



UNIVERSITAT
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ENVIRONMENTAL SUSTAINABILITY AT THE UNIVERSITAT POLITÈCNICA DE VALÈNCIA 2022

UPV

ENVIRONMENTAL RESEARCH UNIT

Universitat Politècnica de València

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INDEX

1. Introduction
2. Aim
3. Environmental management system of the Universitat Politècnica de València.
4. Description of the environmental aspects of the organization.
5. Environmental Plan
6. Environmental performance – Environmental indicators
 - A. Total energy
 - B. Renewable energy
 - C. Electricity consumption
 - D. Green public procurement and contracting
 - E. Water consumption
 - F. Waste generation
 - G. Curricular environmentalization
 - H. Land occupation
 - I. Generation of emissions – Carbon footprint
 - J. Mobility
 - K. Training
 - L. Communication
7. Legal requirements
8. Other factors

1. INTRODUCTION

Environmental Statement 2022

- The Environmental Statement is a periodic report established by the Environmental Management System of the Universitat Politècnica de València.
- Its approval is essential to maintain the certifications and seals of environmental management in force.

Primary Intention:

- This statement aims to provide information to the public and other interested parties on the environmental impact of the activities of the Universitat Politècnica de València and on the environmental performance of the university.
- It gathers together the environmental achievements and events that occurred at the Universitat Politècnica de València during 2022.

¡Explore the environmental achievements and the ongoing commitment of the Universitat Politècnica de València towards a greener future!



Declaración Ambiental 2022
Universitat Politècnica de València



2. AIM

- ✓ **Submit the 2022 Environmental Statement:**
 - Highlight key sustainability achievements and events.
- ✓ **Explore the Environmental Commitment of the Universitat Politècnica de València:**
 - Take more efficient steps towards environmental sustainability.
- ✓ **Common thread for Understanding Sustainability at the Universitat Politècnica de València:**
 - Provide a clear vision of environmental commitment.

For a more detailed overview of our actions towards sustainability, please consult our Environmental Statement 2022.



3. ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) AT THE UNIVERSITAT POLITÈCNICA DE VALÈNCIA

- Definition of the EMS:
 - ✓ Systematic tool for managing environmental activity.
- Scope of the EMS at the Universitat Politècnica de València:
 - ✓ It includes teaching, research, and administrative and maintenance services and processes at the Valencia, Gandia and Alcoi campuses.
 - ✓ **Fundamental Aim:**
 - ✓ To know the environmental impact and establish mechanisms of control and continuous improvement.
- Commitment to Sustainability:
 - ✓ EMAS register (Eco-Management and Audit Scheme):
 - European Union standard for environmental management and auditing adopted by the Universitat Politècnica de València..



3.1. Environmental Policy.

Commitments of the Universitat Politècnica de València



To minimize environmental impacts.



To meet legal requirements.



To train students in environmental issues.



To raise awareness and educate the university community..



To improve the environmental management system.



To collaborate in the environmental improvement of third parties within our facilities..

3.2. Structure and responsibilities of the Environmental Management System (EMS)



3.3. The EMS and the Sustainable Development Goals (SDG):

ENERGY CONSUMPTION CONTROL	7 ENERGÍA ASEQUIBLE Y NO CONTAMINANTE	8 TRABAJO DECENTE Y CRECIMIENTO ECONÓMICO	12 PRODUCCIÓN Y CONSUMO RESPONSABLES	13 ACCIÓN POR EL CLIMA
WATER CONSUMPTION CONTROL	6 AGUA LIMPIA Y SANEAMIENTO	12 PRODUCCIÓN Y CONSUMO RESPONSABLES		
MATERIALS CONSUMPTION CONTROL	8 TRABAJO DECENTE Y CRECIMIENTO ECONÓMICO	12 PRODUCCIÓN Y CONSUMO RESPONSABLES		
FUEL CONSUMPTION CONTROL	13 ACCIÓN POR EL CLIMA			
WASTEWATER DISCHARGE MANAGEMENT	6 AGUA LIMPIA Y SANEAMIENTO	14 VIDA SUBMARINA	15 VIDA DE ECOSISTEMAS TERRESTRES	
WASTE MANAGEMENT	6 AGUA LIMPIA Y SANEAMIENTO	11 CIUDADES Y COMUNIDADES SOSTENIBLES	12 PRODUCCIÓN Y CONSUMO RESPONSABLES	14 VIDA SUBMARINA
ATMOSPHERIC EMISSIONS CONTROL	11 CIUDADES Y COMUNIDADES SOSTENIBLES	13 ACCIÓN POR EL CLIMA	14 VIDA SUBMARINA	
PROMOTION OF SUSTAINABLE MOBILITY	3 SALUD Y BIENESTAR	11 CIUDADES Y COMUNIDADES SOSTENIBLES	13 ACCIÓN POR EL CLIMA	14 VIDA SUBMARINA
CURRICULAR ENVIRONMENTALIZATION	4 EDUCACIÓN DE CALIDAD			
ENVIRONMENTAL CONTROL OF EXTERNAL COMPANIES	12 PRODUCCIÓN Y CONSUMO RESPONSABLES			
ENVIRONMENTAL RESEARCH	15 VIDA DE ECOSISTEMAS TERRESTRES			

4. Description of the environmental aspects of the organization

The Universitat Politècnica de València (UPV) has implemented a rigorous process to evaluate environmental aspects and determine which aspects may have a significant impact on the environment.

1. Full Identification:

- Includes direct and indirect aspects in several situations.
 - **Indirect Environmental Aspect(I)** :
 - Third-party impact, influence but no control.
 - **Direct Environmental Aspect (D)** :
 - Directly controlled and managed impact.

2. Assessment Criteria:

- **Magnitude:** Indicates the quantity or concentration of the environmental action (Kw-h, m³, kg, credits...).
- **Approach to Reference Limits:** Evaluates its position in relation to established limits (Reference Values).
- **Hazardousness:** Impacts and risks of a UPV activity on people, animals or the environment.
- **Extent:** Indicates the degree of participation of the members of the university community.

3. Commitment to Improvement:

- Use of the assessment to drive continuous improvement and reduce impacts.

4.1. Significant environmental aspects

The following slides list the significant environmental aspects identified, evaluated and prioritized in 2022.

Teaching (I) :



- Curricular environmentalization
 - Significant impact on the Vera, Gandia and Alcoi campuses.
 - Environmental impact: Lack of environmental training for future professionals.

Research (I):



- Environmentalization in research
 - Significant impact on the Vera campus
 - Environmental impact: Undermining the sustainable development of society.

4.1. Significant environmental aspects

Consumption of Natural Resources (D) :

Mains Water Consumption:

- Significant impact on the Gandia campus.
- Environmental impact: Depletion of natural resources.

Well Water Consumption:

- Significant impact on the Vera campus.
- Environmental impact: Depletion of natural resources.

Energy Consumption:

- Significant impact on the Vera, Gandia and Alcoi campuses.
- Environmental impact: Depletion of natural resources.

Fuel Consumption:

- Significant impact on the Alcoi campus.
- Environmental impact: Emission of greenhouse gases.

4.1. Significant environmental aspects

Activity of External Companies (I):

- Significant impact on the Vera, Gandia and Alcoi campuses.
- Environmental impact: Depletion of non-renewable natural resources, greenhouse gas emissions, resource consumption, soil contamination, etc.

Generation of Atmospheric Emissions (D):

- Emissions from Natural Gas Combustion :
 - Significant impact on the Alcoi campus.
 - Environmental impact: Air pollution.
- Emissions from Refrigerant Gases:
 - Significant impact on the Gandia campus.
 - Environmental impact: Air pollution.

4.1. Significant Environmental Aspects

Waste Generation(D) :

Paper and cardboard waste:

Significant impact on the Gandia and Alcoi campuses.

Light Packaging Waste:

Significant impact on the Gandia and Alcoi campuses.

Common Garbage Waste:

Significant impact on the Gandia and Alcoi campuses.

Construction, Demolition, Wood and Metal Waste:

Significant impact on the Gandia campus.

Compact Disc Waste:

Significant impact on the Gandia and Alcoi campuses.

Sanitary-Biosanitary and Biological Waste:

Significant impact on the Gandia campus.

Chemical Waste

Significant impact on the Vera, Gandia and Alcoi campuses.

Waste from Accumulators:

Significant impact on the Gandia campus.

Waste from oils, fats, hydrocarbons and fuels:

Significant impact on the Alcoi campus.

Environmental impact: Soil pollution

4.1. Significant environmental aspects

Effluent Generation (D) :

- Wastewater discharge: Significant impact on the Gandia campus.
- Potential environmental impact: Contamination of water resources.

Displacement of the University Community(I) :

- Mobility
- Significant impact on the Vera, Gandia and Alcoi campuses.
- Potential environmental impacts:
 - Depletion of non-renewable natural resources.
 - Emission of greenhouse gases.
 - Resource consumption.

5. Environmental Program 2023:

The **Environmental Program of the Universitat Politècnica de València** is a document that integrates the objectives and goals for 2023 and a documented description of the means, responsibilities and timetable to achieve the environmental objectives.

Objectives:

- The program integrates the goals for 2023, considering the Environmental Policy, significant aspects, legal requirements, risks, opportunities, and community proposals.

Methodology:

- Identification of environmental aspects by means of systematic reviews.
- Assessment and ranking of aspects and risks.
- Analysis of community proposals for the establishment of objectives.
- Proposal of objectives and goals with deadlines and responsible parties.



*Fuente: Vicerrectorado de Desarrollo Sostenible de los Campus

5. Environmental Program 2023: Environmental objectives and goals

1. Contracting of Renewable Energies:

- Contracting of photovoltaic energy installation.
- Application for subsidies to finance renewable energy projects.

2. Improved measurement of water consumption:

- Study into the location of water meters.
- Initiatives to improve efficiency and responsible water consumption.

3. Improved Selective Collection of the Organic Fraction:

- Implementation of measures to improve selective collection of the organic fraction.
- Collaboration with catering services and the university community

4. The prospective decarbonization of the Universitat Politècnica de València:

- The City Council and the Universitat Politècnica de València join forces to make Valencia a climate-neutral city by 2030.
- Surveys, hackathons and public announcements to engage the community in decarbonization.

5. Environmental Program 2023: Environmental objectives and goals

5. Improved calculation of carbon footprint:

- Development of a proprietary methodology to calculate indirect emissions associated with supply chain and external activities..
- Focus on understanding and reducing environmental impacts.

6. Improved sustainable mobility

- Implementation of the Sustainable Mobility Plan for the Universitat Politècnica de València.
- Significant progress in promoting sustainable mobility options in the university community.

7. Improved protection of native birdlife at the Universitat Politècnica de València

- Map the location of the existing nests on the Universitat Politècnica de València campuses.
- Capture at least 20% of the specimens of the invasive species censused in the winter of 2023 on the Vera Campus.

6. Environmental Performance- Environmental Indicators

- A. Total energy
- B. Renewable energy
- C. Electricity consumption
- D. Green public procurement and contracting
- E. Water consumption
- F. Waste generation
- G. Curricular environmentalization
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- K. Training activities
- L. Communication

Declaración Ambiental 2022
Universitat Politècnica de València



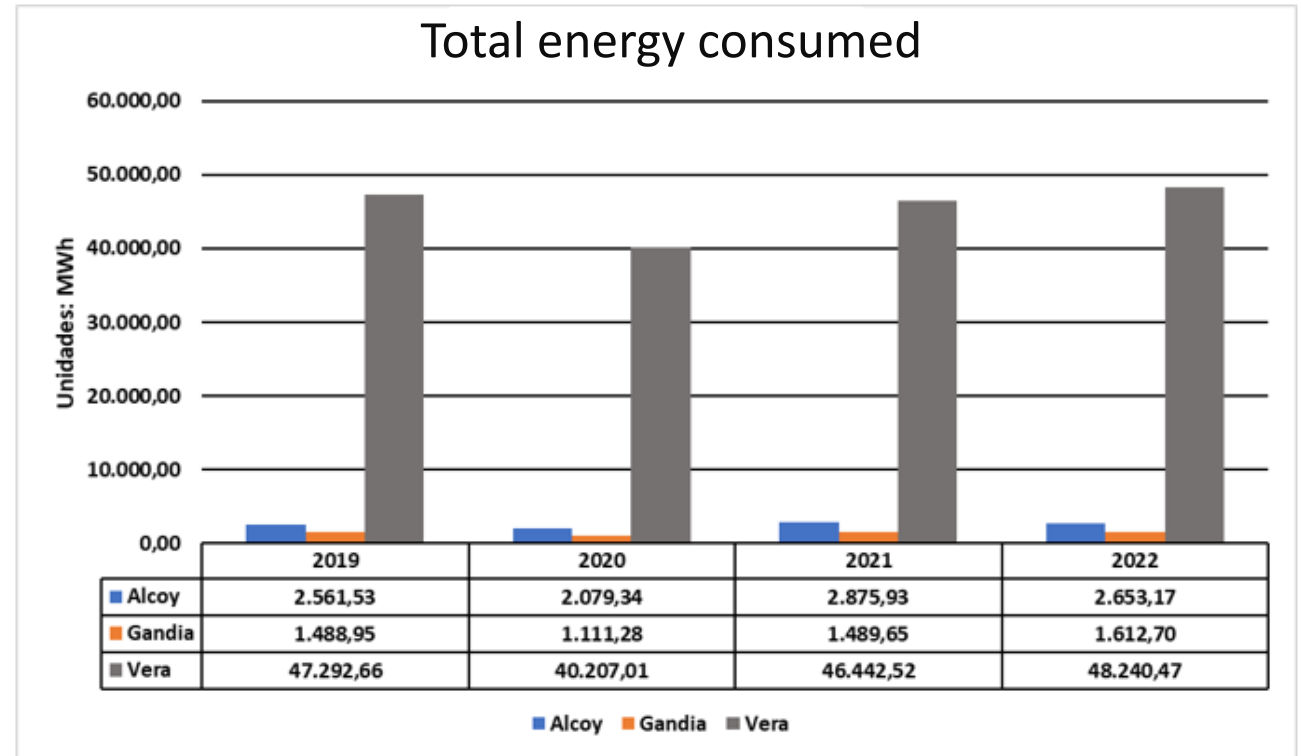
For a more detailed overview of our environmental performance and to review specific environmental indicators, please consult the Environmental Statement 2022.

A. Total energy

In Alcoi, a slight reduction in total energy consumption.

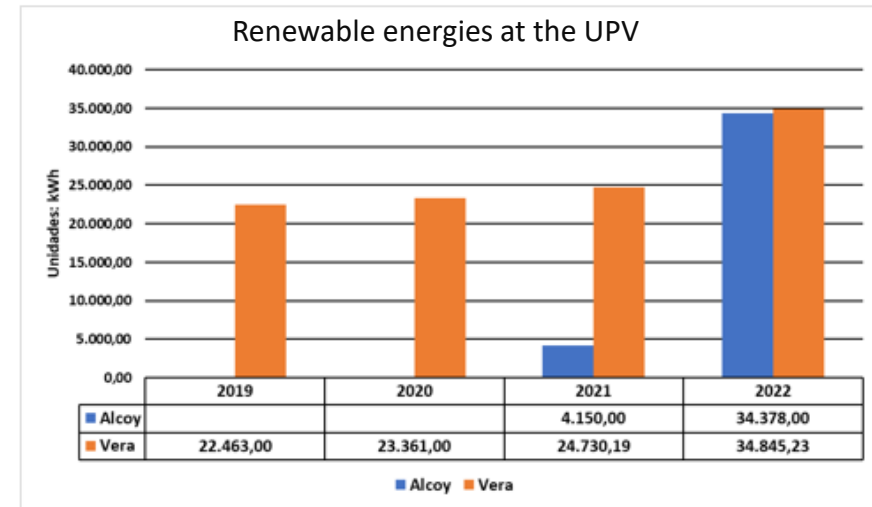
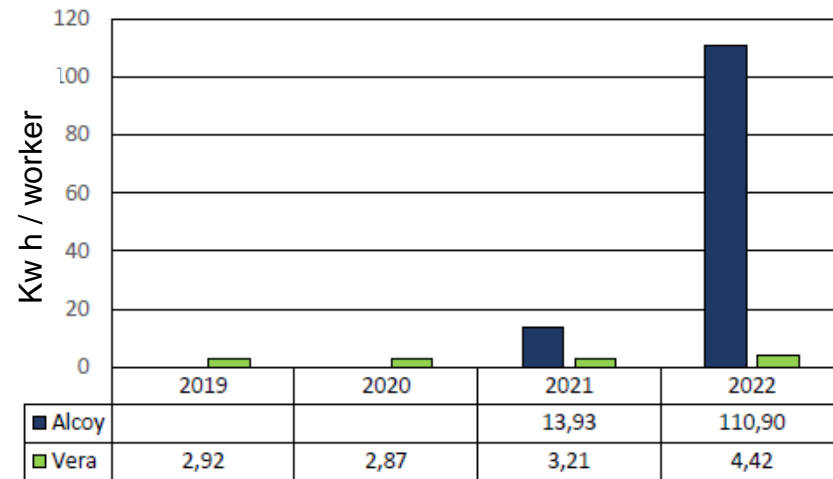
Vera shows a moderate increase in total consumption.

The increase in energy consumption at the university is due to increased post-pandemic building ventilation, with air conditioning systems working constantly to ensure a healthy environment.



- Types of Energy Used:
- Alcoi reduces natural gas consumption by 17.74%.
- Gandia stands out for using 98.53% electrical energy.
- Vera increases the use of electrical energy by 6.38%.

B. Renewable energy



ALCOI CAMPUS

Significant increase in generation of renewable energy in 2022.

VERA CAMPUS

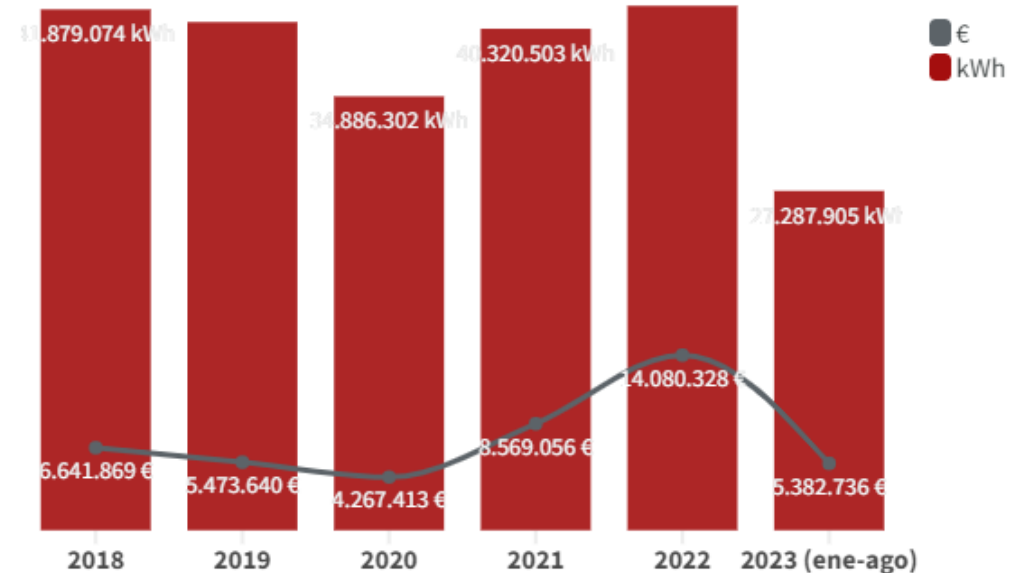
Steady increase in generation of renewable energy on Vera campus.

C. Electricity consumption

Reasons for the increase:

1. Feeling the requirement for post-pandemic ventilation.
2. Energy efficiency measures implemented:
 - a) Change of air-conditioning equipment.
 - b) Installation of LED lighting.
 - c) Improvements in building control and insulation systems.

Electricity consumption in the UPV

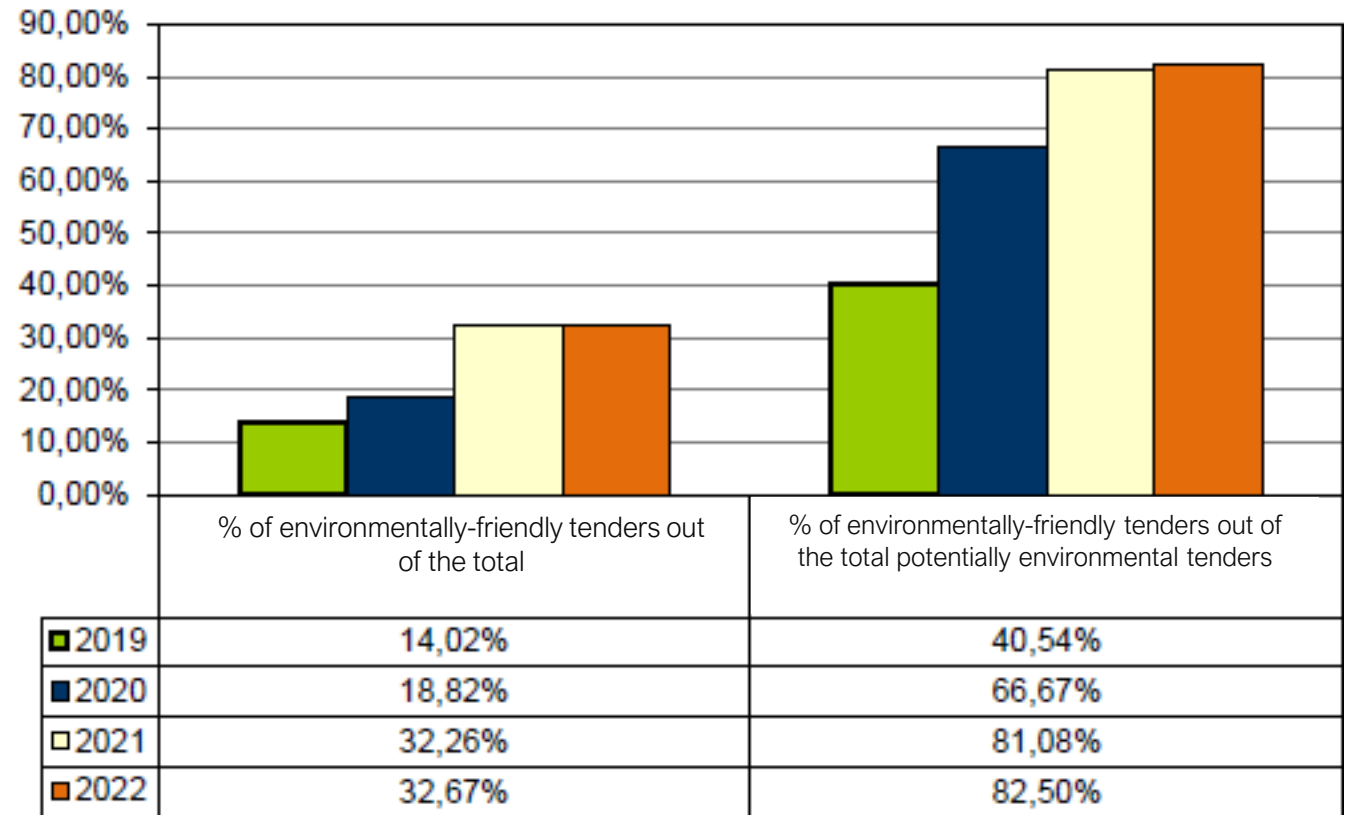


Source: UPV - Vice-Rector's Office for Sustainable Development of Campuses

D. Green public procurement and contracting

- Sustained Increase in Environmental Tenders at the Universitat Politècnica de València (2019-2022)
- Growth in 2022: In 2022, 32.67% of tenders incorporated environmental criteria, an increase of 1.42% over the previous year.

Green public procurement and contracting at the UPV



E. Water Consumption



Responsible Consumption:

General commitment to water efficiency on all campuses

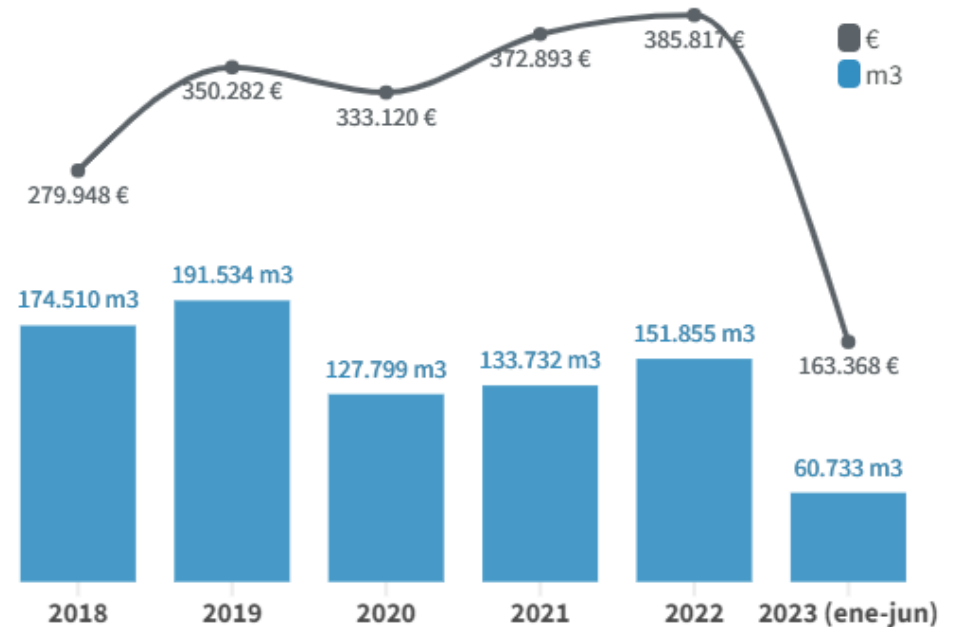


Focus on sustainability:

Reduction in drinking water consumption and search for efficiency, reflecting a sustainable approach.

Source: [UPV – Vice-Rector’s office for Sustainable Development of Campuses](#)

Water consumption at the UPV



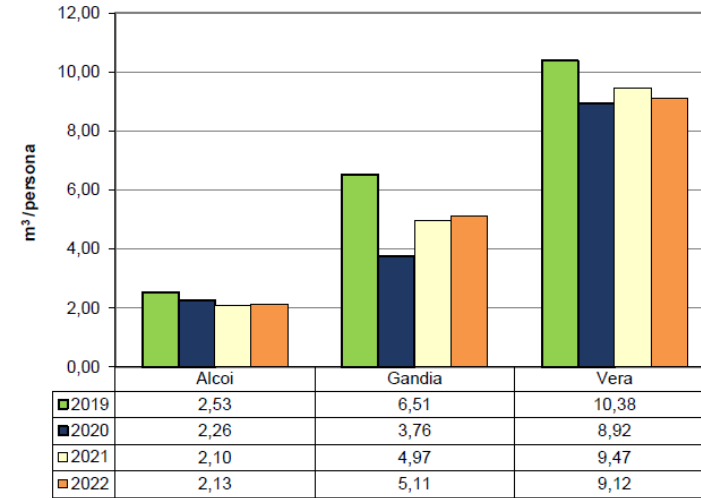
E. Water Consumption

1. Total Water Consumption:

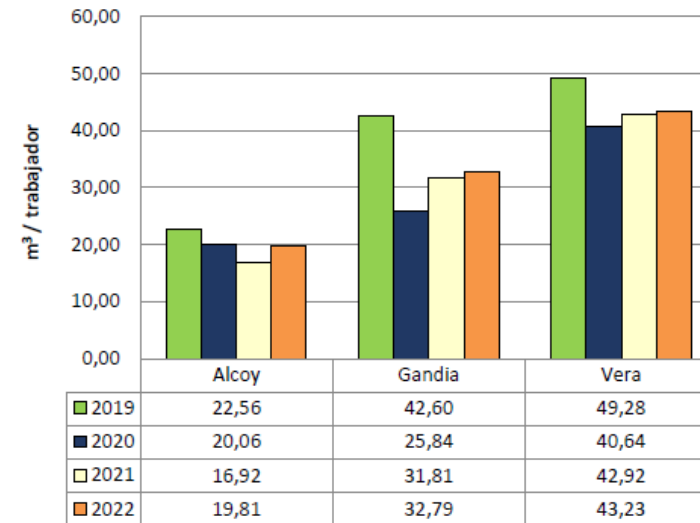
Alcoi : Increase of 17.10% in water consumption per worker and 1.73% per community member.

Gandia: Increase of 3.07% per worker and 2.90% per community member.

Vera: Increase of 0.72% per worker, but reduction of 3.68% per person. Lower consumption of drinking water (6.45%) and increase in consumption of well water (10.62%). 40.05% of the water is from the mains and 59.95% from wells.

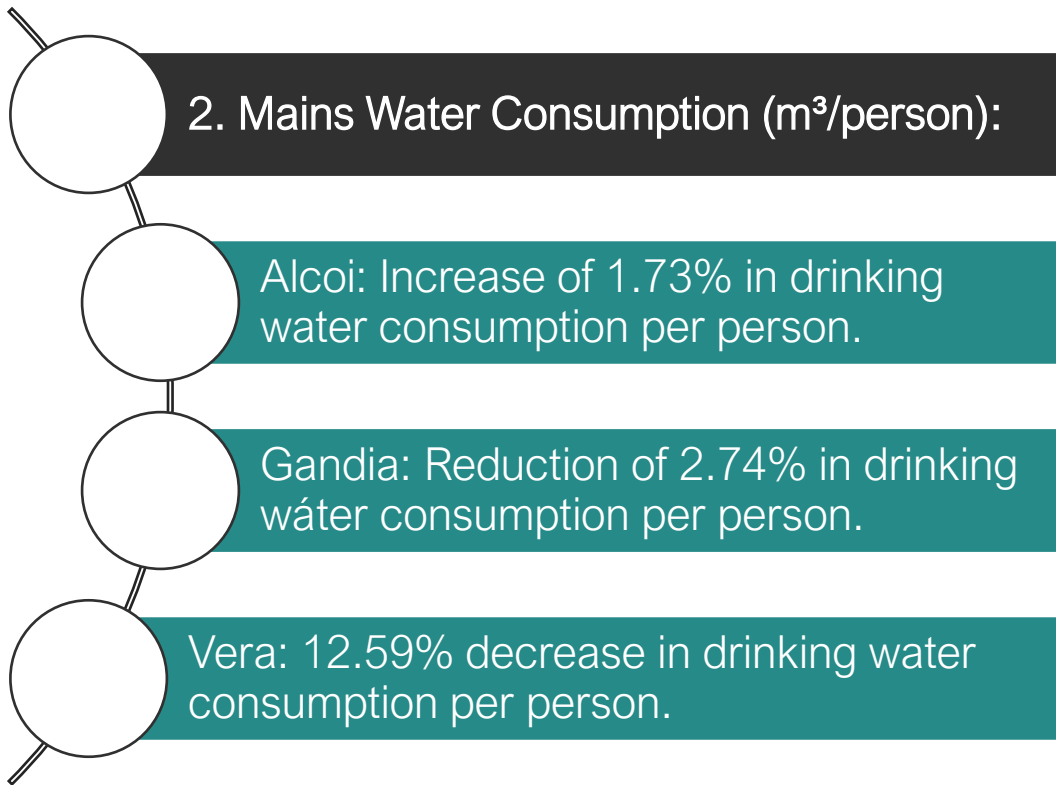


Water consumption per person on each campus (2019-2022).

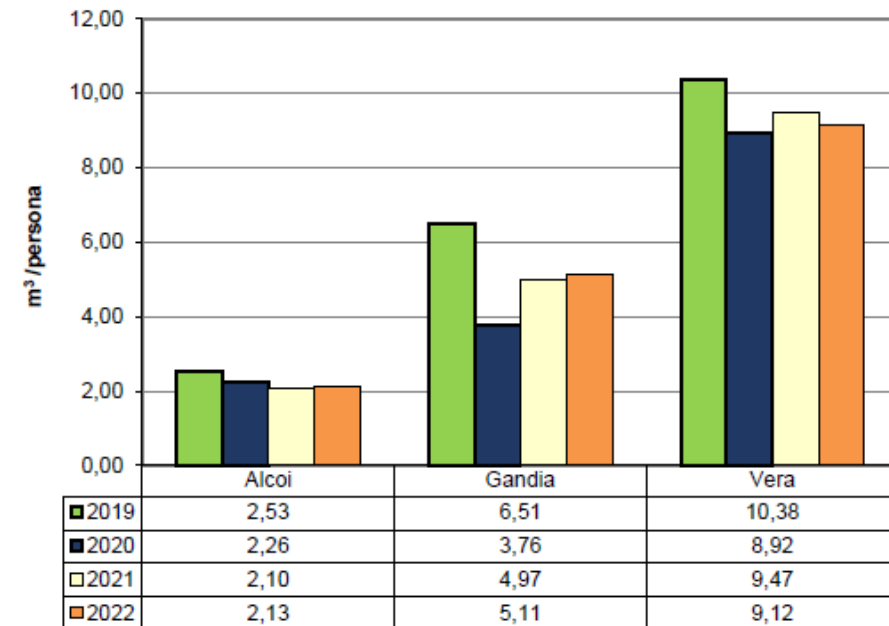


Water consumption per worker on each campus (2019-2022).

E. Water Consumption



Mains water consumption per person (2019-2022)



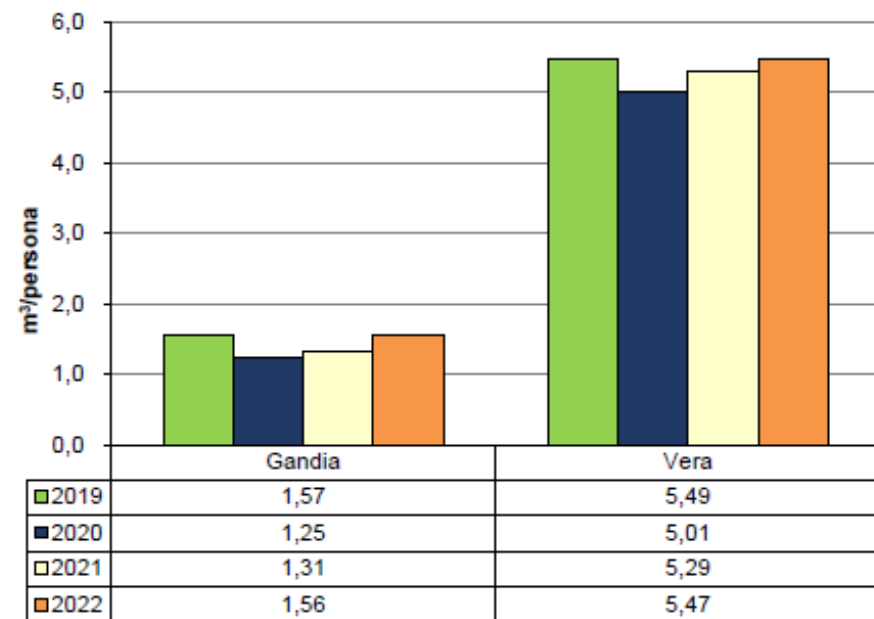
E. Water consumption

3. Well water consumption (m³/person):

Gandia: Increase of 18.61% in well water consumption per person, with an absolute increase of 593 m³ compared to the previous year.

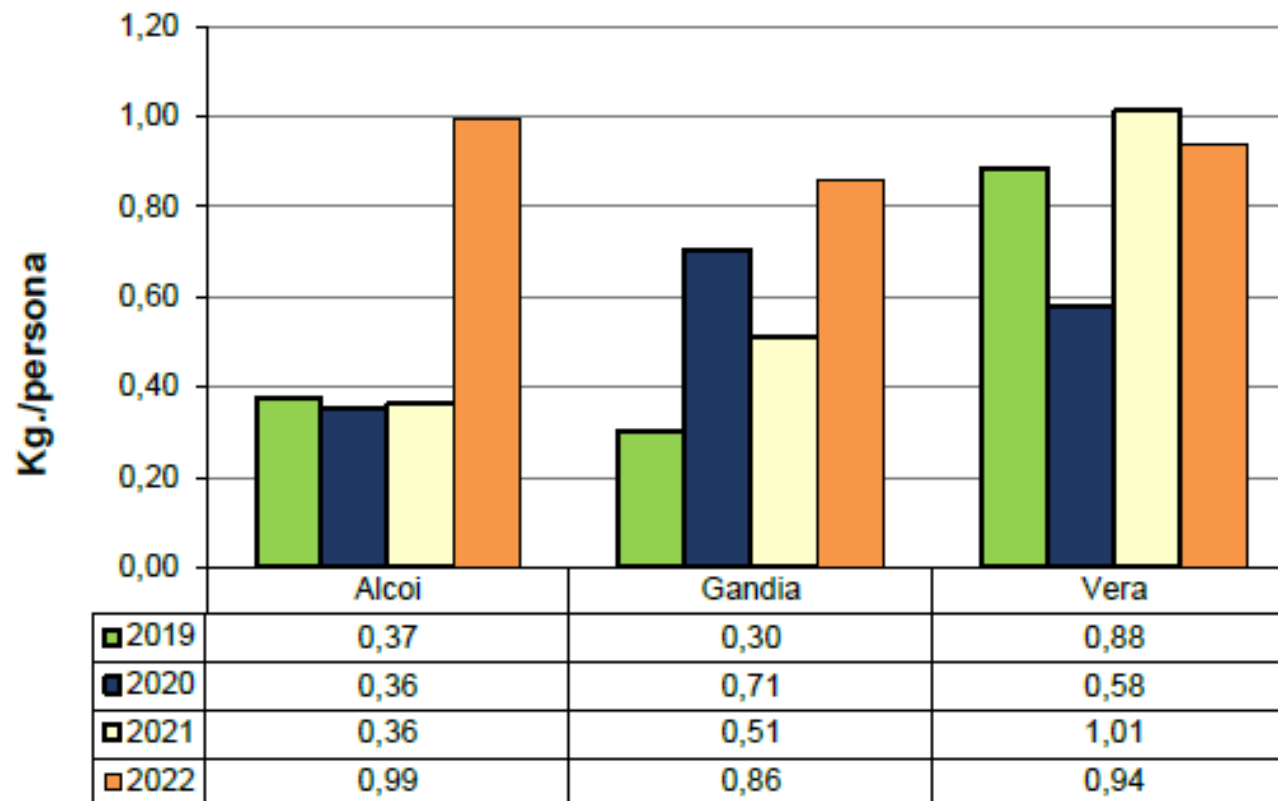
Vera: Increase of 3.36% in well water consumption per person, with an absolute increase of 19,616 m³.

Well water consumption per person on each campus (2019-2022).



F. Waste generation

- Drastic increase in Electronic Waste (Alcoi):
 - Due to the emptying of computer classrooms.
- Electronic Waste Sustainability:
 - Emphasizes the importance of sustainable practices in the management of electronic devices to minimize impacts and transform waste into opportunities..



Waste generation from electrical and electronic equipment per person on each campus (2019-2022).

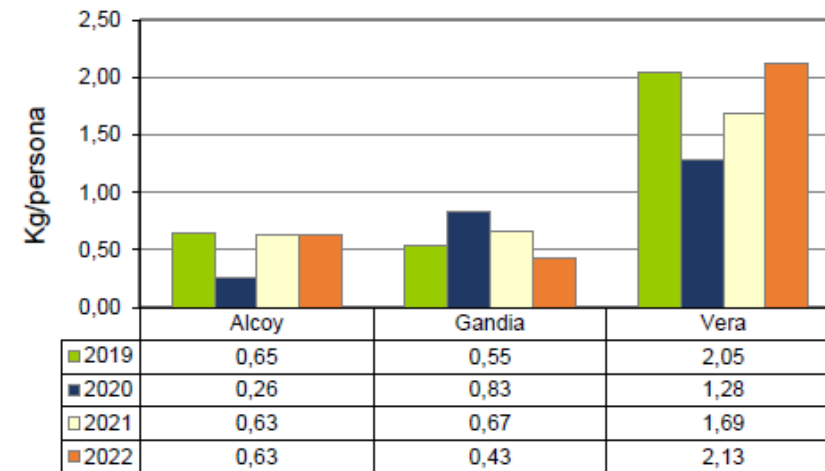
F. Waste generation

Hazardous waste (2019-2022)

Sustainable Actions:

- Implementation of measures to reduce hazardous waste at all sites.
- Focus on obsolete and unknown reagents, improving management and identification.

Hazardous waste generation per person on each campus (2019-2022).



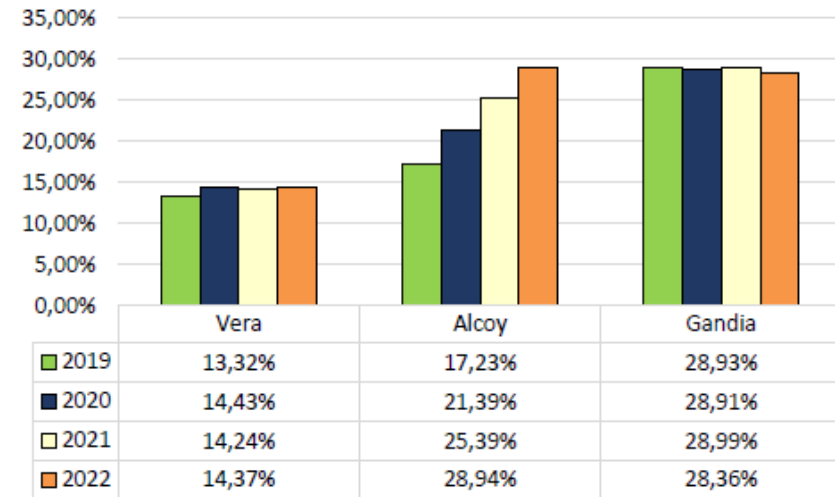
G. Curricular Environmentalization:



Sustained increase in total credits offered from 2019 to 2022 on each campus.



Significant increase in the number of environmental subjects offered, evidencing a commitment to the environmentalization of the curriculum..



Degree of environmentalization of the subjects on offer (2019-2022).

H. Land occupation



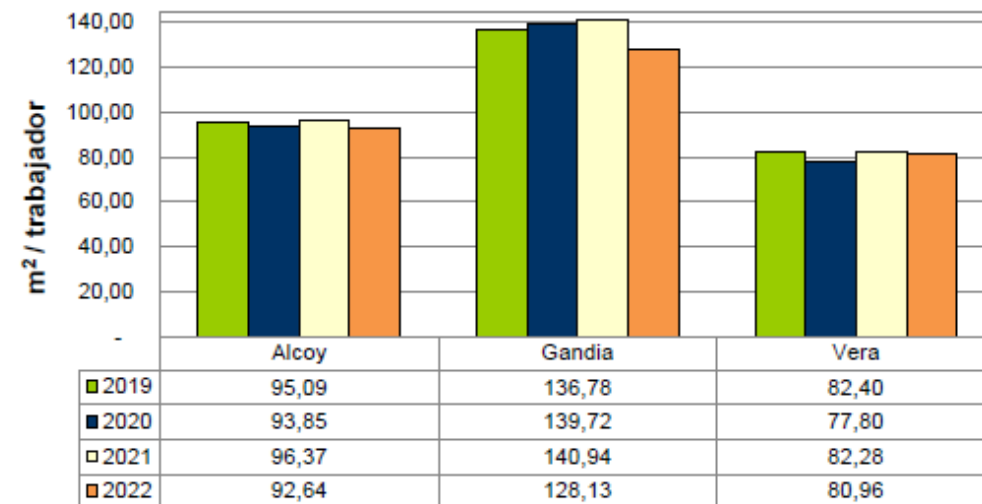
Alcoi: Decrease of 3.87% in surface area/worker due to the increase in the number of employees, keeping the surface area constant with respect to the previous year.



Gandia: Reduction of 9.09% in surface area/worker, attributed to the increase in the number of employees while the built-up surface area remains constant compared to the previous year.



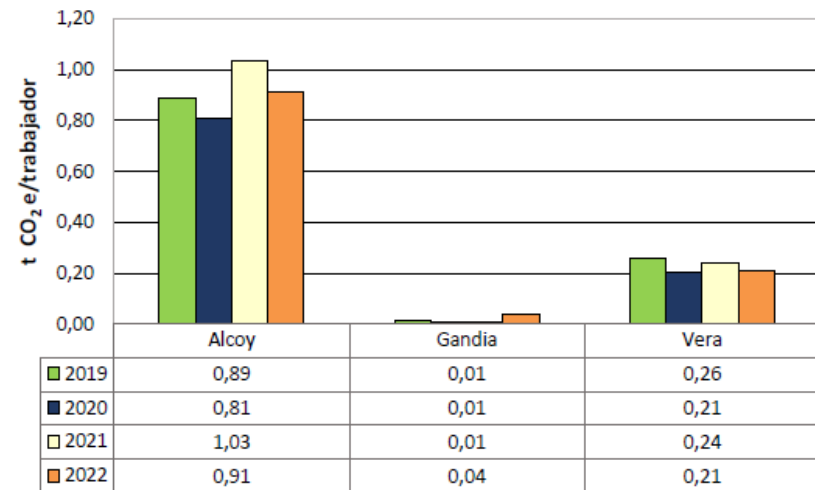
Vera: Decrease of 1.64% in surface area/worker, as a result of the increase in the number of employees and the expansion resulting from the new building, 8R.



Built-up surface area per worker on each campus (2019-2022).

I. Generation of Emissions:

- **Emission Reduction:** Significant reduction in direct CO₂ emissions per worker in Vera and Alcoi, thanks to efficiency measures and a reduction in consumption.
- **Increase in Gandia:** Increase in direct emissions in Gandia due to higher diesel consumption, suggesting the need to review efficiency practices.
- **Commitment to Sustainability:** Zero indirect emissions since 2019 due to the contracting of renewable electricity, highlighting a solid environmental commitment.



Generation of direct greenhouse gas emissions per worker resulting from fuel consumption (2019-2022)

I. Generation of Emissions:

The UPV carbon footprint.

- Environmental commitment of the UPV:
 - Adherence to global climate initiatives and local commitments.
 - Strategy to achieve carbon neutrality by 2030.
- Carbon footprint registry:
 - Recognized by the Ministry for a reduction of 45.47% in emission intensity (2019-2021 vs. 2018-2020).



GOBIERNO
DE ESPAÑA

MINISTERIO
PARA LA TRANSICIÓN ECOLÓGICA
Y EL RETO DEMOGRÁFICO

J. Mobility



Strategic Plan: The UPV Strategic Plan for Sustainable Mobility (2023-2027)



Results 2022:

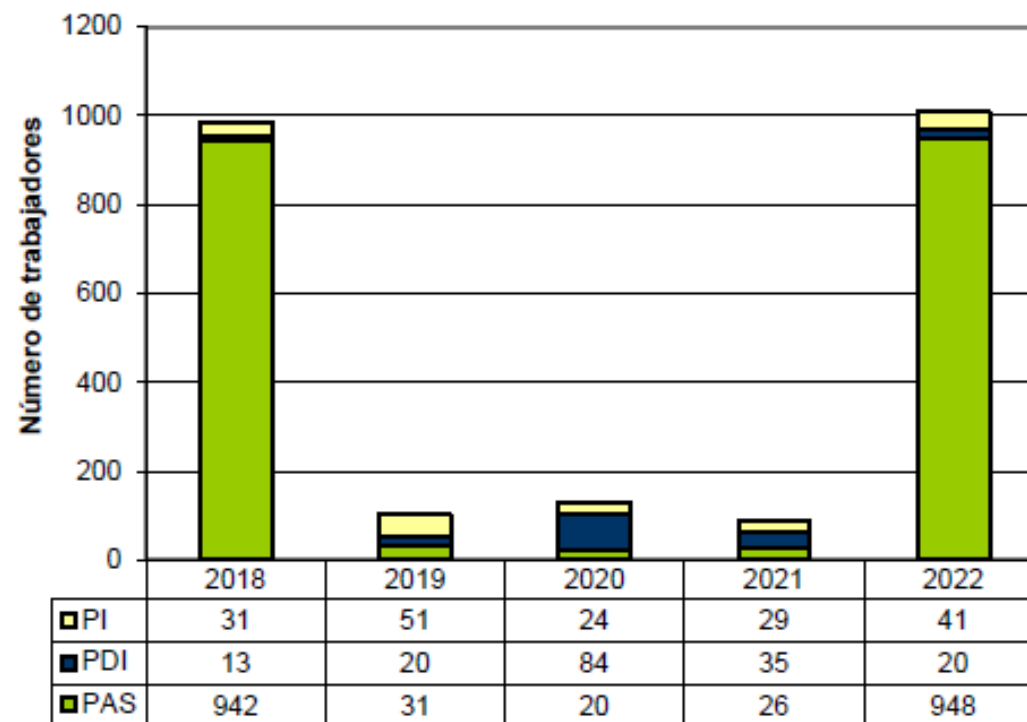
- 4.33% increase in students who use public transport.
- 2.93% reduction in private motorized transport.
- Notable increase in the people who use underground-tram and EMT bus services.



Public Transport Incentives: Economic benefits positively stimulate the use of public transport.

K. Training and Participation

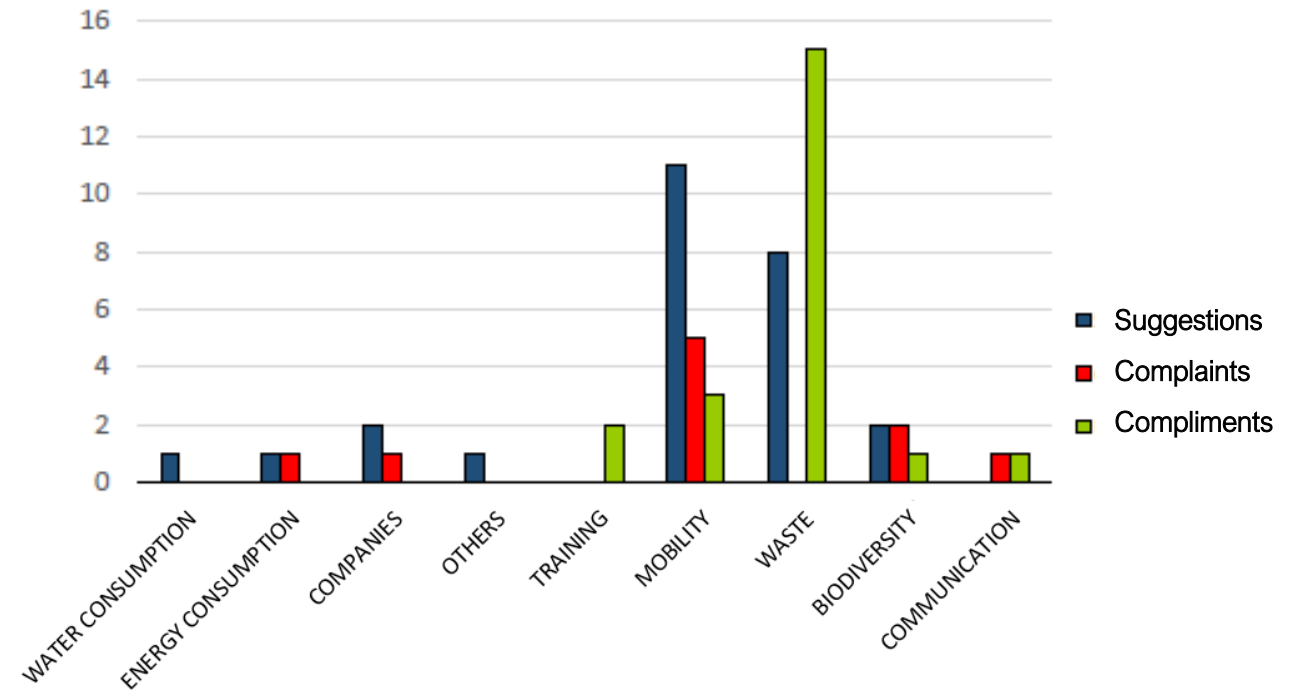
- Training 2022:
 - 1,009 workers (18.31% of the workforce) received intensive training in sustainability and Environmental Management.
- Active Participation in EMS:
 - Significant involvement in **audits**, environmental responsibility roles and **student participation** (33,149 students).
- Relevant Environmental Aspects:
 - Identification of and attention to environmental issues of concern according to the university community..



Personnel who receive yearly training at the UPV (2018-2022).

L. Communication

- In 2022, 1,750 environmental communications were recorded, reflecting an increase of 3.4% over the previous year. These communications came from both internal and external sources.



Suggestions, complaints and compliments per each individual environmental aspect in 2022.

7. Legal requirements

•Environmental legislation:

- Growing and complex, imposing numerous requirements.
- EMAS Regulation requires full compliance to obtain certification..

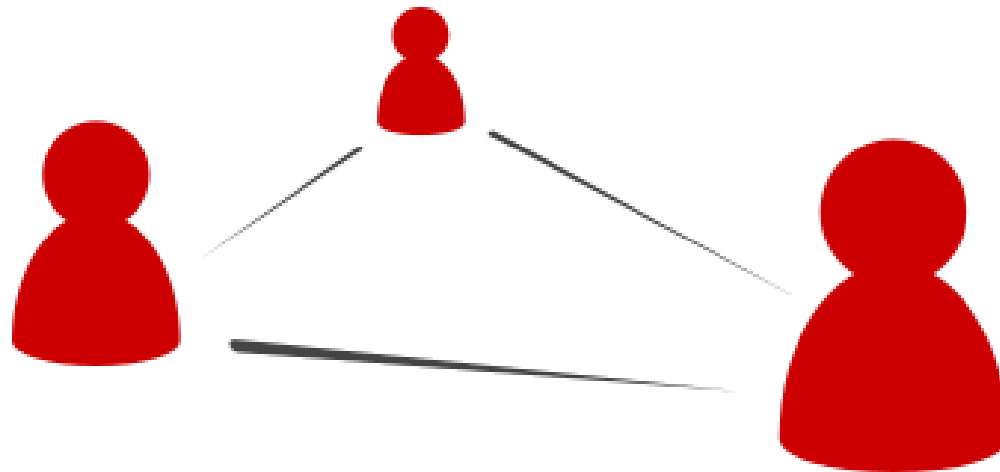
•Data 2020:

- 143 applicable provisions from environmental legislation.
- 570 legal requirements in force for the UPV.

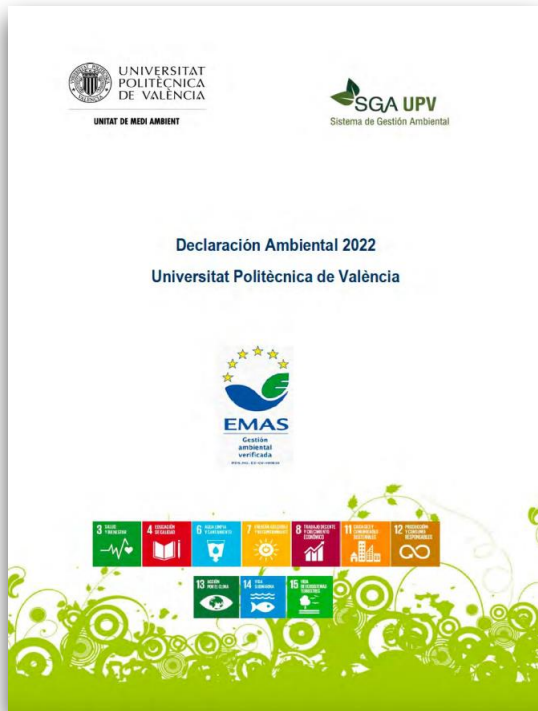
•Areas of Major Emphasis:

- Water, energy and fuel consumption.
- Waste generation, particularly that of electronic and sanitary devices.

*Source: Environmental Research Unit



8. Other factors



Source: UPV – Vice-Rector’s Office for the Sustainable Development of the Campuses



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