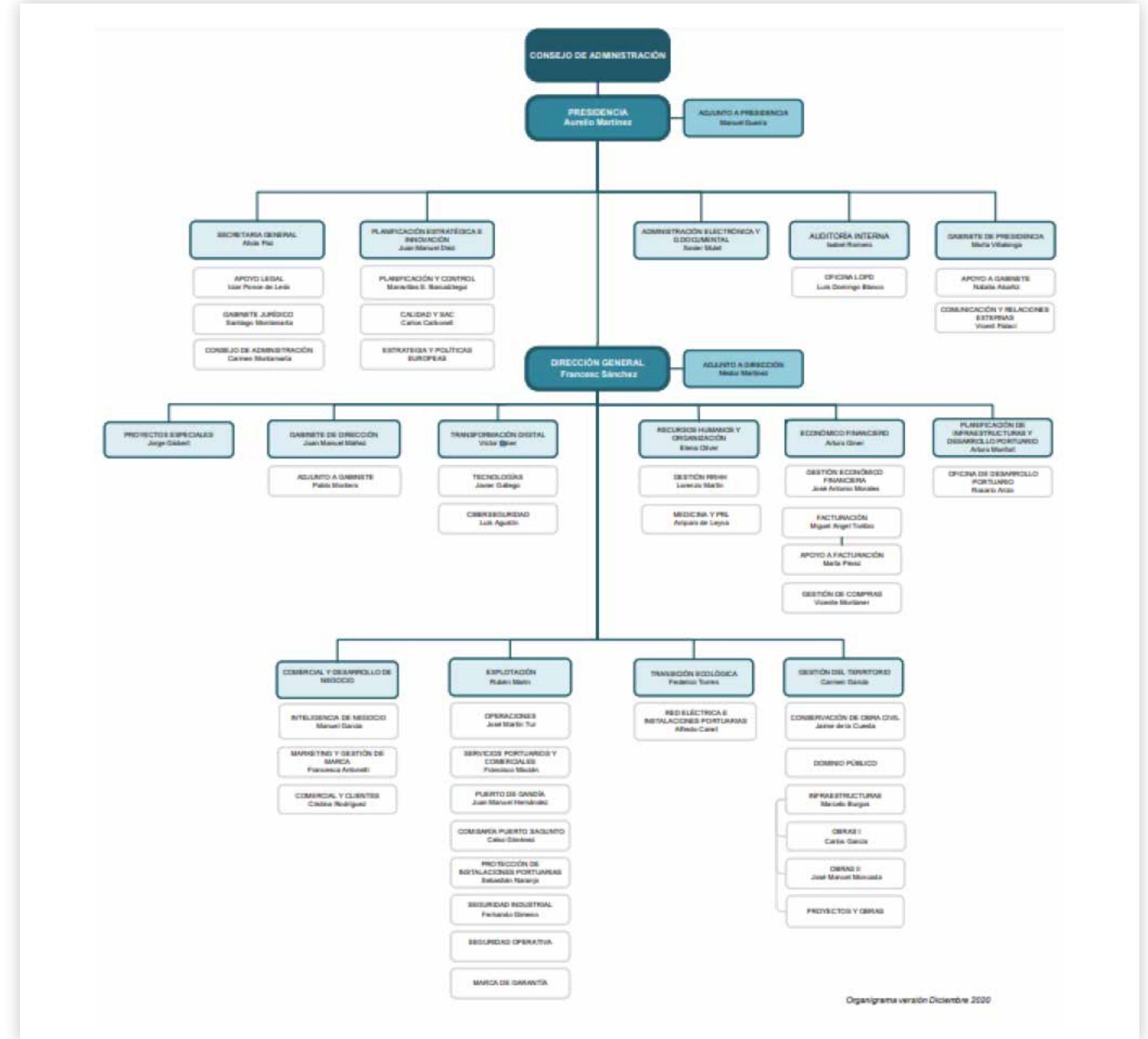
In 2016, the Port Authority of Valencia obtained ISO 50001 certification for the port of Valencia

4. Description of Environmental Management System

4.3. Description of the system



4.4. Flow chart



4. Description of Environmental Management System

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.
- Ensure 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.
- They shall be responsible for the creation of an energy management team.

The Environment Officer or the person 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.
- Identify and assess the 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.
- Identify the legal requirements and other requirements applicable to the Port Authority of Valencia in relation to the environment, and the 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.
- Process 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 send an email to the following address
medioambiente@valenciaport.com

4. Description of Environmental Management System

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, adverse or beneficial, as a total or partial development of environmental aspects of an 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 of them is analysed separately, using the aforementioned methodology which uses the criteria of Frequency with which the environmental aspects are generated and the severity, which is determined by the calculation of the Danger and the Quality 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.

Thus, those aspects whose consequences have a high impact or moderate impact with a High frequency, as shown in the following table.

		Consequences		
		Low impact	Moderate impact	High impact
Frequency	Low			
	Medium			
	High			

4. Description of Environmental Management System

In terms of the environmental aspects identified in emergency situation, they are assessed under the criteria of Frequency, Magnitude of Impact and Sensitivity of the Environment, and 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.
Waste generation		Waste generation on the Port Premises	
Emissions into the atmosphere	No. 73	Emissions arising from port operations on the Port Premises	No. 73 N ^a 76
Water quality		Environmental performance of Concessions	
Noise, visual impact	No.75	Noise on roads on the Port Premises	No.75
Water consumption		Water consumption on the Port Premises	
Electricity consumption	No. 67 No. 68 No. 70 No. 71 No. 72	Electricity consumption on the Port Premises	No. 67 No. 68 No. 70 No. 72
Consumption of raw materials		Consumption of raw materials on the Port Premises	

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
Electricity consumption*	No. 67 No. 68 No. 70 No. 71 No. 72	No. 73 No. 76	Environmental performance of Concessions

(*) 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 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 the Environmental Impact Study, and they are monitored through the Environmental Impact Declaration and the Environmental Monitoring Plan.

4. Description of Environmental Management System

4.6. Objectives and goals

4.6.1. FULFILMENT OF OBJECTIVES PLANNED FOR 2021

The objectives planned and carried out in 2021 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 this but linked to another set in previous years.
	New objective set this year.

No. 59 Installation of a substation ELECTRICITY 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. Finalising the tender documents for the construction of the substation, construction management and connections.

The objective remains as envisaged for 2022.

No. 64 Improvement of air quality in the port of Sagunto through the installation of a particle capture 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 being 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.

At the 2020, progress has been made in the preparation of lands and the preparation of electricity supplies and fibre optic cable located in the cabins.

The cabins have been installed during 2021. The information has been integrated into the PAV's data integration system and into the Generalitat's air quality network.

The objective has therefore been met.

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 PAV

Following the presentation of Ecoport III to the Ecoport group, work began on the collection and validation of data on the Ecoport III environmental variables. The results of the draft Ecoport III report have been presented. After validation, the report has been submitted to the Ecoport group under the title: *Statistical analysis of eco-efficiency levels at Valenciaport*

The objective has been met and therefore closed.

No. 67 Drafting of a Strategic Energy Plan of the PAV in the port of Valencia

Work has been carried out on the design of 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. Working meetings have been held with the terminals and progress has been made in drafting. The consumption of vessels calling to ports and container terminals were analysed. Following the presentation of results to the terminals, their future energy plans were analysed. Future scenarios are being defined with estimated demand for ships and terminals in 2030

The CO2 capture study has been initiated. Work has begun on the land transport part, as well as the part modelling photovoltaic production.

This objective remains for 2022

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

Signing of the contract for the purchase of lighting and the certificate of scope, design and construction. The execution of the contract has started and is scheduled for completion in early 2022.

This objective remains for 2022

No. 70 Improvement of energy efficiency through the implementation of photovoltaic panels in the facilities of the Puerto de Valencia Gandia.

A resistance problem was detected in the silo due to weight of the photovoltaic facility in the port of Valencia and several possible solutions were studied. A survey has been carried out in Gandia to check the conditions of the physical site of the installation in order to assess whether it is necessary to include new requirements in the technical specifications.

With the structural problem solved, the technical project for the installation of photovoltaic energy is being carried out, and in parallel, the conditions of the agreement to be signed are being developed with the VTE terminal.

At the Gandia facility, the technical project has been finalised and sent to OPPE as it involves MRR funds, and the administrative specifications are being drawn up.

At the Príncipe Felipe dock facility work is currently underway on the administrative specifications. Technical project has been completed and submitted to OPPE for approval as MRR funds are involved.

This objective remains for 2022

4. Description of Environmental Management System

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 be modified 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.

The award contract and the staking out act have been signed. The contract is being executed.

This objective remains for 2022, as planned.

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

The contract has been tendered and the installation of the new exterior LED technology lighting in the Port of Sagunto has begun. The installation is expected to be completed in the first quarter of 2022.

This objective remains for 2022

No. 73 Preliminary design for the installation of aerogenerators in the North Extension of the Port of Valencia

The tender has been issued and the contract signed for the drafting of a preliminary project for the installation of Aero Generators in the Port of Valencia. Equipment characteristics are being analysed.

The pre-project is expected to be completed in the first four months of 2022.

This objective remains for 2022

No. 74 Updating of the Noise Map In The Port Of Valencia, including the North Extension

Information needed for the map update has been collected and included in the model. Measurement campaigns have been carried out to validate the data and finalise the study.

These reports are now available, as well as the updated noise maps of the port of Valencia.

The objective has been met and therefore closed.

No. 75 Extension of the acoustic control network in Sagunto and Gandia.

The infrastructure of facilities needed to install the sound level meter so that the data can be extracted and included in the data analysed in PAV is being analysed

The installation of fibre is missing in order to be able to install and collect sound level meter data.

The objective is transferred to 2022

4.6.2. OBJECTIVES PLANNED FOR 2022

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) NOISE:

No. 75 Extension of an acoustic monitoring network in Sagunto and Gandia

With this objective, the aim is to improve the acoustic control of PAV, through the expansion of control equipment by installing additional equipment in the Ports of Sagunto and Gandia.

- **Starting situation:** There is an acoustic monitoring network in the ports dependent on PAV.
- **Situation envisaged:** Extend the existing network of equipment for improved acoustic monitoring.
- **Result:** improvement of control of acoustic quality in the Port of Gandia. **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 a substation at the Port of Valencia (ST1).

This objective is carried out in order to cover future forecasts of use and to be able to plan and improve the energy system in the Port of Valencia, which will allow, among other measures, the electrical connection to moored ships, thus reducing emissions as the use of fossil fuels (auxiliary engines) will be avoided by using electrical energy which, in the case of PAV, is 100% renewable.

- **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 management 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.

4. Description of Environmental Management System

No. 67 Strategic Energy Plan of the PAV 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 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 objectives and goals 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 implementation of photovoltaic panels in the facilities of the Port of Valencia and at the Port of Gandia.

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:** Improving energy efficiency and increasing the proportion of self-consumption. **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 Improvement of energy efficiency in the Climate Plant of the Port of Valencia with a reduction of 15%

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

Within PAV's energy strategy (Zero Emissions Plan 2030), the aim is to promote the use of renewable technology to achieve energy self-sufficiency. It is intended to install wind turbines in the port area of Valencia.

- **Starting situation:** there is a report on the feasibility of installing wind turbines in the port of Valencia.
- **Situation envisaged:** preparation of a preliminary project establishing the configuration of the future wind power plant in the port of Valencia.
- **Result:** improve the energy efficiency of the port of Valencia, increase self-consumption through the integration of renewable energy. **Lines of the Policy:** Use and provide the use of technology improvements that are visible in each activity.

4. Description of Environmental Management System

No. 76 Implementation of OPS technology at the Port of Valencia

The aim is to carry out the necessary installations to implement an Onshore Power Supply (OPS) system that will allow vessels at berth to be connected to the electricity grid, which will enable the auxiliary engines to be disconnected and therefore reduce emissions and noise.

- **Starting situation:** participation in R&D&I projects on OPS development.
- **Situation envisaged:** to implement OPS technology within the port of Valencia.
- **Result:** reduction of emissions and noise produced by ships' engines during their stay in port. **Lines of the Policy:** Use and provide the use of technology improvements that are visible in each activity.

No. 77 Installation of SUBSTATION 2 the Port of Valencia (origin 2022)

The purpose of this objective is to provide the port with a redundancy system so that, in the event of a failure in one of the substations, it can continue to provide service to the Port Community.

- **Starting situation:** following the study of future demand, it was found that there was no supply capacity demanded in the medium term. Work began on the installation of the two substations.
- **Situation envisaged:** to be able to supply the energy demanded both to the port facilities and to the requested services, without service failures.
- **Result:** to increase the electrical capacity of the port of Valencia, and the guarantee of supply. **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. 78 Installation of a connection between Substation 1 and Substation 2 at the Port of Valencia

This installation has been planned in order to provide the port with a redundancy system so that, in the event of a failure in one of the substations, the service necessary for port activity and services can be maintained.

- **Starting situation:** following the study of future demand, it was found that there was no supply capacity demanded in the medium term. Work began on the installation of the two substations.
- **Expected situation:** to be able to supply the energy demanded both to the port facilities and to the requested services, without service failures.
- **Result:** to increase the electrical capacity of the port of Valencia, and the guarantee of supply in the event of failure of one of the substations. **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 for the stakeholders:

PARTES INTERESADAS PERINENTES	NECESIDADES/ EXPECTATIVAS	REQUI-SITO	ACCION
CLIENTES	NE	Mantener los principios de protección del Medio Ambiente y mejora energética	SI SEGUIMIENTO SISTEMA DE GESTION AMBIENTAL EMAS
CLIENTES	EX	Dar el mejor servicio al mejor precio manteniendo criterios ambientales	NO PUESTA A DISPOSICION DE MEDIDAS Y MEDIOS AMBIENTALES
CLIENTES	EX	Aumentar certificaciones/proyectos para la mejora en materia ambiental y energética	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, 140064, 50001
SUBCONTRATISTAS	NE/EX	Mantener la Política de Contratación fortaleciendo exigencias ambientales, de eficiencia energética	SI DEFINICION CRITERIOS AMBIENTALES. LEY CONTRATOS SECTOR PUBLICO. KMO, PRODUCTO ECO, EMAS, 14001, 140064,50001
TRABAJADORES	EX	Consolidación y promoción en la organización. Mejora de la Formación Ambiental considerada para promoción.	SI PLAN DE FORMACION AMBIENTAL
ADMINISTRACION PUBLICA	NE	Cumplimiento de requisitos legales y otros en materia ambiental y energética.	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
COMPETENCIA	EX	Mantener el nivel de exigencia ambiental y de mejora en la eficiencia energética	SI PROMOCION DE NUEVAS CERTIFICACIONES Y PROYECTOS AMBIENTALES/EFICIENCIA ENERGETICA
VECINOS	EX	Minimización de molestias ambientales	NO CONTROL DE ASPECTOS AMBIENTALES Y FOMENTO DE ACTIVIDADES DE COMUNICACION/INFORMACION SOCIAL

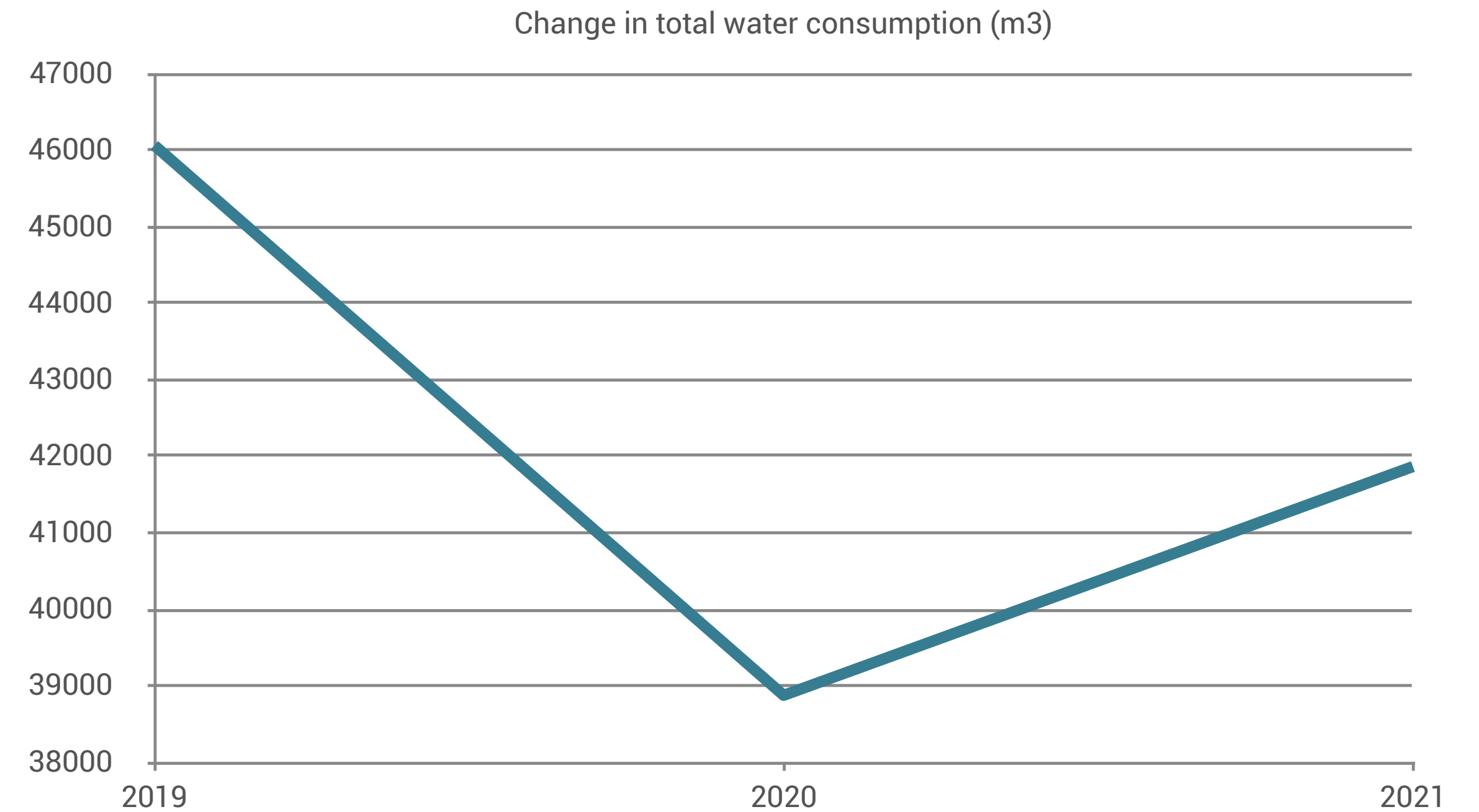
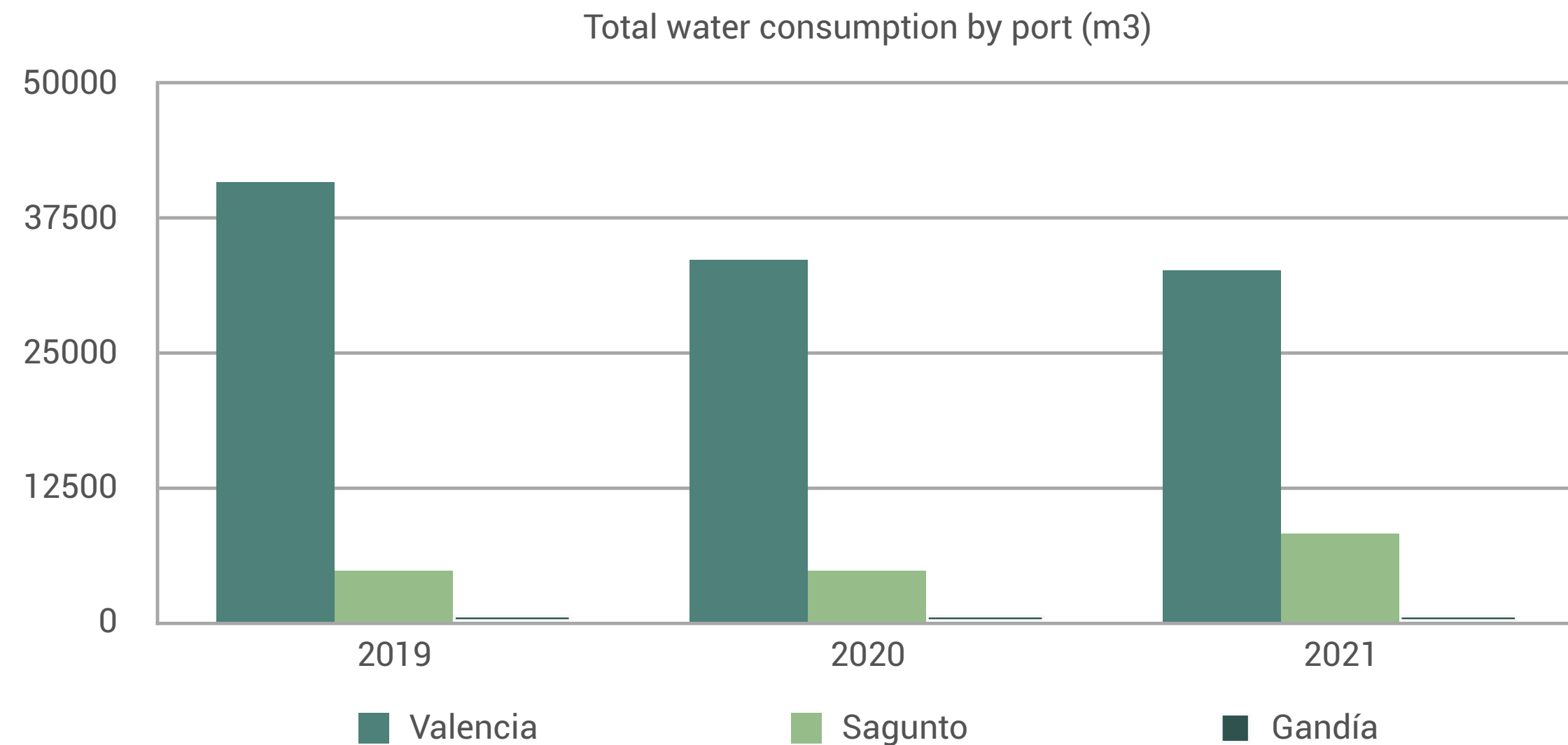
5. Management of natural resources

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 2019 was 41,866 m³, an increase of almost 7.6% with respect to the previous year.

Consumption per port was distributed as follows:

Water m ³	2,019	2,020	2,021
Valencia	40,903	33,560	32,757
Sagunto	4,591	4,673	8,328
Gandia	573	642	781
TOTAL	46,067	38,875	41,866



As can be seen, in Valencia, where the highest consumption takes place due to the size of the port, the downward trend continues. In the port of Sagunto, consumption has increased due to the incorporation of new services such as the Border Control Post, the new Port Police checkpoint, the toilets for lorry drivers, etc. In Gandia, 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. Management of natural resources

5.2. Electricity

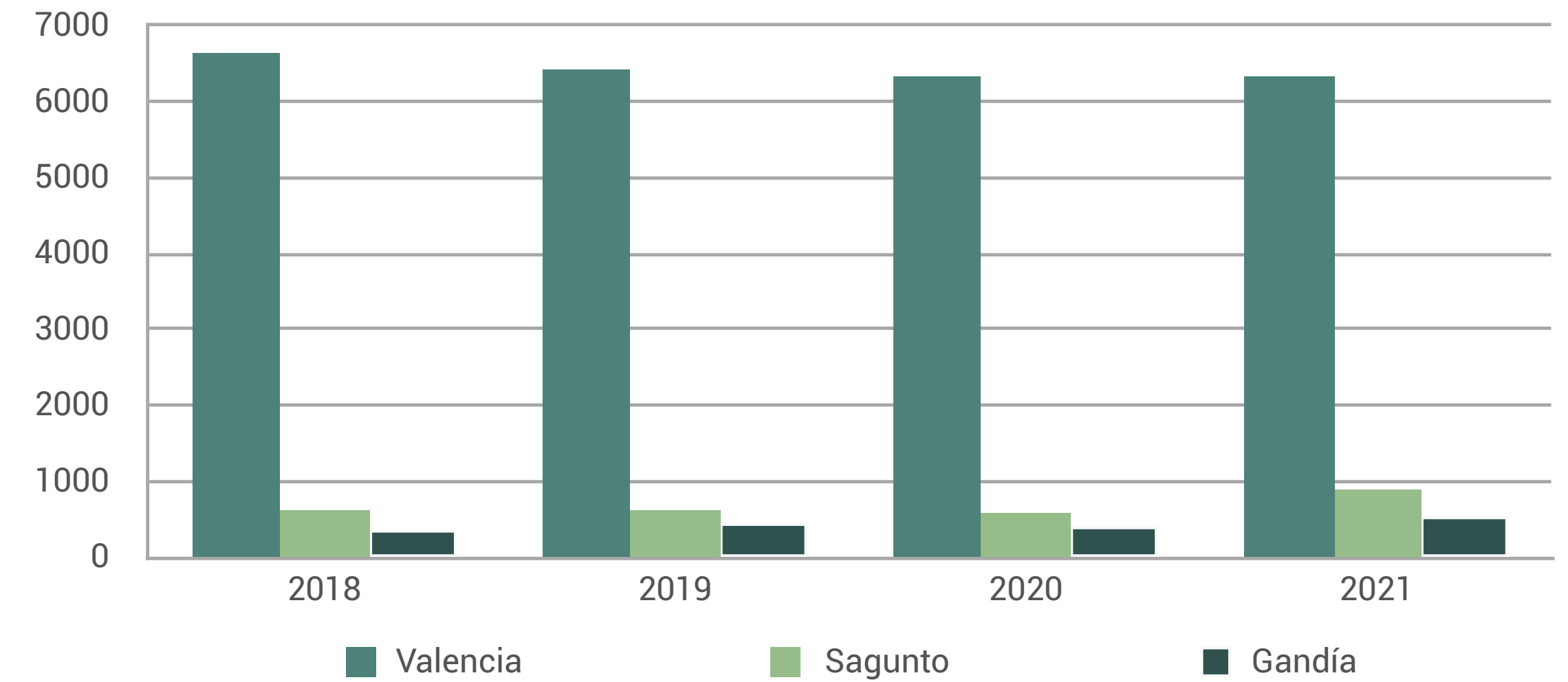
During 2021, the total energy consumption of the Port Authority of Valencia, including buildings and roads in the port areas, totalled 7,563,707 (7,563.71Mwh), a slight increase on the previous year.

This increase is due, in addition to the completion of restrictions and teleworking of the COVID, to the start-up of the Border Inspection facilities in Sagunto and the installation of the new northern access in the port of Gandia.

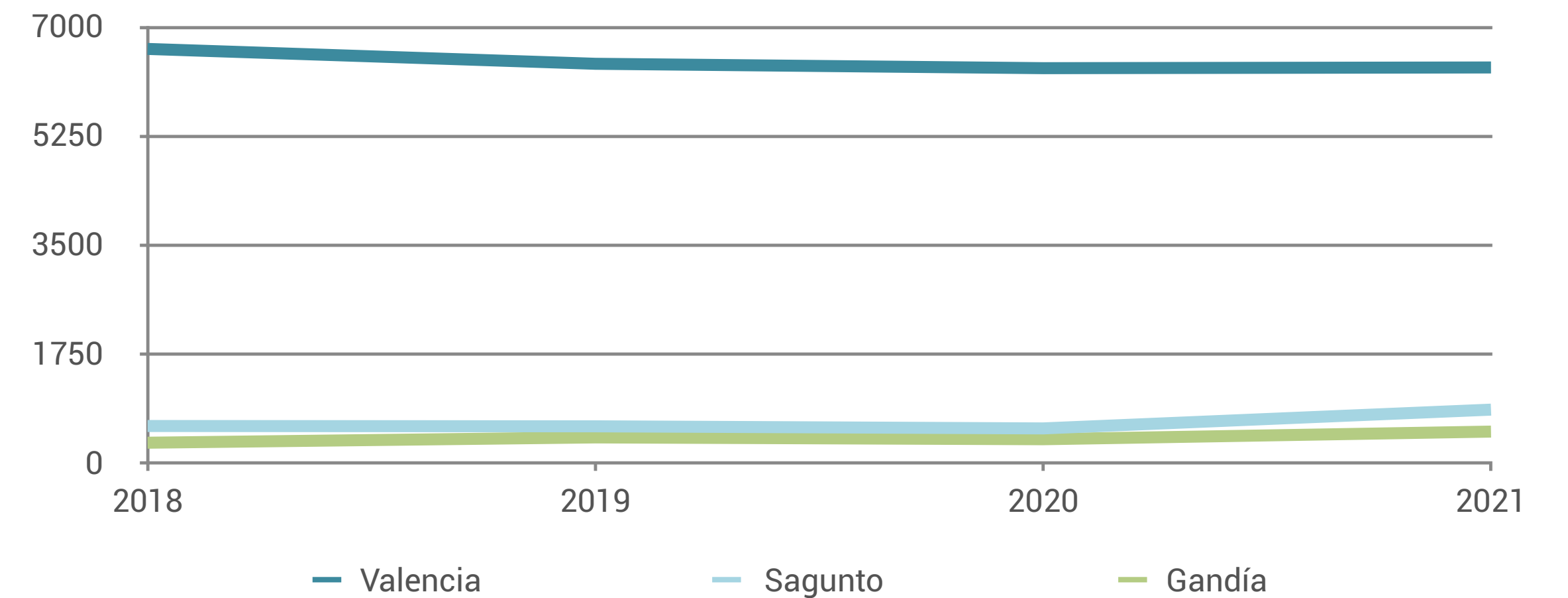
Consumption was distributed across the ports as shown below:

Electricity Mwh	2018	2019	2020	2021
Valencia	6,650	6,412	6,342	6,353
Sagunto	608	603	569	870
Gandia	340	425	396	518
Total	7,598	7,439	7,307	7,564

Total electricity consumption by port (MWh)



Change in total electricity consumption (MWh)



5. Management of natural resources

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 Gandia.



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

Nº de Garantías de Origen: 95.765 MWh
Año: 2021

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.cnmc.es



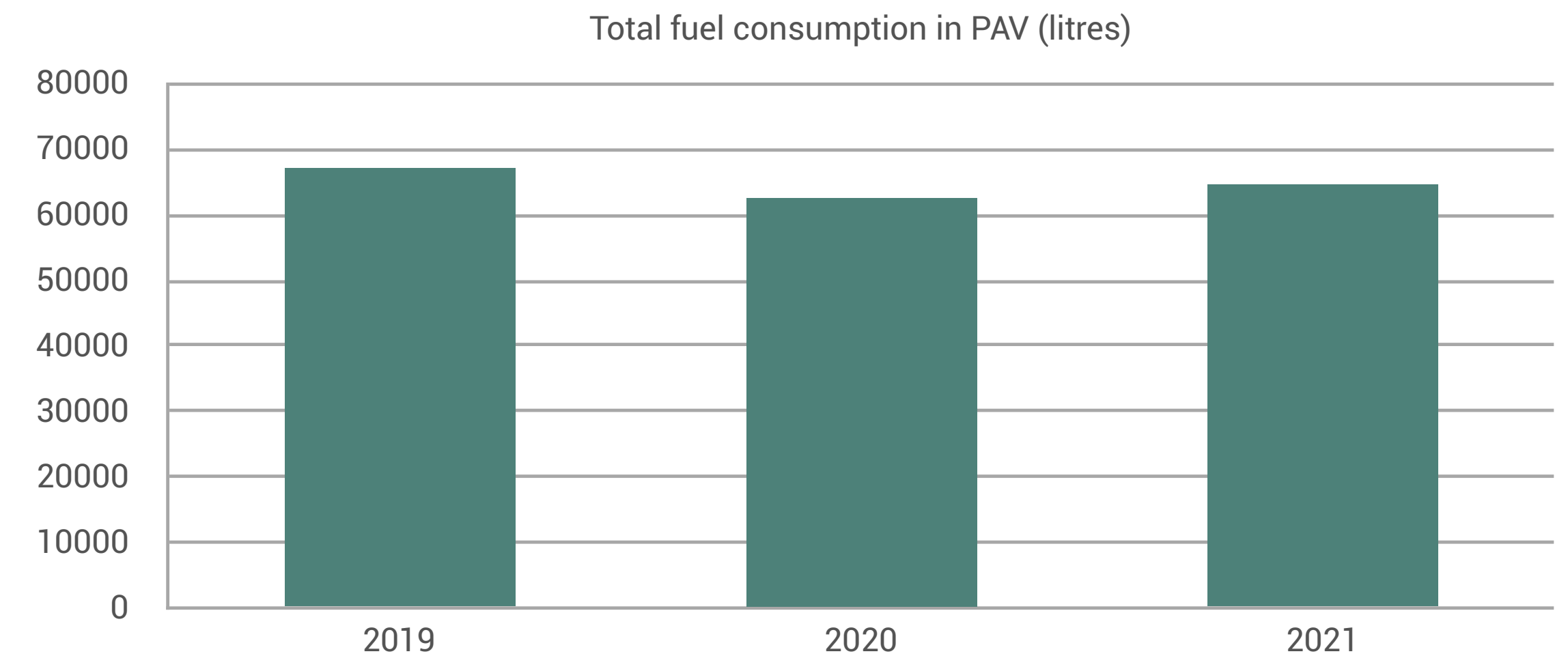
Francisco José García Vizcaíno
Director Territorial Ventas Este

Este documento es informativo y no tiene validez legal.

5.3. Fuel

In 2021, the fuel consumption of the vehicles of the PAV in the ports managed was 28,606.29 litres of petrol and 35,962.60 litres of diesel. Total consumption is 64,568.89 litres. This includes:

Fuel (litres)	2019	2020	2021
Petrol	19,970.84	14,305.29	28,606.29
Diesel	47,239.52	48,246.41	35,962.60
TOTALS	67,210.36	62,551.70	64,568.89



5. Management of natural resources

As can be observed in the previous graph, the consumption of fossil fuels has fallen almost 3% compared to the previous year.

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

The PAV's vehicle fleet in 2021 remains stable compared to previous years. There are a total of 62 service vehicles, including cars, vans, motorbikes and trucks. Of the total fleet, 13 vehicles are electric and 4 are hybrids. The total number of electric vehicles accounts for 20.97% of the total vehicle fleet. The number of electric and hybrid vehicles is unchanged from the previous 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 "environmentally friendly" (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.
- • Whitening is performed without chlorine.
- • The rights of local communities that live or work in the forest are respected.

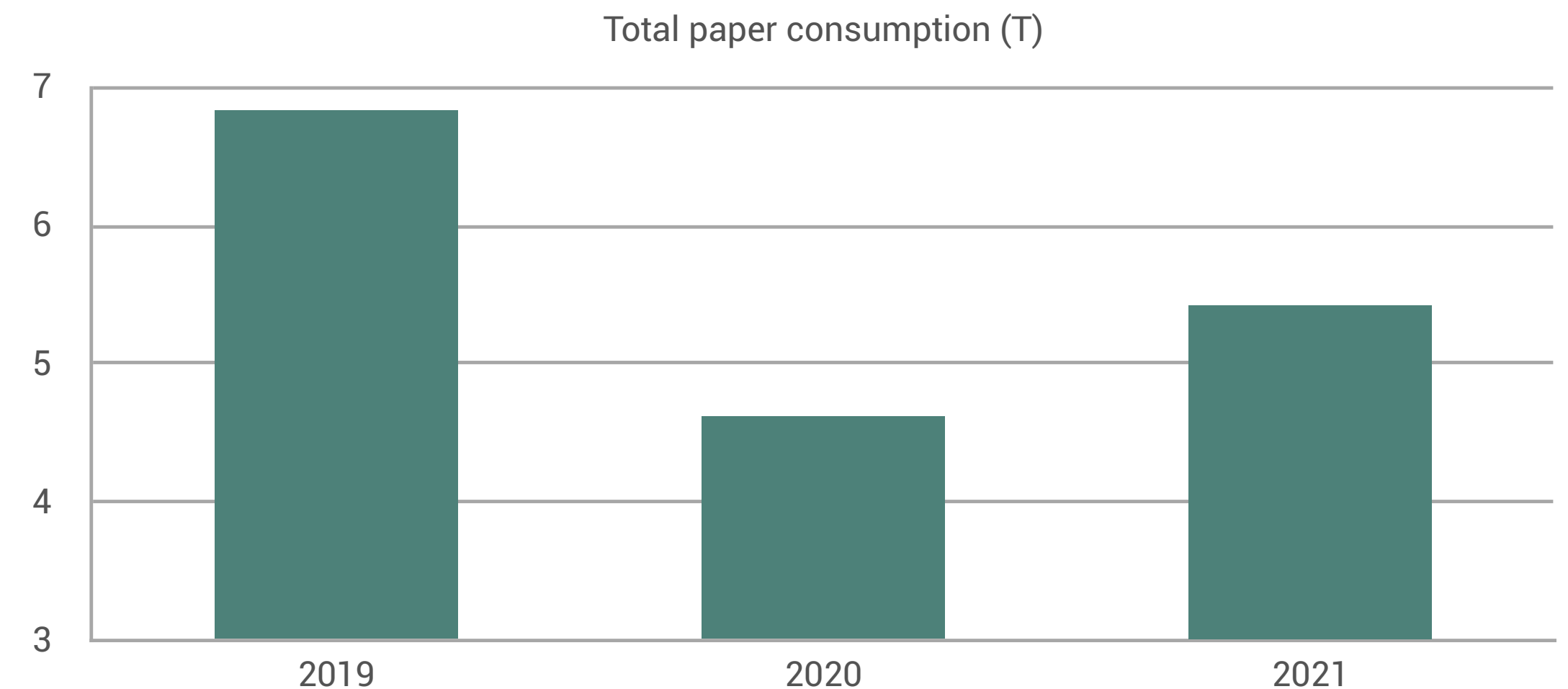
The paper used at the PAV is 100% organic paper.

In 2021, 5.42 tonnes of paper were consumed, a reduction of 17% on the previous year.

It should be noted that during 2020, there was a considerable reduction in paper consumption, mainly due to lockdowns and teleworking.

In recent years measures have been implemented aimed at reducing paper consumption, such as the austerity plan implemented by the PAV, raising awareness among employees, configuration of printers for double-sided printing, and reusing 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 Valencia.



5. Management of natural resources

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	Relative
Electricity consumption	7,563,71 Mwh	16,958 (MWh/worker)
Water consumption 100% from network	41,866 m ³	93,869 (m ³ /worker)
Total fuel consumption	628,98 Mwh	1.41 Mwh/worker
Total surface area	4,244,168 m ²	9,516.07 (m ² total surface area/worker)
Total sealed surface area	3,757,772 m ²	8,425.50 (m ² total sealed surface area/worker)
Total surface area in the centre by nature	48,656.95 m ²	103.73 (m ² total sealed gardens/worker)
Total sealed surface area	486,396 m ²	1,090.57 (m ² total sealed surface area/worker)
Paper	5.42 t	0.012 (t/worker)
Hazardous waste	8.22 t	0.018 (t/worker)
Non-hazardous waste	235.81 t	0.528 (T/worker)
CO ₂ Equivalent emissions ** (direct)	163,052 tCO ₂ eq	0.36 (t CO ₂ eq/worker)
CO ₂ Equivalent emissions ** (indirect)	0 tO ₂ eq	0 (t CO ₂ eq/worker)
Total CO ₂ Equivalent emissions** (direct + indirect)	163,052 tCO ₂ eq	0.36 (t CO ₂ eq/worker)

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

Relative indicator	2019	2020	2021
Electricity consumption	16.20	15.253	16.958
Water consumption	102.324	81.158	93.869
Fuel consumption	1.443	1.29	1.41
Total surface area	7,794.35	7,671.35	9,516.07
Total sealed surface area	6,816.45	6,683.71	8,425.50
Total surface area in the centre by nature	100.79	101.58	103.73
Total unsealed surface area	977.89	987.64	1,090.57
Paper	0.014	0.009	0.012
Hazardous waste	0.012	0.008	0.018
Non-hazardous waste	0.035	0.029	0.528
CO ₂ equivalent emissions**	0,343	0,340	0,36
Emissions CO ₂ equivalent** (indirect)	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 2017, 2018 y 2019 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. Management of natural resources

5.5.2. OTHER INDICATORS

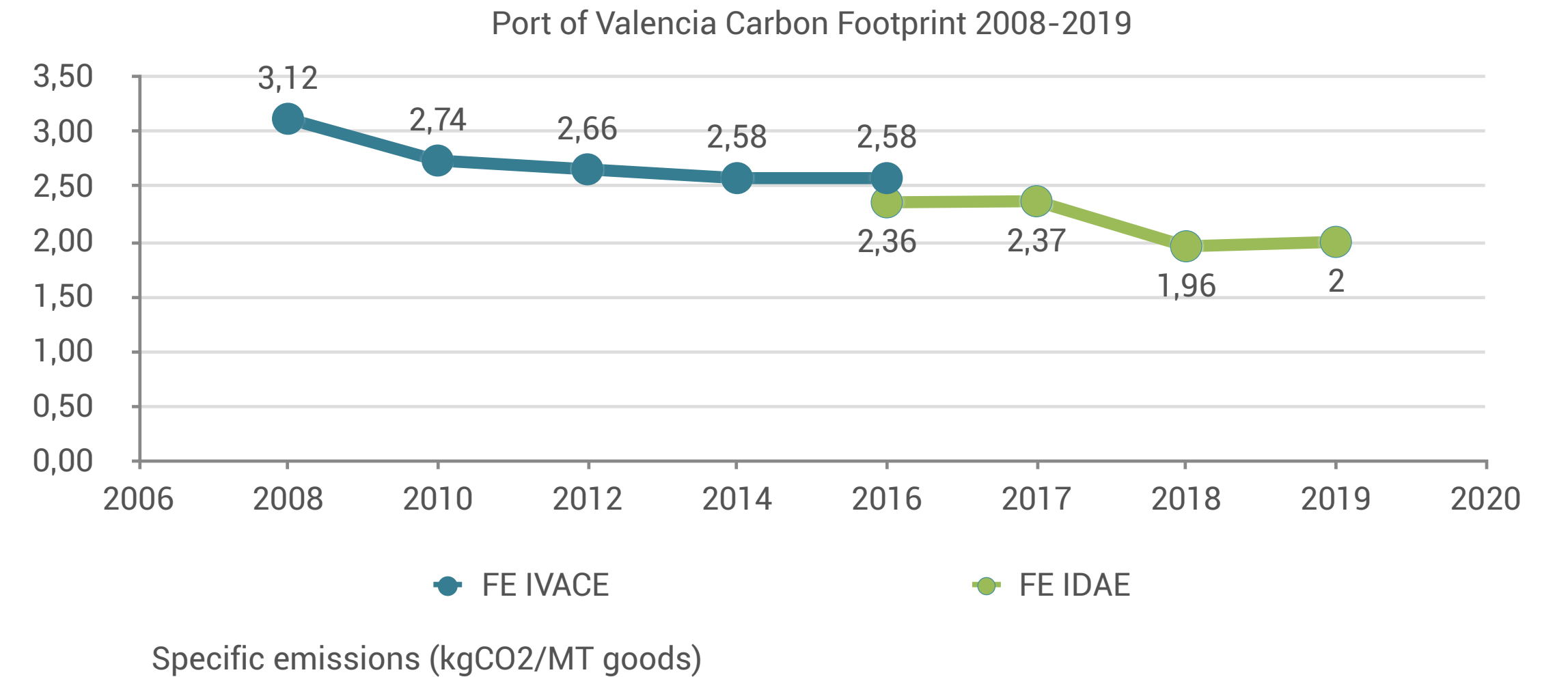
Since 2008, the Carbon Footprint of the entire Port of Valencia has been calculated. These calculations were made according to ISO 14064 and have been validated by the certifying body. In addition, they have been registered in the Carbon Footprint Register of the Ministry for the Ecological Transition, obtaining the “calculo” (calculate) seal until 2016. This seal reflects the efforts of Spanish organisations in the calculation and reduction of greenhouse gas emissions generated by their activity.

During 2021, the Carbon Footprint calculations were carried out from 2016 to 2019, in order to obtain the “reduzco” (reduce) seal, which has been awarded by the Ministry for the Ecological Transition.

Displayed below is the trend in emissions, cargo moves and Carbon Footprint between 2016 and 2019.

Year	2016	2017	2018	2019
Emissions (kgCO2)	151,646,059	159,982,010	139,048,413	147,072,720
Tonnes (t)	64,361,045	67,489,331	70,778,376	73,715,925
Carbon Footprint (KgCO2/t)	2.36	2.37	1.96	2.00

The following graph shows the evolution of the Carbon Footprint.



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 Gandia, which are managed by the PAV as Holder.

6.1.1. OWN WASTE

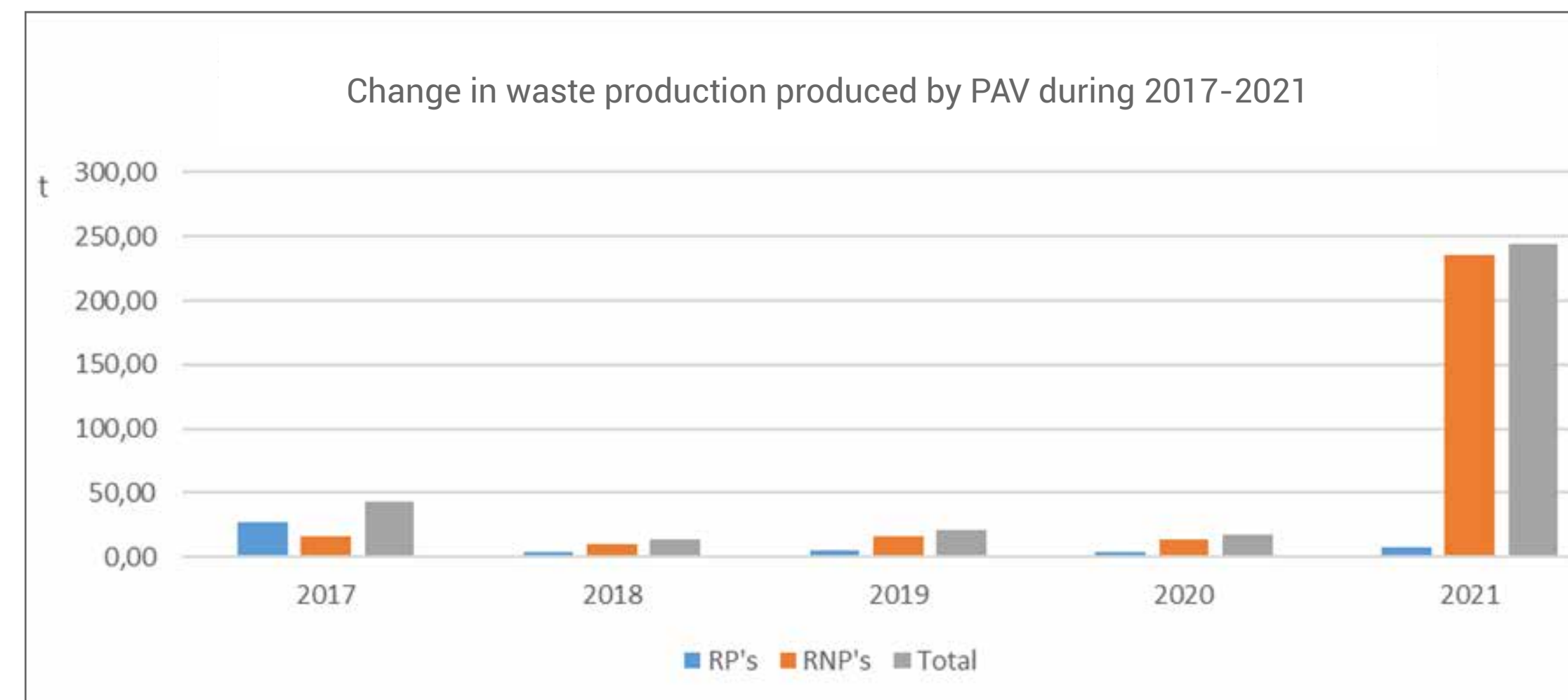
The PAV produces waste as a result of the company's activities in the Ports of Valencia, Sagunto and Gandia. In the case of Valencia, waste is produced in the offices, in the workshops and in the clinic. In the cases of Sagunto and Gandia, waste is produced by office and maintenance activities.

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 2021 was 244.02t of which 235.81 t corresponds to non-hazardous waste and 8.22 t to hazardous waste.

To analyse the data obtained in 2021 in the following graph we can observe the trend in the production of waste generated by the PAV from 2017 to 2021, both inclusive.

GRAPH 1.

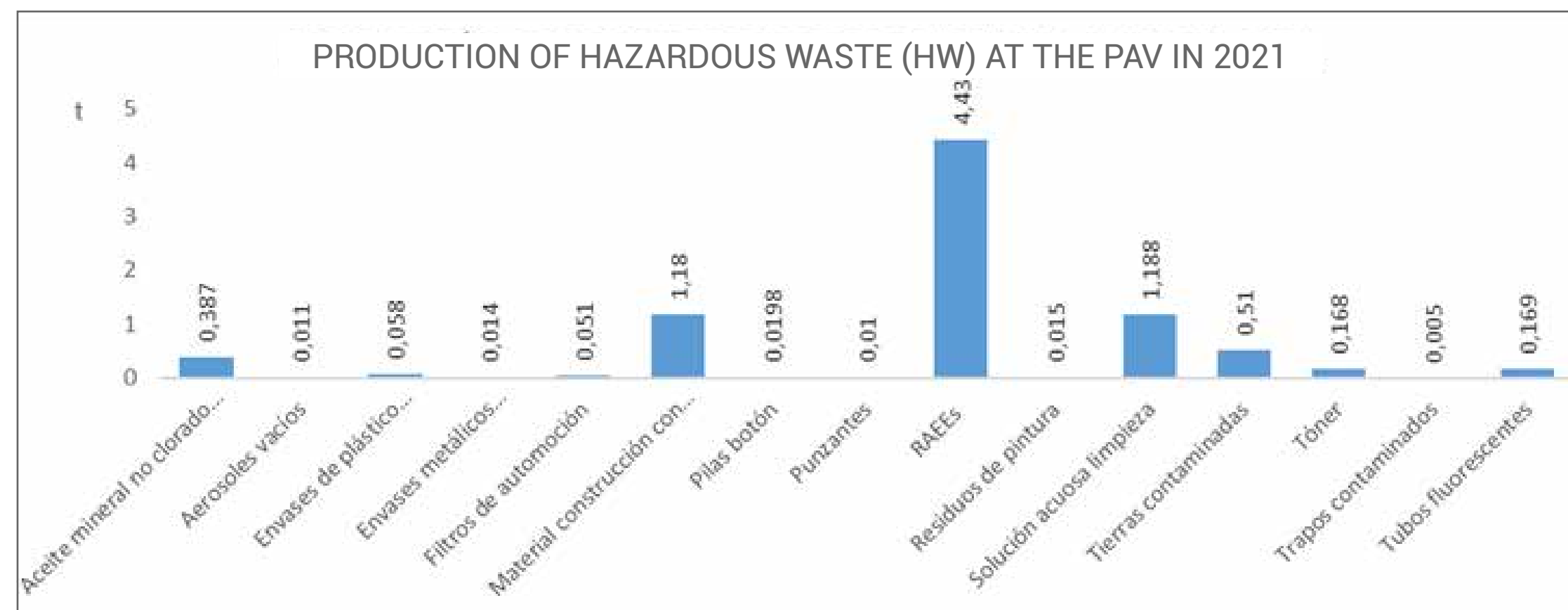


As indicated in the data in graph 1, there was an increase in the production of both non-hazardous and hazardous waste in 2021 compared to 2020 figures.

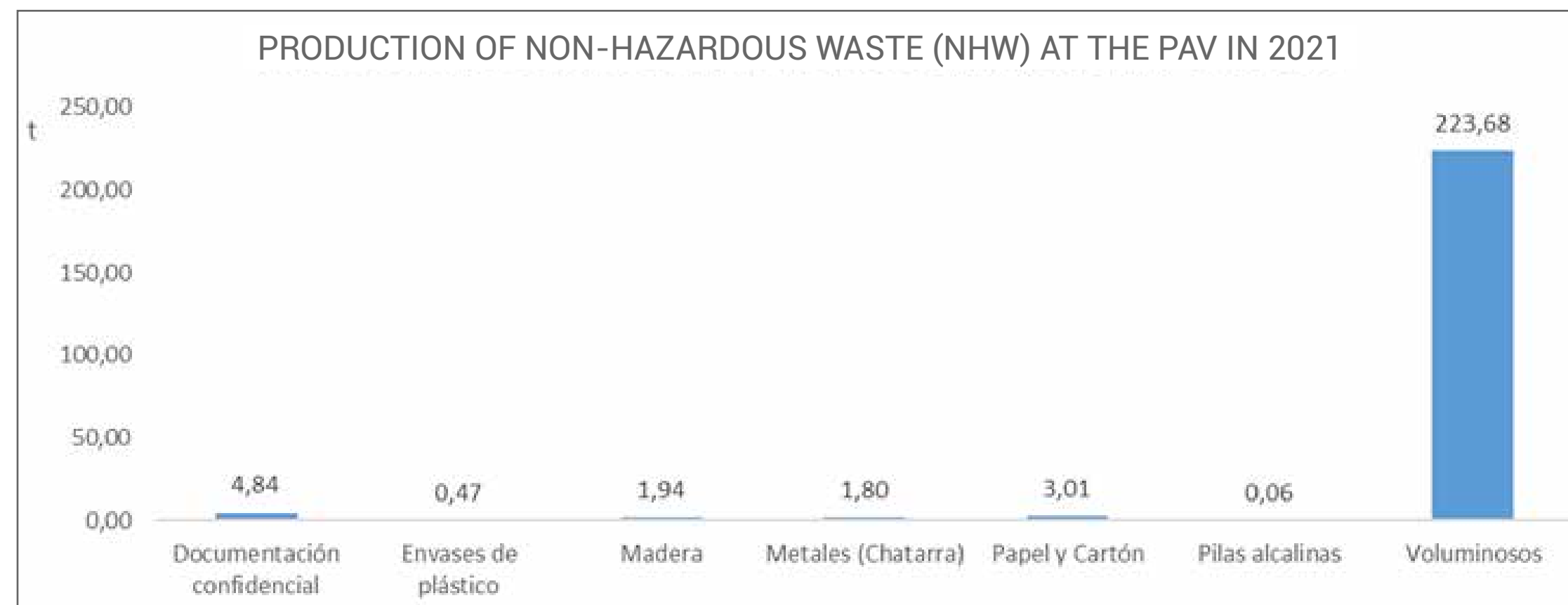
Below, graphs 2 and 3 show the data for the production of hazardous and non-hazardous waste caused by the activity of the PAV in the year 2021 respectively.

6. State of the environment

GRAPH 2.



GRAPH 3.

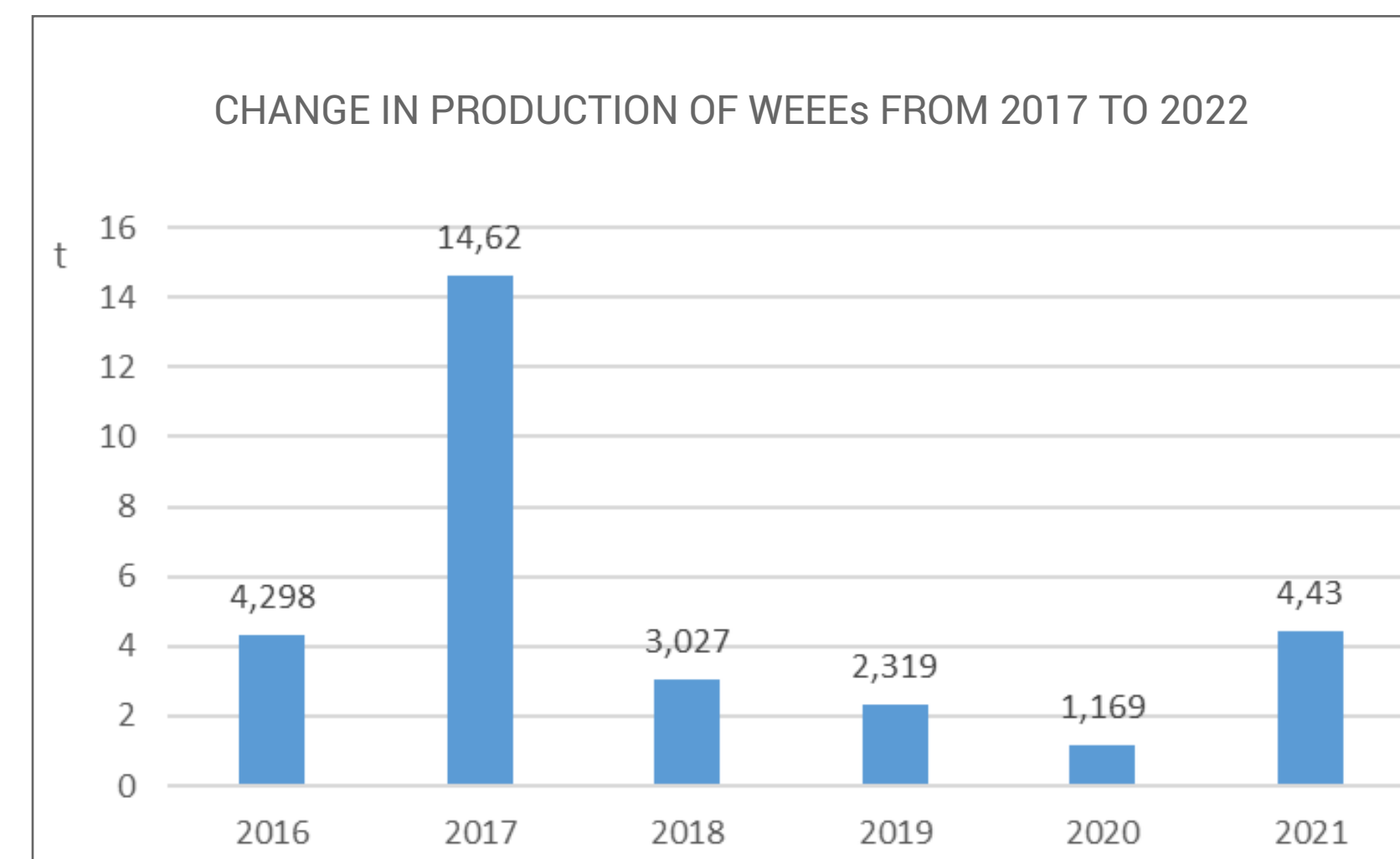


A) For hazardous waste, there was an increase in the production of waste in general, reaching a total production figure of 8.22 t in 2021.

Figure 2 shows that the highest hazardous waste production figures are for “Waste Electrical and Electronic Equipment” (WEEE) and “Aqueous cleaning solution” and “building materials containing asbestos”. The production figures are 4.43 t, 1.188 t and 1.18 t respectively.

Figure 4 shows that the production of WEEE has increased compared to 2020. This increase is associated with the replacement of old computer equipment by laptops, as the company has made a commitment to provide workers with the appropriate tools to make teleworking easier:

GRAPH 4.



6. State of the environment

On the other hand, with regard to "construction material containing asbestos", it should be noted that this is not a waste that is usually produced by the PAV. In this case, it occurred as a result of the removal of a conduit containing asbestos that was used for the fastening of electrical material in the underground gallery located in the Muelle Perfecto Palacio in the Port of Valencia.

B) For non-hazardous waste, in 2021 a production figure of 235.81 t was reached.

Figure 3 it can be observed that, in, as has occurred since 2021, the most significant volume of non-hazardous waste generate by the PAV corresponds to the heading "Confidential Documentation" with production figures of 223.68 t and 4.84 t respectively.

It should be noted that this result is associated with the timely removal of a large volume of fenders that had to be removed, as they were stored in an area that needed to be cleared urgently in order to proceed with the execution of a construction project in the Port of Valencia.

With regard to the production of Confidential Documentation, it is worth noting that it has remained practically stable compared to 2020.

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 Gandia, in 2003, 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 WTC 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 Gandia.
- Facilitates the administrative processes relating to the removal of waste management.
- Contributes to maintaining the port premises in harmony with its environment.

The WTC of the Port of Valencia 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 sorting.



For the storage of non-hazardous waste, there is one 20 m³ container for voluminous waste, one 20 m³ container for wood, several 3 m³ containers for light packaging and plastics, one 11 m³ container for glass, two 11 and 25 m³ containers for metals (scrap), one 11 m³ for used tyres and several 3 m³ containers for 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 have access to a facility where it is possible to manage the waste easily and flexibly in accordance with current legislation and benefiting from the savings generated by the economies of scale, as if they are members of the Ecoport Community, transport comes at no additional cost.

6. State of the environment



Detalle de un tráiler cargado para el traslado de los residuos hasta planta de destino final



Detalle de trabajos de carga de los recipientes que contienen RP's al tráiler que posteriormente será descargado en una planta de destino final

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 Gandia, 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 POS363, POS365 and POS364 respectively.

The waste produced in the port premises of Valencia, Sagunto and Gandia 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 incidentally** 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, dumped waste, etc.

In relation to the total volume of waste produced at the three port facilities managed by the PAV, a total of 36.76 t was managed in 2021 broken down as follows:

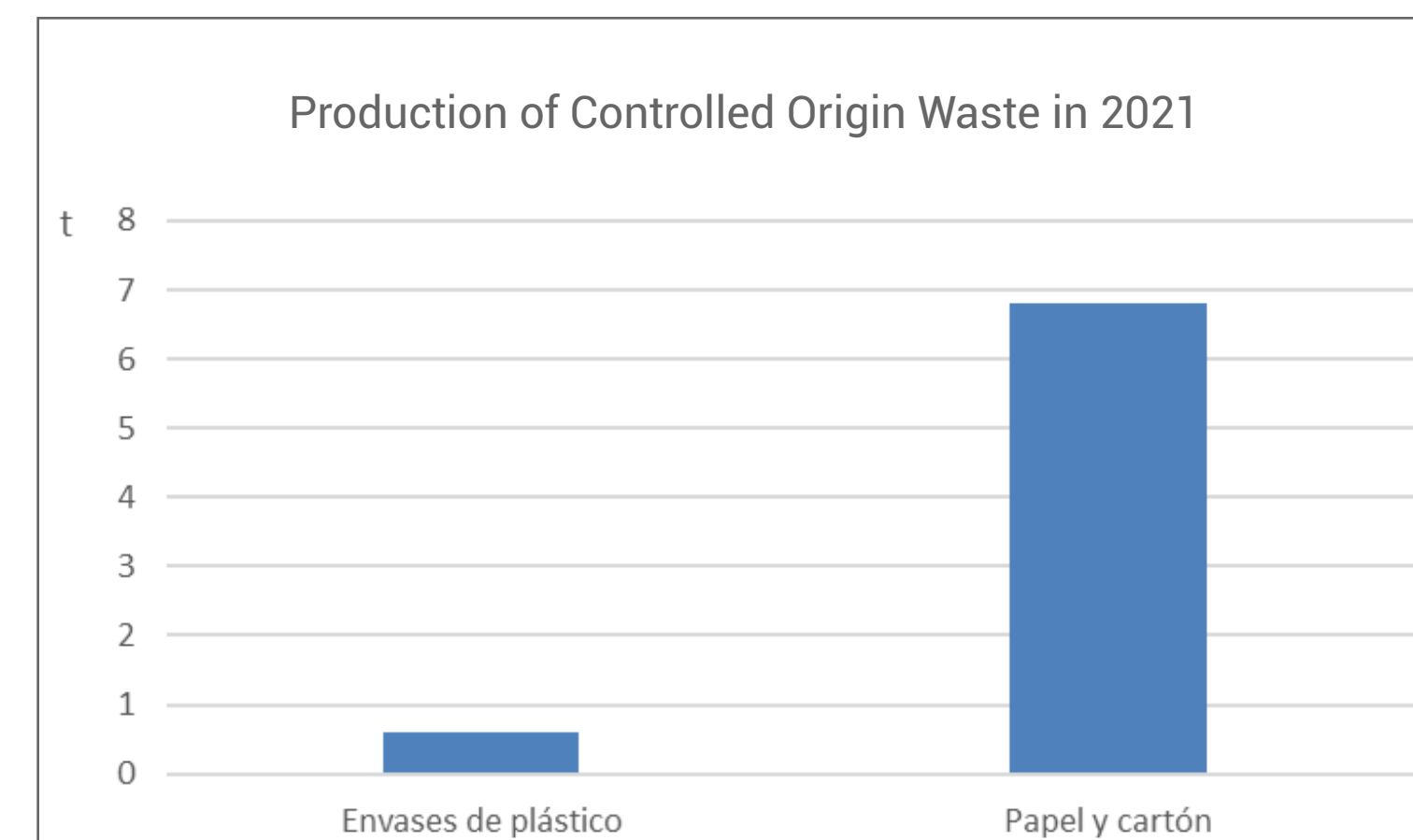
- Controlled waste: a total of 7.43 t of non-hazardous waste.
- Waste generated incidentally: a total of 21.11 t, broken down into 11.55 t of non-hazardous waste and 9.57 t of hazardous waste.

Therefore, the PAV has become directly and indirectly (through the figure of Producer or Holder) responsible for a total of 280.19 t of waste. Specifically, 24.72 t of hazardous waste and 255.47 t of non-hazardous waste were managed in 2021.

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 no hazardous waste was produced during the period studied, at 6.82 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 Gandia.

GRAPH 5.



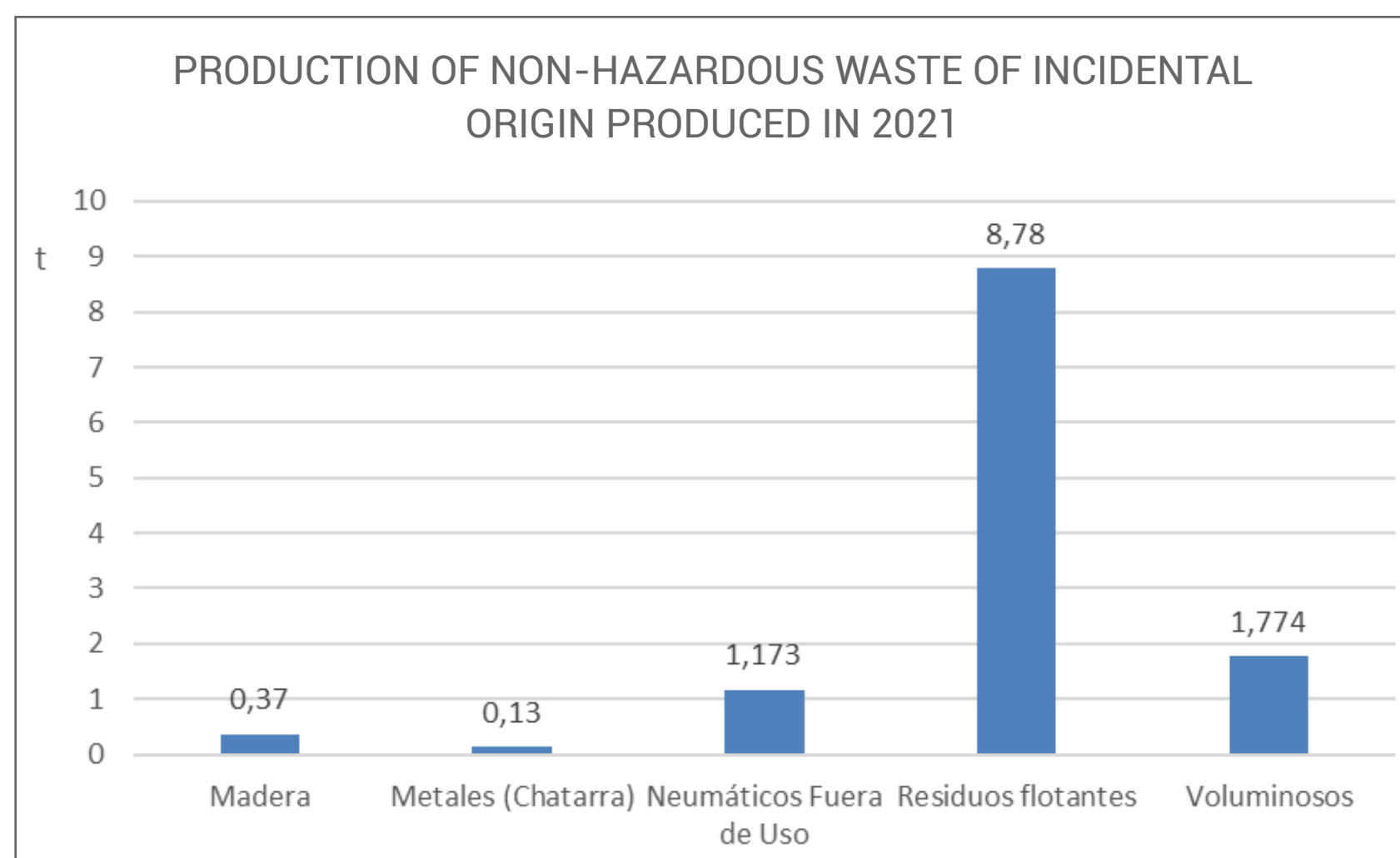
6. State of the environment

Waste of incidental origin generated in the port premises

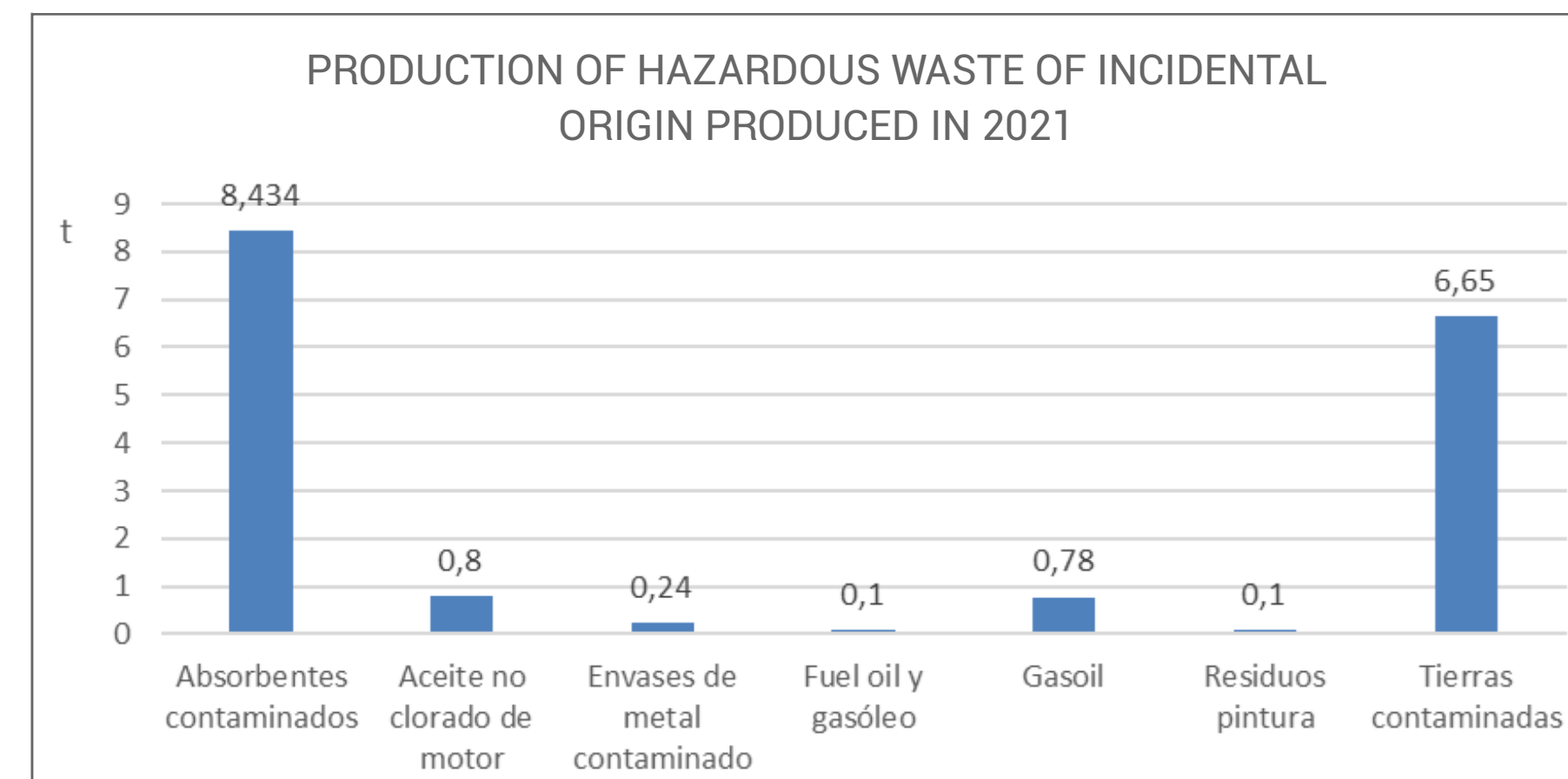
In the case of ad hoc waste generated, as can be observed in figures 6 and 7, within the heading non-hazardous waste, "Floating Waste" stands out, with a production figure of 8.78t and within the hazardous waste category, "Contaminating Absorbents" stands out with a figure of 8.43 t.

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

GRAPH 6.



GRAPH 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.

6. State of the environment

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 Gandia to submit waste subject to the Marpol Convention to a Marpol-authorized facility, except for the established exceptions.

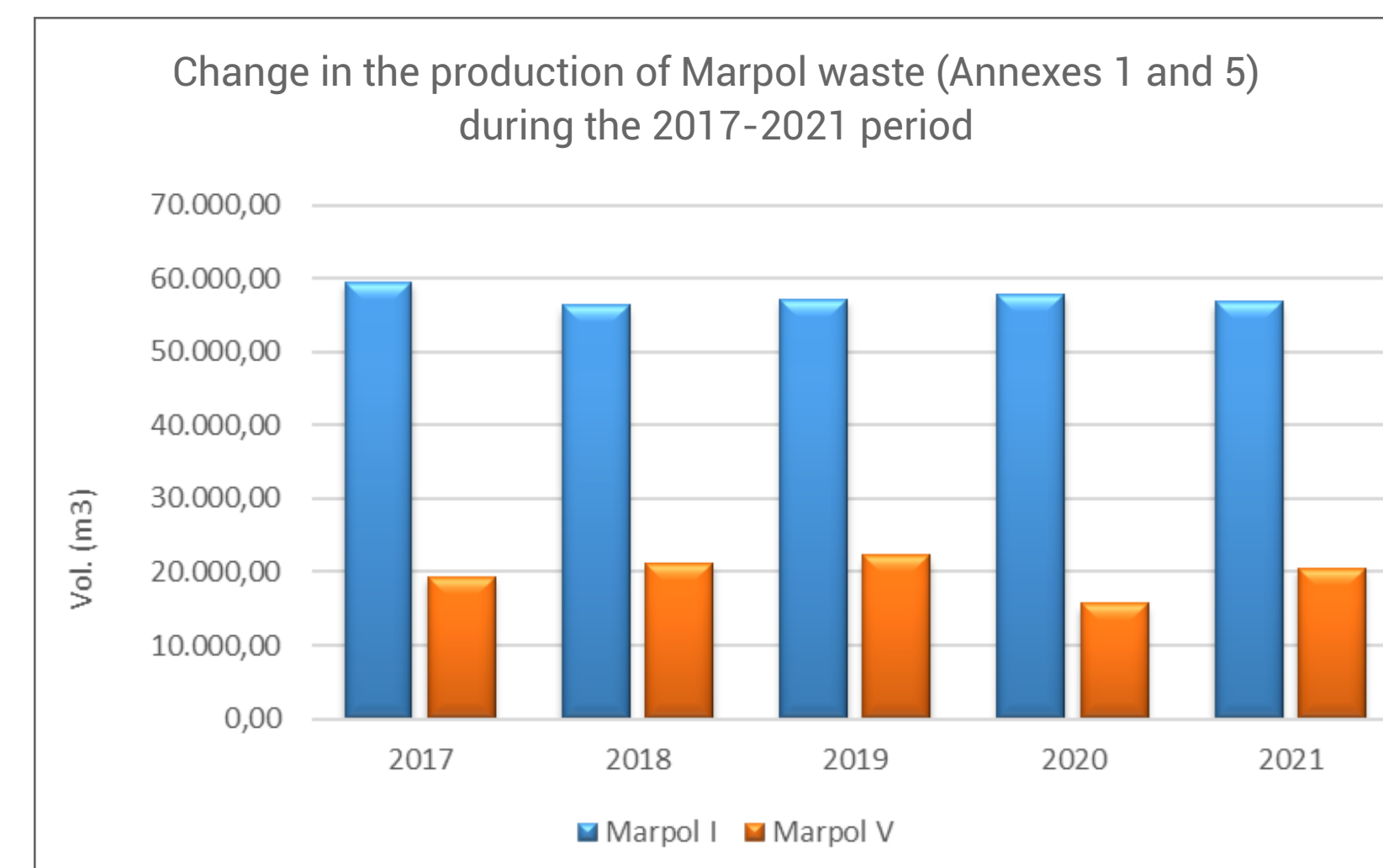
To comply with Article 132 of the consolidated Text of the State Ports and Merchant Navy Act, the PAV charges ships calling at port a fixed fee regardless of whether they use the waste reception service or not. This measure prevents all discharges at sea as vessels can discharge all waste included in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

The volume of waste generated in 2021 at the three ports was 56,801.70 m³ of Marpol I and 20,549.40 m³ of Marpol V, broken down as follows:

	2021	
	MARPOL I	MARPOL V
Valencia	50,310.11	18,603.80
Sagunto	6,357.10	1,887.22
Gandia	128.50	58.38
Total	56,801.70	20,549.40

Below, graph 9 shows the trend in the production of Marpol I and Marpol V waste over the period 2017 to 2021 both included.

GRAPH 8.



6. State of the environment

6.2. Air quality control

6.2.1. AIR QUALITY IN THE PORT PREMISES

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 Environment has set as a priority. To carry out this surveillance, the Port Authority of Valencia has an instrumentation and monitoring network that continuously supplies air quality data, which allows us to analyse the state of the air and monitor its state in time, in accordance with Order TEC/3561/2019, which approved the National Air Quality Index and the subsequent modification of the Annex to this Order, according to the Resolution of 2 September 2020, of the Directorate General for Environmental Quality and Assessment.

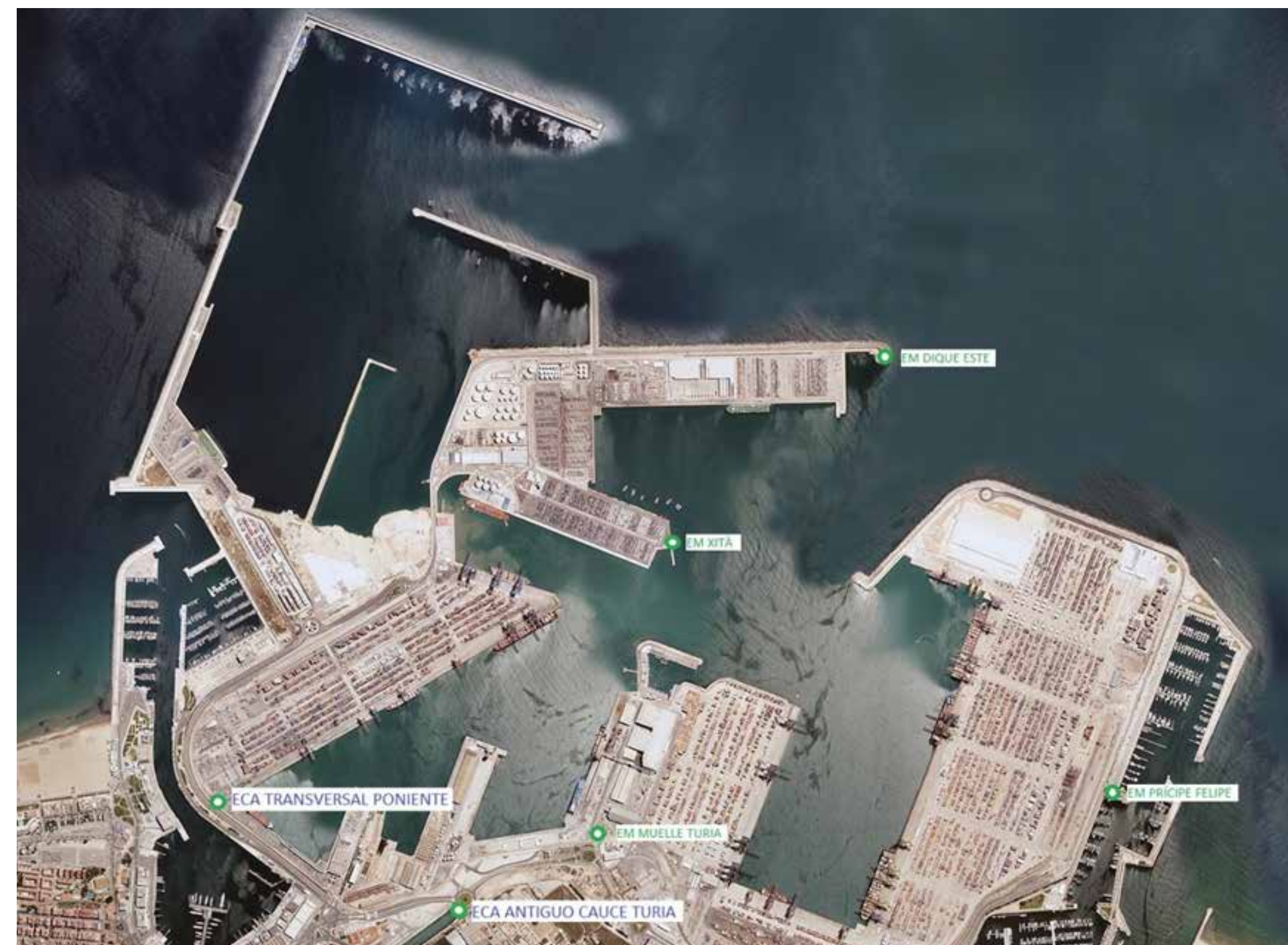
Control and monitoring are undertaken of the concentrations of different pollutants, impacting the air quality in the port premises, such as particles (measured in concentrations of PM10, PM2.5 and PM1), sulphur dioxide, nitrogen monoxide and dioxide, carbon monoxide and ozone.

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:

- Weather Stations (WS)
- Environmental Monitoring Stations, (EMS)

The sensors are integrated into Air Quality Control Cabins located according to the recommendations of the Centre for Energy, Environmental and Technological Research (CIEMAT), in the Transversal quay of the Poniente dock. These locations, on the port-city interface, allow us to ascertain the presence of pollutants 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. At the beginning of the year, all the existing sensors in the cabin located in Transversal Quay were replaced, which is now known as the Environmental Monitoring Station, EMS hereinafter, as it integrates all the pollutant sensors mentioned above, a particle collector (PM10, PM2.2 and PM1) and a complete meteorological station in the same location.



In 2021, an EMS was installed at the end of the Túría old riverbed, in the area closest to the Natzaret neighbourhood, replacing the particle collector that was in that location. This environmental control station will be called EMS Túría Old Riverbed and, like the EMS Transversal Quay, will include a complete meteorological station and analysers for all the pollutants mentioned.

In addition, a new EMS has been installed in the port of Sagunto, next to roundabout 1, a few metres from the Harbour Master's building, in the area near the port to the town centre, hereinafter called EMS Sagunto North. It measures the same parameters as those installed in the Port of Valencia.

All the equipment of the two Environmental Monitoring Stations has a periodic maintenance and data validation plan that ensures that correct data are obtained and the data are validated and published on the website of the Regional Ministry of Agriculture, Rural Development, Climate Emergency and Ecological Transition of the Generalitat Valenciana and on the website of the Port Authority.

6. State of the environment

With regard to the weather stations in the Port of Valencia, this year the station located at the East Breakwater marker has been dismantled and a new station has been installed at the same location, just 30 metres from the marker. Likewise, the Príncipe Felipe WS has been completely renovated. In total there are 6 weather stations in the Port of Valencia.

Ports of Sagunto and Gandia

In the port of Sagunto, an Environmental Monitoring Station has been installed at the port-population interface, where sensors for the analysis of pollutants and particles have also been installed, as in the Valencia stations. In addition, the weather station that was located in the office building was dismantled and moved and added to until all the meteorological parameters were available in what is now known as the Sagunto North EMS.

The following images show the locations of the weather stations in these ports and the new EMS in Sagunto, with three weather stations in total, two in the port of Sagunto and one in the port of Gandia.



Port of Sagunto



Port of Gandia

Station in the Port Of Valencia



1. New East Breakwater Weather Station



2. New Príncipe Felipe Weather Station



3. Xitá Weather Station



4. New EMS Túría Old Riverbed



5. New EMS Transversal Quay



6. Túría Dock Weather Station

6. State of the environment

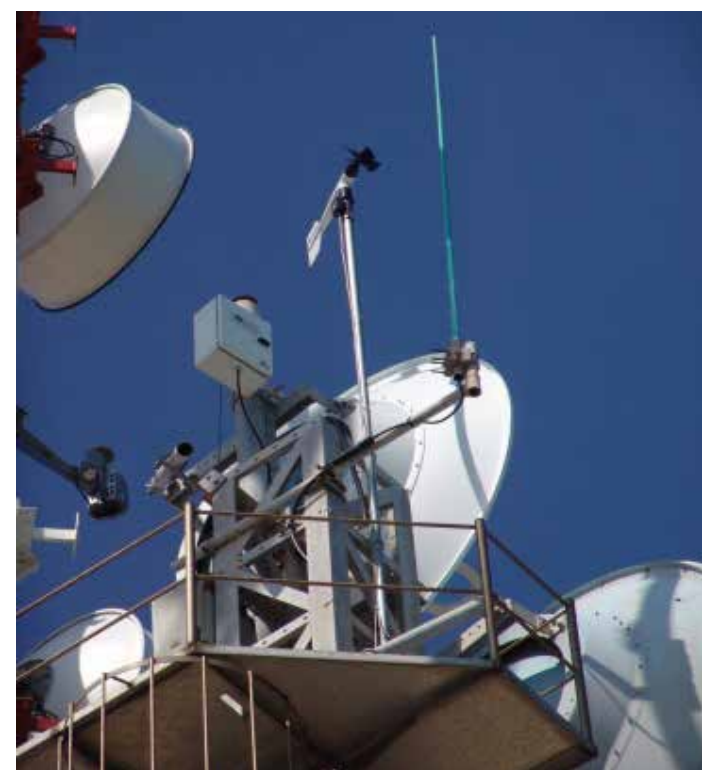
Stations at the ports of Sagunto and Gandia



New EMS Sagunto Norte



Weather Station Beacon Muelle de Levante Sagunto



Gandia Serpis Dock Weather Station

6.2.2. AIR QUALITY IN THE PORT PREMISES IN THE YEAR 2021

Numerous epidemiological studies have shown the existence of adverse effects on health from occasional 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 monitoring of wind direction speed variables stands out. This monitoring establishes that when these variables surpass certain values of intensity and wind duration, loading, unloading or handling of powdery materials are suspended, all through the air quality control network and supervised by the Emergency Control Centre 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 bulk in Sagunto. In this port, on the other hand, construction has begun on a bulk terminal with enclosed spaces that will minimise emissions in the North-East quay area.

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 conducted according to the reference limits imposed in Royal Decree 102/2011, of 28 January, on the improvement of air quality.

Assessment of the results obtained in 2021 according to the reference values in regulation

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. The procedure is based on the calculation of the validated data records of the values whose limits are legislated according to the reference standard. In some cases, maximum number of exceedances or average limit values are set according to a time period (monthly, yearly, daily, eight-hourly, etc.).

The atmospheric indices registered in the year 2021 were the following:

Number of exceedances of concentration levels of sulphur dioxide (SO ₂)		
SO ₂ (Sulphur Dioxide)	2021	
Units:µg/m ³	125 µg/m ³ Daily average < 3 exceedances per year	350 µg/m ³ Hourly average < 24 exceedances per year
Immission Booth at ECA Transversal Quay	0 exceedances	0 exceedances
Immission Booth at ECA Túria Old Riverbed	0 exceedances	0 exceedances
Immission Cabin at ECA Sagunto North	0 exceedances	0 exceedances

6. State of the environment

Number of exceedances and average mobile value of concentration levels of carbon monoxide (CO)

CO (Carbon Monoxide)	2021
Units:mg/m ³	125 mg/m ³ Maximum daily value of eight-hour mobile averages
Immission Cabin - Poniente Quay	The limit value was not exceeded at any time
Immission Cabin Túría	The limit value was not exceeded at any time
Immission Cabin Sagunto North	The limit value was not exceeded at any time

Number of exceedances of concentration levels of nitrogen dioxide (NO₂)

NO ₂ (Nitrogen Dioxide)	2021	
Units:µg/m ³	200 µg/m ³ Hourly average < 18 exceedances per year	40 µg/m ³ Annual limit value
Immission Cabin - Poniente Quay	0 exceedances	27 µg/m ³
Immission Cabin Túría Old Riverbed	0 exceedances	25 µg/m ³
Immission Cabin Sagunto North	0 exceedances	14 µg/m ³

Number of exceedances of concentration levels of Ozone (O₃)

O ₃ (Ozone)	2021		
Units:µg/m ³	120 µg/m ³ Target value for protection of human health Daily maximum for eight-hour mobile averages < 25 exceedances per year	180 µg/m ³ Population reporting threshold 1 hour > 180 µg/m ³	240 µg/m ³ Population Alert Threshold 1 hour > 240 µg/m ³
Immission Booth at ECA Transversal Quay	11 exceedances	0 exceedances	0 exceedances
Immission Booth Túría Old Riverbed	2 exceedances	0 exceedances	0 exceedances
Immission Cabin Sagunto North	4 exceedances	0 exceedances	0 exceedances

Number of exceedances and average annual value of concentration levels of PM₁₀ particles

PM ₁₀ (Particles <10 µm)	2021	
Units:µg/m ³	50 µg/m ³ Daily average < 35 exceedances per year	40 µg/m ³ Annual limit value
Immission Booth at EMS Transversal Quay	9 exceedances	21 µg/m ³
Immission Booth at EMS Túría Old Riverbed	3 exceedances	19 µg/m ³

6. State of the environment

Average annual value of concentration levels of PM2.5	
PM2.5 (Particles <2.5 µm)	2021
Units:µg/m³	25 µg/m³ Annual limit value
Immission Booth at EMS Transversal Quay	10 µg/m³
Immission Booth at EMS Túrria Old Riverbed	10 µg/m³

Conclusions Air Quality Results

It should be pointed out that the EMS Túrria Old Riverbed has been operational since 25 March and the EMS Sagunto North since 1 May, for the purposes of possible comparisons that can be made between different stations. In the case of the pollutant analysers at EMS Transversal Quay, all the equipment was replaced in March 2021, with records for the whole year but taking into account that they have been updated.

After the analysis of the data corresponding to the year 2021 (January - December) and the assessment of these with respect to applicable limit values, the following conclusions are reached:

- **Sulphur dioxide (SO₂) and carbon monoxide (CO):**
There were no exceedances of the limit values or objectives set for any of these pollutants at any of the stations in the PAV network, with the values measured being far removed from them.
- **Nitrogen dioxide (NO₂):**
For nitrogen dioxide, RD 102/2011 determines that the alert threshold of 400µg/m³ must not be exceeded on more than three consecutive hours, the hourly limit value of 200µg/m³ must not be exceeded on 18 occasions, and the annual limit value of 40µg/m³ must not be exceeded. Thus, after studying the pollutant, it can be concluded that no limit values or alert thresholds have been exceeded at any of the stations.

- **Ozone (O₃):**
With regard to ozone, the legislation establishes different information and alert thresholds as well as a target value for the protection of human health and vegetation. In this order, none of the above-mentioned information and alert thresholds, set at 180 and 240 µg/m³, respectively, were exceeded during the year 2021.

As regards the long-term objective value for the protection of human health, set in legislation at 120 µg/m³, the maximum of the eight-hourly moving averages, not to be exceeded on more than 25 occasions per year, as a 3-year average. We can affirm that, despite being exceeded on different occasions in the stations of the VPA network, during the year 2021, they would not exceed this requirement in number on average over 3 years.

- **Particulate matter (PM₁₀) and (PM_{2.5}):**
With reference to the PM₁₀ particulate matter fraction, the legislation sets the daily limit value at a concentration of 50 µg/m³ on more than 35 occasions per year and the annual limit value at 40µg/m³. These values have not been exceeded at any of the stations in the PAV network.

As for the PM_{2.5} fraction, there have been no exceedances of the limit values or objectives set by RD 102/2011.

The increase corresponding to the influence of African air masses, commonly referred to as Saharan influences, in 2021 and episodes of which can be checked on the website of the Ministry for Ecological Transition, have not been deducted from these pollutants.

In summary, in the year 2021, 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.

The average annual values of all the parameters mentioned, which are presented together in the following section with the values for the same year, 2021, for other stations studied in this environmental statement.

6. State of the environment

6.2.3. ENVIRONMENTAL CONCENTRATIONS IN THE SURROUNDING AREA OF THE PORT OF VALENCIA IN THE YEAR 2021

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 Emergency and Ecological Transition 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	SO ₂ µg/m ³	NO ₂ µg/m ³	O ₃ µg/m ³	CO mg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	PM ₁ µg/m ³
AVDA. FRANCIA	3.9	13	56	0.12	13	7	-
BULEVARD SUR	4.6	25	52	-	-	-	-
MOLÍ DEL SOL	3.5	13	53	0.13	17	15	11
PISTA DE SILLA	3.3	22	52	0.13	13	8	-
POLITÉCNICO	3.6	9	59	-	11	8	-
VIVEROS	3.4	18	59	-	-	-	-
CENTRE	-	14	-	-	21	13	-
SAGUNT PORT	3.2	14	59	0.12	15	12	8
SAGUNT NORD	-	7	55	-	-	-	-
SAGUNT CEA	3.2	6	57	0.12	13	9	-

NOTE: Calculations based on hourly averages

The average annual values obtained by the stations in the PAV network:

STATION	SO ₂ µg/m ³	NO ₂ µg/m ³	O ₃ µg/m ³	CO mg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³
INMISSION BOOTH at EMS Transversal Quay	2.2	27	59	0.17	21	10
INMISSION BOOTH at EMS Túria Old Riverbed	2.6	25	55	0.19	19	10
INMISSION BOOTH at EMS Sagunto North	2.1	14	57	0.14	-	-

NOTE: Calculations based on hourly averages

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 2021 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.

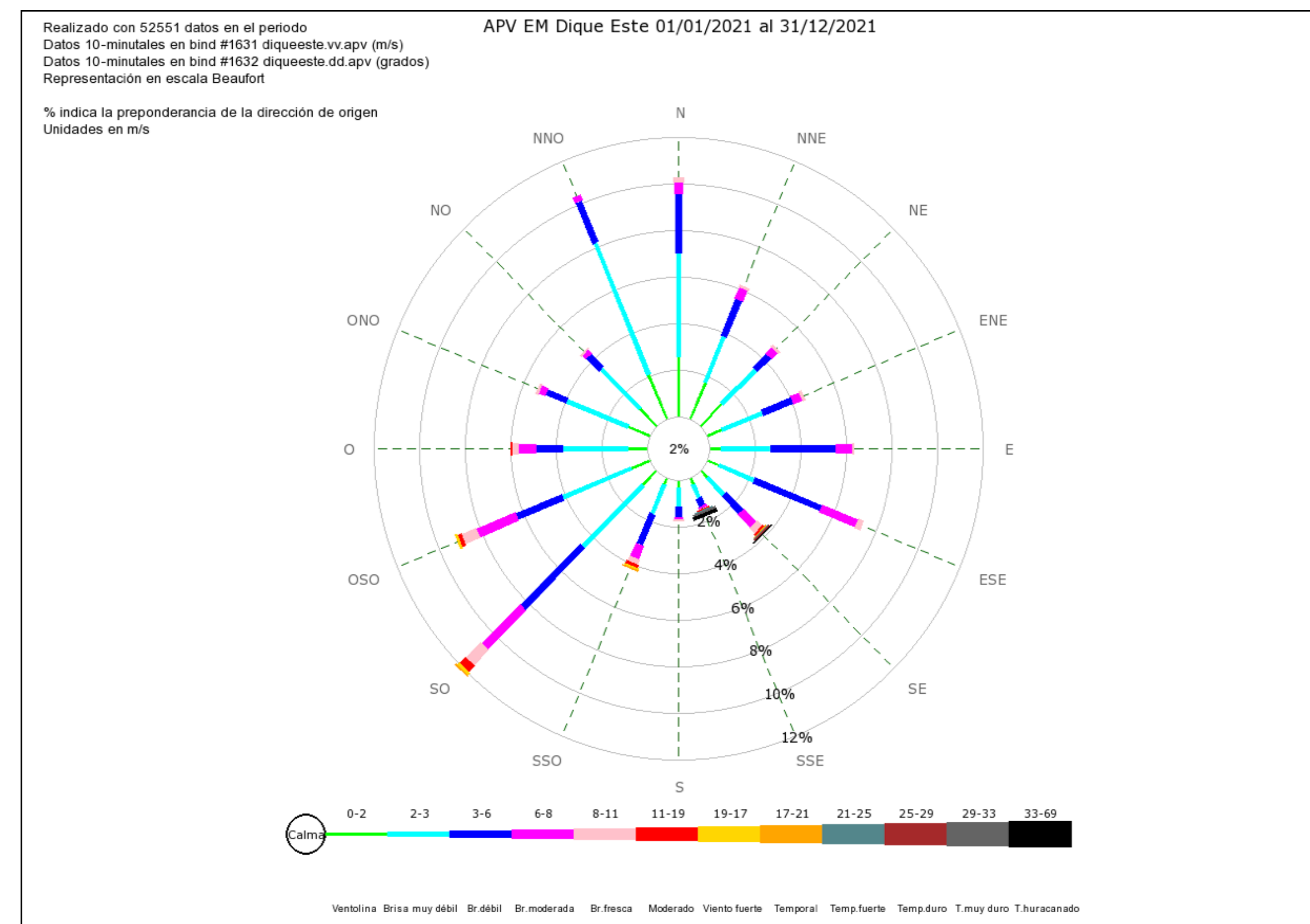
6. State of the environment

6.2.4. DATA RECORDED AT WEATHER STATIONS 2021

Monthly statistical values at the weather station WS VALENCIA EAST BREAKWATER
Data calculated from daily averages

	VV (m/s)				TMP (°C)				HR (%)				PBR (mbar)			
	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min
Enero	31	5	12	2	31	11,7	20,2	6,4	31	53	20	6	-	-	-	-
Febrero	28	5	12	2	28	13,9	19,1	11,2	28	68	19	11	-	-	-	-
Marzo	31	4	6	2	31	12,9	16,2	9,8	31	74	16	10	-	-	-	-
Abril	30	4	6	2	30	14,4	18,2	12	30	78	18	12	-	-	-	-
Mayo	31	4	7	2	31	19,7	26,2	15,4	31	72	26	15	18	1021,5	1028	1013
Junio	30	2	5	1	30	24,1	26,6	21,4	30	74	27	21	30	1018,6	1026	1011
Julio	31	3	5	2	31	26,2	29,1	24,3	31	80	29	24	31	1015	1022	1008
Agosto	29	3	5	1	29	26,9	28,7	24,8	29	86	29	25	29	1015,3	1021	1005
Septiembre	26	3	5	2	28	25,0	27	21,4	28	88	27	21	28	1018,6	1026	1013
Octubre	31	3	6	2	31	21,5	24,2	19	31	88	24	19	31	1020,1	1028	1007
Noviembre	30	4	7	2	30	14,5	23,6	9,7	24	62	24	10	30	1013,7	1027	1002
Diciembre	31	4	8	1	26	14,6	20,3	12,3	15	60	20	12	31	1018,3	1028	1007

Wind rose -WS VALENCIA EAST BREAKWATER

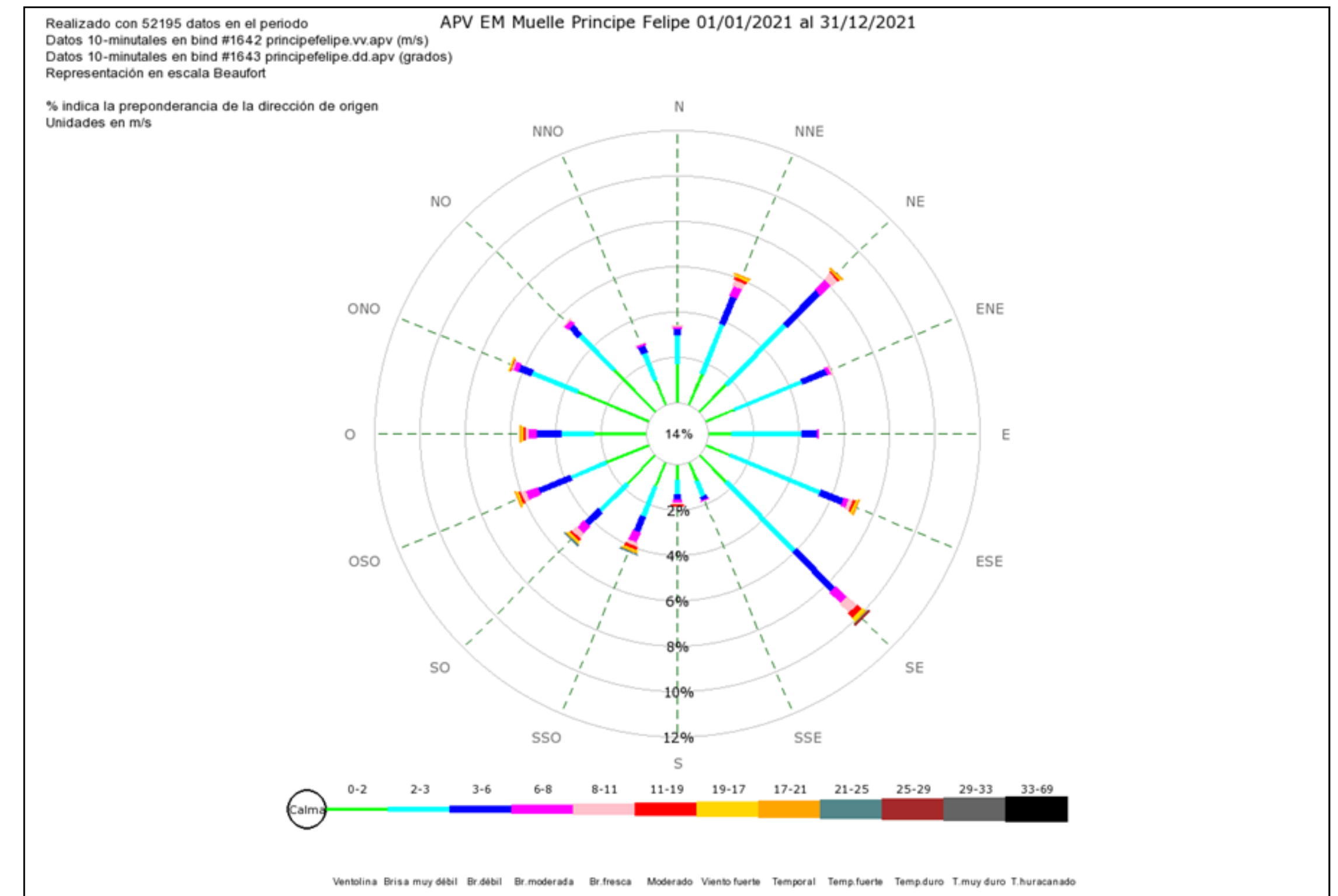


6. State of the environment

Monthly statistical values at the weather station VALENCIA PRINCIPE FELIPE
Data calculated from daily averages

	VV (m/s)				TMP (°C)				HR (%)			
	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min
Enero	31	2,8	9,7	0,1	28	12,2	20,4	6,5	28	60	100	27
Febrero	28	2,8	8,6	0,3	28	15,0	19,6	12,8	28	73	99	31
Marzo	31	2,5	4,9	0,6	31	14,2	17,4	11	31	72	95	39
Abril	30	3,5	7,7	0,6	30	15,9	19,4	13,4	30	80	100	46
Mayo	30	5,7	15	0,7	30	20,3	26,7	16,6	30	57	86	16
Junio	29	2,0	2,9	1,2	29	23,9	26,4	21,1	29	68	81	51
Julio	31	2,4	3,2	1,8	31	26,1	28,8	24,1	31	70	80	43
Agosto	31	2,3	3,6	1,4	31	27,3	29,6	24,7	31	73	82	52
Septiembre	30	2,3	4,2	1,5	30	25,1	27,4	20,9	30	75	88	57
Octubre	31	2,1	3,6	1,5	31	21,1	24,4	18,4	31	74	82	57
Noviembre	30	2,4	4,2	1,4	30	15,2	23,2	10,9	30	65	87	42
Diciembre	27	2,7	5,6	0,4	27	15,0	19,7	12,6	27	69	92	50

Wind rose WS VALENCIA PRINCIPE FELIPE

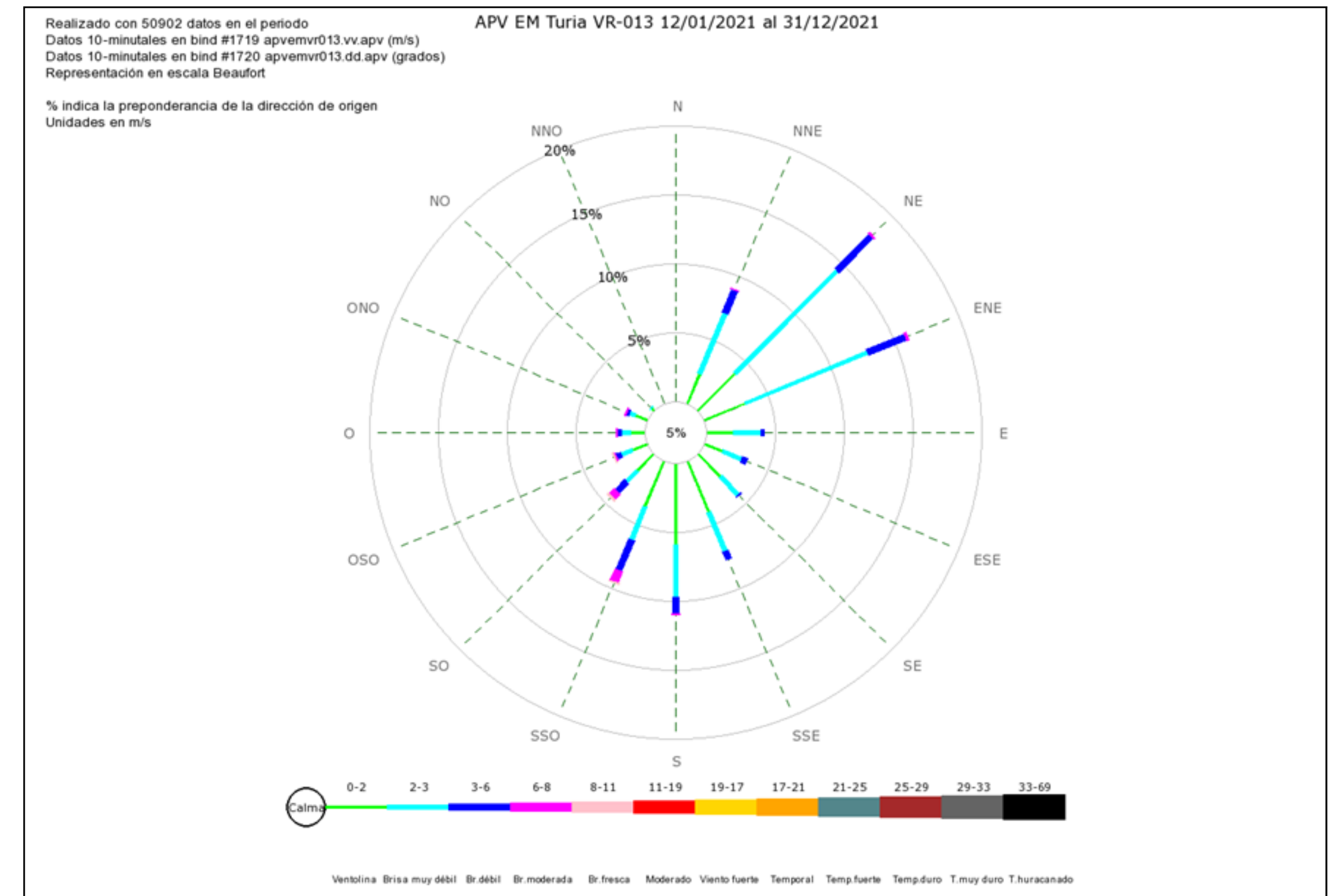


6. State of the environment

Monthly statistical values at the weather station WS TURIA
Data calculated from daily averages

	W (m/s)				PBR (mbar)			
	Muestras	Media	Max	Min	Muestras	Media	Max	Min
Enero	19	2,9	5,8	1,2	19	1014	1024	1005
Febrero	28	2,5	6,1	1,1	28	1014	1030	998
Marzo	31	2,0	3,4	1,4	31	1018	1026	1010
Abril	30	2,0	2,9	1,1	30	1012	1021	1002
Mayo	31	2,4	4	1,3	31	1011	1018	1004
Junio	30	2,0	3,1	1,2	30	1011	1017	1004
Julio	31	2,3	2,9	1,9	31	1009	1016	1003
Agosto	31	2,2	3,1	1,2	31	1010	1015	1000
Septiembre	30	2,2	4	1,5	30	1012	1019	1007
Octubre	31	1,9	4,1	1,3	31	1014	1021	1004
Noviembre	30	2,2	3,9	1,2	30	1011	1023	1000
Diciembre	31	2,5	5,5	0,8	31	1015	1024	1003

Wind rose - WS VALENCIA TURIA



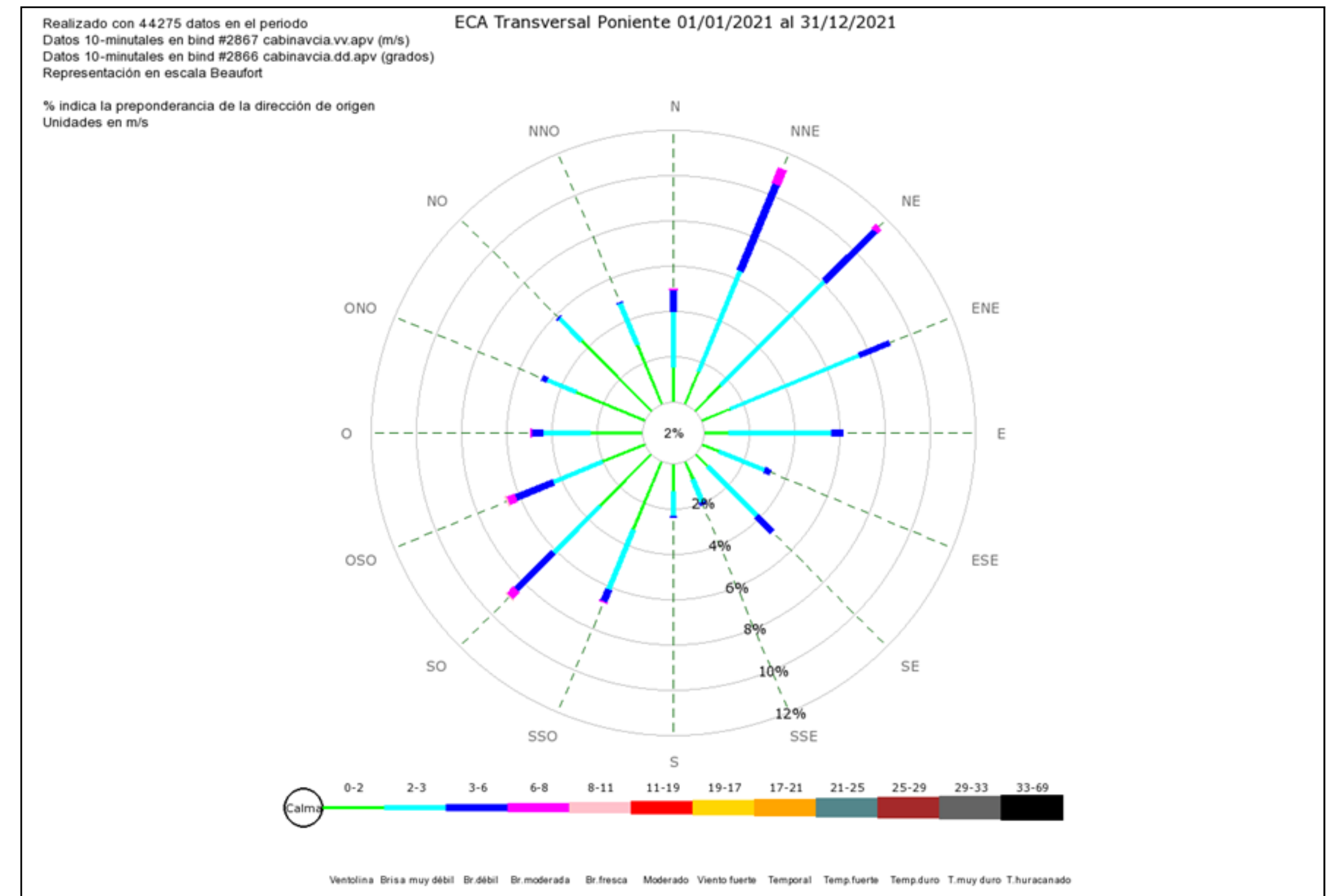
6. State of the environment

Monthly statistical values of WS in the EMS TRANSVERSAL NORTH
Data calculated from daily averages

	W (m/s)				TMP (°C)				HR (mbar)			
	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min
Enero	-	-	-	-	-	-	-	-	-	-	-	-
Febrero	-	-	-	-	-	-	-	-	-	-	-	-
Marzo	25	2,3	4,6	1,4	28	13,1	16,4	9,9	25	73	90	48
Abril	30	2,2	3,5	1,2	30	14,6	18,6	11,8	28	86	100	59
Mayo	24	2,6	4	1,4	31	19,3	26,7	15,1	24	70	94	35
Junio	30	2,1	3,2	1,5	30	23,0	26,5	19,8	30	73	89	51
Julio	31	2,4	3,3	23,6	31	25,5	29,4	23,6	31	75	87	24
Agosto	31	2,4	4,8	1,4	31	27,4	30,5	24,5	31	76	86	52
Septiembre	28	2,3	5,2	1,6	28	25,9	27,7	21,1	28	77	89	58
Octubre	31	2,1	4,4	1,4	31	21,4	27,7	17,9	31	76	89	58
Noviembre	30	2,4	4,1	1,3	30	14,9	23	10,5	30	62	90	40
Diciembre	31	2,8	5,5	1	31	14,3	19,4	11,6	31	69	93	47

NOTE: Validated data start to be collected in March 2021

Wind rose - EM in EMS TRANSVERSAL QUAY



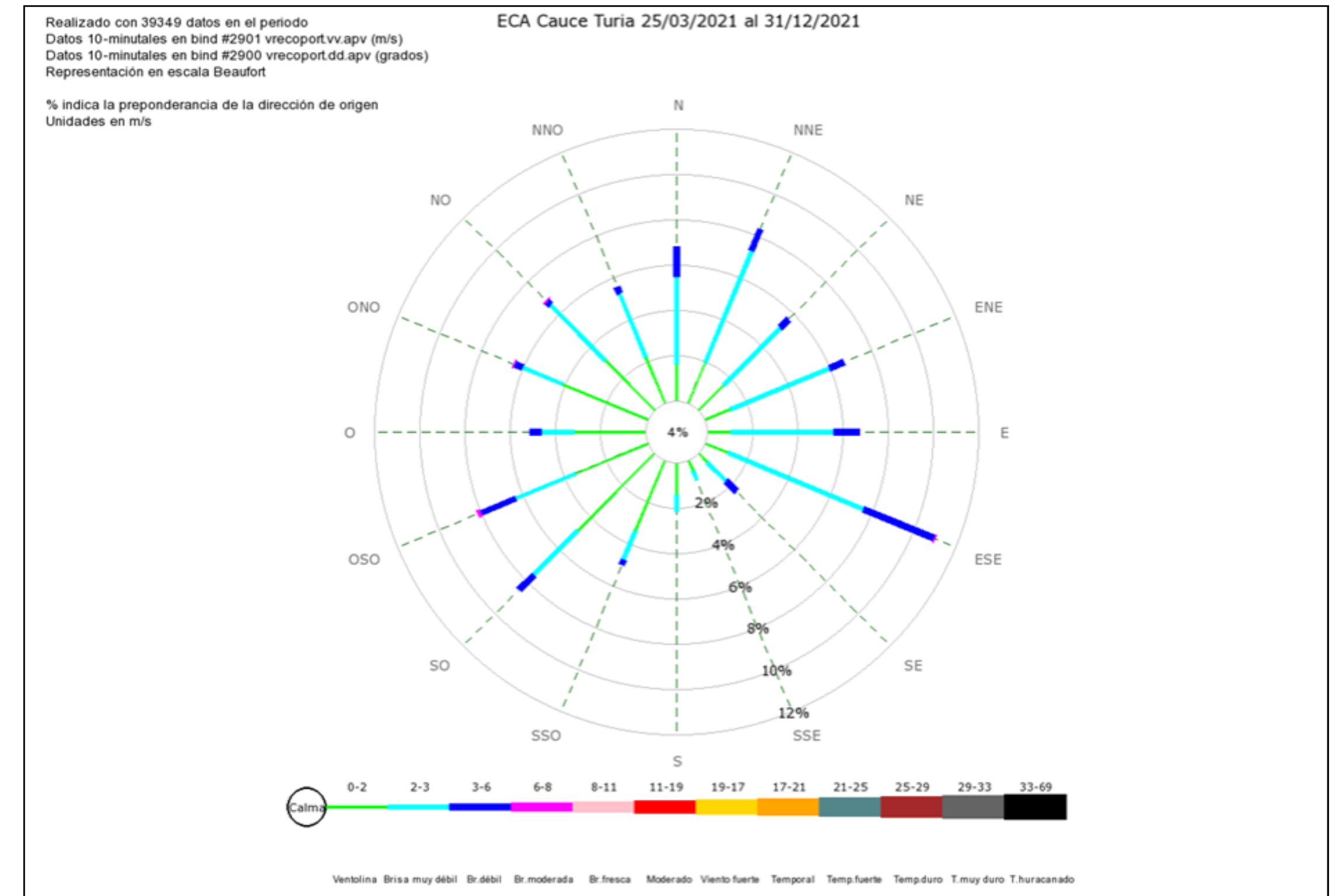
6. State of the environment

Monthly statistical values of WS in EMS TURIA OLD RIVERBED
Data calculated from daily averages

	VV (m/s)				TMP (°C)				HR (%)				PBR (%)			
	Muestras	Med ia	Max	Min	Muestras	Med ia	Max	Min	Muestras	Med ia	Max	Min	Muestras	Med ia	Max	Min
Enero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Febrero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marzo	6	2	2	1	6	13	14	13	6	79	86	72	6	1033	1036	1027
Abril	20	2	3	1	20	14	19	12	20	79	95	54	20	1022	1030	1012
Mayo	31	2	3	1	31	19	27	15	31	78	97	37	31	1020	1031	1010
Junio	25	2	4	1	24	23	26	20	25	80	100	52	25	1025	1319	1007
Julio	31	2	3	2	28	25	30	24	18	79	100	49	31	1015	1021	1007
Agosto	31	2	4	1	29	27	30	23	31	89	100	50	31	1017	1021	1009
Septiembre	30	2	4	2	20	25	27	21	22	79	100	66	30	1022	1029	1018
Octubre	31	2	3	1	31	19	23	17	31	70	78	48	31	1020	1029	1009
Noviembre	30	2	3	1	30	14	22	9	30	59	83	36	30	1017	1030	1007
Diciembre	31	2	4	1	31	13	19	10	31	65	86	44	31	1021	1031	1008

NOTE: Validated data start to be collected in March 2021

Wind rose - TURIA OLD RIVERBED



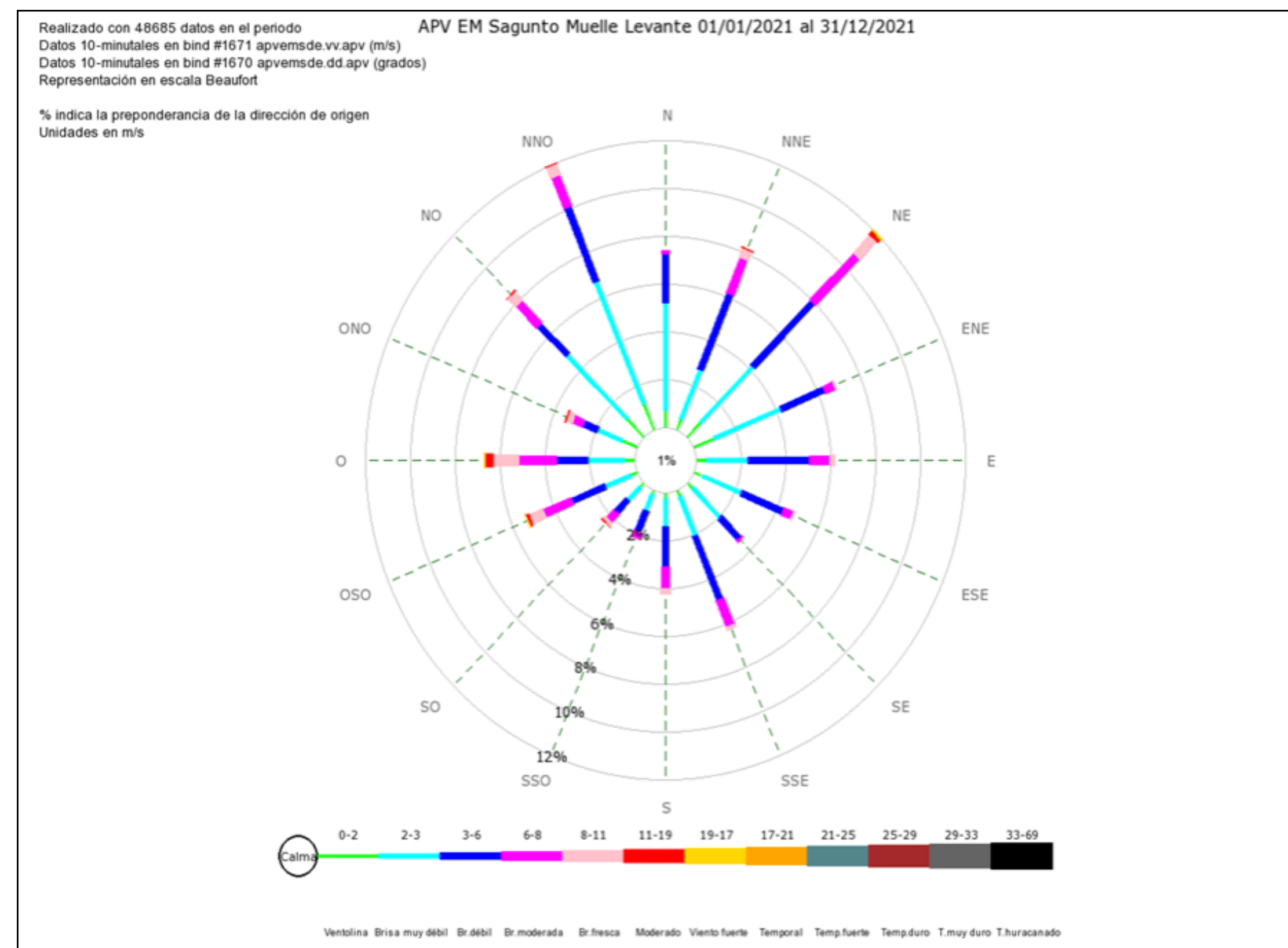
6. State of the environment

Monthly statistical values at the weather station WS SAGUNTO MUELLE LEVANTE
Data calculated from daily averages

	VV (m/s)				TMP (°C)				HR (%)				PBR (mbar)			
	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min
Enero	22	5	10	2	22	9,3	14,8	6,3	22	61	87	39	22	1016	1026	1005
Febrero	21	5	12	2	21	13,3	17,9	10,7	21	76	97	43	21	1011	1028	996
Marzo	21	4	8	2	27	12,3	15	9,6	27	88	102	55	27	1015	1024	1004
Abril	27	4	6	2	26	13,6	16,5	11,3	24	91	103	65	25	1009	1016	1002
Mayo	31	4	7	2	29	17,9	24,2	14,3	11	80	98	45	24	1013	1020	1004
Junio	30	3	6	2	30	22,1	24,6	19,7	-	-	-	-	30	1015	1019	1009
Julio	31	4	5	2	31	24,1	25,5	22,4	-	-	-	-	31	1015	1022	1009
Agosto	29	4	7	2	28	25,7	30,3	23,1	13	69	74	64	29	1016	1021	1006
Septiembre	23	4	9	2	23	22,9	25,2	19,2	23	75	86	57	-	-	-	-
Octubre	31	4	7	2	31	19,7	22,8	17,2	31	78	88	48	-	-	-	-
Noviembre	30	5	8	2	30	14,9	22,1	10,7	30	69	92	38	-	-	-	-
Diciembre	31	5	9	2	31	13,8	18,8	10,6	31	64	89	38	-	-	-	-

NOTE: In June and July there was a failure in the relative humidity sensor and in September, October, November and December in the barometric pressure sensor

Wind rose - WS SAGUNTO MUELLE LEVANTE



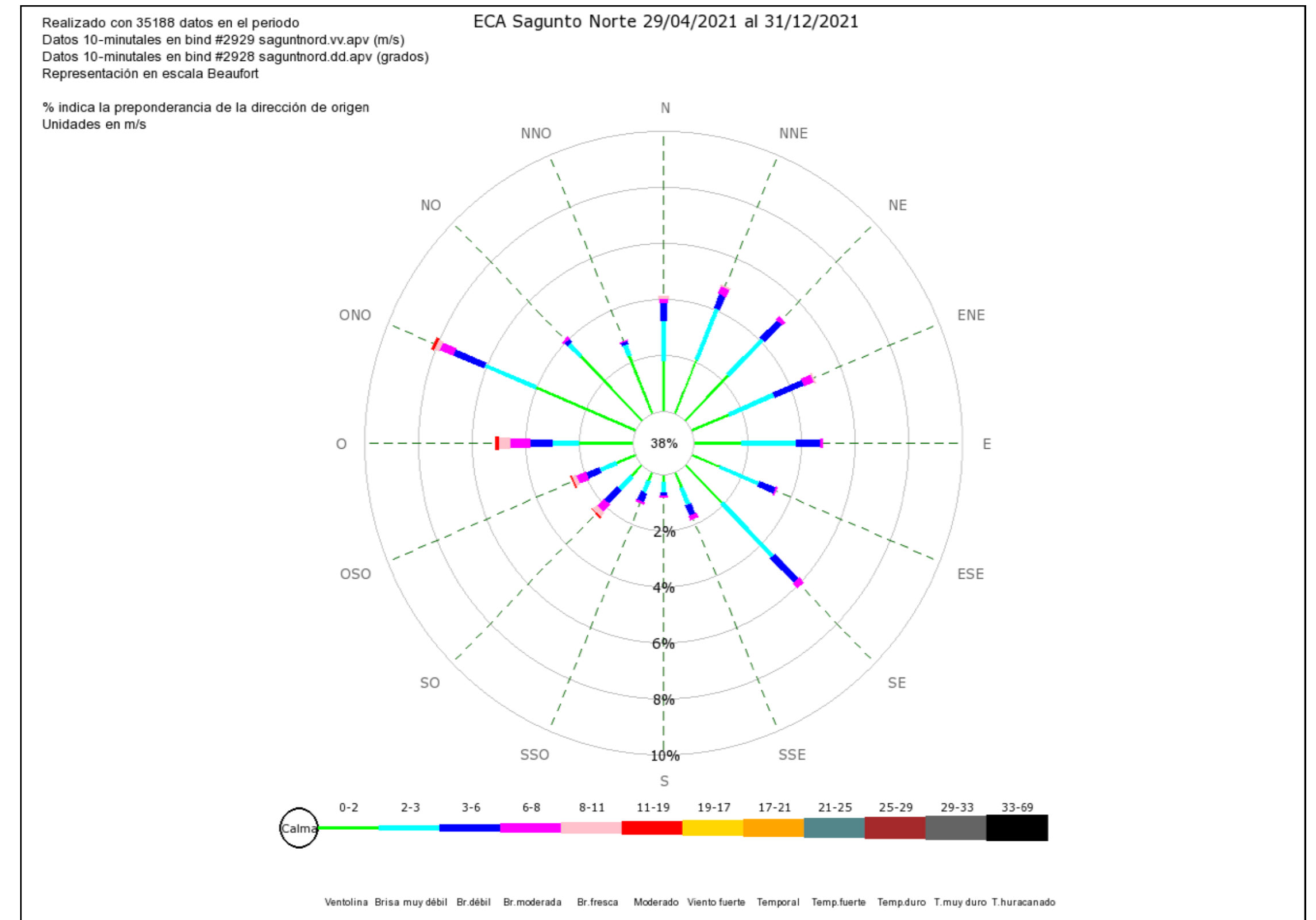
6. State of the environment

Monthly statistical values of the EMS SAGUNTO NORTE
Data calculated from daily averages

	VV (m/s)				TMP (°C)				HR (%)				PBR (mbar)			
	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min
Enero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Febrero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marzo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Abril	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mayo	31	1	2	0	31	19	27	15	31	68	87	30	24	1015	1023	1008
Junio	30	1	2	0	30	23	26	20	30	73	88	51	30	1016	1021	1008
Julio	31	1	3	1	31	26	27	24	31	75	84	44	31	1014	1020	1008
Agosto	27	2	3	1	27	26	29	23	27	76	92	51	27	1015	1020	1012
Septiembre	30	2	5	1	30	24	26	20	30	77	90	57	30	1017	1024	1013
Octubre	31	2	4	1	31	21	24	18	31	74	86	49	31	1019	1027	1009
Noviembre	30	2	6	0	30	15	23	10	30	59	88	35	30	1015	1028	1004
Diciembre	19	4	8	0	31	14	20	11	31	68	93	43	31	1020	1029	1008

NOTE: Validated data start to be collected in May 2021

Wind rose - EMS SAGUNTO NORTE

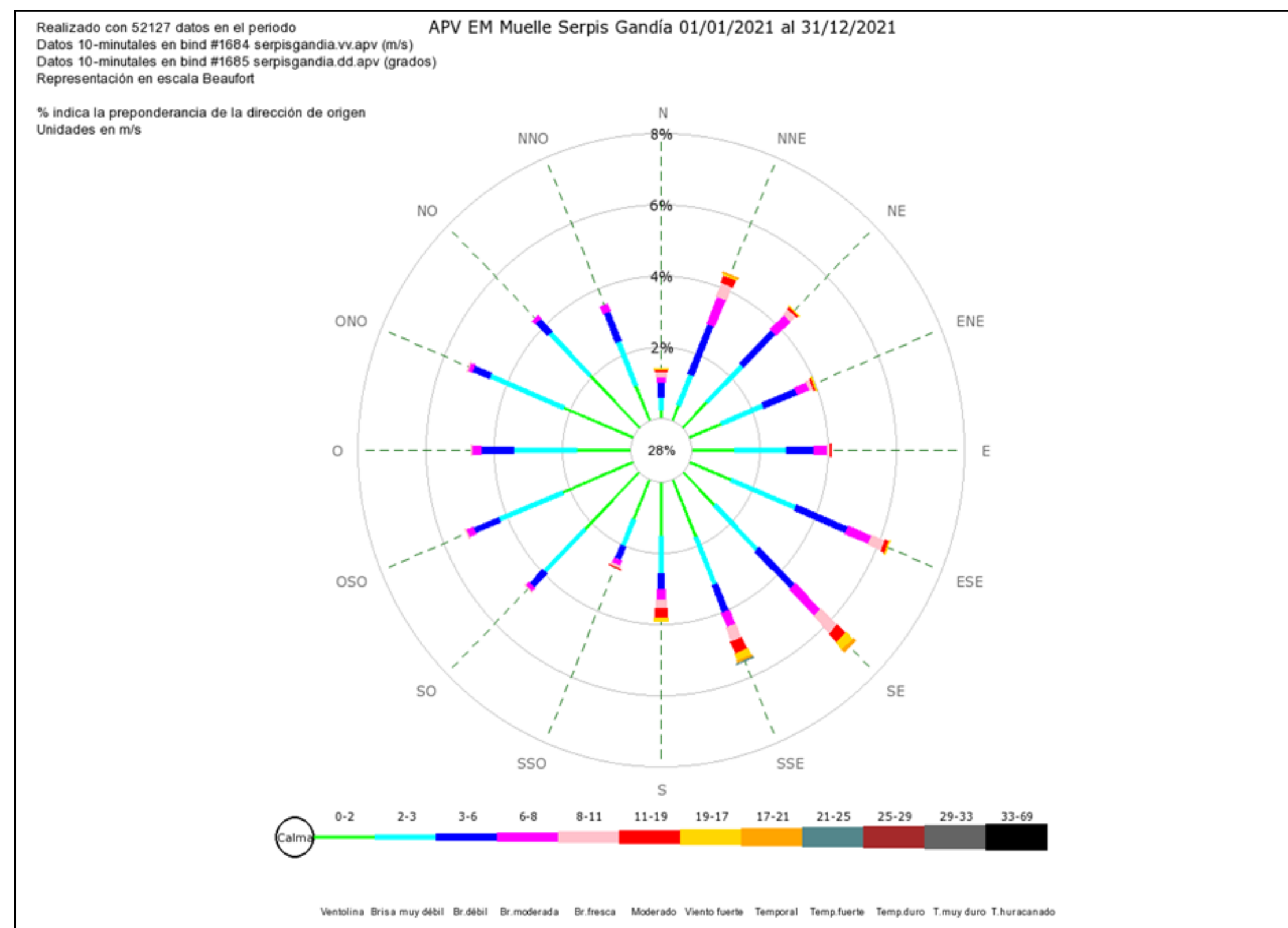


6. State of the environment

Monthly statistical values at the weather station VALENCIA PRINCIPE FELIPE
Data calculated from daily averages

	VV (m/s)				TMP (°C)				HR (%)				PBR (mbar)			
	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min	Muestras	Media	Max	Min
Enero	31	2	6	1	31	12	22	6	31	53	94	33	4	1009	1015	1004
Febrero	27	2	5	1	27	14	19	11	27	70	105	36	27	1019	1036	997
Marzo	31	2	5	1	31	13	18	10	31	77	125	46	31	1025	1032	1016
Abril	30	2	4	0	30	15	18	12	30	70	87	55	30	1018	1027	1008
Mayo	28	3	9	1	28	19	26	16	28	56	92	24	28	1018	1025	1011
Junio	30	3	6	1	30	23	25	20	30	60	83	41	30	1018	1024	1011
Julio	31	4	9	2	31	25	27	23	31	60	86	41	31	1016	1023	1010
Agosto	11	5	9	2	31	26	29	24	31	60	79	42	31	1017	1022	1009
Septiembre	28	3	10	1	28	24	27	20	28	57	87	43	28	1019	1026	1014
Octubre	31	1	3	1	31	20	25	17	31	56	81	31	31	1021	1028	1011
Noviembre	30	2	4	1	30	15	24	11	30	47	79	28	30	1017	1029	1008
Diciembre	31	2	5	0	31	15	20	11	28	50	90	27	31	1022	1031	1011

Wind rose - WS SERPIS GANDIA



6. State of the environment

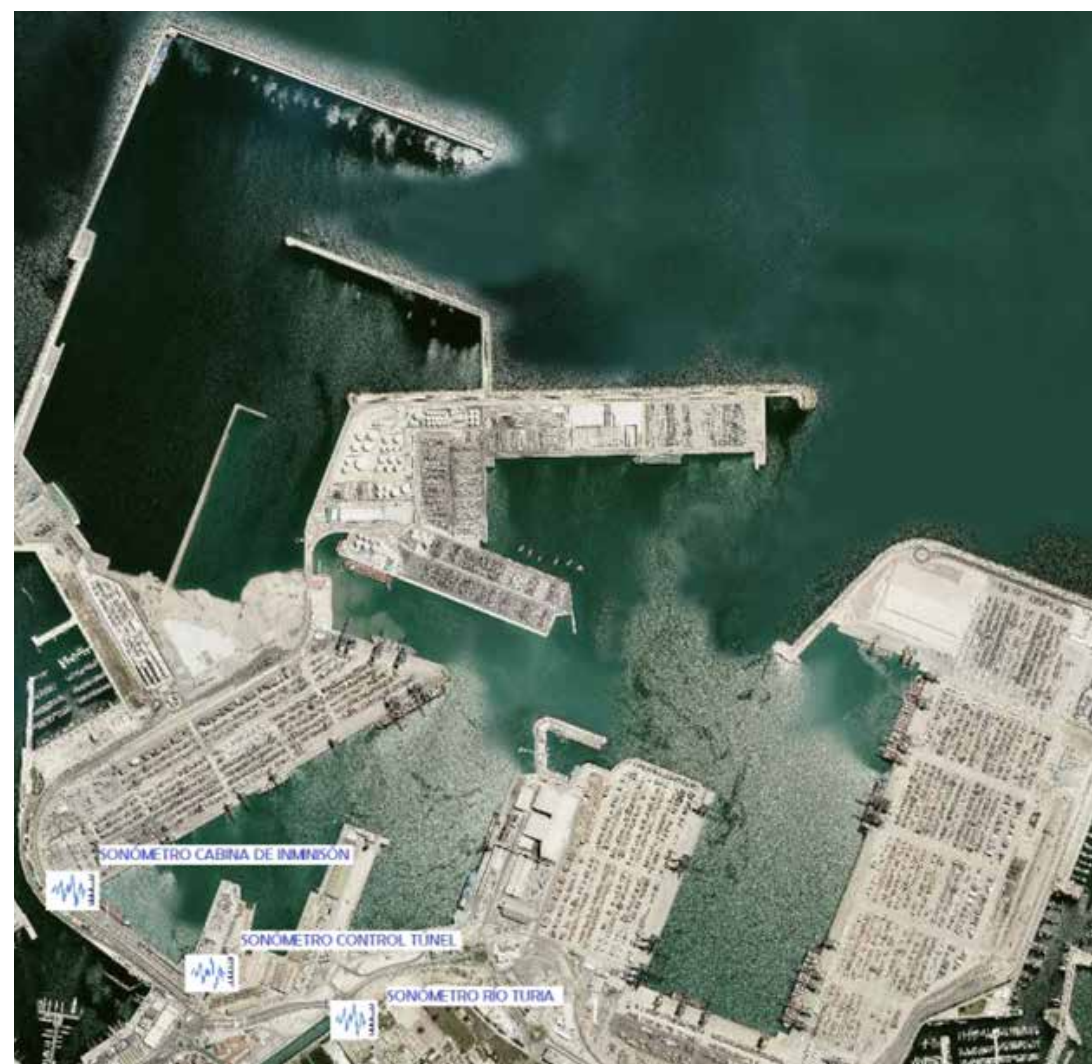
6.3. Acoustic quality control network

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 Ecological Transition has set as a priority.

To carry out this monitoring, the Port Authority of Valencia has had four sound level meters in operation since 2021, previously there were three located in the Port of Valencia:

- Port of Valencia: three sound level meters distributed strategically across the port-city interface, allowing us to analyse acoustic quality in real time.
- Port of Sagunto: in May, a new sound level meter was installed in this port, located in the ECA Sagunto Norte, this being the closest point to the urban centre of Puerto de Sagunto.

The location of acoustic control terminals in 2021 is shown in the following image:



Port of Valencia



Port of Sagunto

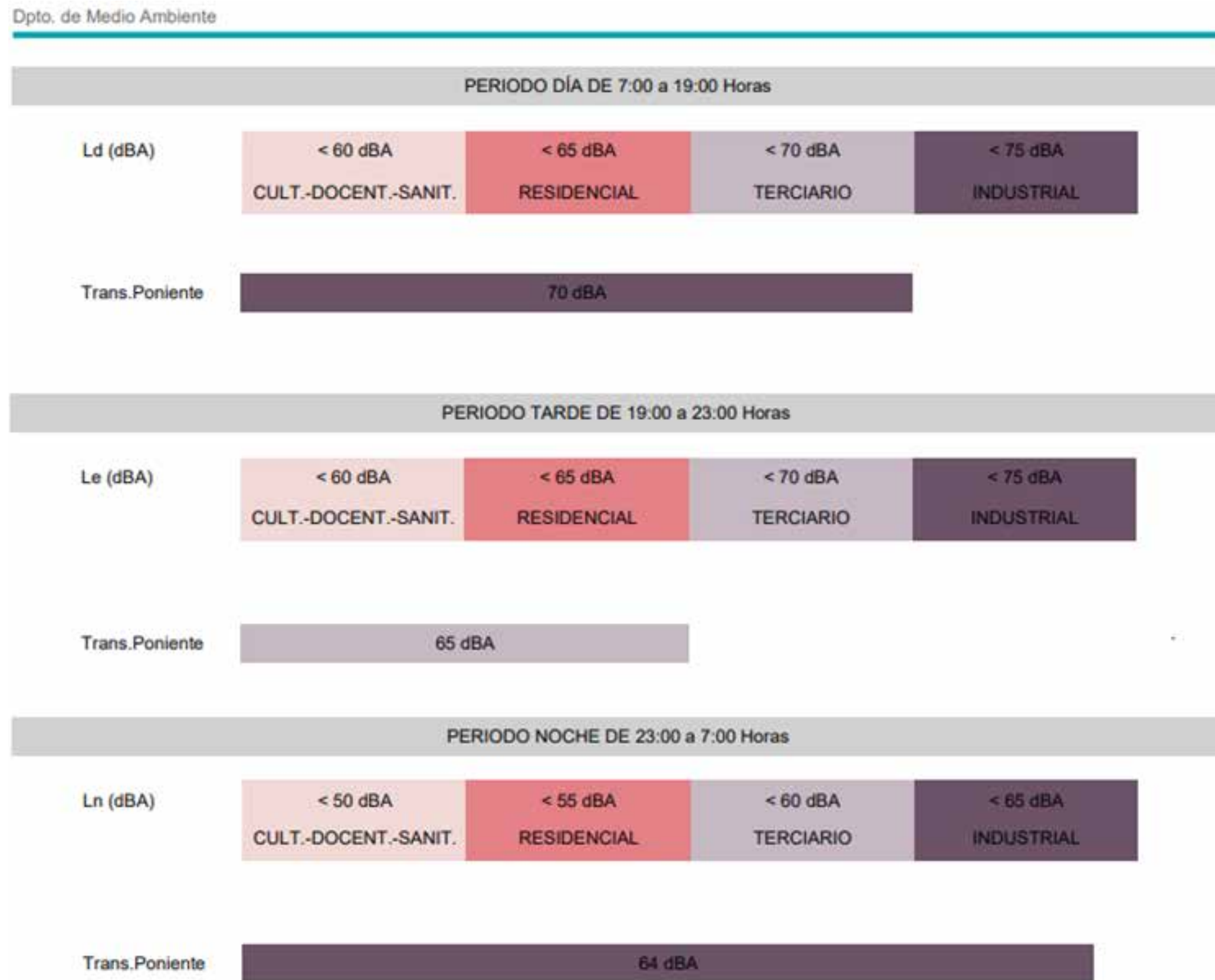
6.3.1. RESULTS OBTAINED IN THE YEAR 2021 ACCORDING TO THE BENCHMARK REGULATION VALUES

In 2021, monthly reports have been drafted on the trajectory of the data registered for the purpose of identifying trends. Below is a graphical assessment by station of the annual average 2021, using as a reference the noise quality objectives applicable to existing urbanised areas in table A of Annex II of Royal Decree 1367/2007, of 19 October, which implements Law 37/2003, of 17 December, on Noise. For the 3 assessment periods (annual average for the day and evening period should be less than 75 dB and for the night period should be less than 65 dB).

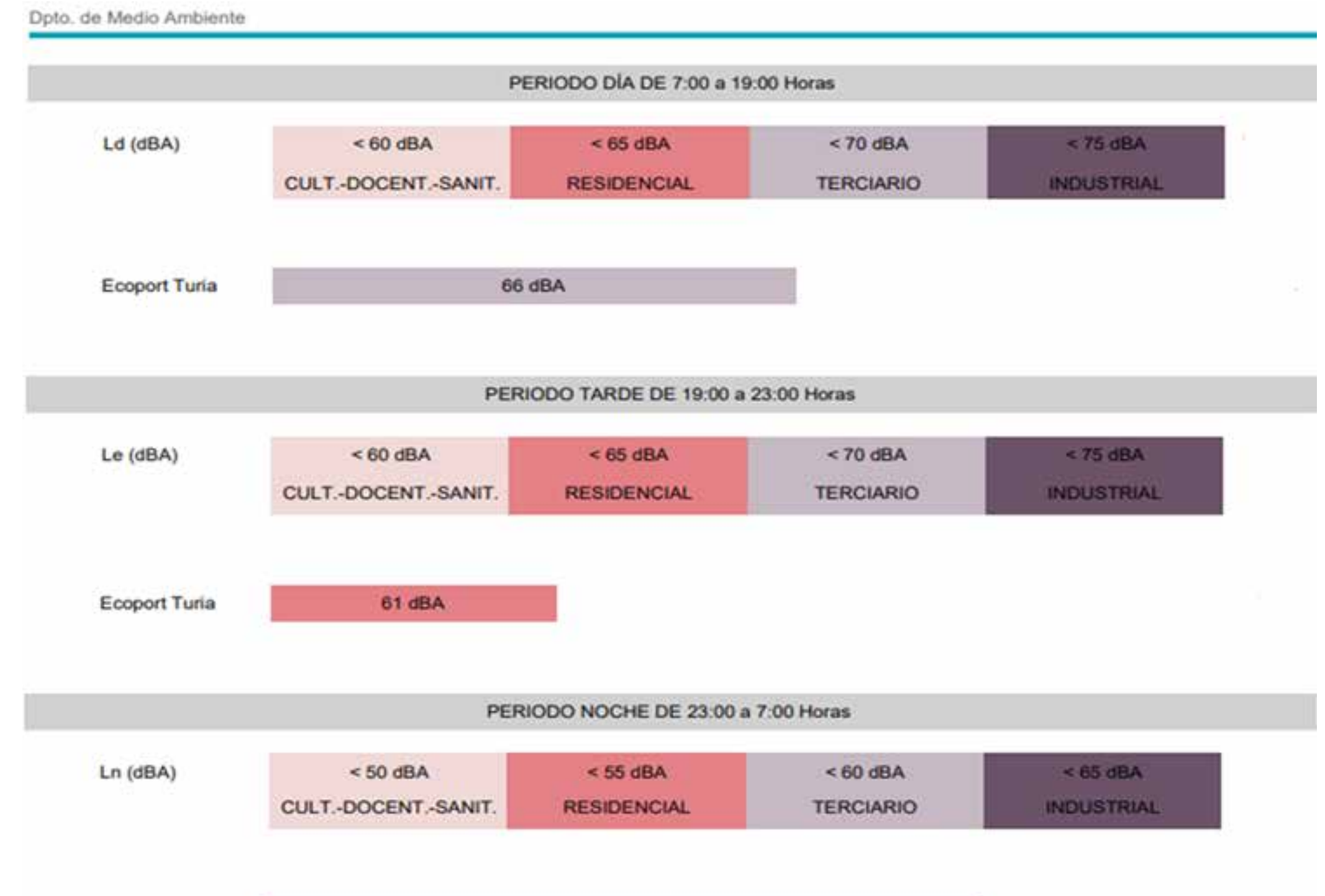
If in the acoustic area the corresponding value of some of the immission indices set out in this table is exceeded, the acoustic quality target is to reach this value. Otherwise, it shall be the non-exceedance of that value.

6. State of the environment

Sound level meter in EMS Transversal Quay:

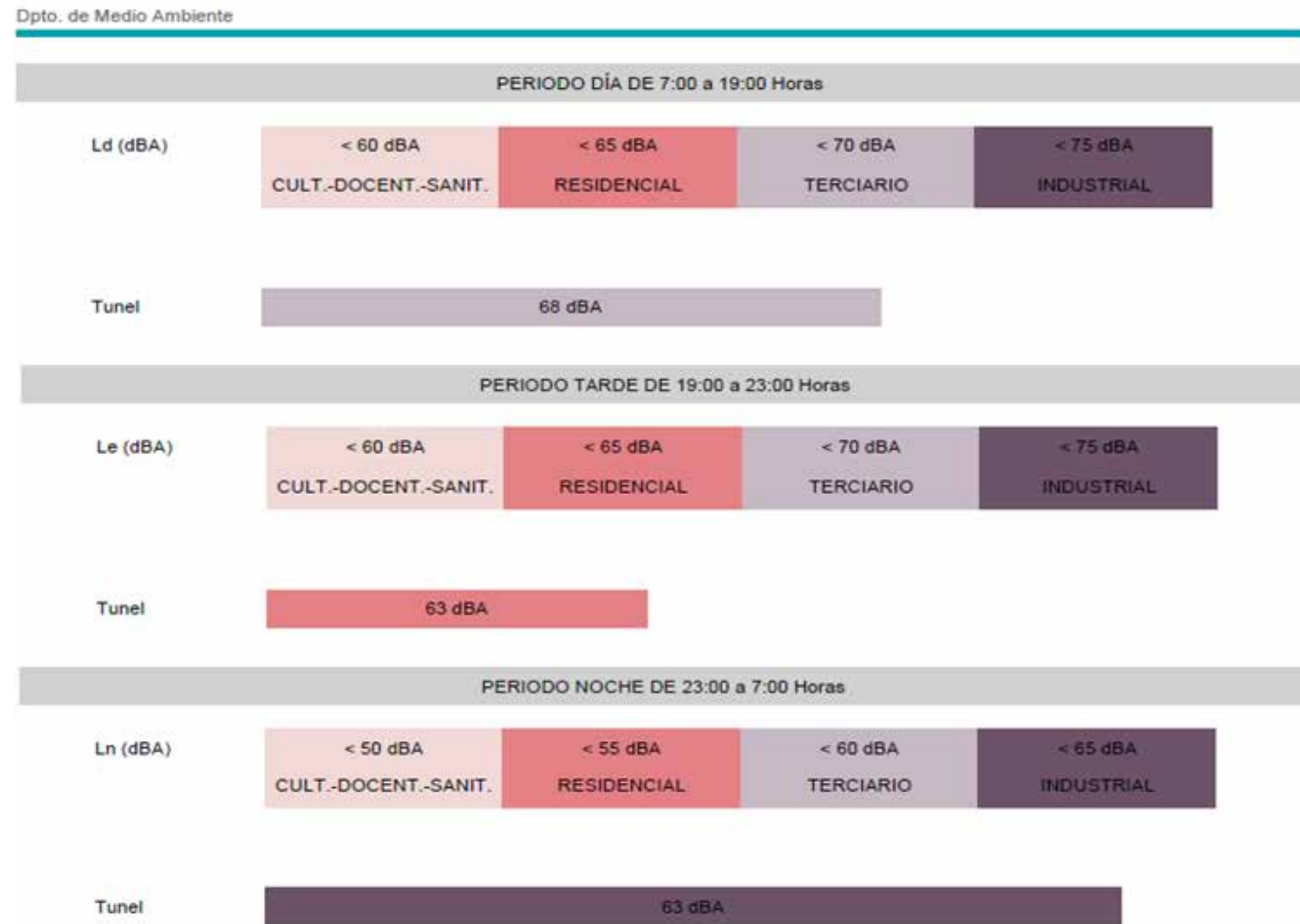


Sound level meter in EMS Túría Old Riverbed:

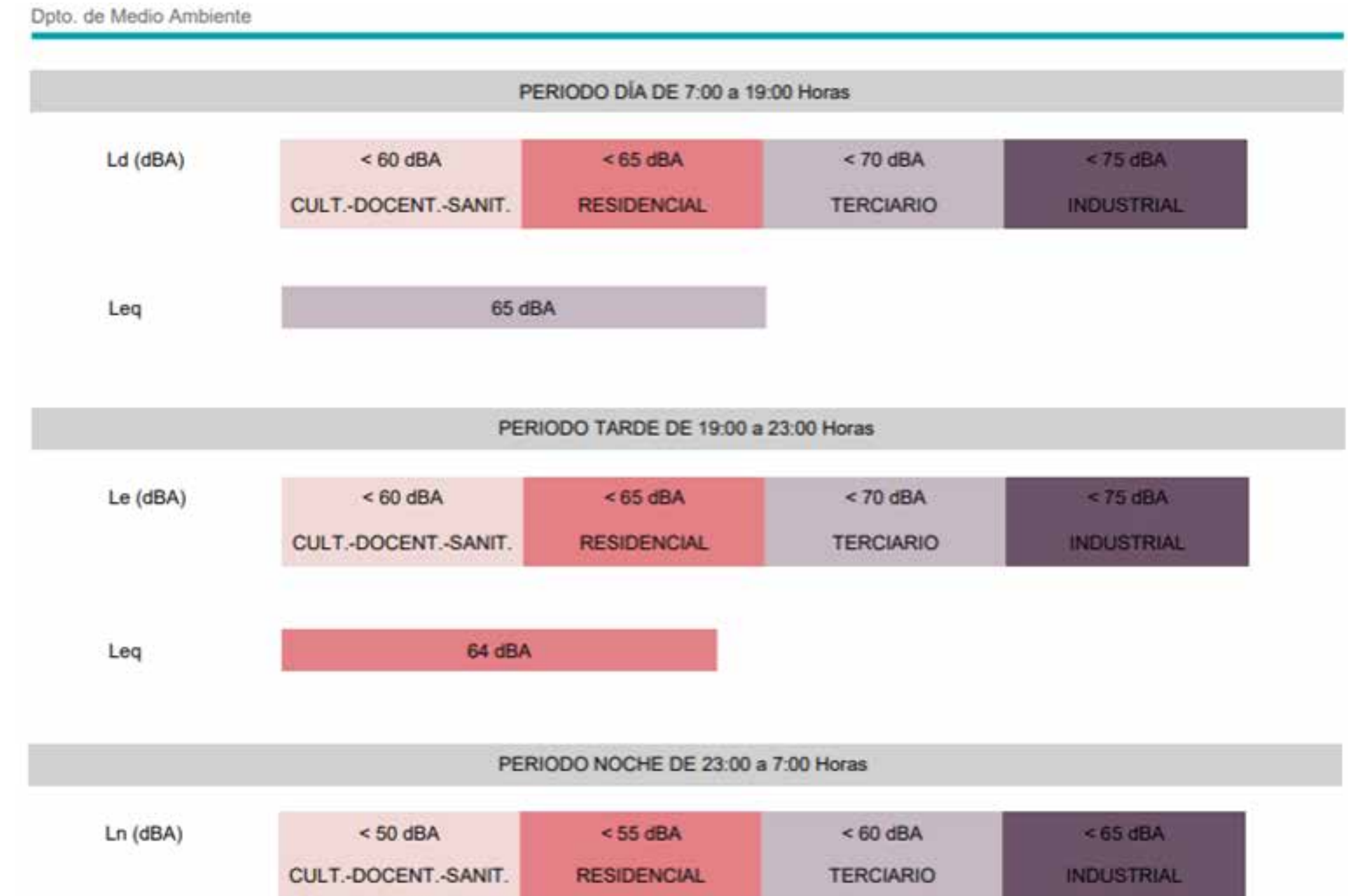


6. State of the environment

Tunnel Sound Level Meter:



Sound level meter at EMS Sagunto North: Operational as of 7 May 2021:



After the analysis of data in the annual period assessed (January-December 2021), 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. State of the environment

6.3.2. ACOUSTIC “STATIC” MAPS

Some years ago, the Port Authority of drafted static acoustic maps of the ports of Gandia, 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 Gandia, 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 Gandia, measurements 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.

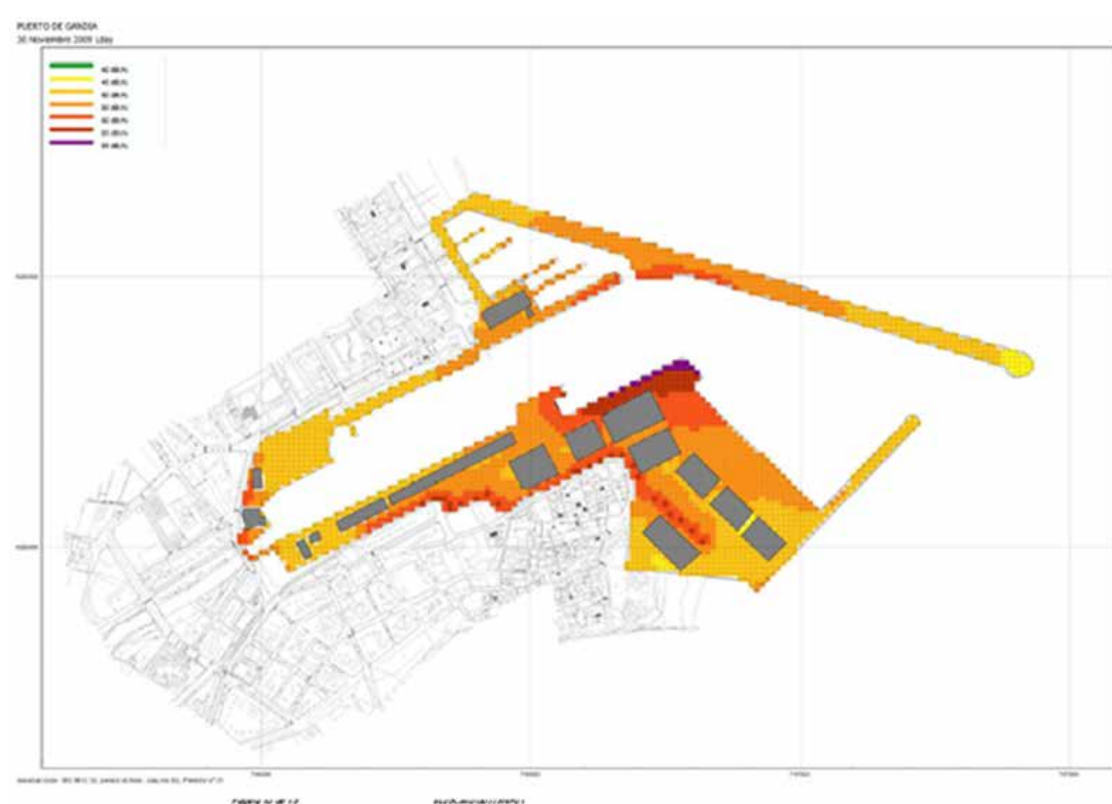
These maps concluded that the noise levels emitted to the external atmosphere of the three acoustic areas in daytime, evening and night periods, measured over the 30 days of November and 1 December of 2009 were below the immission limit values for noise applicable to port infrastructures and activities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

In all the “predictive” acoustic maps and in the successive updates of these maps, which are described in the following section, the campaigns of punctual measurements established by regulation are carried out to validate them.

6.3.3. ACOUSTIC “PREDICTIVE” 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 Gandia, which was completed in late 2013. For these updates, the Predictor calculation programme version 8 was used, with the model HARMONOISE NOMEPORTS.

Subsequently, with the amendment of Annex II of Royal Decree 1513/2005, of 16 December, indicated in Order PCI/1319/2018, of 7 December, the calculation methods currently used for the assessment of industrial noise, aircraft noise, train noise and road traffic noise are replaced by a common calculation methodology developed by the European Commission through the project “Common Noise Assessment Methods in Europe (CNOSSOS-EU)”. Therefore, in the 2020 and 2021 updates, according to the current regulations, the CNOSSOS model is used as the calculation method.



L day (without vessels in port) Port of Gandia



L night (without vessels in port) Port of Gandia

6. State of the environment

Port of Valencia

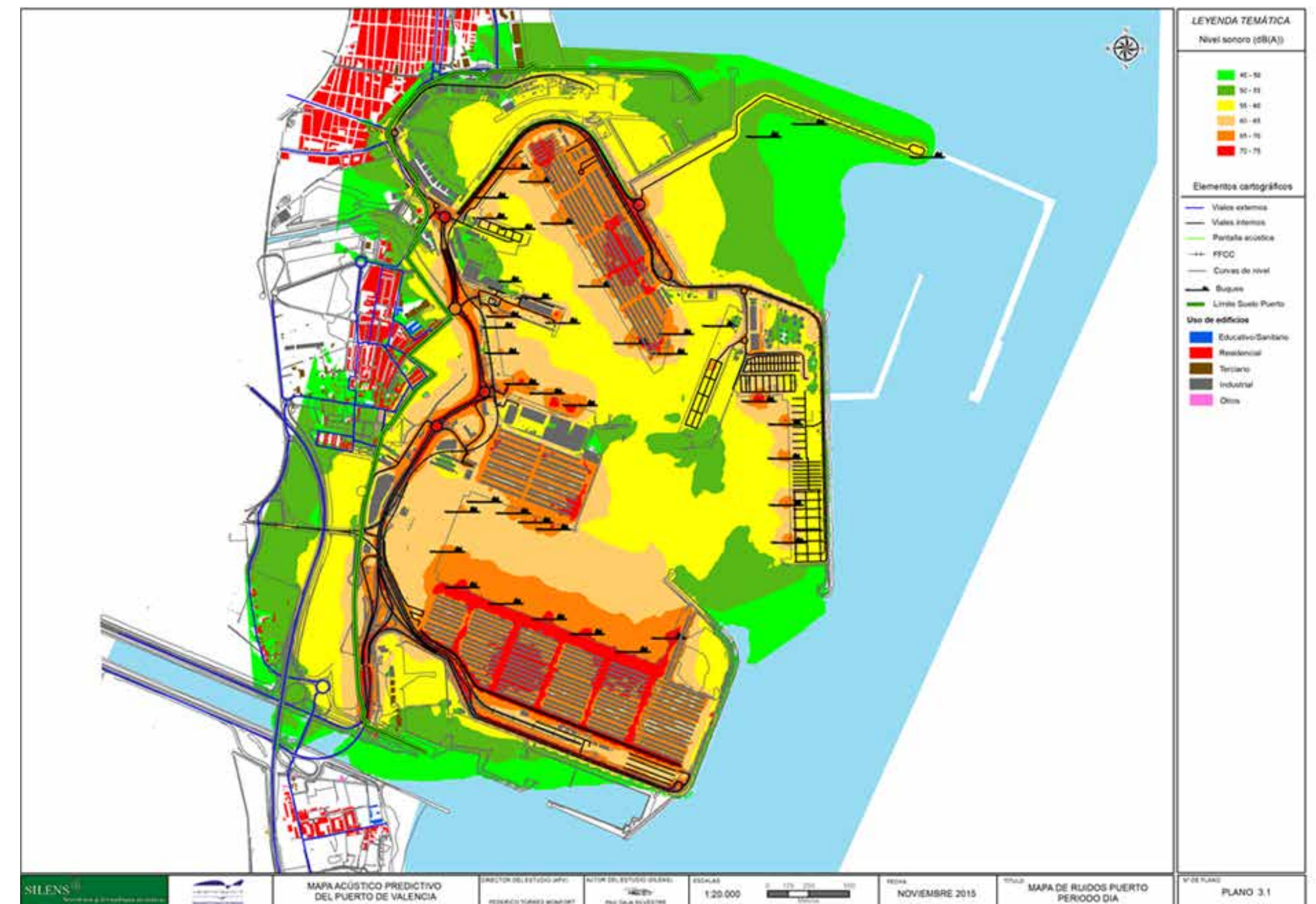
In the specific case of the port of Valencia, for its calculates, the initial information with which the 2008 map was drafted was updated and adapted to the new circumstances of the port: vehicle traffic on roads, type of activities carried out, acoustic level of machinery used in each area, timetables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

Thus, and with all above information compiled, after a 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 provided the following conclusions:

- The most significant noise in the daytime-evening period is vehicle traffic
- The most significant noise in the night period is industrial noise.
- 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 values established by R.D. 1367/2007 for the daytime period, or the 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:

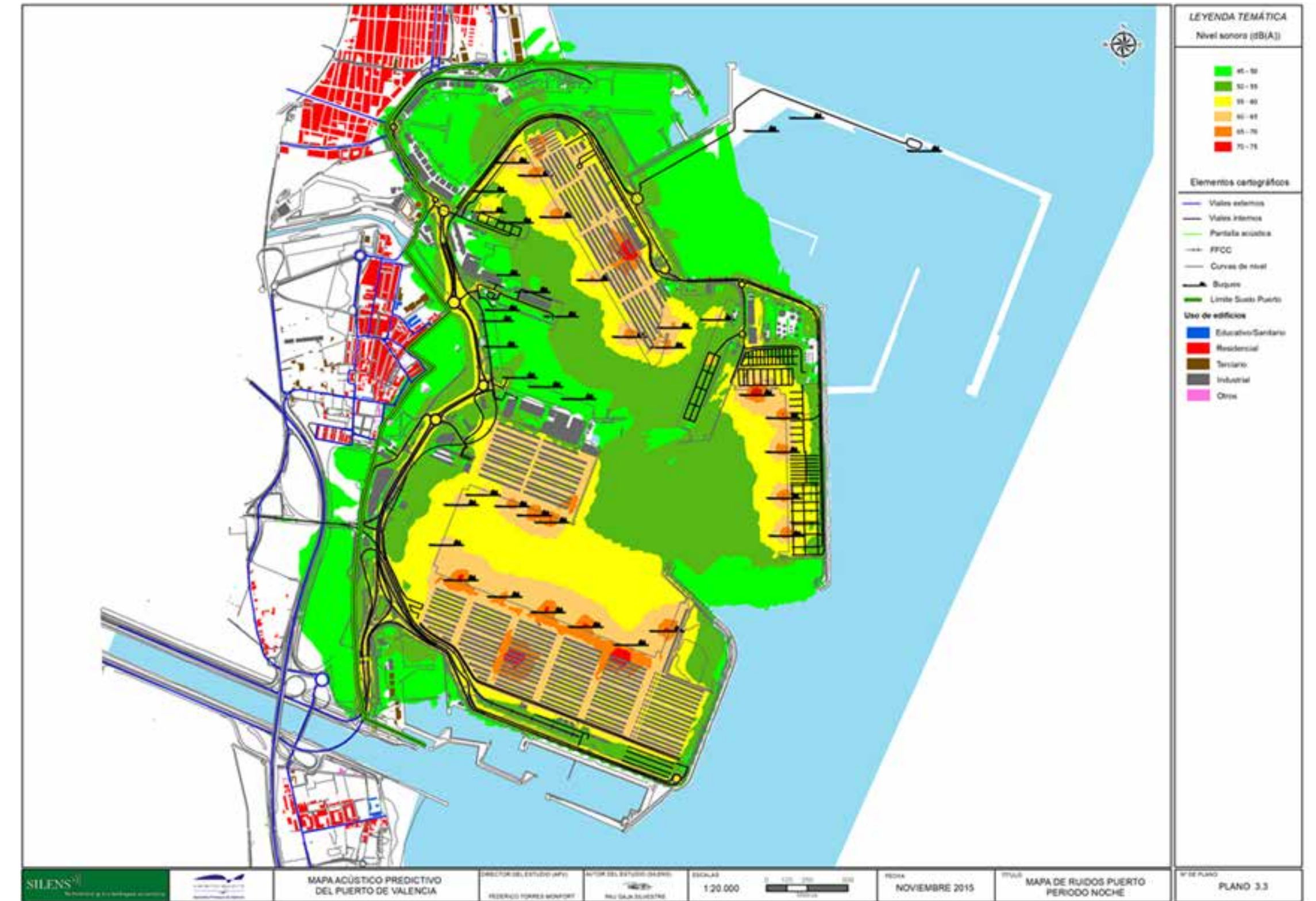


L day Port of Valencia

6. State of the environment



L afternoon Port of Valencia



L night Port of Valencia

6. State of the environment

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 impact of the new developments was considered most relevant:



During the year 2021, the predictive maps for the port of Valencia were updated, taking into account the new infrastructures, sources and current traffic for the creation of these maps.

The acoustic zoning is shown in the following map.



In none of the scenarios that were calculated did noise levels exceed current legislation for both industrial and built-up areas. As such, it is not necessary to apply additional corrective measures.

6. State of the environment

The noise levels obtained in the calculations of noise levels due to port activity show that the limit values indicated in table A1 of annex III of RD 1367/2007 are not exceeded in the urban environment of the port. Furthermore, in the urban environment which, a priori, may have a higher acoustic impact from the port, such as the Natzaret neighbourhood due to its proximity to the port infrastructure, it has been confirmed that the road traffic circulating along the roads in this neighbourhood also has an existing acoustic impact in the area. A summary of the predictive maps is presented below:



L day Port of Valencia



L afternoon Port of Valencia

6. State of the environment



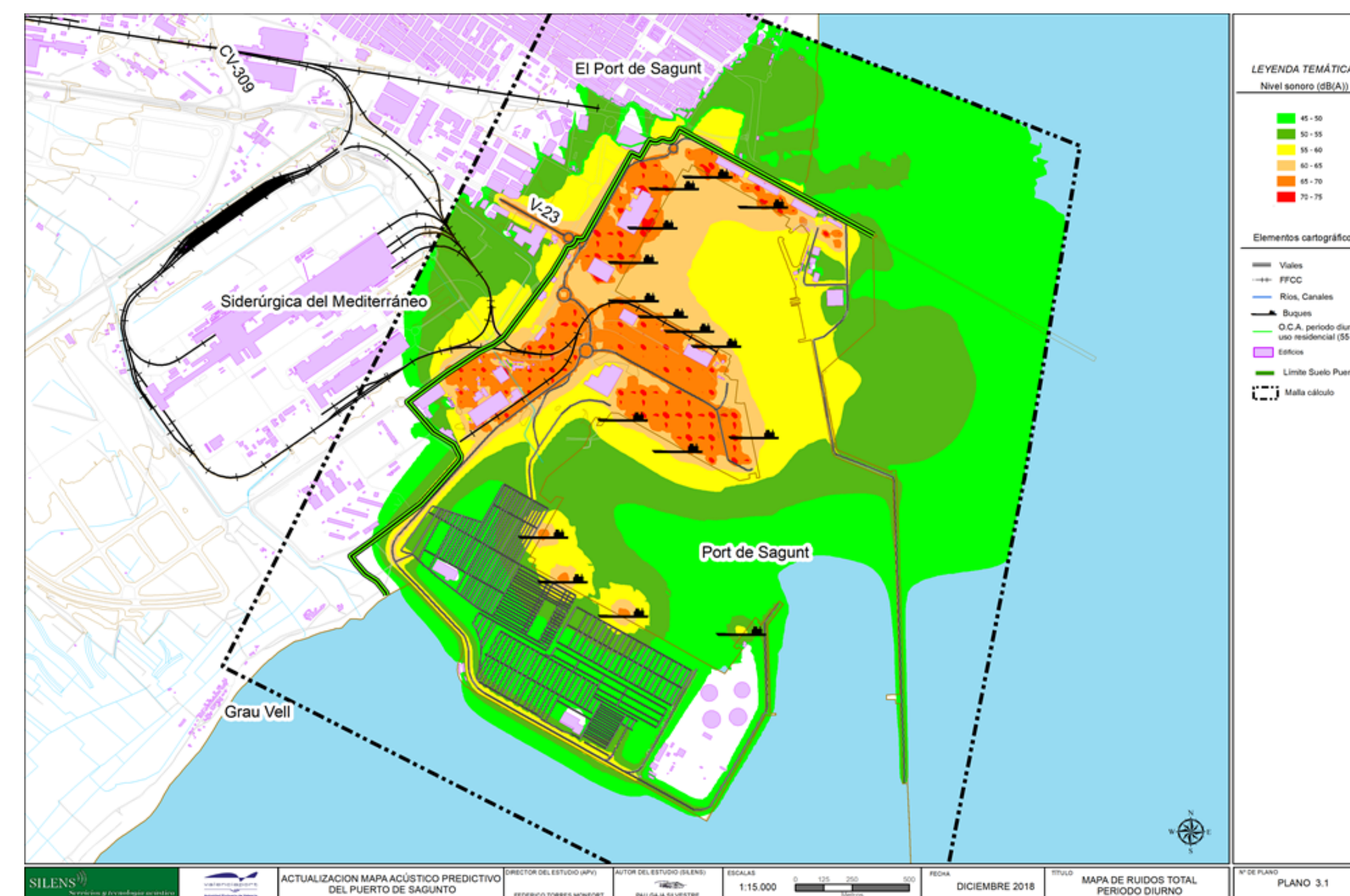
L night Port of Valencia

The main conclusions obtained from the noise level maps and the evaluation of the façade are that the residential areas closest to the port infrastructures are not exposed, due to the activity of the port of Valencia, to levels higher than the limit values set out in table A1 of annex III of RD 1367/2007. Furthermore, it is concluded that the predominant source of noise in the day and evening periods is road traffic on the roads running through the port, which is mostly heavy vehicle traffic. Ships and industrial sources have a more moderate impact, however, in the night period the contribution of industrial sources increases due to the decrease in road traffic. Rail traffic has a minimal impact on the environment. However, in no case are the limit values set out in table A1 of Annex III of RD 1367/2007 exceeded.

Likewise, an evaluation of the acoustic impact due to road traffic on the roads around the port has been carried out, reaching the conclusion that port activity does not imply, in most of the dwellings, a transmission of sound levels higher than those already existing in the nearest residential buildings, due to road traffic on the city's roads in any of the three evaluation periods.

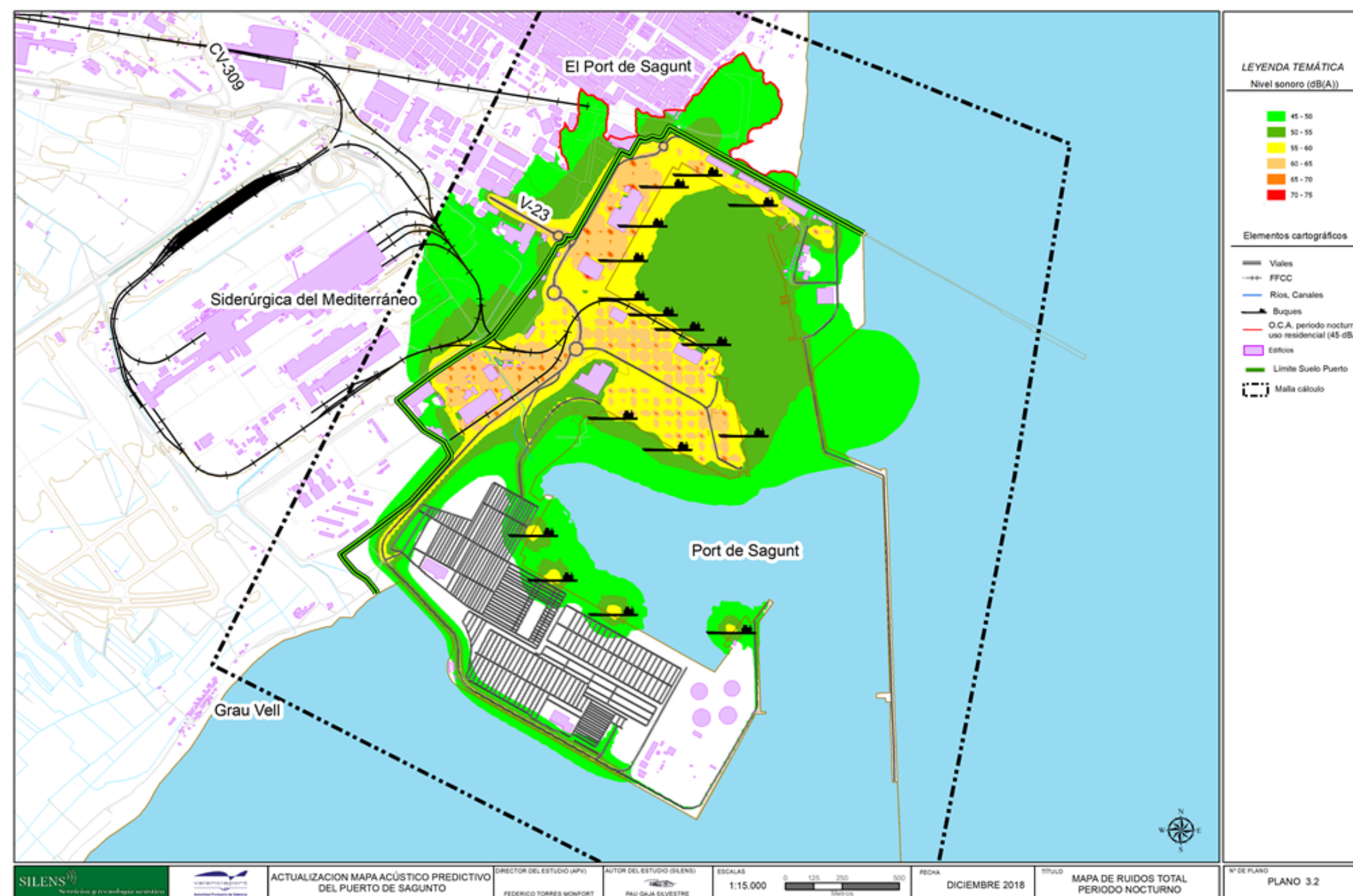
Port of Sagunto

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



Ld total puerto de Sagunto

6. State of the environment



Ld 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 Gandia

In 2013, the first predictive study was carried out with the new extension planned at the port of Gandia, 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.

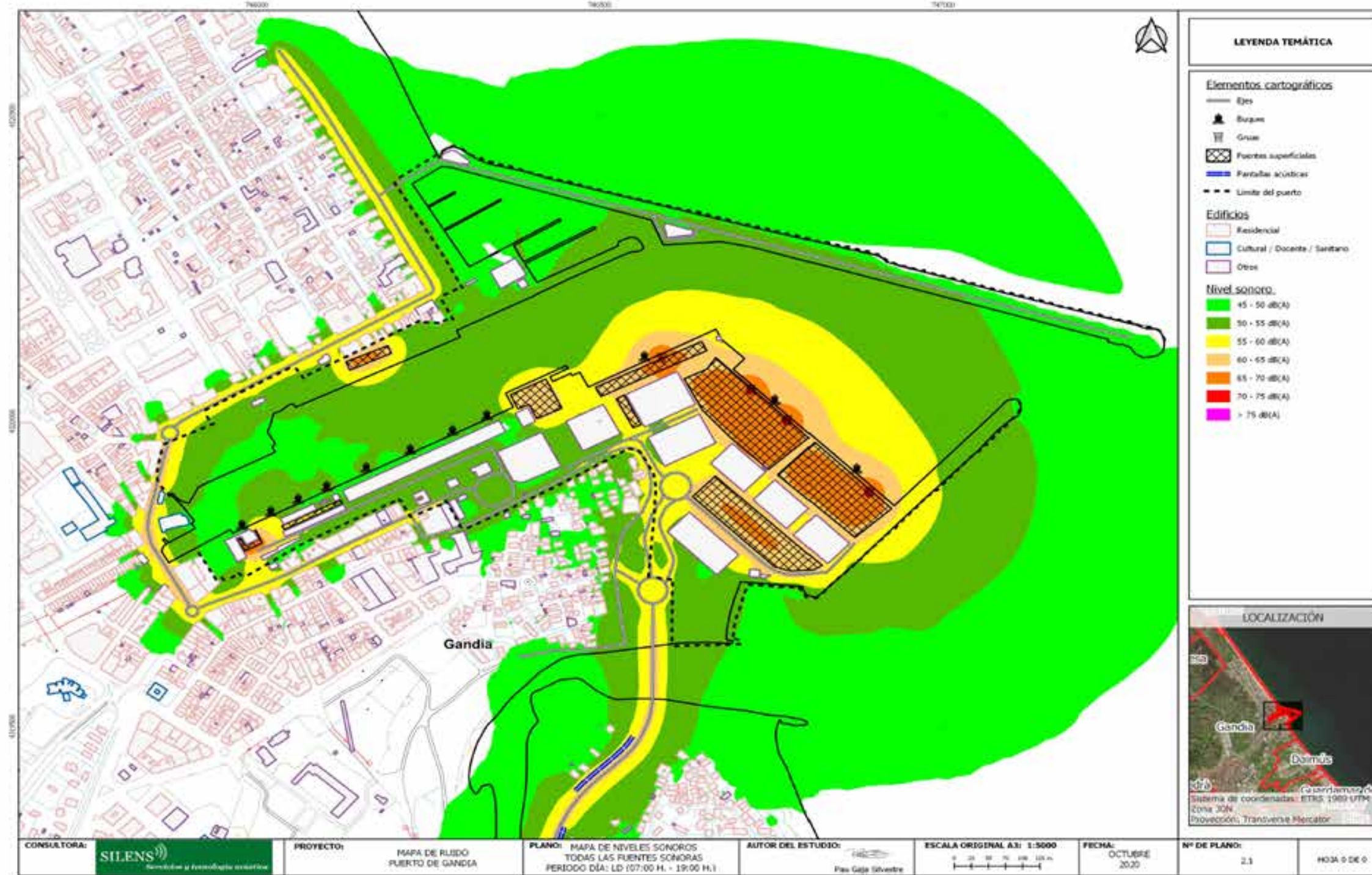
In 2019, the updating of the predictive acoustic map of the Port of Gandia began due to the new road access entrance to the port, which avoids heavy vehicles having to cross the city to access the port. The results of the study, completed in October 2020, are presented below:

Acoustic zoning map:



6. State of the environment

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

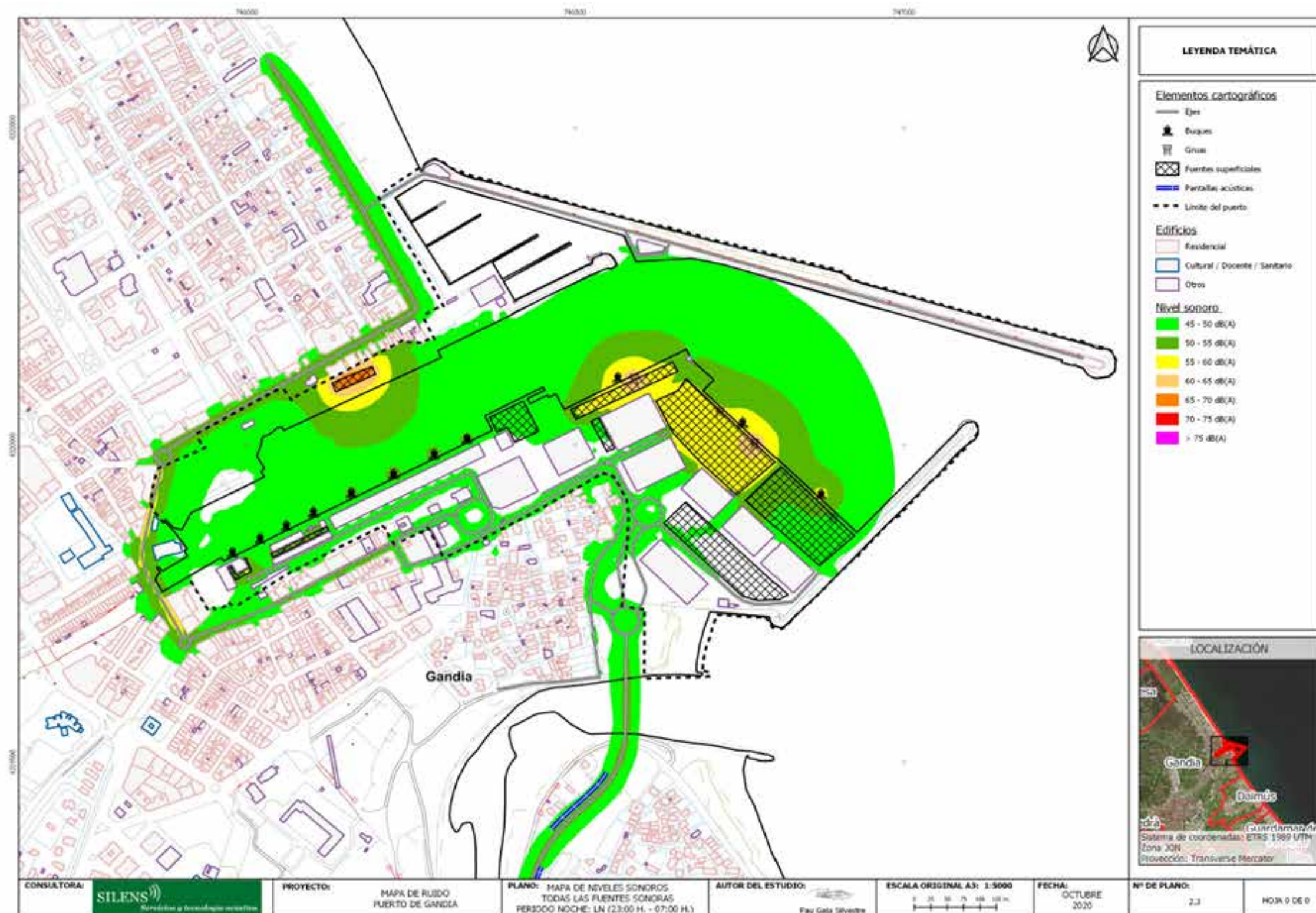


L Day Gandia Port



L Afternoon Gandia Port

6. State of the environment



L Night Gandia Port

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 Gandia. 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 Gandia.

6.4. Water quality

6.4.1. 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, which was in 2015. In the case of artificial or heavily modified water bodies, such as the case of the ports of Valencia, Sagunto and Gandia, 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 State Ports, compiling the standards and protocols for the analysis and assessment of intra-port bodies of water. 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

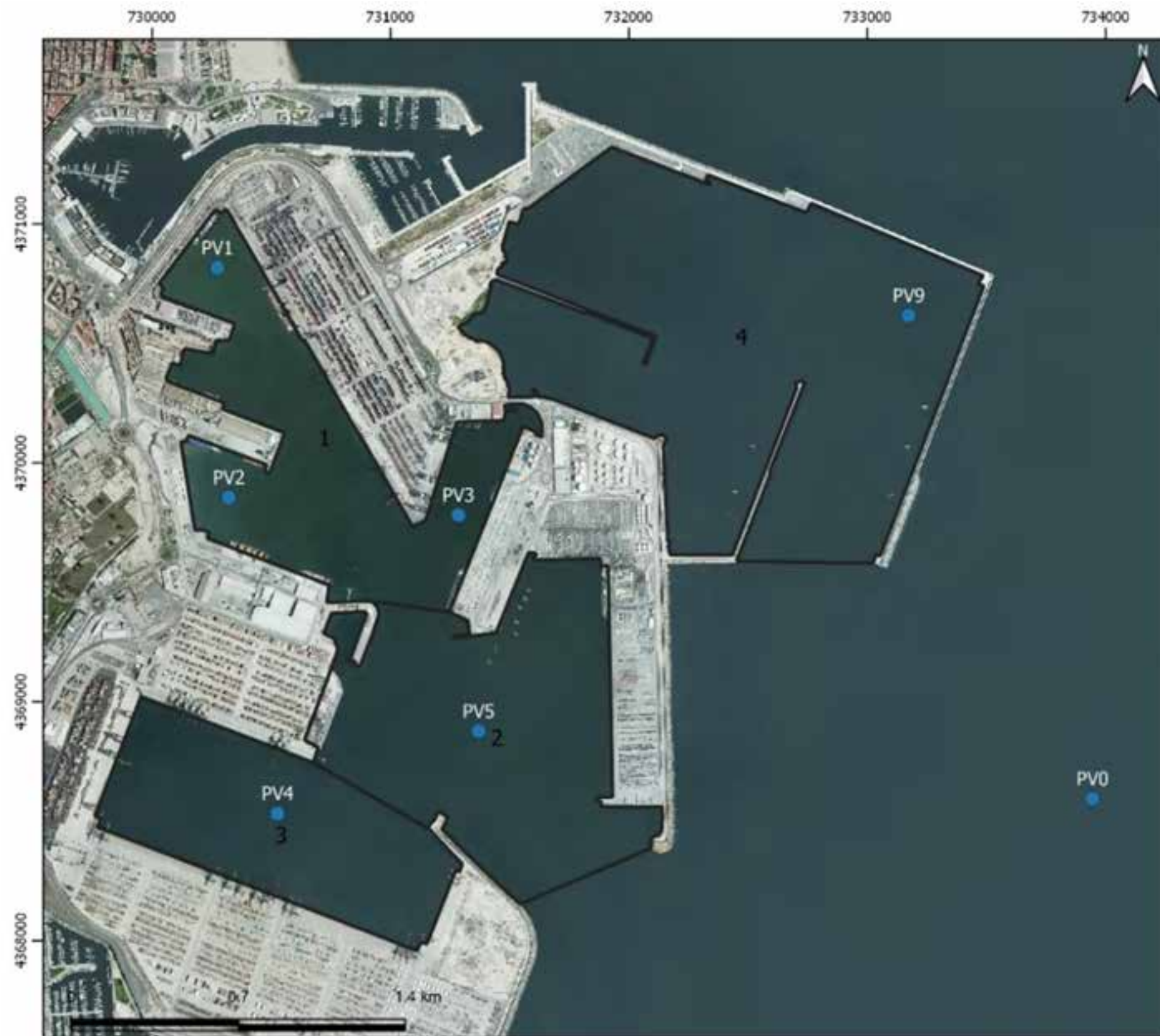
In the year 2021, periodic sampling campaigns were completed for the control of the quality of waters in the three ports managed by the Port Authority of Valencia:

- Port of Valencia
- Port of Sagunto
- Port of Gandia

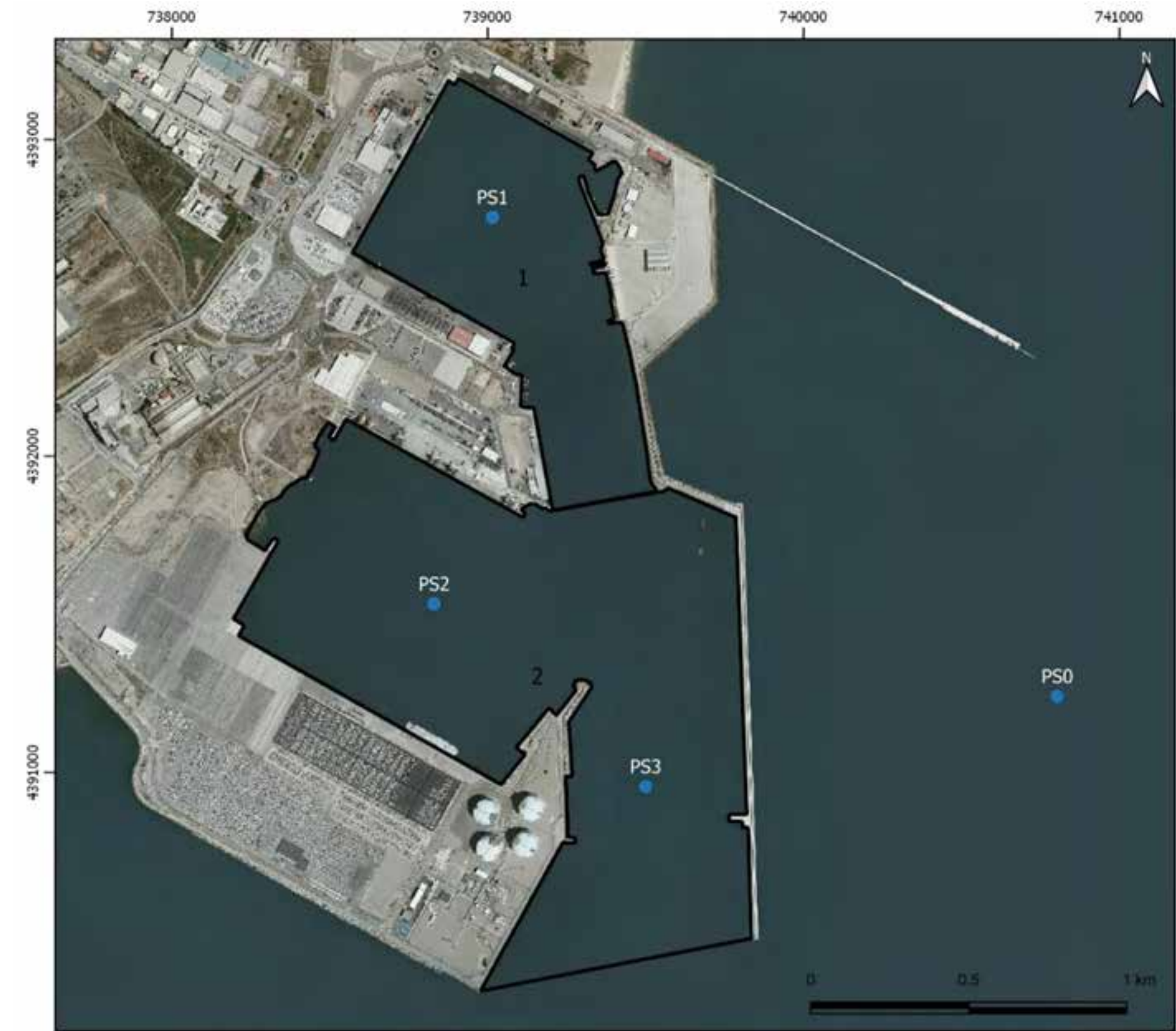
The area of study includes both intra-port waters (water bodies heavily modified due to the presence of ports), and a control station located outside the ports, representing the extra-port waters (coastal water body) at each port.

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

6. State of the environment

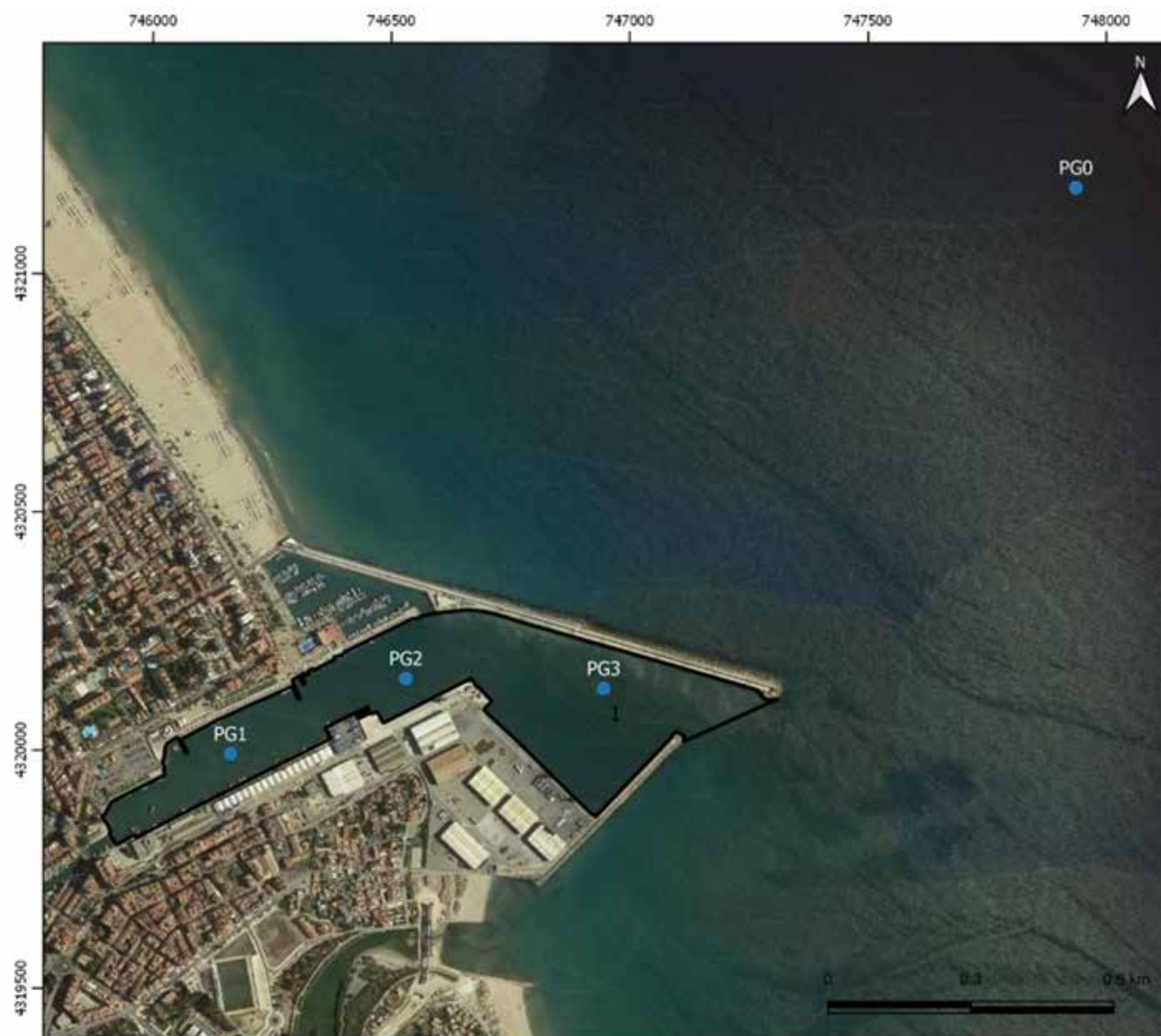


Distribution of sampling points in the Port of Valencia



Distribution of sampling points in the Port of Sagunto

6. State of the environment



Distribution of sampling points in the Port of Gandia

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:

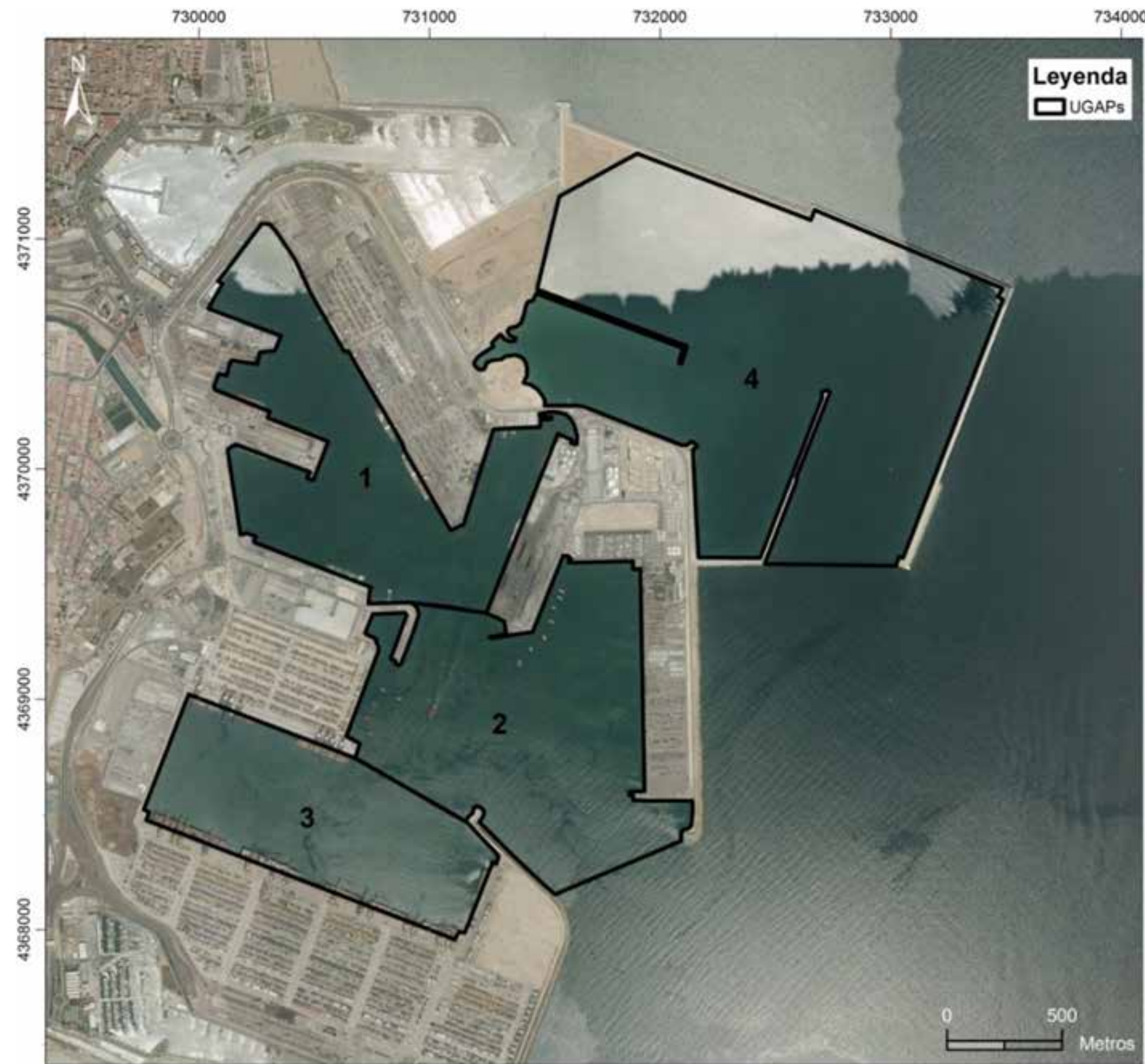
- Uses and activities carried out in the PSZ
- Physical and hydro-morphological characteristics
- Hydrodynamic conditions

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
	PAMU-2	Coastal waters	Heavily modified waters	CM3: Mediterranean coastal waters with low renewal
	PAMU-3	Coastal waters	Heavily modified waters	CM3: Mediterranean coastal waters with low renewal
	PAMU-4	Coastal waters	Heavily modified waters	CM3: Mediterranean coastal waters with low renewal
SAGUNTO	PAMU-1	Coastal waters	Heavily modified waters	CM3: Mediterranean coastal waters with low renewal
	PAMU-2	Coastal waters	Heavily modified waters	CM3: Mediterranean coastal waters with low renewal
GANDIA	PAMU-1	Coastal waters	Heavily modified waters	CM3: Mediterranean coastal waters with low renewal

6. State of the environment

Indicated below are the PAMUs considered for each port:



PAMU established for the Port of Valencia



PAMU established for the Port of Sagunto

6. State of the environment



PAMU established for the Port of Gandia

6.4.4. VARIABLES STUDIED

The monitoring of the intra-port 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:

- FC sediment quality indicators: Organic Quality Index (OQI)
- Biological water quality indicators: phytoplankton (concentration of chlorophyll a) and benthic invertebrates (BOPA)
- FC 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.

6. State of the environment

The parameters analysed in 2021 are detailed below:

MATRIX	MEASURES IN SITU	LABORATORY ANALYSIS	SAMPLING POINTS
Water column	<ul style="list-style-type: none"> Chlorophyll a Temperature Salinity Dissolved oxygen Turbidity Total hydrocarbons 	<ul style="list-style-type: none"> Faecal contamination E. coli and intestinal enterococci Nutrients: nitrates, nitrites, ammonium and phosphates 	<i>PORT VALENCIA:</i> PV1, PV2, PV3, PV4, PV5, PV9 and PV0
			<i>PORT SAGUNTO:</i> PS1, PS2, PS3. PS0
Sediment	<ul style="list-style-type: none"> Redox potential 	<ul style="list-style-type: none"> Total organic carbon Kjeldahl nitrogen Total phosphate Benthic fauna of invertebrates (BOPA) 	<i>PORT VALENCIA:</i> PV2, PV3, PV4, PV5, PV9, PV0
			<i>PORT SAGUNTO:</i> PS1, PS2, PS3, PS0
			<i>PORT GANDIA:</i> PG1, PG2, PG3, PG0.

Variables analysed for study of ecological potential

MATRIX	LABORATORY ANALYSIS	SAMPLING POINTS
Water column	Perfluorooctanesulfonic acid and derivatives (PFOS), Aclonifen, a-HCH, b-HCH, d-HCH, Lindane, Alachlor, Aldrin, Dieldrin, Endrin, Isodrin, Atrazine, Bifenox, Cybutryne, Cypermethrin, Chlorfenvinphos, Chlorpyrifos, Dichlorvos, Dicofol, Diuron, Endosulfan, Hexabromocyclododecane (HBCDD), Hexachlorobenzene, Isoproturon, p,p'-DDT, Pentachlorobenzene, Pentachlorophenol, Quinoxylene, Simazine, Add DDT 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, Tributyltin (TBTs), Chloroform.	PORT VALENCIA: PV5 and PV9
		PORT SAGUNTO PS1 and PS3
Sediment	Antraceno, Benzo(a)antraceno, Benzo(a)pireno, Benzo(g,h,i)perileno, Criseno, Fenantrno, Fluoranteno, Indeno, Pireno, Arsénico, Cadmio, Cobre, Cromo VI, Mercurio, Níquel, Plomo, 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, Compuestos del tributil estaño (TBT's).	PORT VALENCIA: PV5 and PV9
		PORT SAGUNTO: PS1 and PS3
		PORT GANDÍA: PG1 and PG3

Variables analysed for the study of chemical status

6. State of the environment

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	Multiparameter probe SBE 19plus v2	Thermometry
Salinity	PSU	Water column profile	Multiparameter probe SBE 19plus v2	Conductimetry
Dissolved oxygen	mg/l y % sat.	Water column profile	SBE 43 sensor coupled to multiparameter probe SBE 19plus v2	Polarographic method
Turbidity	NTU	Water column profile	Seapoint sensor coupled to sonda multiparameter probe SBE 19plus v2	Nephelometry
<i>Chlorophyll a</i>	µg/l	Water column profile	Cyclops -7 sensor coupled to multiparameter probe SBE 19plus v2	Fluorometrics

In situ measurement methods

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 recounts
Intestinal enterococci	UFC/100 ml	Filtration, incubation and recounts
Alachlor	µg/l	Gas/Mass Chromatography
Anthracene	µg/l	Gas/Mass Chromatography
Atrazine	µg/l	Gas/Mass Chromatography
Benzene	µg/l	Gas/Mass Chromatography
Brominated diphenyl ethers	µg/l	Gas/Mass Chromatography
Cadmium	µg/l	ICP/Mass spectroscopy
Carbon tetrachloride	µg/l	Gas/Mass Chromatography
Chloroalkanes C10-13	µg/l	Gas/Mass Chromatography
Chlorfenvinphos	µg/l	Gas/Mass Chromatography
Chlorpyrifos (Chlorpyrifossethyl)	µg/l	Gas/Mass Chromatography
Aldrin	µg/l	Gas/Mass Chromatography
Dieldrin	µg/l	Gas/Mass Chromatography
Endrin	µg/l	Gas/Mass Chromatography
Isodrin	µg/l	Gas/Mass Chromatography
DDT total (add DDT, DDD and DDE)	µg/l	Gas/Mass Chromatography
pp-DDT	µg/l	Gas/Mass Chromatography

6. State of the environment

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 (α-HCH, β-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

PARAMETER	UNIT	TESTING PROCEDURE
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
Quinoxifen	µg/l	Chromatography Liquid-Mass
Perfluorooctanesulfonic acid and its compounds (PFOS)	µg/l	Chromatography Liquid-Mass
Aclonifen	µg/l	Gas/Mass Chromatography
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

6. State of the environment

PARAMETER	UNIT	TESTING PROCEDURE
Xylenes (add o, m, p)	µg/l	Gas/Mass Chromatography
Terbutylazine	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

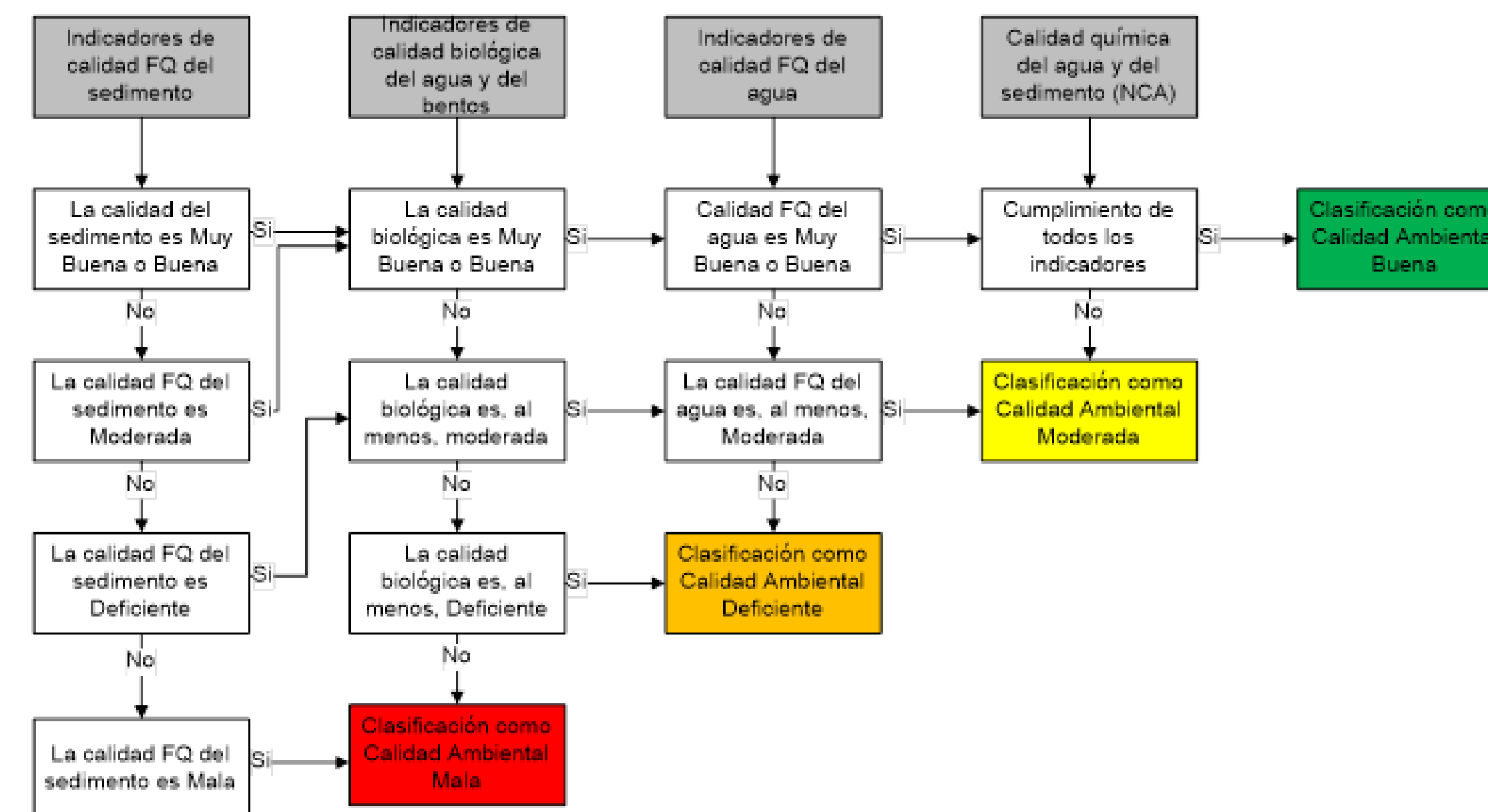
Laboratory test methods for water samples

PARAMETER	UNIT	TESTING PROCEDURE
COT	mg/kg	Catalysed combustion. Non-dispersive infra-red
Kjeldahl nitrogen	mg/kg	Kjeldahl distillation
Total phosphate	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
Compounds and triphenyltin (TBTs)	µg/kg	Gas/Mass Chromatography
HAPs	µg/kg	Gas/Mass Chromatography
Benthic fauna of invertebrates (BOPA)	Ind/m ²	Optical microscopy

Laboratory test methods for sediment samples

6.4.5. WATER QUALITY MONITORING RESULTS 2021

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.

6. State of the environment

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

Environmental quality assessment results 2021

Puerto	UGAP	Indicadores de calidad FQ del sedimento	Indicadores de calidad biológica del agua y del bentos	Indicadores de calidad FQ del agua	Calidad química del agua y del sedimento	CLASIFICACIÓN DE LA CALIDAD AMBIENTAL	Parámetros que superan los valores de referencia
VALENCIA	UGAP 1	MUY BUENA	MODERADA	BUENA	NA	MODERADA	Clorofila a (agua)
	UGAP 2	MUY BUENA	BUENA	BUENA	BUENA	BUENA	-
	UGAP 3	MUY BUENA	MODERADA	BUENA	NA	MODERADA	BOPA (sedimento)
	UGAP 4	MUY BUENA	BUENA	MUY BUENA	BUENA	BUENA	-
SAGUNTO	UGAP 1	MUY BUENA	BUENA	BUENA	NO ALCANZA EL BUENO	MODERADA	HAP (sedimento) Plomo (sedimento)
	UGAP 2	MUY BUENA	BUENA	BUENA	BUENA	BUENA	-
GANDÍA	UGAP 1	MODERADA	MODERADA	BUENA	BUENA	MODERADO	COT (sedimento) Clorofila a (agua)

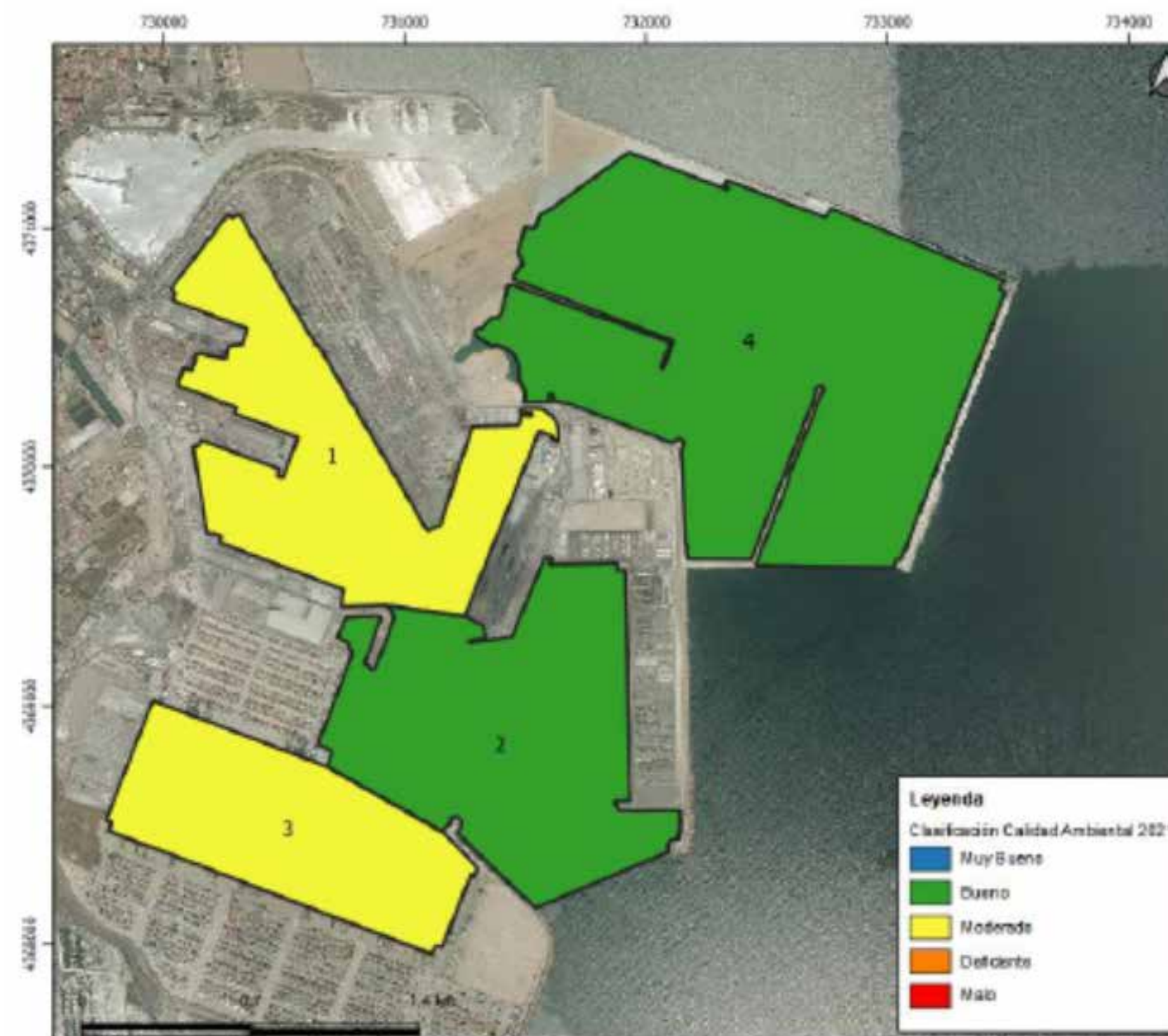
The results show that the environmental quality classification is moderate for all PAMUs except PAMU 2 and PAMU 4 of the Port of Valencia and PAMU 2 of the Port of Sagunto, which is classified as good.

In the Port of Valencia, the result is due to the chlorophyll a values recorded in water in PAMU 1 and 3.

In the Port of Sagunto, moderate values of PAHs and lead in sediment are recorded in PAMU 1, while PAMU 2 has a good environmental quality classification.

In the Port of Gandia there is a high concentration of total organic carbon in sediment and chlorophyll a in water, so its classification is considered moderate.

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



Results of PAMU Evaluation at the Port Of Valencia

6. State of the environment



Results of PAMU Evaluation at the Port Of Sagunto



Results of PAMU Evaluation at the Port Of Gandia

6. State of the environment

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.

In the 2021 period, through LIMPIAMAR III, a total of 8.78 tons of floating waste, mainly plastic, wood and derivatives were removed and managed.



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 Gandia in 2021.

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

6. State of the environment

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 2 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 soil contamination to be evaluated, 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 State Ports 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. During 2021, the first phase comprising a diagnosis of the state of soil management in each of the ports was carried out. The Department of the Environment has provided all the information on the land management currently carried out in the ports of Valenciaport. EMGRISA, with all the information received and once the aforementioned diagnosis has been drawn up, has established a methodological proposal to improve port management for the development of the Management Plan. Thus, at the end of the year, the first draft of the Contaminated Land Management Plan was submitted to State Ports.

During the 2021 financial year, the PAV received a specific environmental characterisation study of the soil and groundwater in the port of Valencia, specifically in the concession of a company that ended its concession and returned the ownership of that land to the Port Authority of Valencia.

Finally, the file of concessionary and authorised companies has been updated with the CNAE-2009 code of their activities.

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 2021, 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 Gandia, 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. State of the environment

6.9. Mobility plan

The Port Authority of Valencia, in accordance with its policy to reduce atmospheric emissions, initiated 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

For every one of the strategically defined lines above, different programmes and projects were proposed. Among those executed, we highlight:

- Constitution of a Mobility Commission within the PAV
- Appointment of a PAV mobility manager
- Creation of a monitored bicycle park for PAV workers
- Installation of changing rooms for workers cycling to work
- Creation of a carsharing app within the Port of Valencia
- Improvement of pedestrian route at the Natzaret bridge roundabout
- Improvement of pedestrian route layout and 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, a new higher level Mobility Commission has been set up, which includes the main concessionaires and users of the commercial port of Valencia, called the Mobility Commission of the Commercial Port of Valencia.

This Commission has requested an initial situation study of the Port of Valencia that includes the different users of the commercial port, developing an analysis of the initial demand and supply, prior to the implementation of a sustainable mobility plan for the commercial port of Valencia.

6.10. Other actions

The specific actions carried out in 2021 were the following:

- Since May 2019, the Port Authority of Valencia co-chairs the Sustainability Committee of the MEDPORTS Ports Association.
- Celebration of Environment Day, 5 June 2021, Clock Tower Building, Port of Valencia.
- Performance of a cleaning and maintenance service for a section of the drinking water supply network through the application of ice slurry (Ice Pigging) in the port of Sagunto.

7. Emergency responses

The main aim of the Port Authority of Valencia is to make the ports of Sagunto, Valencia and Gandia 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 Gandia, both on land and in port waters.

INCIDENTS	2017	2018	2019	2020	2021
Urgent health care	287	326	266	186	231
Total discharges	11	27	34	22	33
Small discharges of sea origin	4	9	17	6	17
Small discharges of land origin (Spills)	7	18	17	16	16
Collection of objects	10	15	2	18	9
Closure of the port	12	9	14	15	8
Fires or outbreaks	7	6	6	8	6

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 2021:

DRILLS	2017	2018	2019	2020	2021
1. PAV Emergency Plans					
1.1.- Led by the PAV:	7	5	6	0	2
Fire	7	5	6		1
Hydrocarbon spill	0	-			
Other	-	-			1
1.2. In collaboration with other organisations	1	2	1	0	1
In different Terminals	-	2			
In collaboration with other entities	1	-	1		1
2. In terms of Protection:	11	17	14	13	19
Total	19	24	21	13	22

In terms of protection, 19 simulations were carried out.

8. Innovation and cooperation projects

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:

- **PROJECT ECOPORT (1998)** - LIFE Programme of the European Commission
- **PROJECT INDAPORT (2000)** - Programme for the Promotion of Technological Research (PROFIT) of the Ministry of Science and Technology.
- **PROJECT HADA (2002)** - LIFE Programme of the European Commission
- **PROJECT ECOPORTS (2002)** - Fifth Framework Programme of the European Commission
- **PROJECT SECURMED (2004)** - European Commission Interreg IIIB Programme
- **PROJECT HADA (2005)** - LIFE Programme of the European Commission
- **PROJECT MADAMA (2005)** - Interreg IIIB Medocc Programme of the European Commission
- **PROJECT NOMEPORTS (2005)** - LIFE Programme of the European Commission
- **PROJECT ELEFSINA BAY 2020 (2007)** - LIFE Programme of the European Commission
- **- PROJECT ECO- LOGISTYPORT (2008)** - Empleaverde Programme of the European Social Fund
- **IMPROVED ENVIRONMENTAL MANAGEMENT IN THE PORTS OF THE GULF OF HONDURAS (2008)** - Funds from the Inter-American Development Bank and the Spanish Cooperation
- **EFICONT (2009)** - National R&D&I Plan of the Ministry of Public Works.
- **PROJECT CLIMEPORT (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. Preparation of reports on Energy Efficiency Diagnosis, Identification of needs and The participation of SMEs in port activities.
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.

8. Innovation and cooperation projects

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 lasted 22 months.

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 newbuilding and 11 prototypes (4 ship conversions and 7 LNG bunkering stations at nodal ports).

The project ended in September 2019.

8. Innovation and cooperation projects

CORE LNG AS HIVE PROJECT (2014)

The CORE LNG AS HIVE (Core Network Corridors and Liquefied Natural Gas) project 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 from diesel to LNG of a tugboat.
- Basic project for the installation of an LNG/CNG supply plant in the port of Valencia.

The project ended in December 2021.

8.2. Projects being developed

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, 50% of which will be financed 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 April 2023.

EALING- OPS PROJECT (2020)

European flagship Action for coLD ironING in ports (EALING) is led by the Valenciaport Foundation and financed by the European Commission's Connecting Europe Facility (CEF). This project has a total budget of €7,290,800, 50% of which 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);

8. Innovation and cooperation projects

- 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;
- Conducting 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.

PROJECT EALING – Works Valenciaport (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 being 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 2021 the Port Authority of Valencia participated in the meetings of the Executive Committee and the Sustainability Committee, as well as in the General Assembly, which were held at different times during the year

Participation in the AEIE EUROPHAR

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. Innovation and cooperation projects

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 has resumed its programme of visits to Specialised Training Centres as of May 2021. The PAV Health and Prevention area, following the instructions of the Health Authorities, established the rules regarding capacity and interpersonal distances in classrooms, use of protective elements, access to the facilities, etc., to inform the attendees about their compliance during the visit to the Port of Valencia.

Since November 2021, the Schools programme has been resumed, attending to several groups of secondary and 6th form students, so that 65 visits have been organised, including a section on the Environment, which has meant the attendance of a total of approximately 1,503 people.

9. Communication and publications

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:

- University Expert in Innovation and Digitalisation in the Logistics Sector
- Port (January 2021)
- Master in Port Management and Intermodal Transport 29th Edition - Fundación Valenciaport (Valencia, April 2021)

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 2021.

PUBLICATIONS OF 2021

Environmental Report 2020

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 2020.

Environmental Information Preview 2021

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 2021 has been prepared for dissemination to the Organisation and the general public.



Environmental Declaration 2021

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 2021 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 environmental issues in the maritime-port sector.
- Opinion of a company in the port community.
- News briefs related to port environmental issues.
- Environmental legislative developments.
- Agenda.

The following issues were published in 2021:

- Environmental Bulletin No. 62, published in March 2021.
- Environmental Bulletin No. 63, published in July 2021.
- Environmental Bulletin No. 64, published in November 2021.

PUBLICATIONS BEFORE 2021

Publications published in previous years by the PAV include:

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.



9. Communication and publications

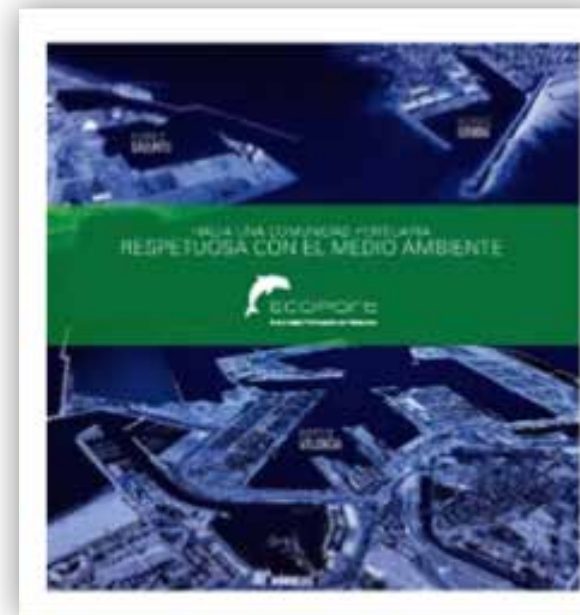
Environmental Sustainability Report

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 Gandia.



PAV Projects Progress Report

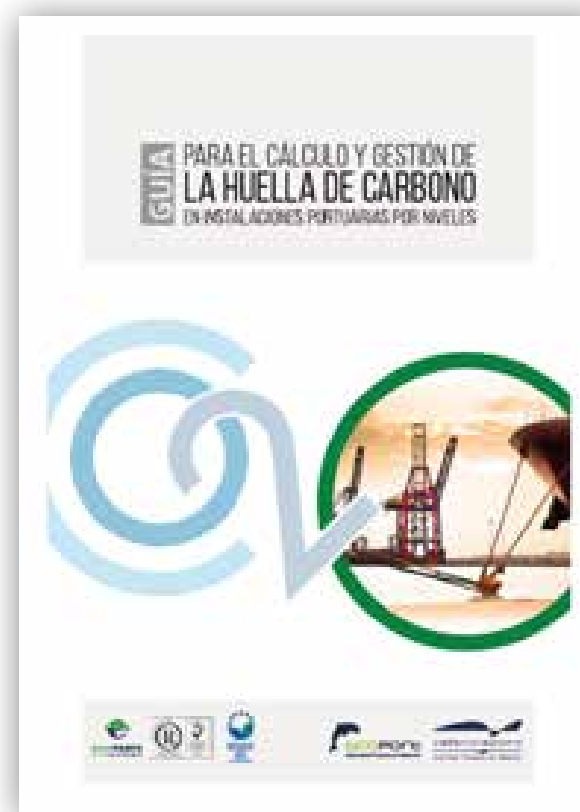
The Port Authority of Valencia has drawn up a report on the evolution of the Ecoport project from its inception in 1998 to the present day, and on the projects in which it has participated, with the aim of compiling and compiling all the available environmental information.



Guidance for the Calculation and Management of the Carbon Footprint in Port Facilities by Levels

This guide has been 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 Gandia.



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 Gandia" (Living the port environmentally, a journey through the ports of Sagunto, Valencia and Gandia).

The Port Authority of Valencia, aware of the social, economic and environmental value of the ports of Sagunto, Valencia and Gandia, has undertaken this book "Living the Port Environmentally", 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.



9. Communication and publications

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 Gandia. 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 (annual since 2001)

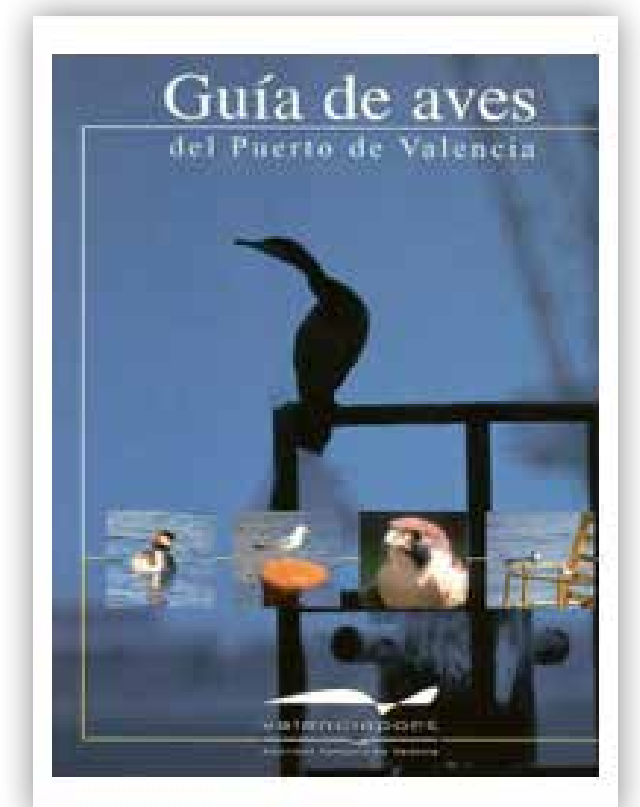
The publication in 2002 of the first Environmental Report of the Port Authority of Valencia (the first in the Spanish port system), brought together all the actions that had been carried out in this area during 2001, in an attempt to take a step forward and fulfil a firm intention to inform society as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

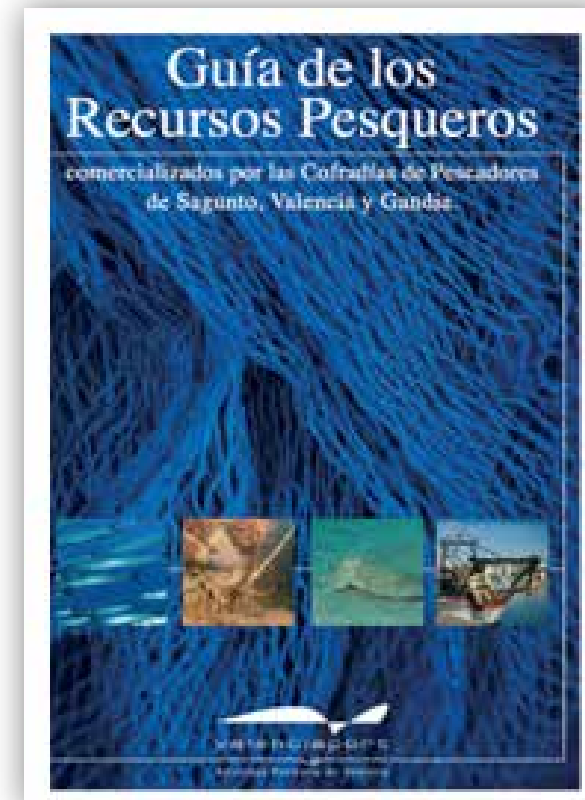
The idea for this guide arose as a result of the ECOPORT project and its publication fulfils two purposes: Firstly, to respond to the demand for information from society in general regarding knowledge of the biodiversity of our port. And secondly, to comply with the commitment to “provide adequate training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



9. Communication and publications

Guide to fishery resources

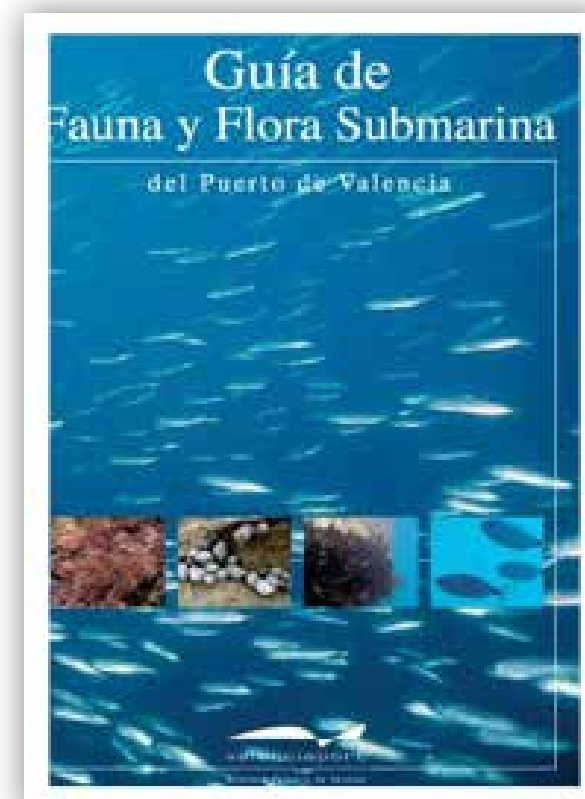
The species that are marketed in the Fishermen's Guilds of Sagunto, Valencia and Gandia are collected. The guide presents the species in their usual natural form.



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 enclave.

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 Valencia Port Authority's Environmental Actions

A video has been produced, compiling the main environmental actions carried out to date by the Port Authority of Valencia in the ports it manages (Sagunto, Valencia and 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 2021, the PAV spent sums relating to the protection and improvement of the environment amounting to €4,820,425.46, as detailed in the summary table below:

CONCEPTS	FINANCIAL YEAR 2021	FINANCIAL YEAR 2020
STAFF EXPENDITURE:	337.527,48	282.322,51
OTHER OPERATING EXPENSES:	4.115.282,34	3.802.284,44
Collection of waste from vessels	3.197.884,45	3.069.312,53
Repairs and conservation work	538.622,00	388.964,19
Independent professional services	176.737,22	166.031,69
Supplies and consumption	15.303,78	15.039,11
Other services and other expenditures	186.734,89	162.936,92
AMORTIZATIONS OF FIXED ASSETS:	367.615,64	377.501,33
TOTAL EXPENDITURE AND ENVIRONMENTAL COSTS	4.820.425,46	4.462.108,28

10. Contabilidad verde

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:

ENVIRONMENTAL ASSETS (gross amounts)	31/12/2020	Additions for the year (+)	Divestitures (-)	31/12/2021
MARITIME ACCESS	3.748.162,71			3.748.162,71
HARBOUR AND DOCK WORKS	148.247,29			148.247,29
BERTHING WORKS	91.772,15			91.772,15
GENERAL FACILITIES	285.057,81			285.057,81
PAVEMENTS AND ROADWAYS	5.899,45			5.899,45
FLOATING MATERIAL	126.147,18			126.147,18
MISCELLANEOUS EQUIPMENT	921.605,32	39.179,35		960.784,67
COMPUTER APPLICATIONS	14.909,00			14.909,00
INTELLECTUAL PROPERTY	3.270,00			3.270,00
LAND	63.534,43			63.534,43
TOTAL ENVIRONMENTAL ASSETS	5.408.605,34	39.179,35		5.447.784,69

11. Sustainability indicators

AMORTIZATIONS OF ENVIRONMENTAL ASSETS	31/12/2020	Additions for the year (+)	Divestitures (-)	31/12/2021
MARITIME ACCESS	1.447.183,82	78.185,29		1.525.369,11
HARBOUR AND DOCK WORKS	68.324,68	2.969,28		71.293,96
BERTHING WORKS	70.546,14	3.068,83		73.614,97
GENERAL FACILITIES	227.352,25	16.431,50		243.783,75
PAVEMENTS AND ROADWAYS	5.899,45			5.899,45
FLOATING MATERIAL	97.535,16	9.546,18		107.081,34
MISCELLANEOUS EQUIPMENT	734.375,57	54.738,55		789.114,12
COMPUTER APPLICATIONS	14.909,00			14.909,00
INTELLECTUAL PROPERTY	3.270,00			3.270,00
TOTAL AMORTIZATIONS OF ENVIRONMENTAL ASSETS	2.669.396,07	164.939,63		2.834.335,70

As in previous Reports, the following is a recapitulation 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.

11. Sustainability indicators

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 relevant accidental spills.

See Chapter 7. Emergency responses

A 15. Initiatives to mitigate the environmental impacts of PA activity

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.

Water quality:

- Cleaning of floating debris from the water mirror: by means of the vessel Limpiamar III. See Chapter 6, section 6.4.5. Water quality monitoring results 2018.
- Fighting against oil spill pollution: through 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.

12. Recommendations for improvement

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. Waste, sub-sections 6.1.1. Own and 6.1.2. From the Port Premises.
- The PAV has the port service for the collection of Marpol I, IV and V under indirect management. See Chapter 6. State of the Environment, section 6.1. Waste, sub-section 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.

13. Verification and validation

As the last section of this declaration, the Port Authority of Valencia wishes to encourage, as far as possible, the environmental improvement of our surroundings, proposing to the reader, be it an industry, the administration, a neighbour or any other interested party in the management system, the adoption of good practices that will undoubtedly result in both current and future generations being able to continue enjoying a clean and healthy port area:

- Reduce, at source and as far as possible, the waste generated.
- Reuse in another part of the process what apparently seemed to be waste.
- Separate hazardous waste from each other and from other waste.
- Manage such waste appropriately through authorised transporters 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 should not.
- 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.

Please, do not 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

This is the Annual Declaration for 2021 registered with the Regional Government of Valencia under number E/CV/000023. It was internally audited by Apprezia on 20 and 21 July and 7 September 2022 and externally audited by Lloyd's Register on 20, 21 and 22 October.

Verifying body: LRQA Spain SLU

Verifier: ES-V-0019