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Sustainability Awareness. A comparative study between the Polytechnic University of Valencia and the Turku University of Applied Sciences in the European regulatory framework

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Bachelor's Thesis | Abstract

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Sustainability Awareness. A comparative study between the Polytechnic University of Valencia and the Turku University of Applied Sciences in the European regulatory framework

This Final Degree Thesis analyses the level of awareness and preparation in Sustainability, considering the European regulations, at the Polytechnic University of Valencia (*Universitat Politècnica de València*, UPV) and the Turku University of Applied Sciences (Turku UAS). It examines the impact of the evolution of sustainability regulations, focusing on the Corporate Sustainability Reporting Directive (CSRD) 2022/2464/EU and the European Sustainability Reporting Standards (ESRS) of Delegated Regulation 2023/2772/EU. Although these standards do not directly bind universities, their influence is significant.

The research recognises the crucial role of universities in the transition towards a more sustainable economy. Its interest in CSRD and ESRS is justified by: training future professionals who will apply these standards, enhancing their institutional reputation, attracting business collaborations, contributing to the Sustainable Development Goals (SDGs) and the Green Deal, and impacting the local and regional community.

The methodology used is based on a bibliographic search and has been completed by means of a semi-structured interview with those responsible for this area in both institutions. The study compares the approaches, policies and commitments to sustainability of UPV and Turku UAS, identifying strengths and weaknesses in relation to CSRD and ESRS. It also includes an analysis that relates the practices and strategies of both universities to the different ESRS standards, offering recommendations to improve the integration of sustainability in university management.

The results aim to improve value to the research community and society, showing how higher education institutions respond to the demands for transparency and accountability in sustainability. It is hoped that the conclusions will encourage more sustainable practices and train professionals better prepared for future challenges.

Keywords:

sustainability, European Directive, verification, Non-Financial reporting, university entities.

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List of abbreviations (or) symbols

Abbreviation	*Explanation of abbreviation (Source)*
Arene	The Rectors' Conference of Finnish Universities of Applied Sciences
BREEAM	Building Research Establishment Environmental Assessment Methodology
BOE	Official State Gazette *(Boletín Oficial del Estado)*
CDP	Carbon Disclosure Project
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive 2022/2464/EU
EEMS	Environmental Management System
EFRAG	European Financial Reporting Advisory Group
EHEA	European Higher Education Area
EIP	Entities of Public Interest
EMAS	Community Eco-Management and Audit Scheme
ESG	Environmental, Social, Governance
ESRS	European Sustainability Reporting Standards of Delegated Regulation 2023/2772/EU
EU	European Union
GRI	Global Reporting Initiative
ICT	Information and Communication Technologies
INCN	Net Turnover

IPPC	Intergovernmental Panel on Climate Change
ISE	Business Sustainability Index
LEED	Leadership in Energy and Environmental Design
NFRD	Non-Financial Reporting Directive 2014/95/EU
OJEU	Official Journal of the European Union
RDI	Research, Development and Innovation
RRI	Responsible Research and Innovation
SDGs	Sustainable Development Goals
SIR Register	Register of Socially Responsible Valencian Entities
SMEs	Small and Medium Sized Enterprises
Turku UAS	Turku University of Applied Sciences (*Turun ammattikorkeakoulu*)
UPV	Polytechnic University of Valencia (*Universitat Politècnica de València*)

1 Introduction and Objectives

1.1 Introduction

Scientific evidence demonstrating the negative impact of human development actions on the environment has led to a growing concern for climate change and sustainability, which has become increasingly relevant in recent decades.

Rising global temperatures, loss of biodiversity, lack of natural resources and weather phenomena are just some of the worrying consequences the world is currently facing.

As the population increases and urbanisation progresses, the pressure on ecosystems intensifies, creating serious challenges for the health of the planet and the well-being of future generations. In this context, sustainability emerges as an essential; not only to reduce the effects of climate change, but also to ensure fair and responsible development that respects human rights and the limits of the natural environment.

Acceptance and awareness of sustainable practices are fundamental to creating a future where economic and social activities are compatible with the protection of the environment, promoting a balance between human progress and the conservation of the planet.

This growing concern about climate change and sustainability has led the international community to take decisive action to reduce and subsequently eliminate the effects of these problems. In this context, the Corporate Sustainability Reporting Directive 2022/2464/EU (CSRD) and the Delegated Regulation 2023/2772/EU establishing the European Sustainability Reporting Standards (ESRS) emerge as an essential regulatory framework requiring organisations to submit an annual sustainability checker.

This paper focuses on analysing the level of CSRD and ESRS awareness in two different European educational institutions, the Polytechnic University of Valencia (UPV, Spain) and the Turku University of Applied Sciences (Turku UAS, Finland), although they are not directly bound by this regulation. The interest arises from the great impact that universities have on society, not only in the training of future professionals, but also in the promotion of sustainable practices, which makes them key actors in the transition towards a more responsible and sustainable future.

This issue is relevant, as sustainability has become an essential pillar for both business and social development. The adoption of sustainable practices responds to regulatory requirements and is also aligned with the expectations of different stakeholders who demand accurate information on the environmental and social impact of organisations. As investors in today's world prioritise projects and organisations committed to sustainability, it is essential that universities take an active role in this transition.

The analysis addresses the importance of the Directive in academia and its ability to foster a culture of sustainability within educational institutions. By comparing the UPV and the Turku UAS, the aim is to recognise differences in awareness and practice in the application of these sustainable requirements. This will allow society to understand how each institution, in its role as an agent of change and trainer of future leaders, is

integrating sustainability into its strategy and operations in anticipation of the growing demands for transparency and accountability that extend to all sectors of society.

Traditionally, the publication of non-financial sustainability information has been a voluntary practice, where organisations decided which aspects of their environmental, social and management performance to share with their stakeholders.

This often resulted in reports that were difficult to compare between different entities. However, the Corporate Sustainability Reporting Directive 2022/2464/EU (CSRD), and the Delegated Regulation 2023/2772/EU establishing the European Sustainability Reporting Standards (ESRS), represent a turning point in non-financial reporting, significantly transforming the Non-Financial Reporting Statement (NFRS).

The CSRD broadens the scope to more companies and requires more detailed sustainability information, while the ESRS sets specific and mandatory criteria for the preparation of Non Financial Information Statement (NFIS).

The approach of Directive 2022/2464/EU (CSRD) and Delegated Regulation 2023/2772/EU (ESRS) establishes a new regulatory framework that aims to standardise and tighten the reporting of sustainability data. This regulation aims to overcome previous limitations by establishing rigorous and comparable standards. This approach facilitates the assessment of the sustainability performance of organisations, including entities such as universities, regardless of whether they are subject to specific regulatory mandates.

This study aims to analyse the specific sustainability initiatives that each university has developed to align with these regulations, even though they are not obliged to do so, and to assess how these proposals reflect a commitment to sustainability and transparency. Furthermore, to be able to offer practical recommendations to improve the strategies of both environments, providing a perspective on how institutions can address the challenges of sustainable development in the European context. To this end, the codes of good practice, strategic plans and other policies of the UPV and the Turku UAS related to sustainability that have been implemented by both institutions will be analysed.

In short, this study aims to make a significant contribution to the debate on how universities can be pioneers on the road to a more sustainable future.

1.2 Objectives

The main objective pursued in this Final Degree Project is to analyse and compare how two educational institutions, the Polytechnic University of Valencia (UPV) and the Turku University of Applied Sciences (Turku UAS), are addressing sustainability and, in particular, how they are preparing for a future in which transparency and accountability in sustainability are increasingly important. While these universities are not directly bound by the Corporate Sustainability Reporting Directive (CSRD) 2022/2464/EU and the European Sustainability Reporting Standards (ESRS) of Delegated Regulation 2023/2772/EU, the study focuses on their level of awareness and the actions they are taking to integrate CSRD and ESRS principles into their management and strategic plans, recognising their key role in training future professionals and promoting sustainable practices in society, as well as identifying best practices that could serve as a model for other institutions.

To achieve this main objective, the following secondary objectives need to be developed:

a. Analyse the legislative and conceptual framework: Study the legislative precedents on sustainability, as well as the rationale, scope and requirements of the CSRD and ESRS Standards, including the concepts of dual materiality and ESG (Environmental, Social and Governance) criteria. This objective is developed during Section 3, where the evolution of the European sustainability regulations and goals is explained.

b. To investigate the level of awareness and knowledge: To measure, through primary and secondary sources, the degree of awareness and knowledge about CSRD, ESRS and the importance of sustainability at both universities. This is addressed in Section 6, within the interview analysis, specifically in Blocks 1 and 2 of the mentioned interviews.

c. Comparing actions and good practices: To identify, analyse and compare actions and good practices implemented at the UPV and Turku UAS to demonstrate their commitment to sustainability and their responsibility as public institutions, paying particular attention to how these initiatives align with the principles and requirements set by the ESRS, and to what extent they facilitate future adaptation to these standards. This is covered in Section 4 and Section 6, specially Block 3 of the interview analysis and Epigraph 6.3.

d. Identify challenges and opportunities: To examine the challenges and opportunities faced by both universities in integrating sustainability into their management and preparing for a future with greater demands for transparency and accountability, even in the absence of a direct regulatory obligation. This is explored in Section 6, within Blocks 3 and 4 of the interview analysis, and further developed in Section 7.

e. Formulate strategic recommendations: Propose practical recommendations adapted to each institutional context to strengthen the integration of sustainability in the policies and practices of UPV and Turku UAS, maximising their positive impact on society and the environment. This is presented in Section 7, as part of the conclusion.

2 Methodology

This section describes the methodology used to achieve the objectives set out in this Final Degree Project. Given the exploratory and comparative nature of the study, and considering the absence of direct regulatory obligation for universities in relation to CSRD and ESRS, a qualitative research methodology has been chosen, which allows for an in-depth and detailed understanding of the level of awareness, the practices employed and the challenges faced by the Polytechnic University of Valencia and the Turku University of Applied Sciences.

First, a literature review was carried out to contextualise the evolution of European sustainability regulations, to understand the rationale of CSRD and ESRS, and to analyse trends and good practices in the integration of sustainability in higher education. Subsequently, primary information was collected and analysed through the interview method, seeking to obtain a deeper and more detailed perspective on the reality of both universities. Finally, the study includes an analysis that relates the policies, practices and strategies of both institutions to the ESRS standards, identifying the extent to which they are in line with European requirements and proposing recommendations to improve their integration into university management.

2.1 Bibliographic search

The methodology used for the bibliographic search consists of carrying out a systematic review of the literature through databases, using specific key terms.

In addition, an analysis of the current regulations available in the *Boletín Oficial del Estado* (BOE), the Official Journal of the European Union (OJEU) and the Finnish Law Gazette will be carried out.

The databases consulted are Google Scholar, Web of Science, Dialnet, as they allow access to a wide variety of documents, such as books, articles, theses, etc.

The process followed for the bibliographic search will be carried out by searching the databases Google Scholar, Web of Science and Dialnet. Five keywords relevant to the research topic were defined, and a time limit of five years was set to ensure the timeliness of the selected articles. The search focused on articles published in academic resources, prioritising those indexed in Scopus or the Journal Citation Reports (JCR).

It was chosen to identify the most cited articles within the results obtained, selecting the first ten that met the established criteria.

This approach ensures that the information collected is of high quality and relevance to the study in question.

To search the databases, a number of keywords and their combinations were used, connected by the logical connector “AND” to ensure the relevance of the results. Initially, the term “SUSTAINABILITY” was used individually. Then, the search was progressively widened with more specific combinations, such as “SUSTAINABILITY” AND “EUROPEAN DIRECTIVE”, followed by “SUSTAINABILITY” AND “EUROPEAN DIRECTIVE” AND “VERIFICATION”. Finally, the search was further refined with the terms “SUSTAINABILITY” AND “EUROPEAN DIRECTIVE” AND “VERIFICATION” AND “NON-FINANCIAL INFORMATION”, and finally “SUSTAINABILITY” AND “EUROPEAN DIRECTIVE” AND “VERIFICATION” AND “NON-FINANCIAL INFORMATION” AND “UNIVERSITY INSTITUTIONS”, limiting the results to documents published between 2021 and 2025. In all cases, a filter was applied to ensure that the selected documents were published after 2021.

During February 2025, an exhaustive search for relevant documents was carried out, followed by a detailed review to extract as much information as possible on the European Directive in question. The information obtained was used as a basis for the drafting and development of the subject matter. In addition, the bibliographical references used were compiled, allowing the sources consulted in the research process to be organised and known.

Applying the date criteria and the first search sequence (“SUSTAINABILITY”) in Google Scholar, 90.800 results were found. The second sequence (“SUSTAINABILITY” AND “EUROPEAN DIRECTIVE”) yielded 15.900 results. Adding the term “VERIFICATION” (“SUSTAINABILITY” AND “EUROPEAN DIRECTIVE” AND “VERIFICATION”) returned 15.600 results. The sequence (“SUSTAINABILITY” AND “EUROPEAN DIRECTIVE” AND “VERIFICATION” AND “NON-FINANCIAL INFORMATION”) generated 11.600 results. Finally, the search with all terms (“SUSTAINABILITY” AND “EUROPEAN DIRECTIVE” AND “VERIFICATION” AND “NON-FINANCIAL INFORMATION” AND “UNIVERSITY INSTITUTIONS”) produced 4.430 results. Of these last ones, the top 100 were analysed in order of relevance, selecting only 10 that were directly related to the object of study. These 10 documents included journal articles, research papers and statistical reports.

Searches were carried out with the same sequences and in a phased manner in Web of Science, as well as in Dialnet. First, the same search process was repeated in Web of Science as in Google Scholar: 96 relevant results were obtained for the sequence (“SUSTAINABILITY”). However, when refining the search with the subsequent sequences, in which the additional terms “EUROPEAN DIRECTIVE”, “VERIFICATION”, “NON-FINANCIAL INFORMATION”, and “UNIVERSITY ENTITIES” were staggered, surprisingly no results were found in any of the following four sequences, suggesting a lack of specific literature combining all these terms in the research context of the paper.

On the other hand, using the Dialnet database, inserting “SUSTAINABILITY” yielded 36.637 results; then, using the second sequence of words (“SUSTAINABILITY” AND “EUROPEAN DIRECTIVE”) a total of 503 results were obtained. Following the same steps as in Google Scholar and Web of Science, 15, 7 and 0 results were obtained in a staggered manner for each sequence in which more terms were added.

Table 1 below shows the results obtained in the bibliographic search, as a summary:

Table 1. Results obtained in the bibliographic search using keyword combinations, dated after 2021

	Data base		
Keyword	**Google Scholar**	**Web of Science**	**Dialnet**
"SUSTAINABILITY"	90.800	96	36.637
"SUSTAINABILITY" AND "EUROPEAN DIRECTIVE"	15.900	0	503
"SUSTAINABILITY" AND "EUROPEAN DIRECTIVE" AND "VERIFICATION"	15.600	0	15
"SUSTAINABILITY" AND "EUROPEAN DIRECTIVE" AND "VERIFICATION" AND "NON-FINANCIAL INFORMATION"	11.600	0	7
"SUSTAINABILITY" AND "EUROPEAN DIRECTIVE" AND "VERIFICATION" AND "NON-FINANCIAL INFORMATION" AND "UNIVERSITY INSTITUTIONS"	4.430	0	0

Source: Own elaboration based on the results obtained in the bibliographic search.

2.2 Primary information. Interview method

For the collection of primary information in this work, a semi-structured interview was chosen. This choice is based on the need to collect qualitative data, allowing for a deeper and more detailed knowledge of the issues addressed in the interview.

The semi-structured interview combines elements of both structured and unstructured interviews: it offers a balance between consistency in data collection and the flexibility to explore other themes that emerge from the interview. This format allows to follow a pre-established script of questions, ensuring that all key research topics are covered, while at the same time giving the freedom to focus into interesting or unexpected answers.

One of the main reasons for choosing this format is its ability to recognise complex issues and identify the richness of the interviewees' experiences and perspectives. Unlike the strictly structured interview, the semi-structured interview allows participants to express themselves in their own words, providing context and detail that might be lost in a more

rigid format. This is particularly valuable in the context of research, as it provides insight into the underlying motivations, attitudes and perceptions related to the topic of study.

In addition, the flexibility associated with this type of interview facilitates adaptation to each interviewee, allowing the order and formulation of questions to be adjusted as the conversation flows. This adaptability is essential to connect better with the participants and to obtain more genuine and detailed responses.

Another determining factor in the choice of this format is its ability to explore complex or unfamiliar topics. The semi-structured nature allows for the identification and pursuit of lines of enquiry that may not have been anticipated initially, but are relevant to the study. This ability is valuable, as the research to be addressed responds to a topic with limited information, comparing it with other topics, so the testimonies are very useful to better understand the context of the topic under study.

Finally, the semi-structured format offers a balance between the need to obtain comparable data between different interviewees and the opportunity to capture exceptional testimonies with individual experiences. This makes it easier to analyse the data and identify patterns and emerging themes, enriching the quality and depth of the research findings.

Participants will be selected on a purposive basis, seeking out key decision-makers and stakeholders working directly on sustainability projects at both universities. Interviews will be conducted with those individuals who play a key role in the implementation of initiatives aligned with CSRD principles, including environmental project managers and coordinators, and other professionals directly involved in the management and development of sustainability policies at UPV and Turku UAS.

A total of eleven interviews will be conducted, a number considered appropriate to gain a rich and detailed understanding of the perspectives within each institution, allowing for the identification of key patterns and themes relevant to the research.

Interviews are estimated to last 45-60 minutes per interview and will preferably be conducted face-to-face to facilitate direct interaction with participants. However, given the limitations of face-to-face interviews in the comparative study, some interviews will be conducted virtually. A flexible interview guide will be used to address the key themes of the research (CSRD and ESRS awareness, sustainability initiatives, challenges and opportunities), while adapting to the particularities of each conversation.

The interview is divided into four blocks, each of which is intended to respond to the secondary objectives of the research in the following way:

- Block 1. Perception and knowledge of Sustainability: addresses Objective (b) of the research.
- Block 2. Awareness of CSRD and ESRS: also related to Objective (b) of the research.
- Block 3. Sustainability actions and practices: addresses Objectives (c) and (d) of the research.
- Block 4. The role of the University and recommendations: corresponds to Objective (d) of the research.

The mentioned objectives can be seen in **Section 1.2**.

All interviews will be audio-recorded (with the informed consent of the participants) and subsequently transcribed to facilitate analysis. Data analysis will be conducted through thematic coding, identifying relevant patterns, categories and relationships in the transcripts.

Finally, special attention will be paid to the perspectives and experiences of the participants, seeking an in-depth understanding of their views on sustainability and the role of the university in this area.

2.3 Relationship between university initiatives and ESRS Standards

After reviewing the evolution of European sustainability regulations and explaining the CSRD and ESRS in detail, the proposal of this paper is to analyse the sustainability initiatives and policies of the universities studied (UPV and Turku UAS), relating them directly to the ESRS to which they relate. This connection is considered relevant because the ESRS offer a common and standardised framework that facilitates transparency and comparability between organisations, allowing stakeholders to better understand progress and difficulties.

To this end, both the information obtained through the literature search in relation to specific initiatives and practices of each university, as well as the data and perceptions obtained in the interviews conducted, will be integrated to ensure that both secondary and primary sources are linked to the different ESRS and thus have a complete picture to conclude the study and formulate recommendations.

In the case of information from secondary sources, the relationship to the ESRS will be indicated in brackets next to each relevant term or initiative, specifying the corresponding thematic standard (environmental, social or governance) and the specific category to which it belongs. For the information obtained in the interviews, a brief analysis will be made at the end of each objective within the blocks, explaining how the answers relate to the different ESRS. In this way, it will be possible to clearly identify the link between each practice or policy and the different sustainability standards.

Linking university actions to the ESRS encourages greater institutional accountability and ensures that universities follow European best practice and are in line with current and future sustainability expectations. Finally, this approach also allows to identify more precisely in which area each university already complies with the standards and in which areas it should focus more efforts, allowing for more accurate recommendations.

3 Evolution of Sustainability and its study in recent years

In recent years, the European Union (EU) has intensified its focus on community and corporate sustainability, recognising the urgency of addressing global challenges such as climate change, biodiversity loss and social inequalities. This concern is underpinned by alarming data and international commitments that have prompted a transformation in EU policies and regulations.

According to the Intergovernmental Panel on Climate Change (IPCC) in its Special Report on Global Warming of 1.5ºC (2018), rapid and far-reaching changes in all aspects of today's society are needed to try to limit global warming to 1.5ºC. In response, the European Union, as part of its 2050 climate neutrality goal, has committed to reducing its greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels (European Commission, 2023a).

In addition, the United Nations 2030 Agenda for Sustainable Development, adopted in 2015, introduces the 17 Sustainable Development Goals (SDGs), which focus on overcoming interconnected global challenges. The European Union is committed to integrating these goals into its internal policies and external action (European Commission, 2017).

In this context, the EU has highlighted the importance of the business sector in the transition towards a more sustainable economy. According to data on the European Parliament's official website, in 2021, economic activities in the EU produced approximately 3,6 billion tonnes of greenhouse gas emissions, expressed in terms of carbon dioxide (CO2) equivalents. This represents a 22% decrease compared to 2008 emissions. Businesses remain an important sector in terms of emissions, due to their energy consumption in their industrial processes (European Parliament, 2023).

The fact that CO2 accounts for almost 80% of total emissions of CO2 in the EU indicates that economic activities, including industrial and service activities, remain a major source of these emissions (European Parliament, 2023). Although businesses have reduced their emissions in absolute terms, their relative contribution to total emissions remains significant due to the energy-intensive nature of many of their operations. The EU has therefore put in place a regulatory framework aimed at promoting more sustainable and transparent business practices.

The European Corporate Sustainability Reporting Directive (CSRD) 2022/2464/EU and the more recent Delegated Regulation 2023/2772/EU on European Sustainability Reporting Standards (ESRS) are key components of this regulatory framework. These regulations aim to improve the quality, consistency and comparability of sustainability information that companies are required to disclose, making it easier for investors, consumers and other stakeholders to make informed decisions.

These regulatory developments are part of a broader effort to align business practices with EU sustainability objectives, and their impact on the European business sector will be explored in the coming years.

Universities' focus on sustainability will be introduced, as these institutions are key to training leaders and professionals who will face the environmental and social challenges of the future. By integrating sustainability into their strategic plans, they will not only contribute to the education of their students, but also position themselves as models of social responsibility. Furthermore, their active participation in sustainable initiatives can foster innovation and the development of effective solutions, aligning with global sustainability goals and responding to the expectations of society and investors.

This section deals with the evolution of sustainability and its study in recent years, focusing on European regulations and their impact on academic institutions. **Section 3.1** will analyse in detail the European regulations on sustainability, including the legislative precedents that have led to the creation of regulations such as the CSRD and ESRS, the CSRD and ESRS regulations themselves, and their influence in Spain and Finland. Furthermore, it will explore how these regulations influence the sustainable management of universities such as the UPV and Turku UAS. In **section 3.2** the registers of responsible entities in Spain and Finland will be presented, assessing how these recognitions and certifications influence the sustainable management of higher education institutions.

3.1 European Sustainability Regulations

Over the last few years, sustainability regulation has undergone a process of transformation within the European Union. This change has been marked mainly by a growing emphasis on the need for companies to be accountable for their environmental and social impacts. The current regulatory framework has built on previous policies and directives that have served as the basis for current initiatives.

The growing awareness of the urgency of tackling climate change and the need to move towards a more sustainable economy has led the EU to adopt legislative measures to encourage more responsible and environmentally friendly policies. These policies aim not only to mitigate the impact on the environment, but also to improve the quality of life and ensure a more prosperous and balanced future for generations to come.

This will be followed by an in-depth look at European sustainability legislation, examining the legislative precedents that have led to the creation of the CSRD and ESRS. The influence of these precedents on academic institutions will be analysed, as well as the specific details of the CSRD, exploring its need, objectives, scope and key requirements, as well as its relevance for universities such as the UPV and Turku UAS. In addition, the ESRS will be presented, highlighting their structure, content and relevance for universities. Finally, a comparison of the regulations in Spain and Finland will be made, assessing how these regulations influence the sustainable management of educational institutions.

3.1.1 Legislative precedents in the EU

To understand the scope of Directive 2022/2464/EU, it is crucial to review the key elements that have marked the trajectory towards sustainability from 2014 until the CSRD.

The last decades have seen a profound transformation in the economy due to economic, technological, social and political factors. Globalisation has driven the formation of large companies operating in multiple different countries, which has increased competition between them and forces them to always innovate to stay ahead. This, together with the advance of Information and Communication Technologies (ICT), has facilitated the dissemination of information on a large scale, allowing companies to generate and share knowledge more efficiently (Romero, 2014).

In this context, concepts such as intangible asset management, intellectual capital, social responsibility and sustainable development have become increasingly relevant. Society and governments demand greater transparency and accountability from companies, especially with regard to their environmental and social impact.

In the 2010s, this need for companies to be more transparent and accountable increased significantly, especially after the 2008 financial crisis (Fernández Sánchez & Luna Sotorrío, 2010). Investors and society in general began to demand more information on how companies managed their environmental and social impacts. With this growing awareness, the EU adopted measures to improve transparency and accountability in the corporate sector.

Organisations have adopted responsible practices due to external motivations, such as social and financial pressure, and internal motivations, such as the search for competitive advantage. In this regard, the 2008 financial crisis increased the demand for corporate transparency and accountability.

In response to these needs, the Non-Financial Reporting Directive 2014/95/EU (NFRD) emerged as a significant initiative to move companies towards greater social and environmental responsibility. The NFRD obliged large public interest entities, such as listed companies, banks or insurers, to report on their environmental, social responsibility and governance performance (European Parliament and Council of the European Union, 2014).

The NFRD was a crucial step towards corporate responsibility, as it stated that financial reporting alone was not really sufficient to assess a company's full impact on society and the environment.

In parallel, the international community also took a significant step towards sustainability with the creation of the 2030 Agenda for Sustainable Development. This was adopted by the United Nations in September 2015. This global initiative has influenced sustainability policies at the European level, aligning EU actions with the Sustainable Development Goals (SDGs), seeking a more socially and environmentally conscious approach.

Although the NFRD Directive was not created specifically to support the UN Sustainable Development Goals (SDGs), both share a common objective: to promote sustainability and transparency.

The SDGs were adopted in 2015 and represent a global framework to address challenges such as climate change, poverty or inequality. These goals are linked to companies, as they align their strategies with societal goals, which can generate benefits for business, the environment and the community (United Nations, 2022).

Integrating the SDGs into business strategies is not only ethically responsible, but can improve the profitability and reputation of organisations. By contributing to the SDGs, they can identify and improve risks related to environmental, social and governance (ESG) issues, which also allows them to analyse business risks and opportunities in an increasingly sustainability-conscious market.

ESG (Environmental, Social, and Governance) criteria are indicators that allow a company's impact on the environment, society and corporate governance to be assessed. These criteria are fundamental for shareholders and other stakeholders, as they allow other factors to be considered, apart from financial ones, that may affect the performance and sustainability of a company in the long term (Álvarez, 2024). This approach is key, as they serve as a tool to improve the transparency and comparability of sustainability information in companies. Further on, ESG criteria and their importance in the context of the CSRD will be discussed in more detail below.

In 2016, the European Commission issued a communication on European Action for Sustainability. In it, the European Commission connected the SDGs to the EU's framework for action to ensure that all initiatives and measures previously taken by the Union were integrated with these goals from the outset (European Union, 2018a). It was also intended to involve national, regional and local governments, as well as the public and private sector, in order to assess the progress of the SDGs in Europe in a comprehensive way (European Commission, Secretariat General, 2016).

In March 2018, the European Commission presented the Sustainable Finance Action Plan, which was a crucial initiative to integrate sustainability into the core of the EU financial system. This was mainly based on redirecting investments towards projects and companies that contribute to a more sustainable future, incorporating sustainability into financial risk assessment and management, and promoting greater clarity and visibility in financial practices while incentivising long-term investment (European Union, 2018b).

In order to achieve these objectives, the Action Plan proposed ten specific measures to be implemented from 2018 to 2020, including the creation of a unified classification system, known as a European taxonomy, for sustainable environmental economic activities; a decree on standards and labels for sustainable financial products; and a disclosure duty obliging institutional investors and asset managers to report on how their environmental, social and governance (ESG) factors affect their risk management processes (European Union, 2018b).

In June 2019, the Official Journal of the European Union (OJEU) publishes a Commission communication, setting out the “Guidelines on non-financial reporting: Supplement on climate-related information” (Official Journal of the European Union, 2019). These new rules complement the Guidelines on non-financial reporting and provide non-binding recommendations to improve the quality and comparability of

climate information. These measures aim to help companies disclose relevant information on how their activities impact the climate and how climate change affects their business, as well as to foster comparability, support investor and stakeholder decision-making, or promote a linkage with international frameworks, such as the Global Reporting Initiative (GRI) or the Carbon Disclosure Project (CDP) (Comisión Nacional del Mercado de Valores, 2019).

Regulation (EU) 2019/2088, known as the Sustainability Disclosure Regulation for the Financial Services Sector (SFDR) was another precedent to the current CSRD and ESRS. It also maintains a two-pronged approach: on the one hand, to distinguish how sustainability-related risks (ESG criteria) negatively affect the value of investments and, on the other hand, to analyse how the value of investments can influence sustainability risks (European Parliament and Council of the European Union, 2019). On the other hand, they also oblige market participants and financial advisors to publish key information on their sustainability risk policies or factors in their investment decisions, among others (European Parliament and Council of the European Union, 2019). This regulation also assigns the European Supervisory Authorities (ESAs) as responsible for developing draft regulatory technical standards and reporting on the implementation of the regulation to the European Parliament and the Council of the EU (European Parliament and Council of the European Union, 2019). A new feature introduced is the Single European Access Point (SEPA), which facilitates access to public information on finance and sustainability related to EU companies and investment products (European Parliament and Council of the European Union, 2019). Ultimately, the aim is to empower investors with clear and comparable information on the sustainability of financial products, so that they can make more informed investment decisions and achieve a greater allocation of capital towards sustainable activities.

In the same year, the EU has continued to move towards a greater commitment to sustainability, presenting in 2019 the European Green Pact, which was one of the most important milestones, as it was an ambitious plan to make Europe the first climate-neutral continent by 2050 (European Council, 2019). This pact orients sustainability policies towards a shift of the European economy to a more circular and low-carbon one. The aim is to reduce net greenhouse gas emissions by 55% by 2030 compared to 1990, and to make Europe greenhouse gas neutral by 2050 (European Council, 2019). The European Green Pact aims to create an energy transition, sustainable industry, biodiversity protection, and a financing scheme that supports public and private investments in a green transformation.

This is closely related to the current CSRD, as the latter is actually a key component of the European Green Deal by supporting improved transparency and accountability in corporate sustainability. Importantly, the CSRD expands the number of companies obliged to report sustainability information, facilitates comparability and informed decision-making, is part of the European strategy on sustainable finance and, in general, drives the transformation in business practices towards competitive and more sustainable models, which reinforces the objectives and brings the European community closer to the goals of the Green Pact.

At this point, companies were selecting those aspects of their economic, social and environmental performance that they considered relevant and favourable to them. This led to great variability in the quality and comparability of information, which facilitated ‘greenwashing’, a misleading practice where companies present their products, services or policies as more sustainable or environmentally friendly than they really are.

To combat this phenomenon, in addition to supporting the EU's climate and environmental objectives, and to address the lack of transparency and comparability in investments, Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 (Official Journal of the European Union, 2020), known as the European Taxonomy, has emerged. This regulation establishes a common framework for defining which economic activities are environmentally sustainable, seeking to redirect capital flows towards truly sustainable activities, thus supporting the transition towards a more sustainable economy in the EU (European Commission in Spain, 2022).

Finally, in April 2021, the 2021/0104 (COD) process was opened, which involved a proposal for a Directive of the European Parliament and of the Council amending Directive 2013/34/EU, Directive 2004/109/EC, Directive 2006/43/EC and Regulation (EU) No 537/2014, as regards corporate reporting on sustainability (Fernández Mora, García Moro, & Federico Gadea, 2021). The proposed revision of the regulations aims to improve the transparency and accountability of companies on sustainability by ensuring that they disclose clear, reliable and comparable information on their environmental and social risks and impacts. It introduces more accurate standards, mandatory audits and the reduction of unnecessary costs in data collection. It also contributes to economic stability and the allocation of resources towards sustainable activities, in line with the European Green Pact and the Sustainable Finance Action Plan. The initiative seeks greater harmonisation with international sustainability disclosure standards, facilitating regulatory convergence at the global level (Fernández Mora, García Moro, & Federico Gadea, 2021).

In conclusion, the evolution of European sustainability regulations has been a progressive process based on the need for greater transparency and accountability on the part of organisations. From the 2014/95/EU Directive on Non-Financial Reporting to the current CSRD, legislation has been refined to ensure that companies disclose clear, reliable and comparable information on their environmental and social impact.

This transformation responds to a growing demand from investors, society and regulators for sustainable business practices aligned with the objectives of the European Green Pact and the 2030 Agenda. The CSRD reinforces these principles, expanding the number of corporations obliged to report sustainability information, establishing more rigorous standards and promoting audits that avoid practices such as greenwashing.

In doing so, the EU not only seeks to strengthen trust in the business sector, but also to promote a fair and sustainable economy, aligned with the challenges of climate change and global development. The EU's commitment to sustainability not only impacts the business sector, but also seeks to transform society as a whole, promoting responsible practices in all areas, from industry to education. In this respect, universities play a key role in training new generations of professionals and producing knowledge that drives innovative solutions to environmental, social and economic challenges.

3.1.2 Impact of regulatory precedents on sustainability initiatives in academic institutions in Spain and Finland

Although there is no direct obligation for universities, the relationship and impact that regulations, from Directive 2014/95/EU to the CSRD, have on higher education institutions in Spain and Finland is undeniable. It can be seen that the adaptation of curricula and the promotion of research respond to the demands of sustainability driven by these regulations.

Although it is relevant to analyse how sustainability influences curricula and academic training, this paper approaches universities from a business perspective. That is, it examines how regulations that are primarily business-driven, but not directly binding on universities, exert a significant influence on these institutions. This approach allows us to understand how universities adopt practices related to sustainability and transparency, aligning themselves with the principles established by these regulations and adapting to an environment that is increasingly conditioned by these requirements.

The aim of examining the evolution of European regulations and their impact on academic institutions is to contextualise the level of awareness and adaptation of these universities, as well as the way in which universities, from a business perspective, adapt their strategies and practices to align with regulations aimed at companies, preparing their students and staff for an environment marked by sustainability and transparency.

Universities face the challenge of adapting to an ever-changing global environment, marked by digitalisation, globalisation and a growing concern for sustainability. Adaptation to the European Higher Education Area (EHEA) requires a comprehensive restructuring, focused on the development of professional competences that prepare students for a sustainable future (Barrón, Ferrer-Balas, & Navarrete Salvador, 2010). In this sense, universities face the challenge of training critical professionals committed to a more sustainable development, integrated with the principles of social and environmental responsibility in all aspects of their activity.

In this context, the Sustainable Development Goals (SDGs) play a crucial role in the transformation of higher education (Aparicio Chofré, et al., 2022). The 2030 Agenda, with its seventeen SDGs, calls on universities to lead the generation and transmission of knowledge to address global challenges such as poverty, climate change and inequality.

According to the analysis in “The SDGs as a learning tool: a multidisciplinary experience in university studies” (Aparicio Chofré, et al., 2022), universities are already actively integrating the SDGs in training, research and management, creating departments and subjects related to Social Responsibility or Sustainable Development. However, many of these projects focus on awareness raising. There is therefore an opportunity to deepen the integration of the SDGs in the internal management of universities, such as in their policies or activities. Moreover, universities, being seen as catalysts for social change, can foster collaboration with other institutions and promote public debate on these Sustainable Development Goals.

Despite this progress, there is a gap between awareness of the SDGs and their effective implementation in full academic projects, a trend most visible at the international level. This disconnect manifests itself, above all, in the gap between theory and practice, where

understanding of the SDGs does not always translate into concrete and measurable actions (Antúnez, Gomera, & Villamandos, 2017).

As a final point, it is worth highlighting the relationship between the 2030 Agenda and university education, as universities have assumed a key role in its implementation. They are highly committed, integrating its principles into university education, research, transfer and management (Conferencia de Rectores y Rectoras de las Universidades Españolas (CRUE), 2021). This implies developing competences in sustainability, inclusion and social engagement among students, teachers and administrative staff.

Higher education is fundamental to achieving the 2030 Agenda and the SDGs, especially SDG 4, which seeks to ensure inclusive and quality education. Universities promote awareness of global challenges, fostering critical thinking and social responsibility.

The CRUE report on the 2030 Agenda highlights university actions to contribute to the seventeen SDGs, such as curricular sustainability, teaching innovation and inter-institutional collaboration, with the aim of raising awareness and promoting sustainable development in higher education (Conferencia de Rectores y Rectoras de las Universidades Españolas (CRUE), 2021).

As can be seen, the precedents to the CSRD and ESRS are closely related to university education, as they promote sustainability and social responsibility. Universities, by integrating criteria such as ESG or SDGs into their curricula, train professionals capable of addressing global challenges. This reinforces the importance of higher education in the effective implementation of sustainability and corporate governance policies.

3.1.3 Corporate Sustainability Reporting Directive 2022/2464/EU (CSRD)

The Corporate Sustainability Reporting Directive 2022/2464/EU (CSRD) represents a highlight on the road to transparency and accountability. In this section, the CSRD will be discussed in detail. It will explore the need for the directive, highlighting how it improves the quality, consistency and comparability of the information that companies are required to disclose, which in turn strengthens investor and stakeholder confidence. In addition, the objectives of the regulation, its scope of application and the key requirements it establishes, such as dual materiality and mandatory auditing, will be examined. Finally, the impact of the CSRD on universities will be discussed.

3.1.3.1. Need for the CSRD

The Corporate Sustainability Reporting Directive 2022/2464/EU (CSRD) arises in a context where sustainability has become increasingly important globally. It justifies its necessity by improving the quality, consistency and comparability that companies are required to disclose, which increases investor and stakeholder confidence. These groups have significantly increased their pressure, demanding greater transparency and accountability in the sustainable practices of companies.

Without this Directive, the lack of clear parameters for measuring and managing sustainability risks hampers companies' efforts to ensure the transparency of their business models. Furthermore, the absence of comparable and reliable information limits the ability of investors to make informed decisions and of stakeholders to hold companies accountable (European Parliament and Council of the European Union, 2022).

The CSRD also seeks to address these challenges by providing a harmonised framework for sustainability disclosure, aligned with the objectives of the European Green Deal or the Paris Agreement. By ensuring comparable and reliable information, it promotes a more sustainable and transparent economy, thus avoiding misleading practices such as greenwashing (European Parliament and Council of the European Union, 2022).

3.1.3.2. Objectives of the CSRD

According to information extracted from the Sustainability Reporting Directive itself (European Parliament and Council of the European Union, 2022), the CSRD aims to transform the business reporting landscape in the European Union. Firstly, the CSRD aims to advance the European Green Pact, the EU's growth strategy, by facilitating the transition to a modern, resource-efficient and competitive economy, with the goal of achieving climate neutrality by 2050. It also seeks to protect the Union's natural capital - the EU's ecosystems, biodiversity and natural resources - and the health of citizens.

A key objective is to address the needs of financial market participants by requiring third country companies with securities admitted to trading in the EU to disclose sustainability information. This will enable investors to better understand the risks and impacts of their investments and to comply with their own disclosure obligations.

The CSRD seeks to ensure consistency with other EU directives and regulations, as well as guidelines on financial and climate-related reporting, providing users with a full understanding of companies' performance, results, status and impact.

With regard to climate-related information, the CSRD seeks that companies report on their physical risks, which are those physical effects of climate change (extreme weather events, sea level rise, changes in the availability of natural resources, ...), and transition risks, which are those associated with the transition to a low-carbon economy (policies and regulations, technological advances, changes in market demand, consumer preferences, ...). Similarly, they are expected to report on their adaptive capacity under different climate scenarios and their plans to adapt to the goal of climate neutrality. In addition, companies are expected to disclose their greenhouse gas emissions, their efforts to reduce them and the use of offsets.

Finally, the CSRD expects companies to look at relevant social factors, such as equal opportunities, working conditions, human rights and gender equality in line with the European Pillar of Social Rights and international human rights conventions. In general, the CSRD aims for a similar level of verification for financial and sustainability reporting.

3.1.3.3. Structure and content of the sustainability report

Directive 2013/34/EU was modified by Directive 2014/95/EU (NFRD), which introduced the obligation to report minimum information on environmental and social aspects. In addition, the NFRD pushed for the integration of Environmental, Social and Governance (ESG) factors in company reporting. This marked a turning point in recognising that business performance goes beyond financial returns and that ESG is essential for long-term sustainability.

Now, the new CSRD takes a step forward, emphasising sustainability-related disclosures and recognising the true financial relevance of this type of reporting, discarding the term 'non-financial information' which could imply a lack of financial relevance of such information, which is not true.

According to the information provided in the introduction of the Directive, the sustainability report, which is more extensive and detailed in content than the previous requirements, should address ESG criteria, with specific and quantified reporting obligations. Companies must detail the following aspects in their reports:

- Environmental: Climate change mitigation and adaptation strategies, water and marine resource management, initiatives to promote the circular economy and responsible resource use, efforts to prevent pollution in all its forms, and protection of biodiversity and ecosystems.

- Social and human rights: The company's policies and practices on equal opportunities, fair and safe working conditions, respect for human rights throughout its operations and supply chains.

- Governance: The role of its governance, management and supervisory bodies in promoting sustainability, characteristics of its internal control systems, risk management in relation to ESG aspects, business ethics and culture, measures to combat corruption and bribery, political influence, quality of its relations with customers, suppliers and communities.

In Article 1 of the Amending Directive 2013/34/EU, Article 19 bis further clarifies the elements to be included in these reports. Table 2 summarises the key aspects that companies should consider when preparing their sustainability reports:

Table 2. Information required in the Sustainability Report (CSRD) according to Directive 2022/2464/UE

Report element	Detailed description
Business model and business strategy	Risk capability, identification of opportunities, plans for compatibility with sustainable economy, consideration of interests, and implementation of sustainability strategy.
Sustainability targets	Short- and long-term goals, emission reduction targets (2030 and 2050), progress, and scientific basis for environmental targets.

Governance	Roles, knowledge and skills of management and supervisory bodies in relation to sustainability, and related incentives.
Policies	Description of the company's policies in relation to sustainability issues.
Due diligence	Protocol used, adverse effects associated with operations, and actions taken to mitigate negative effects.
Risks	Analysis of the main sustainability risks for the company.
Indicators	Relevant indicators to the above issues.

Source: Own elaboration based on the Directive (Article 1, point 3 (Modification of Article 19 bis of Directive 2013/34/EU))

It is also important to consider that, according to Article 1 of Directive 2022/2464/EU, concerning Modifications to Directive 2013/34/EU, the sustainability requirements also vary according to the type of company. Table 3 below provides a summary to understand the main points:

Table 3. Sustainability reporting requirements by company type according to Directive 2022/2464/UE

Type of company	Reporting requirements	Reference in Directive 2022/2464/EU
Large companies	Detailed description of how the company creates value, information on sustainability policies, identification and management of risks, progress metrics and timelines.	*Article 1, point 3 (Modification of the article 19 bis of the Directive 2013/34/EU), Article 1, point 5 (Modification of the article 29 bis of the Directive 2013/34/EU)*
Listed SMEs (simplified option until 2028)	Description of business model, policies, performance, risks and metrics. May apply proportional and voluntary standards.	*Article 1, point 3 (Modification of the article 19 bis, section 6 of the Directive 2013/34/EU)*
Third country companies	Turnover in the EU, sustainability information at group level, verification status of the report. - If the parent company does not provide sustainability information, a report must be drawn up justifying the lack of information. - If the verification report is not submitted, the EU subsidiary/branch must issue a statement.	*Article 1, point 5 (Modification of the article 29 bis, section 4 of the Directive 2013/34/EU)*

Source: Own elaboration based on Directive 2022/2464/EU

In addition to the specific requirements for each type of company, there are several additional points that are applicable to all of them, contributing to greater transparency and comparability in sustainability reporting:

- Sustainability Reporting Standards (Article 29b of Directive 2013/34/EU modified): The European Commission has developed sustainability reporting standards that specify in greater detail what information companies must disclose (ESRS).

- Dual materiality (Recital 2 of Directive 2022/2464/EU): Companies must report both on how sustainability factors affect their business ("financial materiality") and on the impact of their business on the environment and society ("impact materiality").
- Sustainability reporting should include forward-looking and backward-looking information, qualitative and quantitative data.

In conclusion, the structure and content of the sustainability report under the CSRD are highly detailed and designed to provide relevant and comparable information on ESG criteria. Unlike previous directives, such as Directive 2014/95/EU or Directive 2013/43/EU, the CSRD sets clear and uniform standards to ensure that companies disclose accurate information on their business model, policies, risks, performance and sustainability metrics. This enables investors and stakeholders to effectively assess the company's sustainability performance, overcoming the limitation of the term "non-financial information" and recognising its true financial relevance.

3.1.3.4. Impact of the CSRD on universities, why is it relevant for the UPV and the Turku UAS?

After analysing the CSRD, its objectives, scope, structure, content and key requirements, its potential impact on universities is evident, even if these institutions are not directly bound by the Directive. Beyond mere compliance with a regulation, the CSRD offers these institutions a strategic opportunity to consolidate their commitment to sustainability and strengthen their role as agents of change in society.

The CSRD, in seeking to transform sustainability management in companies, presents a series of challenges and opportunities for universities. In this context, universities must assume a leading role in training professionals capable of addressing the challenges of sustainability from a multidimensional perspective, integrating economic, social, environmental and ethical aspects (Fernández Mora, García Moro, & Federico Gadea, 2021). This implies a profound change in education, moving from an approach centred on individual competences to interdisciplinary and collaborative ones.

Moreover, universities should lead by example, adopting sustainable management practices and promoting research into innovative solutions. In doing so, they not only contribute to the achievement of the SDGs or the European Green Pact, among others, but can also enhance their reputation, attract talent and funding, and prepare for future sustainability regulations, assuming their role as a centre of critical discussion and knowledge generation for the common good.

In the study "Analysis of the introduction of sustainability in higher education in Europe: Institutional commitments and curricular proposals" (Ulls, Martínez-Agut, Piñero, & Aznar-Minguet, 2010), the authors highlight that in the context of the European Higher Education Area, sustainability has positioned itself as a key objective, driving the implementation of legal provisions that seek to integrate sustainability criteria into university management. Several collaborative networks among European universities are working to incorporate sustainability into the educational content of universities, in line with UNESCO's initiatives and its Decade of Education for Sustainable Development. Today, this goal has been achieved in most of the academic offerings of European universities. In this sense, higher education institutions assume a leading role

in the development of interdisciplinary, transdisciplinary and ethically oriented educational approaches, seeking innovative solutions to the challenges of sustainable development. This responsibility goes beyond the simple generation of knowledge, involving the dissemination of values, attitudes and behaviours favourable to environmentally sustainable human development.

In this context, it is crucial to recognise that, although the analysis of the academic offer and its integration of sustainability is of great importance for the training of future professionals, the main focus of this analysis is on the role of universities as complex organisational entities, similar to a company. This perspective allows for a better understanding of how the CSRD, although not directly applicable to universities, impacts on them.

The Directive promotes a comprehensive approach to sustainability, based on dual materiality, which can influence university management by fostering transparency and social responsibility. Universities, by voluntarily adopting these principles, can enhance their reputation by demonstrating a clear commitment to sustainability. Furthermore, by integrating sustainability into their operations and strategic plans, they contribute to the training of professionals capable of addressing environmental and social challenges, which reinforces their social responsibility and their role as leaders in promoting sustainable development.

In short, the CSRD inspires universities to take a proactive role in sustainability, strengthening their position as agents of change in society. This enables them to contribute to a more sustainable and equitable future. Their commitment to sustainability translates into greater credibility and social relevance.

3.1.4. Delegated Regulation 2023/2772/EU, European Sustainability Reporting Standards (ESRS)

Delegated Regulation 2023/2772/EU establishing the European Sustainability Reporting Standards, also known as European Sustainability Reporting Standards (ESRS), provides a detailed framework for sustainability reporting in the EU. This regulation complements Directive 2013/34/EU and all its amendments with regard to sustainability reporting standards.

In this section, the ESRS will be analysed in all its details, starting with its general definition and objective. It will examine their development and structure, which includes cross-cutting standards such as ESRS 1 and ESRS 2, as well as thematic standards covering environmental, social and governance aspects. Furthermore, it will discuss how ESRS apply the principle of dual materiality and its relevance for universities.

3.1.4.1. General definition

Based on Delegated Regulation 2023/2772/EU, the European Sustainability Reporting Standards (ESRS) are a set of standards designed with the objective of specifying the sustainability information that an entity must disclose in accordance with Directive 2013/34/EU. These standards aim for companies to report on their material impacts, risks and opportunities in relation to environmental, social and governance issues, enabling users to understand the company's impacts on people and the environment, as well as the effects of sustainability issues on the company's development, performance and position.

There is a clear difference between the concept of a Directive and a Regulation. A Directive sets out objectives to be achieved by Member States, but Member States have the flexibility to decide how to achieve them through their own national laws, so they must be transposed into national law before they become applicable. A Regulation, on the other hand, is a binding legislative act that applies directly and immediately in all Member States, without the need for national transposition, and all its elements are mandatory.

Therefore, the ESRS, being Delegated Regulations, have direct and mandatory application in all EU Member States. This contrasts with Directive 2022/2464 which, while setting out the general framework for sustainability reporting, requires transposition into national legislation in each country.

Thus, the ESRS complement the Directive by detailing in a precise and harmonised way what information companies must disclose on their impacts, risks and opportunities in relation to ESG issues, eliminating voluntariness in implementation and ensuring comparability of information at the European level.

3.1.4.2. Objective

The objective of the ESRS, detailed in Annexes I and II of Delegated Regulation 2023/2772/EU, is to specify the sustainability information that companies must disclose, complying with Articles 19 bis and 29 bis of Directive 2013/34/EU (as amended by Directive 2022/2464). This definition is found in Article 1 of the Delegated Regulation and is developed in ESRS 1 (General Requirements), within Annex I, specifically in the section entitled “Objectives”.

The ESRS aim for organisations to report on their most relevant environmental, social and governance impacts, risks and opportunities, enabling users to understand the relationship between business, people and the environment.

It is important to note that as indicated in the “Flowchart for determining the information to be included” (Appendix E of ESRS 1), companies are not required to report on topics that they consider unimportant.

3.1.4.3. Structure and content

In order to understand how the sustainability reporting rules are to be applied under the ESRS, it is important to define their general structure and specific content requirements. Delegated Regulation 2023/2772 has the following structure:

The Regulation is based on Articles 19 bis and 29 bis of Directive 2013/34/EU and Article 5, section 2 of Directive 2022/2464/EU. It entered into force as of January 1st of 2024 for financial years starting on January 1st of 2024.

Annex I of the Regulation is key as it details the rules to be followed for consistent and comparable sustainability reporting. This includes:

a. ESRS 1. General requirements: sets out the general principles for the preparation and presentation of sustainability information, the construction of the standards and the key issues. Some important points are highlighted:
- It includes aspects such as double materiality (point 3.3 of ESRS 1), value chain (point 5 of ESRS 1), and time horizons (point 6 of ESRS 1).
- It focuses on the qualitative characteristics of the information, such as relevance, reliability, comparability and verifiability (point 2 of ESRS 1).
- It provides guidance on the preparation and presentation of information, ensuring comparability and timeliness (point 7 of ESRS 1).
- Appendices A-G of ESRS 1 complement the main sections, providing practical details and examples on application, qualitative characteristics, structure of the Sustainability Statement, and tools such as flowcharts to determine what to include in the report.

b. ESRS 2. General information: Defines general disclosure requirements on relevant sustainability issues.
- It includes requirements on governance, strategy, risk management and policies related to sustainability issues (ESRS 2 point 2, ESRS 2 point 3, ESRS 2 point 4, ESRS 2 point 4.2).
- Appendices A, B and C of ESRS 2 are also supplementary elements that provide technical and practical guidance to ensure the correct application of the disclosure requirements set out in this standard.

c. Thematic ESRS (E1-G1): Cover specific sustainability topics, organised into Environmental (E), Social (S) and Governance (G) categories.

In conclusion, the content of the ESRS is a comprehensive framework designed to set clear and precise standards for sustainability reporting. Its structure ensures that companies can disclose relevant and understandable data, promoting transparency and comparability of information at European level.

3.1.4.4. Thematic standards, ESG criteria

The ESRS thematic standards focus on ESG (Environmental, Social and Governance) criteria, which are fundamental to assessing the sustainability performance of organisations. These standards are designed to ensure clear and structured disclosure on the impacts, risks and opportunities related to each dimension, promoting transparency and comparability.

These thematic standards are specific standards detailed in Annex I of Delegated Regulation 2023/2772/EU and are divided into the three main categories mentioned above (ESG):

a. Environmental (ESRS E1 to E5):

   - Focused on issues such as climate change, pollution, biodiversity, natural resource use and the circular economy.
   - These standards set out requirements for disclosing information on how the company's activities impact the environment and how they manage these impacts.

b. Social (ESRS S1 to S4):

   - These address issues related to human rights, labour conditions, equal opportunities and community relations.
   - They require companies to report on their policies, actions and performance on relevant social issues.

c. Governance (ESRS G1):

   - Focuses on corporate governance structure, including business ethics, anti-corruption and anti-bribery, and governance-related risk management.
   - It seeks to ensure that companies disclose how they integrate ethical principles into their operations and strategic decisions.

Figure 1 below shows the structure of the ESRS in full, organised into two cross-cutting standards and ten thematic standards distributed in the areas described above (environmental, social and governance):

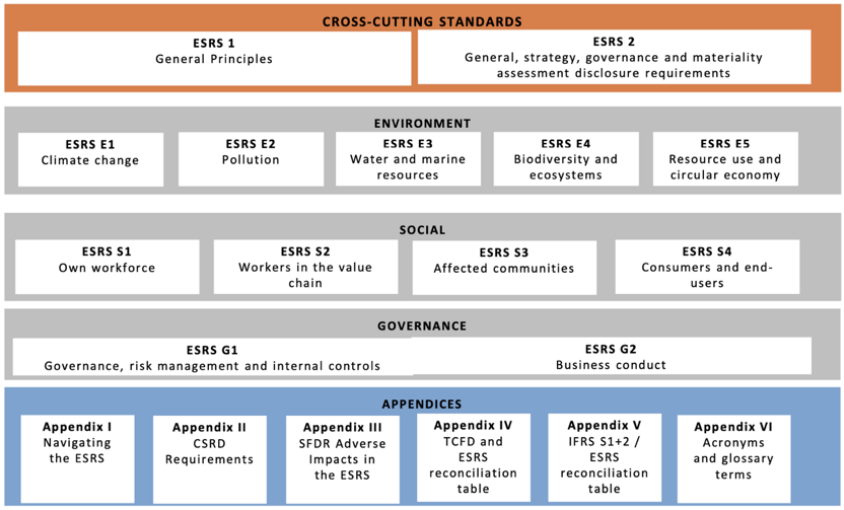

Figure 1. Structure of the European Sustainability Reporting Standards (ESRS) developed by EFRAG. (EFRAG, 2022)

These ESRS thematic standards are a key component of the European regulatory framework, designed to provide clear criteria on environmental, social and governance sustainability. Their comprehensive approach enables companies to communicate their impacts and efforts in a structured way, fostering greater transparency towards stakeholders.

3.1.4.5. Relevance of ESRS for universities

The European Sustainability Reporting Standards are highly relevant for universities, as these institutions play a key role in sustainability. As demonstrated in previous sections, universities must be accountable for their environmental, social and governance impacts, and for their educational and research function.

As large organisations with broad value chains (suppliers, students, staff and communities), they generate significant impacts in environmental (energy consumption, emissions, waste management), social (equal opportunities, labour rights) and governance (transparency and ethics) terms. ESRS can serve as a framework for universities to assess and disclose these impacts in a structured and comparable way, aligning with global sustainability expectations.

Although ESRS are primarily designed for organisations subject to the CSRD, public or private universities that manage large budgets or have financial links with entities subject to these regulations could be indirectly affected. Adopting ESRS principles at a very early stage can prepare universities for future regulatory requirements.

They are also centres for training future leaders and professionals. Effectively incorporating these principles into their academic offerings can prepare students to understand and apply sustainability standards in their future careers.

In addition, these Standards provide a solid basis for universities to develop sustainability-related research. This may include studies on the implementation of dual

materiality in different sectors, the financial impact of ESG issues, or the development of innovative methodologies to measure sustainable performance.

Adopting ESRS principles can strengthen the reputation of universities as institutions committed to sustainability. Transparent disclosure about their sustainable impacts and efforts not only enhances their public image, but also attracts students, researchers and investors interested in responsible institutions.

In conclusion, the adoption of the ESRS principles by universities offers an opportunity to improve their internal management and their impact on society. Moreover, it becomes a strategic tool for leading change towards a sustainable future. By assimilating these standards, universities can position themselves as benchmarks in institutional sustainability and contribute to the SDGs - among others - through their academic activity, research and daily operations.

3.2. Register of responsible entities in Spain and Finland

In previous sections, CSRD and its main impacts have been discussed, as well as the framework of ESRS and Corporate Social Responsibility (CSR) in general. However, this section focuses on a different aspect: the registration of responsible public entities in Spain and Finland. The focus shifts to the management and certification of social responsibility in the public sphere, analysing how public administrations promote sustainability and social responsibility among their entities.

3.2.1. Certification and promotion of Responsible Entities in Spain: registers, certifications and regulatory frameworks

In Spain, the certification of responsible entities, especially in the public sphere, involves a set of processes and regulatory frameworks that seek to ensure that public institutions comply with sustainability, social responsibility and environmental management standards. This analysis details the mechanisms used to certify public entities as responsible, including relevant registers, certifications and regulatory frameworks.

The promotion of sustainability is carried out through various agencies and ministries that work together to ensure compliance with these standards. Although there is no single body exclusively in charge of this task, the Ministry for Ecological Transition and Demographic Challenge (MITECO) plays a crucial role in promoting environmental and energy sustainability practices in Spain. It works in areas such as emissions reduction, energy efficiency and environmental promotion.

Initiatives such as the EU Eco-Management and Audit Scheme (EMAS) contribute to this effort. This is a voluntary European scheme that recognises organisations that have implemented an Environmental Management System (EMS) with a commitment to continual improvement, verified by independent audits. This system is useful to contribute to the development of a Circular Economy, as it obliges the establishment of environmental performance indicators and facilitates the participation of employees. It

also helps to anticipate new legal requirements and promotes innovation (Ministry for Ecological Transition and the Demographic Challenge, MITECO, 2024).

In addition, organisations such as the Institute for Energy Diversification and Saving (IDAE), which reports to the MITECO, promotes energy efficiency and the use of renewable energies in different sectors, including public and private entities.

The Spanish Forum for Corporate Social Responsibility (Foro Español de la RSC), although not a governmental body, is a platform that promotes corporate responsibility in Spain, encouraging good practices in organisations.

Similarly, many autonomous communities have their own bodies and programmes to promote sustainability at regional level. A prominent example is the Valencian Community, which has established the Register of Socially Responsible Valencian Entities (SIR Register) to recognise and promote organisations that demonstrate a strong commitment to social responsibility.

The SIR Register is a public and administrative register attached to the Department of Sustainable Economy, Productive Sectors, Trade and Employment of the Valencian Community. It allows the registration of entities that have obtained the qualification of socially responsible Valencian entity. Law 18/2018, of 13 July, of the Generalitat, for the promotion of social responsibility (Parlamento de la Generalitat Valenciana, 2018), creates this register, whose operation is developed in Decree 200/2022, of 25 November, of the Consell, which regulates social responsibility in Valencian entities (Conselleria de Economía Sostenible, Sectores Productivos, Comercio y Trabajo, 2022).

The purpose of this register is to inform citizens about the socially responsible nature of the registered entities. Access to its data is public and free of charge. Companies (including cooperatives and social economy entities), entities and organisations (both public and private) and self-employed workers with workplaces, offices or establishments in the territory of the Valencian Community can register in it.

The qualification as a socially responsible entity implies automatic registration in the SIR Register, giving rise to the benefits provided for in Law 18/2018. In addition, the qualification will be visible in the consultation system of the Spanish Association of Property, Mercantile and Movable Property Registrars, throughout the European Union. It is also possible to homologate the qualification if the entity already has a qualification granted by other Autonomous Communities, the General State Administration or by other States or international organisations (Conselleria de Economía Sostenible, Sectores Productivos, Comercio y Trabajo, 2022).

Other outstanding tools to demonstrate the commitment of public entities is the ISO 26000 certification, which focuses on corporate social responsibility, addressing key issues such as labour practices, the environment, health and safety, human rights and contribution to the community, among others, so that social responsibility is integrated into the strategy and management of organisations (International Organization for Standardization, 2005).

In short, these certifications and labels contribute to promoting sustainable and responsible practices in organisations in Spain, improving their environmental and social performance.

3.2.2. Finland: Assessment and rating of public bodies

In Finland, a number of sustainability certifications and labels are used that can be applied to both public and private entities. They are tools that help organisations to improve their environmental and social commitment.

Firstly, as mentioned in the previous section, there is the ISO 26000 CSR standard. In Finland, public entities can adopt this standard, which integrates social responsibility principles into their strategy and management (International Organization for Standardization, 2005).

Also noteworthy is ISO 14001, which certifies environmental management systems. It helps organisations to identify and control the environmental impacts of their activities, products or services, and to continuously improve their environmental performance. This certification is especially useful for public entities seeking to reduce their environmental footprint and comply with regulations that follow these standards (International Organization for Standardization, 2015).

Public entities in Finland also benefit from the Eco-Management and Audit Scheme (EMAS), promoting transparency and improved continuity in the environmental performance of organisations. With this scheme, Finland reinforces its commitment to effective environmental management and continuous improvement in the public sector. It promotes transparency and joins the efforts of several countries to adopt more sustainable environmental practices in their public entities (European Commission, 2023b).

Therefore, all these tools are considered effective in the Finnish context to promote social responsibility and sustainability in its public sector.

4 Sustainability projects at the Polytechnic University of Valencia and the Turku University of Applied Sciences

This section presents the main sustainability project initiatives carried out by the Universitat Politècnica de València (UPV) and the Turku University of Applied Sciences (Turku UAS).

Both institutions have demonstrated a strong commitment to sustainability, implementing a variety of projects ranging from renewable energy to circular economy, water management and sustainable agriculture. These initiatives not only reflect their active role in promoting sustainable practices, but also contribute significantly to the development of innovative solutions to today's environmental challenges.

In addition to detailing the main sustainability projects and initiatives of each university, this section will specifically indicate how each of these actions relates to the different ESRS standards, in accordance with those set out in section "3.1.4.4. Thematic standards, ESG criteria" (See **Section** 3.1.4.4). This will help to identify areas that are well covered and those that require effort at the end of the analysis of this study.

The most prominent projects in each institution are detailed below, highlighting their impact and relevance in the context of global sustainability.

4.1. Polytechnic University of Valencia. UPV SIRVE Strategic Plan 2023-2027 and UPV Good Practices

The Polytechnic University of Valencia is a leading higher education institution that has demonstrated a firm commitment to sustainability and environmental protection **(ESRS E1, E2, E3, E4)**. Among many other projects, its Strategic Plan 2023-2027 entitled “UPV_SIRVE” **(ESRS G1)** (Polytechnic University of Valencia, 2024) stands out, with which the UPV seeks to minimise its ecological footprint **(ESRS E1)** and promote a more sustainable environment. In addition, as part of these initiatives, the UPV also implements various good practices on its campuses and activities, covering areas such as waste management **(ESRS E5)**, energy saving (**ESRS E1)**, sustainable mobility **(ESRS E1, S4)** and environmental awareness among the university community **(ESRS S4)**.

4.1.1. Strategic Plan 2023-2027. UPV SIRVE

The UPV SIRVE Strategic Plan 2023-2027 is the third project of its kind to be drawn up by the university. It aims to guide the development, growth and excellence of the UPV, reinforcing its commitment to society and the environment **(ESRS G1, S3)**. It is based on

the triple university mission: to train students with high employability **(ESRS S1)**, to generate knowledge and innovation **(ESRS S1, G1)**, and to transfer this knowledge to improve society **(ESRS S3).**

It is the result of a participatory process involving the entire university community. This plan focuses on making the UPV a leading institution in innovation, sustainability and social relevance, at the service of society and committed to sustainable development and technological transformation **(ESRS E1, E5, S1, G1)**. It seeks to turn the university into an institution without limits, by and for people (Polytechnic University of Valencia, 2024).

In the current complex and changing context, marked by global challenges and the need for continuous adaptation, the plan seeks to make the UPV an active agent of change, promoting values such as solidarity, inclusion, respect and transparency **(ESRS S1, G1)**, in line with the actions and principles pursued by European regulations.

The name "SIRVE" reflects the university's vocation to serve society, with a focus on sustainability **(ESRS E1, E5)**, social relevance **(ESRS S3)** and common welfare **(ESRS S1)**. It is an acronym that corresponds to the terms "Sustainable, International, Relevant, Vital and Excellent". The three main pillars of this strategy are:

- To guarantee that students acquire the best training to become leaders and entrepreneurs capable of transforming their environment **(ESRS S1)**.
- Promote research and technology transfer with social and business impact **(ESRS S3, G1)**.
- Strengthen links with companies, public administrations and other institutions to maximise efforts and promote territorial and global development **(ESRS S3, G1)**.

It is not, therefore, a rigid strategy, but a flexible framework that adapts to changes in the environment and promotes the continuous evaluation of the university with society **(ESRS G1)**.

The plan is structured in five key strategic areas, with different strategic objectives and indicators that measure each progress:

Firstly, "UPV_SUSTAINABLE", which focuses on promoting environmental, social and economic sustainability, ensuring that society is a model of responsible and environmentally friendly management. The objectives include the reduction of environmental impact and the promotion of sustainable practices throughout the university community **(ESRS E1, E5, S1, S4)**. It has the following Strategic Objectives UPV:

- "Sustainable Objective (OSOS) 1: Position the UPV so that its three campuses achieve carbon neutrality by 2030" **(ESRS E1)**.
- "OSOS 2: Develop stable and alternative sources of funding" **(ESRS G1)**.
- "OSOS 3. Adapt the structure of the UPV for a flexible management of shared resources that allows it to face the changes required by society" **(ESRS E5, G1)**.

Figure 2 below summarises the strategic indicators corresponding to these "UPV_SUSTAINABLE Strategic Objectives" and the values to be achieved by 2027:

INDICADORES UPV_SOSTENIBLE

OBJETIVO	INDICADOR ESTRATÉGICO	VALOR 2023	VALOR 2027	FUENTE
OSOS1	Huella de Carbono (Alcance 1 y 2)	4 162,32 tCO2eq/persona y año (Alcance 1); 0 tCo2eq/persona y año (Alcance 2)	Ser neutros en carbono (en el alcance 1 y 2 tras compensar)	Los indicadores aportados (de 1 a 7) se corresponden con el año natural 2022, excepto la huella de Carbono que corresponde a 2021, y su fuente es la Declaración Ambiental 2022, validada por AENOR en la auditoría externa del Sistema de Gestión ambiental de la UPV realizada en marzo de 2023.
OSOS1	Indicador agregado de consumos. 1.Consumo anual de combustibles por unidad de superficie construida o por trabajador (Mw-h/m2 o Mw-h/trabajador) 2.Consumo agua (m3; m3/persona) 3.Cantidad global de residuos generados por persona (Kg/persona) 4.Consumo anual de energía procedente de la red eléctrica por unidad de superficie construida 5.Consumo energía medido en Kwh Anual 6.Consumo anual de energía por trabajador (7)Energía renovable generada por trabajador y año	10 269,12 MWh; 0,015MW/m2; 1,221MW/ trabajador 354 473m3; 8,53m3/persona 41,34 kg/persona 0,06MWh/m2 52 506,33MWh 6,243MWh/trabajador 0,008MWh/trabajador 4 162,32 tCO2eq/persona y año (Alcance 1); 0 tCo2eq/persona y año (Alcance 2)	Reducir los consumos en un promedio de un 10%.	
OSOS2	%Presupuesto No Ligado a la GVA	44,26%	50% recursos no ligados a la GVA	Datos 2022. Mediterranea, UPV.
OSOS2	#Estudiantes	30 425	Aumento del 10% del número total de alumnos	Datos 2022. Mediterranea (metodología Ministerio), UPV.
OSOS3	%Espacios usados por más de un CDIS al año	0,04%	10% superficie de espacios utilizados por más de centro/ servicio por año (5000 m2)	Datos 2022. Mediterranea, UPV.

Figure 2. Strategic Indicators and Target Values 2027 for the "UPV_SUSTAINABLE Strategic Objectives". (Polytechnic University of Valencia, 2024)

Secondly, "UPV_INTERNATIONAL" seeks to strengthen the internationalisation of teaching and research, making the UPV a global reference in higher education **(ESRS S1, S3)**. This involves increasing international collaboration and improving the foreign student experience. Its strategic objectives are:

- "International Objective (OINT) 4: To be a university of international reference in STEAM studies, responding to the needs of society and stimulating the vocations of present and future students" **(ESRS S1, S3)**.
- "OINT 5: Strengthen and consolidate alliances with universities and companies of international prestige for the benefit of the socio-economic environment" **(ESRS S3, G1)**.

Figure 3 also shows the strategic indicators and values to be achieved by 2027, corresponding to each "International Objective":

INDICADORES UPV_INTERNACIONAL

OBJETIVO	INDICADOR ESTRATÉGICO	VALOR 2023	VALOR 2027	FUENTE
OINT4	#(PDI+PI) de Origen Internacional en Plantilla	315	Aumentar un 10% el nº de investigadores de plantilla de origen internacional	Datos 2022. Mediterranea, UPV.
OINT4	#Estudiantes regulares de origen internacional	4 309	Aumentar el número de estudiantes de origen internacional (regulares) en un 15%	Datos 2022. Mediterranea, UPV.
OINT4	#Estudiantes título propio de origen internacional	6 288	Aumentar el número de estudiantes de origen internacional (títulos propios) en un 20%	Datos 2022. CFP, UPV.
OINT5	#Artículos científicos firmados con instituciones extranjeras	1 322	Aumentar el nº de artículos científicos firmados con instituciones extranjeras en 25%	Dato 2022. Servicio Biblioteca y Documentación Científica, UPV .
OINT5	#Proyectos en los que participan organizaciones con presencia local e investigadores internacionales	45	Aumentar un 20% el nº de proyectos/convenios con participación de empresas/instituciones y con presencia investigadores UPV e investigadores adscritos a universidades extranjeras	Datos 2021. I2T, UPV.
OINT5	#Tesis con mención industrial con entidades internacionales	0	20 tesis con mención industrial con entidades internacionales	Datos 2022. Mediterranea, UPV.

Figure 3. Strategic Indicators and Target Values 2027 for the "Strategic Objectives UPV_INTERNACIONAL". (Polytechnic University of Valencia, 2024)

As for “UPV_RELEVANT”, this focuses on ensuring that research and teaching are relevant to society, responding to the current and future needs of the environment **(ESRS S3)**. The university seeks to be an engine of innovation and knowledge transfer that contributes to economic and social development. Its Strategic Objectives are as follows:

- “Relevant Objective (OREL) 6: To intensify the positive impact of academic knowledge on the socio-economic fabric and the environment” **(ESRS E1, E5, S3)**.
- “OREL 7: Consolidate the reputation and leadership of the UPV in social transformation” **(ESRS S3, G1)**.
- “OREL 8: To foster the transdisciplinary nature of research, innovation and transfer activities, promoting their permeability towards teaching” **(ESRS S1, G1).**
- “OREL 9: Develop alliances with social institutions and public administrations” **(ESRS S3, G1)**.

The strategic indicators for each “UPV_RELEVANTE Strategic Objective”, together with the target values in 2027, are shown in Figure 4 below:

INDICADORES UPV_RELEVANTE

OBJETIVO	INDICADOR ESTRATÉGICO	VALOR 2023	VALOR 2027	FUENTE
OREL6	€Captados por transferencia de conocimiento a empresas y organizaciones	26 697 000	Aumentar un 30% los euros captados por proyectos bajo contrato	Datos 2022. I2T, UPV.
OREL6	#Empresas participantes en programas de mecenazgo, cátedras de empresa,…	100	Aumentar un 10% el número de empresas participantes en el Programa de Mecenzago y afines	Datos 2021. Memoria Consejo Social UPV 2021. Memoria Cátedras de Empresa UPV 2022. SIE, UPV.
OREL7	#Premios recibidos por PDI y PAS	3 240 / 529	Aumentar un 10% el número de premios recibidos por el colectivo PDI/PAS	Datos acumulados hasta 2022. Senia. Servicio Biblioteca y Documentación Científica, UPV.
OREL8	Posición en ranking de Proyectos Europeos	7	3 puesto en el ranking de proyectos europeos	Datos 2022. Memoria CDTI.
OREL9	#Alianzas de la UPV con instituciones de carácter social y administración públicas	127	300 alianzas con instituciones de carácter social y administraciones públicas	Datos 2022. Web ARWU y contrastados manualmente con convenios en vigor en AIRE, UPV. (solo convenios con universidades).

Figure 4. Strategic Indicators and Target Values 2027 for the “UPV_RELEVANTE Strategic Objectives”. (Polytechnic University of Valencia, 2024)

“UPV_VITAL”, focuses on improving the experience of the university community, promoting an inclusive and supportive environment that fosters the well-being and quality of life of students and staff **(ESRS S1)**. Its Strategic Objectives are:

- “Vital Objective (OVIT) 10: To accompany and promote the well-being and involvement of UPV staff by building an organisation that continuously anticipates and adapts to the needs of society” **(ESRS S1)**.
- “OVIT 11: To strengthen the recruitment and retention of research talent by improving working conditions at different stages of the research career” **(ESRS S1)**.
- “OVIT 12: Generate an academic offer in which each student is at the centre of the teaching-learning process that continues throughout life” **(ESRS S1, S4)**.
- “OVIT 13: Enhance employability and increase student and staff entrepreneurship” **(ESRS S1, S4)**.

Figure 5 shows the strategic indicators and values 2027, corresponding to each “UPV_VITAL Strategic Objective”:

INDICADORES UPV_VITAL

UPV SIRVE _VITAL

OBJETIVO	INDICADOR ESTRATÉGICO	VALOR 2023	VALOR 2027	FUENTE
OVIT10	Índice Agregado de Satisfacción Laboral	n.d.	n.d.	n.d.
OVIT10	#Personas que progresan de grupo o nivel al año	68	Aumentar un 100% el número de mejoras de nivel o grupo.	Datos 2022. SEPQU, UPV.
OVIT11	#Meses estancia internacional (IN/OUT)	44	Aumento del 200% en el número de meses de estancia del profesorado permanente	Datos 2022. Mediterranea, UPV.
OVIT11	#PDI TC con menos de 10 años en la UPV	292,1	Aumento del 20% del PDI TC con menos de 10 años en la UPV	Datos 2022. Mediterranea, UPV.
OVIT12	Empleabilidad Egresados (T1,T3,T5)	T1: 75%	Aumento de la empleabilidad al 80%	Datos 2022. SIE, UPV.
		T3: 90,55%	Aumento de la empleabilidad al 95%	
		T5: 90,7%	Aumento de la empleabilidad al 95%	
OVIT12	#Horas de formación "a lo largo de la vida" reconocidas	n.d.	n.d.	n.d.
OVIT12	Nivel de satisfacción de los egresados con la formación recibida	T0: 7,87	Mejora de la puntuación promedio en 1 punto	Datos 2022.SIE, UPV.
		T1:7,15		
		T3: 7,4		
		T0DOCT:7,9		
		T3DOCT:7,48		
OVIT13	#Prácticas en empresa realizadas anualmente	9 680	Aumento del 5% del número de prácticas en empresa realizadas anualmente	Datos 2022. Indicadores y memoria del SIE, UPV.
OVIT13	#Estudiantes formados para el empleo	5 071	Aumento del 3% del del número de alumnos formados para el empleo	Datos 2022. Indicadores y memoria del SIE, UPV.
OVIT13	#Participantes en acciones de captación de talento para la mejora de la empleabilidad	13 668	Aumento del 4% del número de participantes en acciones de captación de talento para la mejora de la empleabilidad	Datos 2022. Indicadores y memoria del SIE, UPV.

Figure 5. Strategic Indicators and Target Values 2027 for the "UPV_VITAL Strategic Objectives". (Polytechnic University of Valencia, 2024)

Finally, "UPV_EXCELLENT" seeks to ensure the academic and professional excellence of students, promoting the quality of teaching and research **(ESRS S1, G1)**. The university aspires to be a benchmark in the training of leading professionals capable of transforming their environment. Its Strategic Objectives are:

- "Objective Excellent (OEXC14): Promote transformative teaching models that incorporate and train in art, science and cutting-edge technology" **(ESRS S1)**.
- "OEXC 15: Stimulate the generation of excellent knowledge and its valorisation in collaboration with companies and institutions" **(ESRS S1, S3, G1)**.
- "OEXC 16: Improve the experience of different stakeholders, integrating management systems through inter-unit collaboration" **(ESRS S4, G1)**.

Finally, Figure 6 shows again the strategic indicators and values 2027, corresponding to each "Strategic Objective UPV_EXCELLENT":

INDICADORES UPV_EXCELENTE

OBJETIVO	INDICADOR ESTRATÉGICO	VALOR 2023	VALOR 2027	FUENTE
OEXC14	%PDI que realiza actividades de formación en metodologías docentes	33%	60% PDI realiza actividades de formación en metodologías docentes	Datos 2022. ICE, UPV.
OEXC14	%profesores extranjeros participando en asignaturas grado y máster	4,5%	7,2% profesores son extranjeros que participan en asignaturas de grado y máster	Datos 2022. Mediterranea, UPV.
OEXC15	#Artículos en colaboración con empresas	50	Aumento del 100% de artículos publicados en colaboración con empresas	Datos 2022. Clarivate. Servicio Biblioteca y Documentación Científica, UPV.
OEXC15	#Papers D1	233	Aumento del 40% en el número de artículos publicados en D1	Datos 2022. Clarivate. Servicio Biblioteca y Documentación Científica, UPV.
OEXC15	#Proyectos con empresas (u otras instituciones)	1 168	Aumentar un 20% el número de clientes I+d+i de la UPV	Datos 2022. I2T, UPV.
OEXC16	Satisfacción media por unidad encuestada al acabar la prestación de un servicio	8,12	Aumentar la satisfacción de las unidades por debajo de la media en 2 puntos	Datos 2021. Encuesta Pegasus. Satisfacción con los servicios universitarios, UPV.
OEXC16	#Número de PMO/DPM en los que participan 2 o más unidades con impacto directo en más de 100 personas UPV	n.d.	100% PMO/DPM en los que participan 2 o más unidades con impacto directo en más de 100 personas	Vicerrectorado en Planificación, Oferta Académica y Transformación Digital, UPV.

Figure 6. Strategic Indicators and Target Values 2027 for the "Strategic Objectives UPV_EXCELLENT". (Polytechnic University of Valencia, 2024)

In short, these actions reinforce the UPV's commitment to sustainability and its aim to be a model of responsible and environmentally friendly management. These plans are relevant because they establish an ethical framework that can positively influence the responsible and sustainable management of the institution, which can influence the contribution of an institutional environment that favours the adoption of sustainable practices. Clear and measurable targets are set, allowing progress to be evaluated and ensuring the effectiveness of the initiatives employed.

With regard to the distribution of the relationship of this plan with the ESRS, it can be seen that 40-45% of the objectives and actions correspond to ESRS S1 (“Own workforce”), 30-35% to ESRS G1 (“Business conduct”), and around 20-25% distributed between ESRS S3, E1 and E5 (“Affected communities”, “Climate change”, and “Use of resources and circular economy”). This plan therefore places greater emphasis on the development and well-being of its own staff, responsible and transparent governance, and a commitment to social and environmental responsibility.

4.1.2. Good Environmental Practices for Saving Electrical Energy

The UPV is strongly committed to protecting the environment and has been working for years to reduce the environmental impact of its activities. In May 2009, the University achieved the European EMAS environmental certificate, the most stringent standard on environmental management systems, becoming the first Spanish university, and the largest in Europe, to be registered in the Eco-Management and Audit Scheme (EMAS) (UPV & Estruch Fuster, 2011). Within its ongoing efforts, energy saving **(ESRS E1)** is identified as a key priority, supported by annual environmental plans and a management focused on energy efficiency **(ESRS E1)**. The university recognises its high energy consumption, due to its considerable size, which houses more than 50,000 people in its buildings.

To manage and optimise this resource, the UPV implemented a centralised energy management system, capable of measuring, controlling and managing the electricity consumption of its facilities **(ESRS E1)**. This system made it possible to manage schedules for different consumptions, establish a forecast of consumption and respond to hourly energy prices, facilitating reporting **(ESRS E1, G1)**. Structural actions were also implemented, such as the optimisation of air conditioning schedules, the installation of timer switches and presence detectors, and the reduction of unnecessary lighting **(ESRS E1)** (Àrea de Medi Ambient, Planificació Urbanística i Ordenació dels Campus UPV, 2011).

In addition to these structural measures, the UPV actively promotes the adoption of good environmental practices in its community **(ESRS S1)**. These practices include a large collection of daily actions that enable the correct use of equipment and energy optimisation in campus spaces. The university emphasises the importance of the active participation of all members to achieve significant energy savings and promote a sustainable environment.

In short, approaching energy saving from a perspective that complements both management systems and structural measures in the promotion of good environmental practices, reflects the institution's commitment and respect for the environment.

In this plan, almost 100% corresponds to ESRS E1, which focuses on climate change, in relation to reducing greenhouse gas emissions, adapting to climate risks and implementing strategies and policies to achieve carbon neutrality and environmental impact.

4.1.3. Code of Good Academic Practices and University Governance

The Polytechnic University of Valencia, together with the other Valencian Public Universities, has adopted a Code of Good Academic Practices and University Governance, with the aim of improving its teaching, research and innovation activities, as well as its connection with society **(ESRS S3, G1)**. The document formalising this agreement establishes a set of values, principles and rules that guide governance and academic activity, promoting transparency and ethics in all the institution's actions **(ESRS G1)**. The code seeks to ensure compliance with ethical responsibilities, foster integrity and strengthen public trust in university institutions (Secretaría General de Universidades Públicas de la Generalitat Valenciana, 2023).

The general provisions set out minimum standards for all university activities, emphasising the importance of respecting individual rights and freedoms. The Code of Good Practice itself focuses on respect for the rights of community members, transparency in research and responsibility in teaching **(ESRS S1, G1)**. Plagiarism and curricular misrepresentation are also rejected. Finally, the title pertaining to 'University Governance' deals with the promotion of university values, the exercise of functions with integrity and impartiality, transparency and accountability **(ESRS G1)**. It also regulates public presence, the use of resources and other key aspects of university management **(ESRS G1)** (Secretaría General de Universidades Públicas de la Generalitat Valenciana, 2023).

In this sense, the UPV reflects its commitment to quality, ethics and transparency. By establishing these standards and values, it strengthens public trust, which guarantees excellence in its activities, ensuring that the education and research it carries out is governed by the highest standards of commitment and rigour **(ESRS G1)**.

In this code, ESRS G1 ("Business Conduct") is almost 100% predominant, indicating that actions and objectives are oriented towards governance, transparency, responsible management, and alignment with regulations and best practices.

4.2. Turku University of Applied Sciences. Sustainable Development and Responsibility Programme 2024-2030, EduCity, Sitoumus 2050 and Fair Trade University

This section presents the sustainability projects carried out by the Turku University of Applied Sciences (Turku UAS), an institution committed to sustainable development and environmental responsibility **(ESRS E1, G1)**. Turku UAS has developed a sustainability programme called "Sustainable Development and Environmental Responsibility

Programme 2024-2030" of Turku University of Applied Sciences **(ESRS G1)** (Turku University of Applied Sciences, 2025a), which ranges from education to research and development (RDI), including the management of its carbon footprint and the promotion of the circular economy **(ESRS E1, E5, S1, G1)**. It will also highlight EduCity, the newest building on the Turku UAS campus, and its importance in the field of sustainability and energy efficiency **(ESRS E1)**. Finally, the signing of the Sitoumus 2050 and the recognition of Turku UAS as a Fair Trade University **(ESRS S3)** will be discussed.

4.2.1. Sustainable Development and Environmental Responsibility Programme

The Sustainable Development and Environmental Responsibility Programme 2024-2030 is the major plan detailing Turku University of Applied Sciences' commitment to environmental and social sustainability **(ESRS E1, S1)**. It is a collaboration led by expert teams, whose leaders belong to key areas, such as Education, Research, Development and Innovation (RDI) activities, staff management and competence, monitoring and metrics, etc **(ESRS S1, G1)**. (Turku University of Applied Sciences, 2025a).

This plan is based on the framework established by The Finnish Rectors' Conference of Universities of Applied Sciences (Arene) and is aligned with the 2030 Agenda and the European GreenComp framework. Therefore, this programme serves as a guide for Turku UAS in integrating sustainability into all aspects of its operations.

It recognises the changing landscape of carbon neutrality and seeks to move beyond it, with the aim of generating a positive impact on the environment and biodiversity **(ESRS E1, E4)**. The core of the programme focuses on two key concepts: reducing its footprint (negative environmental impact) and increasing its handprint (positive contributions through education, research and innovation).

To achieve this, action must be taken in four main areas: Education; Research, Development and Innovation (RDI); Staff Management and Competence; and Footprint Reduction. Table 4 below sets out the key elements of the Programme, specifying the description, indicators and specific measures for each area of action:

Table 4. Key elements of the Turku UAS Sustainable Development and Environmental Responsibility Programme 2024-2030

Area of action	Description	Indicators / Targets	Specific Measures
Education *"Education-sustainable development competence for everyone", "Our commitment"* and *"Our measures"*	Ensure that all graduates have basic knowledge on sustainable development and responsibility. Integrate sustainability content in all degree programmes and promote lifelong learning in this field.	- Integrate sustainability competences into all curricula. - Monitor the achievement and impact of these competences.	- Reinforce the role of sustainability into all curricula and in the offer of lifelong learning courses. - Integrate RDI in learning and teaching. - Cooperate with other institutions and stakeholders.

Research, Development and Innovation (RDI) *"RDI-solutions to the challenges of sustainability", "Our commitment" and "Our measures"*	Encourage collaboration with public, private and academic partners to create sustainable solutions. Use evaluation criteria to ensure that RDI projects are ecologically, socially, culturally and economically sound.	- Use and develop criteria to assess the sustainability of RDI activities. - Increasing transparency to meet national sustainability targets.	- Produce information to increase the impact of RDI activities at local, regional, national and international levels. - Highlighting the results of RDI activities.
Management and staff competence *"Management and staff competence-we practice what we teach", Our commitment"* and *"Our measures"*	Promote sustainable development policies, provide staff training and foster a culture of sustainability within the organisation, aiming to be a responsible employer.	- Annual monitoring of the development of staff expertise in sustainable development and sustainability.	- Include a sustainable development course in the orientation of all employees.
Footprint reduction *"Footprint-Principles to reduce and offset the footprint", "Our commitment" and "Our measures to reduce the footprint*	Calculate and monitor carbon footprint annually and implement strategies to reduce emissions, focusing on business travel, procurement, property and food services. Invest in increasing the carbon absorption capacity of the environment and promoting biodiversity.	- Annual calculation of carbon footprint from 2020 and monitoring of its evolution. - Increase carbon sinks. - Preventing the loss of nature and increasing biodiversity.	- Systematically reduce emissions and promote circular economy activities. - Acquire land to enhance carbon sequestration. - Collaborate with the City of Turku's LUMO programme to protect the Baltic Sea.

Source: Own elaboration based on the Turku UAS Sustainable Development and Environmental Responsibility Programme 2024-2030.

In short, Turku UAS goes beyond simply minimising its negative impact, but also strives to actively contribute to a more sustainable future. It integrates sustainability into every area of the university, which recognises it as a leader in sustainable management among other higher education institutions, positively impacting both the environment and society.

The Turku UAS 2024-2030 Programme relates mainly to ESRS S1 ("Own workforce") and G1 ("Business conduct"), which account for around 60-65% of the actions described, focusing on education, RDI and staff management. Environmental ESRS E1 ("Climate change"), E4 ("Biodiversity and ecosystems"), and E5 ("Resource use and circular economy"), together with ESRS S3 ("Affected communities") cover approximately 30-35%, focusing on environmental footprint reduction and social and ecological protection. Thus, social, governance and environmental aspects are combined in a balanced way.

4.2.2. Sustainable facilities management: the case of EduCity

EduCity is the newest building on the campus of the Turku University of Applied Sciences. It is one of the facilities that has taken innovative measures to minimise its ecological and environmental impact **(ESRS E1, E5)**. This is reflected in its LEED Platinum certification (Turku AMK, 2025b), which is the highest distinction awarded by the Leadership in Energy and Environmental Design system, attesting to its excellence in energy efficiency, resource management and sustainable environmental design **(ESRS E1, E5, G1)** (U.S. Green Building Council, 2019).

EduCity's LEED Platinum certification is based on a rigorous evaluation process that covers several key areas: incorporation of sustainable materials in the architectural design and construction processes with low environmental impact, compliance with established criteria for the reduction of emissions and resource consumption, implementation of advanced energy efficiency systems (such as energy-efficient LED lighting or presence sensors), and good indoor climate management through natural ventilation and superior thermal insulation, among others **(ESRS E1, E5)**.

Another highlight is responsible water management, with rainwater harvesting and reuse technologies and systems that significantly reduce water demand **(ESRS E3)** (Turku AMK, 2024). The building also promotes sustainable mobility through bicycle facilities and good public transport connections (Turku AMK, 2025c). EduCity also has green spaces that promote local biodiversity **(ESRS E4)**, and improve air quality and the well-being of its users **(ESRS S1, S4)**.

In conclusion, this LEED Platinum certification positions EduCity as a benchmark building in sustainable construction in the academic field, evidencing the institutional commitment to environmental protection and innovation. In the case of EduCity, 60% of its management is linked to environmental standards, mainly to ESRS E1 (“Climate change”) and ESRS E5 (“Use of resources and circular economy”). 25% corresponds to ESRS E3 and E4, referring to “Water and marine resources” and “Biodiversity and ecosystems”. The remaining 15% relates to social standards ESRS S1 (“Own workforce”) and ESRS S3 (“Affected communities”). It should also be linked to ESRS G1 (“Business Conduct”), for its recognition of LEED Platinum energy management and efficiency.

4.2.3. Sitoumus2050 and Fair Trade University

Another practice that reaffirms the Turku UAS commitment to sustainable development and social responsibility is its adherence to two important initiatives: Sitoumus2050 **(ESRS E1, S3, G1)** and the certification as Fair Trade University **(ESRS S2, S3, S4)** (Turku AMK, 2025d). Both represent concrete ways in which Turku AMK promotes environmental, social and economic objectives, aligned with global sustainability goals.

Firstly, Sitoumus2050 is a Finnish platform that brings together public and private organisations and citizens and sets concrete and measurable goals to transform Finland's sustainability (Sitoumus2050, 2025). Turku UAS has adopted this commitment to guide and evaluate its actions aimed at minimising its environmental impact **(ESRS E1)**

and promoting sustainable development in a concrete way **(ESRS S3, G1)**. This is why the university reports frequently on its progress, which ensures transparency and a continuous process of improvement in its ecological and social practices **(ESRS E1, S3, G1)**.

At the same time, as a member of the Fair Trade University network, it supports ethical trade that aims to improve the living and working conditions of producers and workers in developing countries **(ESRS S2, S3)** (Fair Trade Finland, 2024). In doing so, the university promotes the use of fair trade certified products in its services and educates its community about the importance of choosing alternatives that promote equity and respect for human rights **(ESRS S2, S3, S4)**. This action connects the institution with a global movement that seeks to make everyday practices a tool for positive social change.

The integration of both initiatives into the Turku UAS strategy represents its approach to sustainability, encompassing both environmental protection and social equity. These Turku UAS initiatives are clearly dominated by ESRS related to social responsibility and governance. On the one hand, Sitoumus2050 is mainly linked to ESRS E1 ("Climate Change"), S3 ("Affected Communities") and G1 ("Business Conduct"), combining its climate action with social impact and transparency in management. On the other hand, certification as a Fair Trade University is mostly related to social ESRS S2 ("Workers in the value chain"), S3 ("Affected communities") and S4 ("Consumers and end users"), highlighting the commitment to fair trade, equity and respect for human rights.

5 Interviews: Perceptions and practices of sustainability at the UPV and Turku UAS

Qualitative interviews are a key tool for this study, as they allow the objectives of the work to be addressed in their entirety. On the one hand, they facilitate the analysis of how universities interpret and apply the legislative and conceptual frameworks related to sustainability. On the other hand, they provide valuable information to assess the level of awareness and knowledge of CSRD or ESRS by the managers of these institutions and their impact at university level. Thanks to them, it is also possible to identify and compare the actions and good practices that each institution has implemented to advance its commitment to sustainability and social responsibility. It also allows for the detection of challenges and opportunities in the management of these matters and in the preparation for future regulatory requirements. All aspects related to the design, development and analysis of the interviews are detailed below, including the methodology used, the profiles of the participants, the process of conducting the interviews, as well as the transcription and processing of the data obtained.

5.1 Design and methodology of the semi-structured interviews

In order to obtain primary information in this study, semi-structured interviews were used, seeking to gather qualitative data that would facilitate a deeper and more nuanced understanding of the perceptions, motivations and experiences of the main people responsible for and driving sustainability projects in the universities analysed. This method allows for a balance between rigorous data collection and the flexibility to explore themes that emerge during the conversation, allowing participants to express their ideas more freely and in their own words.

The interview script was designed to address key issues such as awareness of CSRD and ESRS standards, sustainability initiatives developed by each institution, as well as perceived challenges and opportunities at the university level.

Participants were selected purposively, identifying professionals with in-depth knowledge and experience of sustainability policies and practices at both universities, seeking to cover a diversity of perspectives relevant to sustainability. Initial contacts were made through e-mails sent from the official institutional accounts of each university, ensuring the formality and veracity of the invitation. Priority was given to the inclusion of senior managers, environmental project coordinators and other key professionals who provide a representative and complete vision.

Table 5 below summarises the main actions during the design and development of the interviews:

Table 5. Methodological process for selecting, conducting and analysing interviews in qualitative research

Step	Action	Description
1	**Identification**	Drawing up a list of profiles with in-depth knowledge and relevant experience (having previously reviewed the professional technical files of each participant) in different areas linked to the main university actions and practices in both institutions.
2	**Initial contact**	Formal sending of applications for participation via institutional e-mail.
3	**Confirmation**	Reception and management of affirmative responses with coordination of dates and modalities (face-to-face or virtual).
4	**Preparation**	Preparation and revision of the flexible script, and technical preparation for the recording.
5	**Execution**	Conducting interviews, ensuring informed consent and audio-visual recording for analysis.
6	**Transcription**	Complete transcription of the audios, preserving the textual expression of each participant.
7	**Analysis**	Thematic coding of the transcripts, identifying relevant patterns, categories and relationships.
8	**Discussion**	Evaluation of the results, contrasting with the bibliographical sources consulted and the context, integrating perspectives for a complete understanding.

Source: Own elaboration

5.2 Interviewee profiles

This section presents the selection and description of the participants interviewed for the research, the criteria followed for the selection of these participants and their distribution between the UPV and the Turku UAS.

Firstly, the interviewees were selected according to criteria that ensure different perspectives, given that sustainability is a topic that encompasses different dimensions: environmental, social and economic. In order to understand the information obtained in depth, it is necessary to collect testimonies and experiences from different spheres and levels of responsibility within each university. To this end, the following requirements were considered fundamental:

- Have roles that allow them to influence decision-making or practical implementation of policies in each university.
  - Ability to offer strategic and operational perspectives.

- Bring different points of view: environmental, economic and social, to reflect the complexity of the study of sustainability.
  - Knowledge and experience in university sustainability: environmental, social and economic.

- Have direct knowledge and experience in policies, initiatives or management in the university context.
  - Participation or knowledge in sustainability projects or practices.

- Represent different areas of the university: rectorate and vice-rectorate staff, project coordinators, members of research groups, infrastructure and facilities management, and strategic plan management.
  - Representation of different roles and areas: rectorate, research, management, strategic direction.
  - Institutional diversity.

As an overview of the profiles, interviewees ranged from heads of technical units and project coordinators to rectors, vice-rectors and directors involved in the strategic planning of each university. These profiles have experience in environmental management, applied research, teaching and university administration, providing a broad vision that combines strategy, implementation and training. This diversity ensures a comprehensive understanding of institutional policies and their impacts at different levels.

Table 6 below shows the names, positions and universities for each interviewee:

Table 6. Profile and distribution of interviewees by current position and university

Name	Current position	University
Salvador Vicente López Galarza	University Professor; Director of the Department of Plant Production; Directorate Delegate Energy Efficiency and M.A. of the Rectoral Team 2013-2021	Polytechnic University of Valencia
Cristina Martí Barranco	Head of Section; Environment Unit	Polytechnic University of Valencia
María Salomé Cuesta Valera	Professor at the University; Vice Rector of Art, Science, Technology and Society; Member of the Strategic Plan Commission UPV SIRVE	Polytechnic University of Valencia
José Pedro García Sabater	University Professor; Vice-Rector for Planning, Studies, Quality and Accreditation; President of the UPV SIRVE Strategic Plan Commission	Polytechnic University of Valencia
Débora Domingo Calabuig	Professor at the University; Vice-Rector of Campus Sustainable Development; Member of the Strategic Plan Commission UPV SIRVE	Polytechnic University of Valencia
Elena de la Poza Plaza	University Professor; Vice-Rector for Employment, Lifelong Learning and Languages; Director of the Strategic Plan UPV SIRVE; Secretary of the Strategic Plan Commission UPV SIRVE	Polytechnic University of Valencia
Vesa Taatila	Rector and President; Corporate Services; General Administration	Turku University of Applied Sciences
Henna Knuutila	Senior Lecturer; Project Management; Engineering, Sustainable Environment; Energy and Environmental Technology	Turku University of Applied Sciences
Markus Forstén	Head of Facilities Management; Corporate Services	Turku University of Applied Sciences
Taru Konst	Senior Lecturer; Sustainable Development Coordinator; Senior Advisor; Enterprise, Leadership and Common Studies	Turku University of Applied Sciences
Sonja Lankiniemi	Senior Advisor; Project Management; Corporate Services; Project Management Office (PMO)	Turku University of Applied Sciences

Source: Own elaboration based on the participants' data sheets available on the official websites of each institution

The distribution of the total of eleven interviews, divided equally between five participants from the UPV and five from the Turku UAS, responds to a strategy to complement the bibliographic search with direct and diverse information from multiple perspectives. This selection allows us to compare and contrast the experiences, approaches and practices in sustainability in the two university contexts.

The choice of eleven candidates was based on the need to have a manageable but sufficiently representative number of candidates to allow for a deeper exploration of the issues without losing quality in data collection and analysis. In addition, this number facilitates a detailed dialogue with each interviewee, ensuring that the different areas - environmental, social, economic, strategic and operational - are adequately covered, providing a complete picture of the information obtained.

5.3 Conducting the interviews

Firstly, the process of contacting the interviewees was carried out through the official institutional e-mails of each university to the pre-selected participants. This communication took place approximately one month before the end of the interview cycle, in order to properly organise and coordinate the interviewees' agendas. The use of institutional mail ensured the formality of the process, facilitating the acceptance and collaboration of the participants in the study.

Below is an example of a message sent to UPV candidates:

"Dear […],

My name is Marta Esteve Domenech, and I am writing to you as a student of the Bachelor's Degree in Business Administration and Management at the "Universitat Politècnica de València", although I am currently in Finland, where I am studying the International Double Degree programme at the Turku University of Applied Sciences (Turku AMK). I am working on my Final Degree Project (thesis) entitled "Sustainability Awareness. A comparative study between the Polytechnic University of Valencia and the Turku University of Applied Sciences in the European regulatory framework", under the guidance of Professor Emmanuel Querrec. My research focuses on sustainability and social responsibility in educational institutions, specifically in universities such as the Turku University of Applied Sciences.

*I would like **to request the opportunity to conduct an interview with you to obtain information on the sustainability initiatives and policies implemented at Turku AMK**. Your perspective and experience would be of great help to enhance my research and provide a more comprehensive view of the topic.*

The interview would take place within 45-60 minutes and could be conducted virtually or face-to-face, as I am currently in Turku and would be able to travel. I am available to adapt to your schedule and preferences.

Here are some details about the interview:

- Aim: To gather information on the level of sustainability awareness and initiatives in Turku UAS.

- Duration: Approximately 45-60 minutes.

- Format: Virtual or face-to-face.

- Date and time: I am open to arrange a date and time that suits your availability.

Thank you in advance for your time and consideration. I remain at your disposal for any further questions or to provide more details about my research.

Sincerely,

Marta Esteve Domenech

marta.estevedomenech@edu.turkuamk.fi"

With regard to the format, the interviews followed two different modalities, adapted to the circumstances of each university:

- UPV: Given that the analysis and research were carried out in Finland, it was not feasible to be present at the UPV. Therefore, the interviews with the UPV participants were conducted in a virtual format, using the “Microsoft Teams” platform for videoconferencing, in order to facilitate interaction at a distance.
- Turku UAS: The interviews were conducted face-to-face at the EduCity (Turku UAS) premises, which allowed for direct and fluid contact with the interviewees.

The duration of the meetings ranged from 45 minutes to approximately 1 hour, which was sufficient time to address the key interview topics at both universities:

- Virtual interviews (UPV): conducted through the UPV's TEAMS platform, where the entire meeting was recorded, including audio and video. At the same time, a digital recorder was used to capture only the audio, as an additional measure to guarantee the quality and security of the record.
- Face-to-face interviews (Turku UAS): These took place in spaces set up within the university itself, guaranteeing a quiet and confidential environment for the participants. All the sessions were recorded in audio format using digital recorders to ensure the accuracy of the transcription for subsequent analysis.

It is worth mentioning that in both cases the candidates have been informed of the recording and use of their testimonies in the work. This procedure has ensured the collection of reliable and detailed data, in order to serve for the subsequent analysis and conclusions.

The script used combines general questions to situate the interviewee in the subject matter, and other more specific questions oriented towards the objectives of the study, following the methodological recommendations for qualitative interviews. In addition, the interviews at UPV were originally conducted in Spanish and subsequently translated into English, using the translator “DeepL”.

In “Annex I. Structured script of the interviews conducted with objectives per thematic block”, the script developed in the interviews, organised in thematic blocks, is presented. Each question is accompanied by an indication of the specific objective pursued in its formulation.

5.4 Transcription and processing of the interviews

This section describes the method used in the transcription, the initial coding and analysis process, as well as the ethical considerations that guided the whole process.

The interviews conducted online (members of the UPV) were transcribed directly from the Microsoft Teams platform, given the recordings of the meetings themselves and the possibility of transcription. Subsequently, the information obtained from these transcriptions was transferred to a document in which the information of all the participants from the institution was compiled by question in order to facilitate subsequent analysis.

In the case of Turku UAS, the interviews were conducted in person, recording the voice of the participants. For the transcription of these recordings, the “TurboScribe” tool was used, which provides the original transcription in English (the language in which the interviews were conducted). Subsequently, this transcript was translated into Spanish to facilitate the understanding and analysis of the information. In addition, during the face-to-face interviews, a manual template was used to note down the main ideas expressed by each interviewee, which allowed the accuracy of the automatic transcription to be checked and verified with respect to what was actually said in the interview.

Once the interviews had been transcribed and, if necessary, translated, all the information was compiled in a separate document for each university. This document groups together the initial interpretations of all the participants' answers to each of the questions, making it possible to identify common patterns, differences and relevant nuances between the different interviews. The essential information is extracted from each section, accompanied by the literal testimonies of the interviewees in order to relate what was said in each interview to the analysis carried out.

Finally, with regard to ethical considerations, all participants were previously informed about the recording of their voices and the explicit reference to their testimonies in the study, as they are experts who have consented to the use of their contributions. The data have not been treated anonymously, but the authorship of the participants has been respected, always with their consent and within the framework of an academic and professional use of the information collected.

Table 7 below summarises the length of each interview and the number of pages obtained in the transcript:

Table 7. Length of interviews and number of pages obtained in transcription

Name	Length of the interview	Number of pages transcripted
Salvador Vicente López Galarza	51:41	28
Cristina Martí Barranco	58:25	21
María Salomé Cuesta Valera	34:47	19
José Pedro García Sabater	1:09:18	35
Débora Domingo Calabuig	27:14	7
Elena de la Poza Plaza	30:16	9
Vesa Taatila	31:34	11
Henna Knuutila	37:36	12
Markus Forstén	27:07	7
Taru Konst	51:02	14
Sonja Lankiniemi	31:28	9

Source: Own elaboration after conducting the interviews

6 Results and comparison

Once the process of conducting and transcribing the interviews has been completed, the information obtained is analysed. This section presents the comparative analysis of the data obtained from the contributions of the interviewees in both institutions. The responses are also linked to the corresponding ESRS. The results obtained are shown below, grouped by thematic blocks, detailing the objectives of each and their relationship with the secondary objectives of the dissertation (see **Section 1.2** of the study).

- **Block 1. Perception and knowledge of Sustainability**: to obtain a personal and spontaneous definition of sustainability, to assess the knowledge of existing initiatives, and to evaluate the perception of the importance of sustainability for the university. This block corresponds to objective (b) of the thesis.

- **Block 2. Awareness of CSRD and ESRS**: measure the level of awareness of CSRD and ESRS, examine the perception of the potential impact of CSRD/ESRS, assess the importance of transparency and accountability. The information in this block also responds to objective (b) of the study.

- **Block 3. Sustainability actions and practices**: identify concrete examples of sustainability actions and practices, detect areas for improvement and opportunities, determine challenges and opportunities, find out whether the university has considered seeking any formal recognition for its sustainability efforts, find out about current recognition and participation in rankings. This block covers objectives (c) and (d) of the thesis.

- **Block 4. The role of the University and recommendations**: to determine the perception of the role of the university as an agent of change, to evaluate the integration of sustainability in academic programmes, to obtain practical recommendations adapted to the institutional context. This block corresponds to objective (d) of the study.

In order to be able to properly identify the participants in the interviews and to assess the significance of their contributions, Table 8 has been drawn up. It specifies the name, position and identification assigned to each person within the quotations used in the analysis of the interviews. This information contextualises and ensures the traceability of the opinions collected:

Table 8. Participant identification: names, positions and reference codes of participants in the interview quotes

Name	Current position	Reference
Salvador Vicente López Galarza	University Professor; Director of the Department of Plant Production; Directorate Delegate Energy Efficiency and M.A. of the Rectoral Team 2013-2021	Interviewee 1a
Cristina Martí Barranco	Head of Section; Environment Unit	Interviewee 2a
María Salomé Cuesta Valera	Professor at the University; Vice Rector of Art, Science, Technology and Society; Member of the Strategic Plan Commission UPV SIRVE	Interviewee 3a

José Pedro García Sabater	University Professor; Vice-Rector for Planning, Studies, Quality and Accreditation; President of the UPV SIRVE Strategic Plan Commission	Interviewee 4a
Débora Domingo Calabuig	Professor at the University; Vice-Rector of Campus Sustainable Development; Member of the Strategic Plan Commission UPV SIRVE	Interviewee 5a
Elena de la Poza Plaza	University Professor; Vice-Rector for Employment, Lifelong Learning and Languages; Director of the Strategic Plan UPV SIRVE; Secretary of the Strategic Plan Commission UPV SIRVE	Interviewee 6a
Vesa Taatila	Rector and President; Corporate Services; General Administration	Interviewee 1b
Henna Knuutila	Senior Lecturer; Project Management; Engineering, Sustainable Environment; Energy and Environmental Technology	Interviewee 2b
Markus Forstén	Head of Facilities Management; Corporate Services	Interviewee 3b
Taru Konst	Senior Lecturer; Sustainable Development Coordinator; Senior Advisor; Enterprise, Leadership and Common Studies	Interviewee 4b
Sonja Lankiniemi	Senior Advisor; Project Management; Corporate Services; Project Management Office (PMO)	Interviewee 5b

Source: Own elaboration

6.1 Analysis of the interviews at the UPV

The analysis of the information obtained at the Polytechnic University of Valencia integrates different areas and approaches, which fully explain the position of the university in terms of sustainability. It includes the strategic vision from the top management and institutional management, represented by various vice-rectorships and directorates that coordinate the Strategic Plan. It also considers the operational and technical approach, represented by the Environment Unit. It also incorporates the teaching vision, which reflects the university's commitment to the training of professionals.

The **first block of the analysis** explores how the interviewees understand and define the university within the university environment, assessing their level of familiarity with the policies and initiatives carried out at the UPV, and the relevance they assign to this issue in the institutional context.

The first objective in this block focuses on the definition and understanding of the concept of sustainability in the university context. The interviewees agree that sustainability is balanced in three fundamental parts: environmental, social and economic, emphasising the importance given to the social and economic part, which is generally not always directly related to the concept of sustainability:

> "*Sustainability has always been based on three fundamental pillars that are closely interrelated. My view has always been that, if these three pillars are not present and balanced, you cannot really talk about sustainability [...] There is a tendency to approach sustainability only from the environmental perspective, but true sustainability is the combination and balance of these three dimensions*". (Interviewee 1a)

> "*I would organise all the actions that a university can carry out in these three areas: first, everything related to the preservation of the planet; second, the social approach, which includes aspects such as equality and gender; and finally, everything linked to the economic dimension*". (Interviewee 2a)

> "*For me, sustainability at university is based on three fundamental pillars: economic, social and environmental. The key is to think about the future; it is not enough for something to be sustainable today, it must also be sustainable in ten or fifteen years' time. For example, an action may not be economically sustainable now, but if it is designed to be sustainable in the long term, then it can be considered sustainable*". (Interviewee 4a)

They stress that the university must not only promote these values, but also ensure that students internalise them and apply them in their professional future:

> "*Integration must always be done with the idea that the perception is ingrained in the student. What is the most complicated thing? It is that the student is focused on his or her own things, and therefore it is more difficult for him or her to internalise these values. However, somehow, even if slowly, this goal has to be achieved. It is not enough that the institution functions well and fulfils these three pillars; it is essential that the commitment reaches and takes root in the students. Our obligation is to train them in that sense*". (Interviewee 1a)

The importance of making sustainability a widespread concept that is present in teaching, institutional management and research, with a real and measurable commitment that goes beyond specific speeches or actions is stressed:

> "*Firstly, the educational dimension is fundamental: to teach what sustainability is and to do so in a clear and transversal way. But, in addition, and perhaps related to my position, it is important to understand sustainability as a real institutional commitment. You can't teach something if you don't practice it at the same time; there must be a set of general criteria that we all, more or less, share and apply*". (Interviewee 5a)

> "*To generate learning and discoveries, and then share them with society beyond the university community. For me, sustainability has been that central element or fundamental axis*". (Interviewee 6a)

There is also a practical difficulty in dealing with all dimensions simultaneously, so work needs to be done on organising efforts around these key areas:

> "*In the end, when working on environmental sustainability, everything is interconnected and intertwined. Therefore, if you try to cover everything, the concept becomes too broad and complex, because sustainability is present in all areas and we need to focus our efforts on working in an organised way in all areas*". (Interviewee 2a)

Respondents' understanding of sustainability is clearly aligned with the ESRS. Specifically, the environmental dimension corresponds to ESRS E1 and E5, which address climate change and resource efficiency and circular economy, respectively. The social dimension is linked to ESRS S1, which relates to the workforce itself, and S3, which focuses on the communities affected by the organisation's activities. Finally,

governance relates to ESRS G1, which sets out requirements on business conduct, ethics and organisational management, close to the economic dimension. In addition, the importance of sustainability in teaching, management and research, as well as the training of students with sustainable values, reflect the integration of these standards. The importance of making efforts and measuring results is also recognised, which is part of the planning and continuous improvement, contemplated in the ESRS G1.

In relation to the second objective, knowledge of initiatives, the interviewees show a high degree of familiarity with sustainability policies and projects at the UPV. Firstly, it is mentioned that the university has been a pioneer in the implementation of environmental management systems in the Spanish university environment, highlighting its EMAS (Eco-Management and Audit Scheme) certification, a European recognition that accredits the UPV as the first Spanish public university and one of the largest in Europe to have an officially recognised environmental management system:

> "*When I took over the sustainability area, one of the first challenges was to obtain EMAS certification, which we achieved around 2009, being the first Spanish public university and one of the largest in Europe to do so. This seal has imposed high environmental standards, with annual internal and external audits that guarantee rigorous control. Thanks to this, we have been able to promote initiatives, such as selective waste collection and sustainable mobility, which have consolidated our environmental policy and positioned us as a benchmark*". (Interviewee 1a)

The existence of an Environment Unit and a Vice-Rectorate for Sustainable Campus Development, which play a central role in the coordination and management of environmental actions, is also highlighted:

> "*In fact, we are responsible for the university's environmental sustainability actions. From our Unit, we act as the central service in charge of controlling and preventing the environmental impact of all university actions [...] So, although not all the university's sustainability initiatives are carried out directly from the Environment Unit - due to the different dimensions of sustainability -, we centralise, channel and organise them. In other words, we manage and coordinate all that part of it*". (Interviewee 2a)

> "*We have the Vice-Rectorate for Sustainable Campus Development, which is mainly in charge of everything related to the environmental sphere, which is its responsibility*". (Interviewee 3a)

And also the integration of sustainability in the UPV SIRVE 2023-2027 Strategic Plan:

> "*I am in charge of drawing up and implementing the UPV 2023-2027 Strategic Plan, in which sustainability is one of the essential pillars, understood not only from an environmental perspective, but also from the social and economic dimensions*". (Interviewee 6a)

> "*At the UPV, sustainability forms part of its strategic plan, where it is included as one of its main axes under the acronym "SIRVE", the "S" standing for sustainability. It is our guide as an institution to advance our commitment to society and the environment*". (Interviewee 4a)

The existence of specific programmes and services that promote social inclusion, gender equality and support for people with disabilities is also highlighted, as well as the collaboration with external entities to promote social responsibility and community commitment:

> "*I am aware of everything that is done on the social side because I work with my colleagues in Development Cooperation and with those of the Equality Service*". (Interviewee 2a)

> "*Within our Vice-Rectorate we also manage a programme dedicated to the care and support of people with disabilities in the university community, especially students. In addition, we have our own employment centre where we implement various actions that have sustainability as one of their central axes*". (Interviewee 3a)

> "*In the social sphere, the university collaborates with entities such as the Cedat Foundation, which works with people with intellectual disabilities, promoting inclusion*". (Interviewee 4a)

In addition, one of the most relevant institutional collaborations is highlighted, such as the alliance with Valencia City Council to turn the campus into a 'living lab' for decarbonisation:

> "*One initiative that I would like to highlight is our collaboration as a university with Valencia City Council within the European Climate Mission. Valencia was chosen as a climate mission city and the UPV signed an annually renewable agreement to support the City Council with scientific knowledge and innovation, establishing a city-university binomial to work continuously [...] As part of this alliance, the Vera campus functions as a living lab where decarbonisation projects that can be applied in the city are approved. This collaboration has a joint governance structure that makes it easier for us to coordinate as institutions to move towards urban sustainability*". (Interviewee 5a)

EMAS certification, environmental management and institutional coordination respond mainly to ESRS E1 ("Climate change") and E5 ("Use of resources and circular economy2), as well as ESRS G1 ("Business conduct"), as they involve control systems, audits and continuous improvement. The integration of sustainability in the Strategic Plan is aligned with environmental (E1, E5), social (S1, S3) and governance (G1) standards. Social inclusion, gender equality and disability support programmes are particularly linked to ESRS S1 ("Own workforce") and S3 ("Affected communities"). Finally, institutional partnerships and collaboration on decarbonisation and urban sustainability projects relate to ESRS E1 and G1, by fostering innovation, cooperation and shared governance in sustainability.

Regarding the relevance of sustainability for the university, all the interviewees agree that it is a strategic and priority issue for the UPV:

> "*Undoubtedly, sustainability is a highly relevant issue for the UPV. It has been and continues to be a key concept that guides many of our institutional policies, strategies and actions*". (Interviewee 3a)

> "*For me, sustainability is a fundamental issue for the UPV because it represents our real commitment to the future. I always say that we act because we must, because we want to, because we can and because we know how to do it*". (Interviewee 4a)

> "*Note that this Vice-Rectorate, which is now called the Vice-Rectorate for Sustainable Campus Development, was previously the Campus and Sustainability Vice-Rectorate, i.e. the word "sustainability" has appeared in the title of the Vice-Rectorate for several legislative periods, which reflects the great importance that this issue has acquired over time*". (Interviewee 5a)

It is recognised that the university not only complies with the regulations, but also assumes a real commitment to lead the ecological and social transition, positioning itself as a benchmark in sustainable innovation and social responsibility:

Finally, the importance of this relevance being translated into concrete actions and the positive perception of the university community is highlighted, although the need to improve the dissemination and scope of information to achieve greater involvement is pointed out:

> "*The aim is for the university community to know and value what we do. To this end, we encourage participation in short surveys with small gifts, taking advantage of them to inform [...] Although the majority do not know in detail about the Environment Unit or its actions, 94% perceive the UPV as a university committed to this matter. This is confirmed by some 3.000 annual surveys, showing that, although concrete information is lacking, the university's environmental commitment is clearly recognised*". (Interviewee 2a)

The strategic relevance of sustainability for the UPV is mainly linked to the ESRS G1 standard, which addresses governance, the integration of sustainability in the institutional strategy and leadership in ecological and social transition. The university's commitment, beyond regulatory compliance, as well as the existence of a consolidated and well-resourced Environment Unit, reinforce the connection with standards E1 and E5. In addition, social responsibility and the positive perception by the university community are related to ESRS S1 and S3, which address the management of own staff and the impact on the people affected by the organisation's activity. Finally, the importance of improving internal communication and participation also responds to the principles of transparency and accountability in ESRS G1.

With this, the first block shows that at the UPV sustainability is understood as a balance between environmental, social and economic aspects, integrated into management and training. Moreover, the interviewees are well aware of the policies and initiatives, making it clear that sustainability is a relevant and recognised issue in their university community.

The **second block of the analysis** focuses on the university community's knowledge and perception of the CSRD and ESRS Standards, their possible impact on the university and the importance of transparency in sustainability.

Firstly, the level of knowledge about the European Directive 2022/2464/EU (CSRD) and the European Sustainability Reporting Standards (ESRS) is generally limited among the interviewees:

"*To be honest, no, as the evolution of my positions has distanced me from the latest developments of these European regulations. I do know some of their precedents*". (Interviewee 1a)

"*No, I am not specifically familiar with these regulations. In my experience, I have worked on projects related to sustainability, but not with these specific regulations*". (Interviewee 4a)

"*It sounds a bit familiar, although I might be confused. I have heard of some European directives which, I think, have been incorporated into Spanish regulations, probably not so recent, which oblige companies to draw up environmental plans and environmental performance reports*". (Interviewee 5a)

Although there is some familiarity with concepts related to corporate social responsibility and previous regulations, few have mastered the specifics of CSRD and ESRS:

"*Yes, I am familiar with related concepts. At the university we have a Master's degree in Corporate Social Responsibility and, since I joined as Vice Chancellor, we have worked closely with companies that integrate sustainability in a broad sense, not only in environmental and economic aspects, but also in cultural aspects. We also work on other related approaches here, such as Responsible Research and Innovation (RRI), a European initiative that promotes social participation and ethics in research and innovation*". (Interviewee 3a)

"*I've heard about it, but I'm not sure I know it well. I know I've heard something about it, but I don't know if it's related to GRI reporting or corporate social responsibility issues and the like, which I think are the origin of all this. What I do know about is the more voluntary version of these practices*." (Interviewee 2a)

However, the importance of these standards in promoting transparency and standardisation in sustainability reporting is recognised:

"*Yes, I have heard about CSRD and ESRS, and I see their implementation as very positive. To the extent that companies report detailed and transparent information on their actions in environmental, social and governance metrics, transparency will increase, which, in principle, benefits all stakeholders*". (Interviewee 6a)

The limited familiarity with the CSRD and ESRS reflects the need to strengthen training and communication, linking mainly to ESRS G1 on governance and transparency. References to social and ethical responsibility link to ESRS S1 and S3, while recognition of transparency aligns with the general disclosure principles of the ESRS (ESRS 1).

Despite not being directly bound by the CSRD and ESRS, it is perceived that the university could be positively impacted by these regulations:

"*I think it can have a very good impact on the university. We have always adopted sustainability almost as a way of doing things. We have been very demanding and self-demanding in complying with the regulations, so I think that*

something like this can benefit us in terms of guiding our management and giving quality to our activities". (Interviewee 1a)

It is considered that many of the requirements are already met thanks to the certifications and environmental management systems in place, and that the arrival of these directives represents an opportunity to strengthen the institutional culture of sustainability:

"*We already carry out similar actions, and even more far-reaching ones. We have the EMAS environmental label, which obliges us to carry out annual audits, both internal and external, carried out by AENOR. In addition, we draw up an environmental plan and statement reflecting all our environmental actions and their impact on the different areas of the university. So, to a large extent, we are already complying with what these regulations are proposing and, in fact, we are ahead of them*". (Interviewee 5a)

The usefulness of having clear external indicators to measure and improve practices is also valued, although the difficulty of applying these standards in the public sphere is acknowledged:

"*Firstly, I really appreciate the fact that these regulations propose external and measurable indicators, as at the UPV we are very used to working with quantifiable data. The indicators allow us to coordinate and motivate the university community, especially the teaching staff, to make progress in sustainability*". (Interviewee 4a)

Although the university is not bound by the CSRD and ESRS, their adoption can benefit sustainable management by aligning with ESRS G1. Compliance with EMAS certification reflects ESRS E1 and E5 environmental standards, while the use of external indicators reinforces transparency and accountability according to ESRS G1 and ESRS 1.

As for the third objective of this block, it is considered essential for the university to report publicly on its sustainability performance. Transparency is seen as an ethical and legal obligation, as well as a key element to improve institutional trust and legitimacy:

"*It is our responsibility. One of the fundamental principles of responsible research is transparency, i.e. communicating clearly and openly. As a public institution that works with public funds and owes a duty to society, we have an obligation to be transparent and to publish all our actions*". (Interviewee 3a)

"*I understand that a distinction is made between obligation and conviction, but from my experience in the university I have always seen it as integrated. I can't say that one is more important than both, it's not just about complying solely out of obligation or out of conviction, but both motivations offer us the opportunity to move in the right direction*." (Interviewee 1a)

The importance of public reporting on sustainability performance relates directly to ESRS G1, which calls for transparency, accountability and clear communication of institutional actions. In addition, this also responds to the general principles set out in ESRS 1.

In this block it was revealed that knowledge of CSRD and ESRS is limited at UPV, but it is generally perceived as an opportunity to strengthen sustainability at the university. It

is recognised that it can have a very positive impact and that it is fundamental to consolidate the commitment of the entire university community.

The **analysis of the third section** focuses on the sustainability actions and practices developed at the UPV. This section provides examples of actions and initiatives implemented, identifies areas for improvement and analyses the factors that facilitate or hinder the adoption of sustainable practices. It also reviews the university's approach to formal recognition of its work in the field of sustainability and details some of the certifications that the institution has obtained in this area.

Regarding participation in initiatives, all interviewees highlight numerous actions that the UPV carries out in the field of sustainability, giving special importance to the aforementioned EMAS certification. It is mentioned that this certification is maintained by the Environmental Unit, which is in charge of controlling and preventing the environmental impacts derived from university activity. This unit was initially created in 1993 to manage hazardous waste, as well as the control and reduction of the different consumptions generated at the university:

> "*The Environmental Unit was initially created in 1993 to manage hazardous waste, especially clinical waste generated at the university. Over time, its functions have been extended to cover all environmental aspects, including the management of other waste, the control and reduction of pollutant emissions, energy and water consumption, etc [...] This unit is also responsible for maintaining the EMAS certificate, which involves applying an environmental management system based on annual cycles of continuous improvement. Each year, environmental problems are identified and measured, ranked according to their seriousness and improvement targets are set. With these objectives, we analyse the results to evaluate successes and mistakes, using indicators to monitor progress. This process allows us to learn from difficulties and adjust strategies to advance the sustainability of the university*". (Interviewee 2a)

In addition, the university's interest in promoting and motivating sustainable mobility is highlighted, as it is one of the major indirect impacts that negatively affect the carbon footprint generated by the university:

> "*There are other pillars linked especially to mobility, which correspond to scope 3 of the emissions, and which are also key to progress in reducing the carbon footprint*". (Interviewee 5a)

> "*We are concerned about mobility and work to reduce the impact of commuting to campus. We encourage the use of more sustainable means of transport and the responsible use of private vehicles"*. (Interviewee 6a)

The UPV also has a huge installation of renewable energies, especially photovoltaic solar energy, which allows it to achieve goals close to the total decarbonisation of the campus, through the efficient use and self-supply of this energy:

> "*The most relevant initiative in environmental and economic sustainability in which we are involved is the installation and expansion of photovoltaic solar energy generation systems on campus. We currently have one. Megawatt installed and we are working to incorporate a second megawatt, which is a great*

> *step forward in our energy independence and in reducing emissions*". (Interviewee 4a)
>
> "*These are two fundamental pillars for decarbonisation. Indeed, decarbonisation is the main objective and is based on the energy efficiency of buildings and the production of renewable energies, which serves to supply the energy consumption of most facilities. It is also related to the development of green and sustainable infrastructures*". (Interviewee 5a)

As for the teaching area, the university has a curricular environmentalisation plan, which ensures the transmission of knowledge on sustainable matters so that students adopt these competences in their education:

> "*We make sure that curricular environmentalisation is effective, which means that we not only teach students the technical aspects of sustainability, but we also try to get them to really commit to them. In other words, we want them not only to know how to build or act in a sustainable way, but also to want to do it*". (Interviewee 2a)

They are also involved in regional and European programmes, such as the SEED (Sustainable Energy Education) project on renewable energy education:

> "*As principal investigator, I lead the SEED project, which aims to create a regional ecosystem to promote good practices in sustainable education. This project connects the UPV with the Conselleria, secondary schools and the Valencian Association of Renewable Energy Companies, with more than 300 members. For me, it is a project that fosters collaboration in the transition towards sustainability*". (Interviewee 6a)

In the social area, the university promotes actions such as support for international development cooperation through the Development Cooperation Centre and the Social Action Area, which encourages social solidarity in the university community. Inclusion and accessibility initiatives are also promoted, such as those developed by the Cedat Foundation, which works for the integration of people with disabilities, and technological projects aimed at improving the quality of life of vulnerable groups:

> "*The UPV has been a pioneer in social sustainability, especially in caring for people with disabilities. For more than thirty years, we have been developing programmes and technologies through the Cedat Foundation to improve accessibility and inclusion on campus*". (Interviewee 4a).
>
> "*From the vice-rectorate we promote sustainability strategies with a social focus in areas such as culture, heritage, equality and publishing, among others. We also manage disability care and we have our own employment centre, where people with disabilities carry out sustainable tasks, such as the ecological car wash certified by the Environment Unit*". (Interviewee 3a)

The sustainability actions developed by the UPV are mainly related to the environmental standards ESRS E1 ("Climate change"), E2 ("Pollution"), E3 ("Water and marine resources"), E4 ("Biodiversity and ecosystems"), and E5 ("Use of resources and circular economy"), reflected in environmental management, EMAS certification, waste control, energy efficiency, sustainable mobility and the commitment to renewable energies and

decarbonisation. Integration in teaching and participation in educational projects such as SEED are aligned with ESRS S1 ("Own workforce") and G1 ("Business conduct"), as they promote training and responsible management. Social initiatives, such as international cooperation, inclusion, accessibility, and support for vulnerable groups, are linked to ESRS S1 and S3.

On the other hand, several areas of improvement for the UPV were identified, mainly in the transmission of values and knowledge about sustainability to students, which is key to multiplying social impact:

> "*I insist that the key is the transmission of values and knowledge to the students. As a university, our main mission is to offer quality teaching and to train well-prepared professionals, not only transmitting information, but also solid knowledge for their future. We can develop many sustainability initiatives, but if we don't really get that education to the students, we are missing a great opportunity*". (Interviewee 1a)

Others point to optimising water management and moving towards energy self-sufficiency in buildings:

> "*We have room for improvement mainly in the environmental area, especially in water management. As the lawn on campus is large, water consumption is high and there is clear room for improvement, although measures are already being implemented to optimise water use [...] In terms of energy, although we have made progress in installing solar panels, we are still limited in achieving total energy self-sufficiency. The next step is to make each building self-sufficient or even regenerative, so it can manage and generate its own energy and resources independently*". (Interviewee 4a)

In terms of carbon footprint reduction, an improvement is identified in the management of "Scope 3" (indirect emissions associated with external activities, such as commuting to campus, contracted services, food, etc.), which are more difficult to calculate and reduce:

> "*The biggest rest is in managing Scope 3, which includes indirect emissions such as daily mobility, food, staff travel, etc. While Europe focuses on Scope 1 and 2, Scope 3 involves looking at how people get to campus and how they move around, especially teachers. Already more than 60% of students use sustainable modes of transport, but there are still many who commute by car, and this is still a problem. This is why managing Scope 3 well is critical to making progress in the complete decarbonisation of the campus*". (Interviewee 5a)

Factors that facilitate the implementation of sustainable policies include the ability to have adequate funding, access to clear and practical information, institutional support, effective communication and the organisation of participatory activities that involve the university community:

> "*I think a fundamental part is related to funding. Without adequate financial resources, it is very difficult to implement and maintain initiatives. Funding makes it possible to launch innovative projects and ensures their long-term continuity, invest in clean technologies, improve infrastructures and train the university community*". (Interviewee 1a)

On the other hand, the main difficulties are resistance to change, due to internalised habits, lack of awareness or the perception that new measures require more effort:

> "*The main problems come from resistance to change, which is present in any group, but it is more noticeable in Public Administrations. Changing habits always costs and, although improvements are clear, when it involves cutting back or limiting something, it usually generates rejection because nobody likes to lose or reduce benefits*". (Interviewee 2a)

UPV's improvement areas are linked to ESRS S1 to strengthen sustainability training, ESRS E3 and E5 to optimise water management and advance energy self-sufficiency, and ESRS E1 to manage and reduce Scope 3 indirect emissions.

Also, the lack of formal integration of sustainability tasks into staff functions, as well as accessible and well communicated resources that help to better understand what is expected of them:

> "*Often, sustainability tasks are not formally integrated into staff roles, so they are seen as "extra" and generate some resistance. The same happens with teachers, for example, who do not always understand that sustainability should be present in all subjects, not just a specific one, so it is important that these responsibilities are clear and form an official part of the job, avoiding that they depend only on the will of each person*". (Interviewee 2a)

> "*I think what is really needed is accessible and well communicated resources that help teachers better understand what is expected of them and how they should effectively integrate sustainability into their work*". (Interviewee 6a)

Finally, the loss of face-to-face campus life also hinders the transmission of sustainable values among students. This "campus life" refers to the face-to-face experience within the university environment, where students and professors can interact directly and participate more actively in all kinds of activities:

> "*In my opinion, "campus life" has been quite lost. It is essential to bring it back, because it is in this environment that the transmission of values to the student body can really be achieved. The more students are involved in the university, in their faculty, in laboratories or seminars, the easier it will be to transmit these objectives. I don't think it's easy to achieve it just by giving lectures from the computer, it's very complex and requires direct interaction*". (Interviewee 1a)

The factors that facilitate sustainability at UPV (funding, clear information, support, communication and participation) are related to ESRS G1. Difficulties (resistance to change, lack of awareness, formal integration and loss of campus life) are linked to ESRS S1 and G1, highlighting the importance of organisational culture, internal communication and the commitment of the university community.

In terms of university recognition, the university has historically maintained a commitment that goes beyond formal certificates. Although they have not so far considered being part of the "SIR Register" mentioned in previous sections, the university does work to obtain national and international seals and recognitions that value their work in this field:

> "*We are looking for all possible options to obtain recognitions that support our initiatives. We also want to add seals and certifications that reinforce our commitment. At the moment we have not considered applying for this type of registration, but I think it could be interesting to do so in the future to recognise the institution's work as a sustainable entity*". (Interviewee 4a)

The UPV has an extensive list of certifications and recognitions in sustainability, among which the following stand out:

> "*We have many important certificates, among which I would highlight EMAS, along with ISO 14001, and registration in the MITECO Carbon Footprint Register with AENOR audit - including scope 1, 2, 3 -, among many others*". (Interviewee 2a)

It also participates in world rankings for its social and economic impact, ranking among the top two universities with the greatest commitment to responsible production and consumption:

> "*In terms of rankings, I would highlight the "QS Sustainability", where we are among the two hundred most sustainable universities in the world and being the best polytechnic in Spain. We also lead the CRUE Working Group on Environmental Sustainability Assessment and we have been recognised in the Green Good Awards, among many others*". (Interviewee 2a)

UPV's commitment to sustainability by seeking recognitions and certifications is related to ESRS G1 and ESRS 1 disclosure principles, promoting transparency, continuous improvement and reinforcing the credibility of the institution.

Overall, the university demonstrates a strong commitment to carrying out initiatives that position it as a benchmark within the Spanish university system. This is demonstrated by the large number of recognitions it has received, without neglecting the possible areas for improvement that have been assessed.

In the **fourth** and **final block of the analysis** of the interviews, the perception of the role of the university in the promotion of sustainability, the preparation of students in this area and recommendations for improving institutional commitment are collected.

Regarding the first objective of the block, the interviewees agree that the university plays a fundamental role as an agent of social and environmental change. Reference is made to its role in training professionals, generating knowledge and innovation, and being a reference in sustainable practices:

> "*Of course we have a great responsibility, we are a key institution. The UPV trains students who then join the social, economic and business fabric, both in the public and private sectors. Our aim is to prepare these future professionals so that they can offer technical, technological, economic and business solutions. That's why our role is really important*". (Interviewee 6a)

> "*It is fundamental. Every year there are about thirty-five thousand students going out to various sectors, so the responsibility is huge. Sustainability must be present in teaching and research, especially in a technological university like*

> *ours. In addition, the research we do drives social change and provides solutions to current challenges, such as the transition to a more sustainable society*". (Interviewee 2a)

Some emphasise the aforementioned importance of direct contact with students in order to transmit these values effectively, pointing out that online education makes this task more difficult:

> "*I miss more direct contact. It is not the same to have doctoral students or to direct final projects, where the contact is closer, as it is to teach students who you only see for a few days. It is much more complicated there to transmit these values. Even so, I think we are making progress, without a doubt*". (Interviewee 1a)

Others value the importance of alliances with external entities and the use of innovation spaces such as Living Labs to experiment and provide sustainable solutions:

> "*The university collaborates with several city councils through institutional chairs to create policies and strategies that improve people's lives, especially on issues such as energy or ecological transition. We also have Living Labs, which are spaces where sustainable ideas and projects are tested before being brought to "real life", making sure that they really work and have a positive impact*". (Interviewee 3a)

> "*We believe that the experience should be a safe space where new ideas can be tested and experimented with, functioning as an innovation laboratory. That is why we are committed to Living Labs, which already allow solutions and projects to be tested in a controlled environment before being applied outside*". (Interviewee 5a)

Furthermore, the responsibility of the university to be a leader in the transition towards carbon neutrality and to integrate sustainability in all its areas: education, research and management, is highlighted:

> "*The university must serve as a model and reference for society, showing how to integrate sustainability into education, research and daily management. This means training committed future professionals and collaborating with the community and other institutions to promote real and lasting change*". (Interviewee 4a)

The university is key as an agent of social and environmental change, training professionals, generating knowledge and innovating in sustainability. Its leadership in the transition to carbon neutrality connects with ESRS E1. In addition, collaboration with the community and positive impact on affected groups reflect ESRS S3. They also highlight the importance of direct contact with students, external partnerships and Living Labs to drive practical solutions, which relates to ESRS S1 and G1 that reinforce the formative and governance role of the university.

Regarding the preparation of students, the university is seen to be making great efforts to integrate sustainability into curricula and cross-cutting competences:

> "*We are working on integrating sustainability into students' education, especially through the development of transversal competences. These competences include social and environmental commitment, innovation, teamwork and autonomy in learning, and are incorporated in subjects from the first years to master's level, as well as reinforced in internships, final projects and extracurricular activities*". (Interviewee 4a)

> "*To objectify the integration of sustainability, we analyse grade by grade the competences that students need to acquire and which ones are related to environmental sustainability. We then cross-reference these competences with the subjects that work on them to obtain an indicator of the level of 'greening' of each degree programme. This data is sent to the curricula managers to assess whether the level is sufficient to prepare students for the subject*". (Interviewee 2a)

On the other hand, it is also pointed out that the students' perception of this preparation is more critical and tends to be different from that of the teaching staff:

> "*My perception and that of the students are often quite different. The funny thing is that it doesn't coincide with that of the faculty in general either. If you ask university professors, most of them will answer flatly that yes, sustainability is being integrated into education. However, if you ask the student body, the answer is usually no. It is true that sometimes students do not understand that sustainability is being integrated into their education. It is true that sometimes students are not aware of sustainability-related content until they are shown in which subjects it is covered*". (Interviewee 2a)

The linking of academic work with the SDGs and the existence of specialised programmes and chairs that complement formal education is highlighted:

> "*In the TFG, TFM and theses, we ask students to reflect on how their work relates to the SDGs. Although many do not see the connection at first, especially in areas such as art and technology, they discover clear links to the SDGs*". (Interviewee 3a)

> "*I think the UPV is playing a great role thanks to its large number of chairs, both with private and public entities. These chairs make it possible to complement students' training with specialised activities and courses, especially on topics such as ecological transition, energy and new technologies. The UPV currently has more than 100 active chairs*". (Interviewee 6a)

UPV integrates sustainability into education through transversal competences and linkages with the SDGs, in line with ESRS S1 and S3. These standards can also be linked to its use of indicators and the chairs it offers.

Finally, the recommendations point to several lines of action. Among them, it is proposed to encourage the creation of groups of people in the different centres to bring awareness to the entire university community:

> "*I think the most complicated thing in all this is that each area functions quite independently. I would like that, no matter which department we are in, we all*

> *have a clear and common goal and work in the same direction. Although there is a strategic plan, it often seems that it is only taken forward by some areas and there is a lack of real coordination. It would be much better if all services and departments were working together towards the same goal*". (Interviewee 2a)

In terms of institutional commitment and coordination at the university level, the involvement of top management is also fundamental. Collaboration and coordination should be promoted in order to solve the internal fragmentation from the point of view of implementing common policies:

> "*I believe that CRUE could improve its role. I believe that CRUE-Sustainability should function more as an effective channel for transferring European policies to Spanish universities. When the vice-rectors and those responsible for the environment at universities meet, we see that we share many concerns, but that many actions depend on voluntarism. There is a lack of a stronger legislative framework that forces us to coordinate and move forward together*". (Interviewee 5a)

In addition, it is advisable to strengthen training and communication so that the whole community understands the importance of transparency, presenting information in a clear and accessible way:

> "*One recommendation that could be made is that training and understanding of the meaning of these regulations and requests for transparency should be clearer. Transparency is fundamental, and when information is demanded from us, we must present it in a clear way so that society understands it. After all, we work with public funds, not with our own resources, so we have a responsibility to be accountable*". (Interviewee 3a)

Finally, the need to establish mechanisms for continuous evaluation, project renewal and monitoring systems to measure and improve sustainability performance is highlighted:

> "*My recommendation would be to foster a culture of continuous evaluation and renewal of projects and initiatives. It is important for the university to be able to identify when a project or programme is not meeting its objectives or delivering the value it expects, and to act decisively to move towards new proposals that are better suited to current and future needs. This means being flexible and open to changing or adjusting initiatives, without clinging to models or practices that are no longer effective*". (Interviewee 4a)

The recommendations focus on fostering coordination between departments, strengthening institutional commitment and collaboration at the university level, improving training and communication to ensure transparency, and establishing mechanisms for continuous evaluation and renewal of projects. These actions are mainly aligned with ESRS G1, which highlights the importance of governance, transparency and continuous improvement, and also with ESRS S1, by promoting the involvement and awareness of the entire university community.

In conclusion, all the responses reflect that the university has a role to play in promoting sustainability, both in training professionals and in generating and applying this knowledge. On the other hand, the need to advance in the complete integration of

sustainability, to improve internal and external communication, and to establish evaluation systems is pointed out.

6.2 Analysis of the interviews at Turku UAS

The analysis of the information obtained at the Turku University of Applied Sciences incorporates several perspectives which, taken together, provide a comprehensive explanation of the university's position on sustainability. These include the strategic vision from the top management and administration, an analytical and academic approach from the teaching of circular economy and project management, the operational and physical management perspective of the campus, the coordination of policies and actions in the area of sustainability, and the responsible management of sustainable purchasing and procurement.

The **first part of the analysis** focuses on understanding how the interviewees perceive and conceptualise sustainability in the university context. In addition, the aim is to find out their degree of knowledge about the sustainability initiatives and policies implemented at Turku UAS, as well as the importance they attribute to this issue within the university.

With regard to the first objective of this block, the interviewees agree in defining sustainability in the university context as a commitment that encompasses the environmental, social and economic dimensions. This view understands that sustainability is not simply an institutional goal, but a process of transformation that affects all university activities and decisions:

> "*Universities are here to make a better future for all. And a very important part of the better future is sustainable development in almost every possible area, whether it is ecological, social or economic aspects that we have to consider. So I see the university as a kind of change agent in the better direction*". (Interviewee 1b)

> "*We don't see that we have to work and do the things we have always done, but we have to think how to do it in a different way*". (Interviewee 2b)

> "*I see it as the most important thing we can do in the university because, if universities are not the ones doing something for sustainability, then who will do it? We have to be the forerunners*". (Interviewee 4b)

In line with this, it is also emphasised that sustainability translates into a practical commitment that combines student training, collaboration with companies and responsible internal management in the implementation of everyday processes such as purchasing policy:

> "*We try to influence demand so that companies orient their products and services towards the circular economy [...] I see our students as a valuable resource, who can collaborate with companies through projects that promote sustainable development, and then know how to apply this knowledge in real cases when they enter the world of work*". (Interviewee 5b)

Interviewees agree that university sustainability involves environmental (ESRS E1), social (ESRS S1 and S3), and economic/governance (ESRS G1) dimensions, ranging from student training and collaboration with business to responsible internal management of procurement policy and promotion of the circular economy (ESRS E5).

On knowledge of initiatives, all interviewees show familiarity with the existence of policies, guidelines and projects oriented towards sustainability in Turku UAS, although the degree of detail changes due to the positions held by each of them. The direct involvement of the university in regional, national and community networks is highlighted:

> "*We follow all regulations and initiatives that take place at the EU level as well as at the national level in Finland. [...] We are also a member of the Sustainable Development Agreement of the Turku region. [...] The City of Turku has collaborated with about fifty or sixty organisations in this region, and we have made agreements with all of them, on how we can support sustainable development. And we have made a personal plan for us, on how to work on that*". (Interviewee 1b)

Also noteworthy is the network of collaboration between universities of applied sciences on sustainable development, of which Turku UAS is a participant. This network is coordinated through the Rectors' Conference of Finnish Universities of Applied Sciences (Arene) and facilitates cooperation and exchange of good practices through expert groups and thematic subgroups:

> "*We have together with twenty-four universities of applied sciences in Finland a joint programme agreement on sustainability. It was launched in 2020. All universities in the network share common goals and a common agenda, with a commitment to achieve carbon neutrality by 2030 [...] In* Turku UAS *we have adopted a shared leadership model to link sustainability to the main processes of the organization*". (Interviewee 4b)

Regarding this project, it is acknowledged that the difficulties and constant changes in the method of calculating the carbon footprint have led to prioritising transparency and focusing on waste management and improving environmental impact:

> "*We have had to rethink the initial objectives, focusing on greater transparency and improving in areas such as waste management and reducing environmental impact. So far, efforts have focused on controlling the carbon footprint of the buildings, but after optimising this aspect, the next steps are moving to new areas of improvement within sustainability*". (Interviewee 3b)

Turku UAS's involvement in regional, national and European networks, its commitment to carbon neutrality and transparent management of its environmental footprint relates mainly to ESRS E1 and G1. Collaboration with other universities and entities to share good practices also reflects the ESRS G1 principles of governance and sustainable strategy. In addition, its focus on environmental impact reduction and waste management is in line with ESRS E1.

With regard to the third objective of the block analysis, all the interviewees consider sustainability to be a relevant and priority issue for Turku UAS. It is added that it is not only an educational value, but also a social value and a commitment to be adopted as a

university. Despite this, it is also acknowledged that its presence and weight may vary in some areas and groups within the institution:

> "*Yes, within my research group sustainability is a central theme and is actively worked on in related projects, theses and courses. However, I have the feeling that this happens in a kind of "bubble", because when interacting with other areas of the university I perceive that the level of engagement is not always the same. Although in our immediate environment, decisions are made with sustainability in mind, there is room for improvement to make this approach more uniform across the institution*". (Interviewee 2b)

In general, sustainability is perceived to be embedded in the university strategy and identity, especially in terms of resource management and collaboration with the regional environment:

> "*All universities exist only for a better future. We have already seen the many problems related to "non-sustainability", so it is important that our students and staff understand the necessary improvement we must bring in this area. This is why sustainability is much more than our strategy, it is our identity as a university and we need to keep it in mind in our resource management and our collaboration with the regional environm*ent". (Interviewee 1b)

The consideration of sustainability as a priority value at Turku UAS relates to ESRS G1, which calls for the integration of sustainability into institutional strategy and governance. Responsible resource management and collaboration with the regional environment connect to ESRS E1 and S3.

The analysis of this first block shows that Turku UAS has made progress in integrating sustainability into its strategic axis and that it has a clear commitment in its different areas. However, challenges can be identified to consolidate this approach globally: the difference in the level of involvement between departments and the difficulties in measuring certain specific impacts suggest the need to improve internal mechanisms for coordination, communication and evaluation. Despite this, the Turku UAS highlights the importance of combining institutional leadership with the participation of the entire university community to transform sustainability into a practice that is present on a daily basis and serves as a real driver of change.

The **second part of the analysis** focuses on assessing the respondents' level of knowledge and awareness of the CSRD and ESRS Standards. We also want to know their perception of the possible impact of these regulations on Turku UAS, despite not being directly obliged to comply with them, and the importance they attach to the transparency of reporting on sustainability actions within the university.

The interviewees demonstrate, in general, a considerably high level of awareness of the CSRD and ESRS, albeit with nuances depending on their roles within the university. The management team and sustainability officers show familiarity with the concepts and have closely followed the evolution of the standard. It is stated that Turku UAS is one of the universities that is preparing to prepare the corresponding sustainability report for the next financial year:

> "*It was last year when we started talking about this CSRD report, even though we are not obliged to do it. The legislation in Finland says that we are big*

organisations, even though we are not obliged to do this sustainability report, we want to do it". (Interviewee 4b)

"*We follow these standards closely and we strongly believe in the importance of reporting our data in a fully transparent way. In addition to financial information, we include in our reports data on our strategic development and on sustainability, combining both numerical data and qualitative information on actions taken. We also publish performance indicators, such as student and staff satisfaction, graduation rates and our collaborative networks. We try to be as transparent as possible, because we believe that this information is fundamental to our management and leadership*". (Interviewee 1b)

"*We decided, together with the 24 universities in the agreement, to make the sustainability report in accordance with the CSRD Directive, adapting it to the university context. To do so, we started to develop a specific model based on these CSRD principles, which already have their own manual and structure. In addition to the main areas of the directive, our model includes two additional components: an education handbook and an RDI handbook. [...] We want to reflect our commitment to sustainability through the education and research activities we do at the university*". (Interviewee 4b)

The report that the university develops uses specific indicators to assess the integration of sustainability in teaching:

"*In the report we set out how the university assesses the integration of sustainability into studies, through indicators such as the number of compulsory courses and theses on the topic, as well as student feedback on their sustainability learning. It is also considered that if sustainability is present in compulsory internships, we ensure that it is included in the graduates' education*". (Interviewee 4b)

There is an effort to share and update knowledge on these regulations, both internally and externally, through seminars, talks and collaboration with experts in the sector:

"*Last year we carried out a project in which we organised a series of trainings aimed at SMEs to make them aware of these regulations. We hired external consultants who delivered three webinars, as we did not have the in-house expertise to do it directly. Turku UAS is now interested in collaborating on a voluntary basis with other universities to share knowledge on these regulations and develop joint projects. The intention is to work directly with companies in the region and help them to implement these sustainability standards*". (Interviewee 5b)

"*In Turku there is a group discussing European legislation, including CSRD and ESRS, looking at how they affect areas such as universities and how they should be translated into concrete actions within their activities*".(Interviewee 3b)

In the research and teaching groups, CSRD and ESRS are perceived as topics of growing importance, especially because of their impact on student training and collaboration with companies:

"*These topics are very relevant in our research group, with the companies we collaborate with and with students. Companies want to know how to act and report,*

and students are involved in related projects and theses. It is essential to train students to apply this knowledge in their professional future and to support companies in their needs". (Interviewee 2b)

It is also recognised that it is complicated to adapt these standards in some points of the model they have developed for the university, as it is originally designed for companies. One example given in the interview is when identifying the main "product or service" of the university, as the university offers knowledge and not material goods:

"*It is complicated to use the CSRD template directly because it is difficult for us to identify what, for example, our "product" is. In our case, the main product is knowledge. Although, of course, we consume resources such as water and energy, which do generate impacts that we can measure, we do not fit directly into the traditional criteria of the directive*". (Interviewee 5b)

ESRS are applied in several areas: governance and transparency (ESRS G1) is reflected in its reporting and coordination, sustainability training in teaching (ESRS S1), social impact through collaboration with business (ESRS S3) and environmental management by measuring and reducing its footprint (ESRS E1).

In terms of perceived impact, although Turku UAS is not obliged to comply with the CSRD and ESRS at present, interviewees agree that these regulations are influencing the university, both in internal management and in its educational and collaborative function. The role of preparing students for a working environment where these requirements will be the norm, and in supporting companies in adapting to the new requirements, is underlined:

"*We want to prepare students to be knowledgeable in this area and able to work in companies that require these services. We also need to have teachers capable of teaching and supervising the understanding of these concepts, while at the same time working closely with the companies that need the help of this university to write their reports*". (Interviewee 2b)

Management stresses the importance of anticipating possible future obligations, which has led the university to collect relevant information for years:

"*We have been collecting this information for more than ten years, even though it has never been mandatory. Much of this data coincides with the requirements set by EU regulations. We use this information as part of our day-to-day management, considering it a useful tool, not an additional burden. For us it is a positive thing that facilitates decision-making and internal control*". (Interviewee 1b)

"*I think we are prepared because we have been working on this for a few years now, I am sure we will handle it quite well*". (Interviewee 3b)

Also, the impact of these regulations is recognised as going beyond the carbon footprint. Responsible purchasing, importance of biodiversity and the impact of university operations are mentioned:

"*The impact of these regulations goes far beyond the carbon footprint. For example, we have to learn how to calculate and assess our impact on biodiversity,*

which is quite complicated. The carbon footprint is only one part, but how do we actually measure the impact the university has on nature? It is a difficult question because it involves many aspects: from responsible purchasing, to buildings, to food, to travel. Also, many of these impacts are related to global supply chains, which makes it difficult to manage the environmental impact if these parts come from the other side of the world". (Interviewee 4b)

Related to procurement policy, the sustainability reports of companies also influence Turku UAS decision-making. It is explained that they now consider how to use the reports in the purchasing criteria, not only by evaluating the final product, but also by considering the environmental and social impacts that companies report. This allows Turku UAS to define more specific sustainability criteria in procurement processes:

"*At the university we purchase a lot of products and services, such as IT equipment or technology, so we are now thinking about how we can use the information from companies' sustainability reports in our purchasing processes. We are not only interested in the final product, but also in the environmental impact data of our suppliers. This allows us to define more sustainable purchasing criteria and to make better informed decisions*". (Interviewee 5b)

Turku UAS prepares students and teachers to respond to the new demands of the labour market (ESRS S1), supports companies in sustainability reporting (ESRS S3), collects and uses relevant data for decision making and internal control (ESRS G1), anticipating future obligations. The impact of these regulations extends to areas such as carbon footprint, biodiversity and responsible purchasing (E1, E4, E5).

Regarding the importance of transparency, all interviewees agree that it is a fundamental element in the management of the university. Communicating publicly about sustainability performance is not only seen as an ethical obligation, but also as a strategy to reinforce the institution's reputation, attract students and collaborations with companies:

"*We are a publicly funded organisation, so we have to be transparent because we work with taxpayers' money*". (Interviewee 3b)

"*I consider it essential for the university to be transparent about its actions, showing both positive and negative aspects. In addition, transparency is the key to attracting new students as well as collaborating companies, as many candidates and partners at European level value knowing our commitment and performance in sustainability*". (Interviewee 1b)

It was also emphasised that the university must be consistent between what it teaches and what it practices, as well as being self-critical and seeking continuous improvement:

"*It is important that we tell our students we do it ourselves, we have to pay attention to this*". (Interviewee 5b)

"*We should set an example in society and also help our partners to work on similar issues. I think it is our responsibility to try to do our best to promote sustainability and to have as much impact as possible on students*". (Interviewee 4b)

"*The impact we have is very important and we should try to do the best we can. What possibilities do we have to be more sustainable in the development of our work?*" (Interviewee 2b)

Transparency is seen as an essential pillar in the management of Turku UAS, not only for ethical and financial responsibility (ESRS G1), but also as a strategy to enhance reputation, attract students and foster collaborations with companies (ESRS S3). Interviewees stress that the university should be consistent between what it teaches and what it practices (ESRS G1), be self-critical and seek continuous improvement in sustainability (ESRS E1, G1).

The analysis of the second block shows that Turku UAS has taken an active approach to CSRD and ESRS, even though it is not directly obliged to comply with them at present. The level of knowledge and awareness of the interviewees is high and deep, as they have created their own sustainability report. In addition, the integration of other indicators that are adapted to the university context is mentioned, which reflects the institution's willingness to align with European best practices within the field in which they operate. Furthermore, the impact they perceive internally and the importance they attach to transparency in reporting their activities publicly could position Turku UAS as a benchmark for its full commitment to sustainability.

The **third block of the analysis** focuses on identifying the concrete sustainability actions and practices implemented at Turku UAS, as well as on detecting areas for improvement and opportunities for progress in this area. It also seeks to identify the challenges faced by the university in terms of sustainable management, the consideration of achieving formal recognition, and its participation in related rankings and certifications.

Regarding participation in sustainability initiatives, the interviewees agree that the Turku UAS is highly involved in carrying out numerous actions. Between fifty and seventy projects are mentioned in which the university is involved, with the collaboration with the city of Turku to achieve carbon neutrality being one of the most ambitious projects:

"*Together with other organisations, we have established an agreement with the City of Turku to jointly support sustainable development. Turku UAS is part of an ambitious climate project of the city, which aims to reduce carbon emissions below 1990 levels by 2029, coinciding with Turku's 800th anniversary, and to achieve carbon neutrality by 2035*". (Interviewee 1b)

"*Personally, I feel that the most important thing to consider is our impact on nature. We have to set some concrete targets to see what we can do. That is why we have decided to work together with the City of Turku, which has its own plan to combat biodiversity loss*". (Interviewee 4b)

Another concrete example is the campus building itself, EduCity, already mentioned as one of the main Turku UAS initiatives. It is an infrastructure recognised by the highest distinction for excellence in sustainability in building construction and management, "Leadership in Energy and Environmental Design (LEED) Platinum":

"*EduCity is recognised as an environmentally sustainable building. It was, of course, one of the biggest projects carried out at the university, I think it was the first in Finland to meet all the necessary characteristics to be awarded the LEED Platinum certificate [...] Moreover, it is an economic investment that, in about*

twenty-five years, will no longer be a cost and will be able to support itself". (Interviewee 3b)

Of course, it also highlights its "Sustainable Development and Environmental Responsibility programme, which pursues the strategy of generating a positive impact (*handprint*) beyond minimising the ecological footprint, supporting partners and the regional community.

"*So we are supporting other companies and public organisations on their own path to a sustainable future. It's not just about reducing our environmental footprint, but about generating a positive impact - a handprint - that benefits our partners and the regional community. This is of course part of our programme*". (Interviewee 1b)

Furthermore, the collaborative network of universities of applied sciences in Finland, which, in addition to working on sustainability reporting tailored to universities, works in four main areas: education and training, research, RDI, management and competent staff, and carbon footprint:

"*In 2020 we formalised the agreement with twenty-four universities of applied sciences in Finland and have developed a joint programme in sustainability*". (Interviewee 4b)

Lastly, the adoption of an internal purchasing policy at Turku UAS, which guides the procurement process under responsible criteria, such as the circular economy or the extension of the life cycle of products, stands out. These policies also influence areas such as the contracting of external services or the selection of food options at private events, among others:

"*We adopted a procurement policy based on sustainable criteria, which has served to promote responsible procurement. Thanks to the support of the rector, we are now able to consider aspects such as circular economy, life cycle and energy consumption, which facilitates more sustainable decisions*". (Interviewee 5b)

"*Purchasing policies are taken into account to enable us to make decisions in our agreements, for example when outsourcing services*". (Interviewee 3b)

Turku UAS's involvement in sustainability initiatives encompasses emission reduction and carbon neutrality projects (ESRS E1), biodiversity protection (ESRS E4), and sustainable facilities certified as EduCity (ESRS E1, E5). In addition, its focus on positive impact on the community and partners (handprint) reflects its social commitment (ESRS S3). Collaboration with other universities in areas such as education, research and staff management (ESRS S1, S3, G1) reinforces its competence development and innovation. Finally, the adoption of responsible purchasing and circular economy policies (ESRS E1, E5, S3) demonstrate the integration of environmental and social criteria in their internal decision-making and resource management.

Several areas for improvement in sustainability performance are identified. These include reducing the carbon footprint linked to procurement and international travel, which represent one of the main challenges:

> "*Our main problem right now is the carbon footprint generated by purchasing and procurement, as we still cannot ensure that everything we buy is truly sustainable. Also, the footprint generated by travel, especially international travel, is still too high and is another important area where we need to make progress*". (Interviewee 1b)

> "*I think it is important to first question whether travel is really necessary, or whether there are more sustainable alternatives, such as virtual meetings. Sometimes travel is essential, but we should always consider options that reduce our environmental impact. Also, it is not only business travel that is relevant, but also the daily commute to work*". (Interviewee 2b)

With this last idea, another aspect to be improved is mobility. Consideration should be given to how students and staff commute to campus, encourage the use of more sustainable means of transport and implement incentives to facilitate and motivate the university community to adopt these measures, although it is difficult to influence personal habits:

> "*It is difficult for people to follow these guidelines if you don't let them decide, if you impose something to change personal routines, it will be difficult for people to perceive this as something positive and they will see sustainability as something restrictive*". (Interviewee 4b)

Another area for improvement is energy and resource management in buildings. It is recognised that they have made great progress, but that it is essential to intensify support to partners and collaborators to foster a cultural change that will result in more responsible habits throughout the university community:

> "*We have been able to reduce a lot of our emissions in buildings, they now only account for a small part of our carbon emissions, but I think we could do better in this area. We also need to support our colleagues. We talk about fifty or seventy projects that are being done here, but I think by working with local organisations we could improve our handprint, they are an important part of our activity*". (Interviewee 1b)

Difficulty in motivating and actively engaging students is also identified, as they sometimes show some resistance to change:

> "*I think we should do more with the students. I often talk to members of the student union, but somehow we should be able to motivate our students more, even if it is difficult*". (Interviewee 4b)

The sustainability improvement areas identified are mainly related to environmental management (ESRS E1), the promotion of more sustainable mobility when commuting to campus (ESRS E1, S3), the improvement of energy efficiency and responsible use of resources in buildings (ESRS E1, E5). In addition, motivating both students and staff to achieve behavioural changes (ESRS S1, S3).

In line with this suggestion for improvement, the factor that interviewees consider to be the most difficult to implement sustainable practices at Turku UAS emerges. They highlight that the commitment and mindset of students and staff are determining factors

in the success of sustainability practices, although they acknowledge some improvement in recent years:

> "*People's mentality is partly one of the biggest problems. It is difficult to change because we have been used to doing things a certain way for a long time. Many people are afraid of change, which makes it even more difficult to adopt new ways of doing things*". (Interviewee 2b)

> "*Tradition, yes, yes, tradition. Old habits and conservative attitudes make people reluctant to change*". (Interviewee 4b)

In addition, the availability of financial resources and regulations with complex interpretation also represent challenges in the implementation of sustainable practices:

> "*Another important aspect is, of course, money. Sustainability usually implies a bit more cost, so it is necessary to find a balance between the limited resources we have and the optimisation of their use from a sustainable perspective*". (Interviewee 1b)

> "*I think that the interpretation of legislation or standards should be more precise to allow measurable and comparable results every year. If the way of calculating progress is constantly changing, it is not possible to clearly identify the trend and to know if we are really moving in the right direction*". (Interviewee 3b)

Finally, the dependence on external suppliers and the difficulty in achieving the full involvement of the university community, especially in areas such as recycling, also limit progress:

> "*There are also many things that we do not produce internally ourselves and we have many service providers, so we should make sure that they meet the sustainability criteria*". (Interviewee 3b)

> "*Resources are always important, but the key thing is to have a common will to act. That shared will to want to do things right. We need that community spirit, where we are all going in the same direction*". (Interviewee 5b)

The main obstacle is resistance to change and traditional mindsets (ESRS S1, S3). This is compounded by financial constraints, complexity of regulations (ESRS G1), and dependence on external suppliers who must meet sustainability criteria (ESRS E1, S3).

Turku UAS has not formally sought external certification, as it prioritises the development of its own framework adapted to its institutional needs and principles. Existing infrastructure certifications are valued, but the associated administrative and bureaucratic processes are not always considered to bring commensurate benefits. The university is committed to internal effectiveness, coherence in its strategy and continuous improvement:

> "*There are a number of certifications we could apply for, but we don't because they tend to require a lot of work and effort in relation to the benefits they bring us. We consider that we are already at a good level and we prefer to focus on what is really necessary for us*". (Interviewee 1b)

> "*Yes, we have studied these systems, but we have not taken any of them*". (Interviewee 4b)

In spite of this, it has received several awards, especially the certifications for its buildings, such as "LEED Platinum" for EduCity and "Building Research Establishment Environmental Assessment Methodology (BREEAM)" for Lemppari, which position the university as a benchmark in the environmental sustainability of infrastructures:

> "*We are very proud that Educity is LEED Platinum certified and that Lemppari has obtained BREEAM certification. These awards recognise our buildings internationally for their commitment to environmental sustainability and energy efficiency*". (Interviewee 3b)

However, there is no evidence of active participation in international university sustainability rankings or explicit pursuit of additional certifications, reflecting a focus on internal management and community engagement rather than external visibility.

Turku UAS prioritises its own sustainability framework adapted to its requirements (ESRS G1), avoiding external certifications due to their bureaucratic burden. However, it does have recognitions on its buildings that show its good internal management and its commitment to external visibility (ESRS E1, S3).

The conclusion of the third block highlights Turku UAS's commitment to sustainability, evidencing their extensive involvement in projects, although they face some major challenges with the reduction of their environmental footprint, the integration of biodiversity and the need to foster a cultural change in their community. The university chooses to prioritise internal effectiveness and coherence over the pursuit of formal certificates, which consolidates its strategy of continuous improvement and positive impact (*handprint*) on its environment.

In **the analysis of the fourth** and final **block**, key ideas are extracted from the interviews on the role of the university in promoting sustainability, the preparation of students in their professional stage and the recommendations offered.

Firstly, the interviewees agree that the university has a fundamental and multi-faceted role, as its capacity to influence extends to the training of students, collaboration with companies, and society in general:

> "*I think it is quite important, in my opinion and as I perceive it from my research group, what we have been doing with many industries and companies together with students. I think this role is quite important for students to get the knowledge they need and help them develop in their professional future*". (Interviewee 2b)

> "*We do about three hundred and fifty projects with our partners a year and this serves as a tool to promote sustainability. As I said, about a quarter of the projects are directly related to sustainability, but we try to bring sustainable visions to almost all the projects we do*". (Interviewee 1b)

> "*I think we are an important producer of change, and that happens with the help of the students*". (Interviewee 4b)

It is stressed that sustainability should be integrated in all university activities, not only in specific projects, but also in internal management, teaching and research:

> "*The second biggest impact I think we have is in research activities. We have more than two hundred, close to three hundred ongoing, and we also apply sustainability criteria to take these projects forward. We evaluate them to see if they are sustainable or not*". (Interviewee 4b)

> "*For example, I recently spoke to a member of our team who has received a two-year funding to work on recycling manufacturing materials and developing industry-wide solutions for some companies. These kinds of initiatives show that sustainability is not just in specific projects, but that we are looking to integrate them into all areas of the university*". (Interviewee 3b)

As mentioned above, it is considered that the university has to be consistent with the ideas it teaches, so aspects such as logistics, travel and the food offer should be in line with its principles, so that students perceive that the commitment is real and goes beyond the classroom:

> "*Our role is really important, because we have to teach them by example. We have to work along the same lines of what we teach them and improve on logistics, travel, and things we can change to be better*". (Interviewee 2b)

This training effect has an impact that lasts over time, as most of the graduates stay close to the region, which means that the effect of awareness-raising spreads to the local and regional environment:

> "*Our impact is huge for several reasons, we graduate around 2.500 students a year and have around 12.000 students in total here. The effect of the training has a big impact and lasts over time, as most of the graduates stay close to this region, which makes the effect of the awareness-raising spread to the local and regional environment [...] In ten years we will have graduated about 20.000 people, 80% of whom stay in our region to work*". (Interviewee 1b)

Turku UAS plays a key role in educating its students (ESRS S1), collaborating with companies (ESRS S3) and having an impact on society. It integrates sustainable criteria in teaching, research and internal management, seeking coherence between what it teaches and what it practices (ESRS G1).

Regarding the second objective of the block, there is agreement that the university has made progress in integrating sustainability into academic programmes, although it is recognised that there is still room for improvement:

> "*We currently ensure that students receive basic training in sustainable development, and those who wish to can go deeper through additional courses. Even so, I think we could still improve by integrating sustainability more deeply into the academic offer. [...] We hope to move in this direction in the coming years, but for now we have set this basic level to ensure understanding in a general way and to offer the possibility for those who are interested to broaden their knowledge*". (Interviewee 1b)

It is considered that all students, regardless of their discipline, should receive basic and specific training in sustainability, incorporating compulsory content in the subjects taught:

> "*Starting next summer, all students, regardless of their field of study, will have to take a compulsory subject in sustainable development equivalent to five credits. Now, we have differences between programmes in terms of the preparation of students in sustainability, we have worked to make it a subject present from the beginning to the end of their university education*". (Interviewee 4b)

The direct connection with companies and organisations through real projects, seminars and internships is seen as a way for students to acquire applied competences and to understand what the current challenges are in each sector:

> "*We need to work closely with companies and organisations to learn first-hand about their current needs and problems. This allows us to better understand the real needs they are facing and identify what kind of experts we need to train to help them with this*". (Interviewee 2b)

In addition, the need is identified to foster work with different disciplines, reviewing the values that are transmitted in training, to move away from traditional economic growth and competitiveness, and to align education with the principles of sustainability:

> "*Although we seek to be sustainable and responsible, traditional values focused on economic growth and competitiveness still predominate. We need to review and update the way we approach these principles in education and collaborate across disciplines to align the education we provide with sustainability values*". (Interviewee 4b)

The university has made progress in integrating sustainability into its academic programmes, ensuring mandatory basic training for all students and fostering collaboration with companies to adapt teaching to real needs (ESRS S1, S3). Furthermore, it works to ensure that these values are in line with its institutional strategy (ESRS G1).

As a final point, participants suggest that the university should take sustainability as a central objective and not just as a means to other ends. They recommend ensuring transparency in decision-making, promoting a culture of sustainability throughout the community and prioritising the areas of greatest impact in a strategic way, such as transport, logistics, travel, food, etc.:

> "*Sustainable development is a goal in itself. It does not support any other goal, it is a goal in itself for all of humanity. We have to be extremely transparent and consider it from all points of view in our work, so that we give it a chance and also push people in that direction*". (Interviewee 1b)

> "*I believe that we can still do more and that management has a key role to play in this process. It is important that courageous decisions are made, even if they are not always the most popular ones. We must prioritise high impact areas such as transport and travel, and promote this culture in the university community*". (Interviewee 4b)

In addition, the need to continue the sustainability report, identify areas for improvement and develop concrete action programmes, ensuring resources and follow-up to move forward and respond to the growing demands for transparency is highlighted:

> "*I strongly believe that the most important thing is to continue to produce the sustainability report, because it allows us to identify areas for improvement and set clear priorities. Based on the results, we should develop concrete action programmes and focus on the identified objectives, ensuring that what we have at our disposal responds to future demands for transparency*". (Interviewee 5b)

Finally, it underlines the need to foster a shared vision and commitment of the entire university community, promoting collaboration between departments and members of internal teams and external actors:

> "*It is essential to promote a shared vision and commitment of the entire university community, integrating sustainability in all areas and fostering collaboration between departments, internal teams and external actors*". (Interviewee 1b)

Participants recommend ensuring transparency in decision-making (ESRS G1), promoting a culture of sustainability throughout the university community (ESRS S1, S3), and prioritising high impact areas such as transport, travel and food (ESRS E1).

In summary, it shows that the university is perceived as a key change agent in sustainability, having a responsibility to integrate these principles into the education, research and management of the institution.

6.3 Comparison of the results obtained

After the analysis of the interviews and the bibliographical review that determines the specific actions of each institution. The areas covered by each of the ESRS in both universities studied, as well as those that still have shortcomings or require improvement, are checked and compared.

It is important to highlight that, throughout the study, information has been collected from secondary sources (reports, plans, programmes, official documentation, etc.) and from primary sources (answers obtained in the interviews). This differentiation allows us to obtain a more complete and nuanced view of the degree of compliance and areas for improvement of both institutions.

The criteria used to determine the level of awareness and compliance with ESRS standards in both institutions are detailed below. For this purpose, a differentiation has been made into three levels:

- **Compliant (green shading)**: The university clearly and regularly performs what the standard calls for, and there is sufficient evidence in the sources reviewed.

- **Partially meets (orange shading)**: The university has related actions, but they are incomplete, recent or piecemeal.

- **Does not meet (red shading)**: No relevant evidence of actions aligned with the standard has been found.

The assessment of each standard was based on the information collected and analysed in sections “5. Sustainability projects at the Universitat Politècnica de València and the Turku University of Applied Sciences” (see Section 5) and "7. Results and comparison" (see Section 7), where the relationship of the initiatives and policies presented with the ESRS has been identified. In addition, a distinction has been made between information from secondary and primary sources, in order to provide a complete and nuanced view of the degree of awareness and compliance of each university with the standards:

Table 10. Table of conclusions: level of compliance with ESRS standards at UPV and Turku UAS according to primary and secondary sources.

UPV. Secondary sources	UPV. Primary sources	ESRS	Turku UAS. Secondary sources	Turku UAS. Primary sources
Strategic Plan 2023-2027 UPV SIRVE Good Environmental Practices EMAS Certification Centralised energy management	Sustainability integrated in the institutional strategy Leadership and management commitment Participatory governance and specific structures Continuous improvement and planning Transparency and accountability Importance of public reporting	**ESRS 1: General principles**	Sustainable Development and Environmental Responsibility Programme 2024-2030 EduCity Sitoumus 2050	Sustainability integrated in institutional strategy and culture Transparency in reporting and decision-making Use of indicators and internal control Continuous improvement and self-criticism
Strategic Plan 2023-2027 UPV SIRVE (OSOS 1, OREL 6) Good Environmental Practices EMAS Certification Centralised energy management	EMAS Certification Decarbonisation projects Living Lab and partnerships for urban sustainability Centralised energy management Environmental training Sustainable mobility	**ESRS E1: Climate change**	Sustainable Development and Environmental Responsibility Programme 2024-2030 EduCity	Commitment to carbon neutrality Emission reduction and sustainable mobility projects Management and measurement of the environmental footprint Sustainable building certifications (EduCity)

UPV. Secondary sources	UPV. Primary sources	ESRS	Turku UAS. Secondary sources	Turku UAS. Primary sources
Strategic Plan 2023-2027 UPV SIRVE	Waste control and management Actions for energy efficiency and pollutant reduction	**ESRS E2: Pollution**		Waste management and reduction of environmental impact Application of environmental criteria in purchasing
Strategic Plan 2023-2027 UPV SIRVE	Efficient water management Water saving and reuse plans	**ESRS E3: Water and marine resources**	EduCity	Improving resource efficiency in buildings Responsible water management and other utilities
Strategic Plan 2023-2027 UPV SIRVE	Actions in green areas and restoration of spaces Biodiversity initiatives	**ESRS E4: Biodiversity and ecosystems**	Sustainable Development and Environmental Responsibility Programme 2024-2030 EduCity	Biodiversity protection on campuses and projects Participation in restoration and conservation initiatives
Strategic Plan 2023-2027 UPV SIRVE (OSOS 3, OREL 6) Good Environmental Practices	EMAS certification and environmental management Selective waste collection Promotion of circular economy	**ESRS E5: Resource use and circular economy**	Sustainable Development and Environmental Responsibility Programme 2024-2030 EduCity	Circular economy policies in purchasing and internal management Promotion of reuse and waste reduction
Strategic Plan 2023-2027 UPV SIRVE (OINT 4, OREL 8, OVIT 10, OVIT 11, OVIT 12, OVIT 13, OEXC 14, OEXC 15) Good Environmental Practices	Social inclusion and disability support programmes Gender equality Good working environment and participation	**ESRS S1: Own workforce**	Sustainable Development and Environmental Responsibility Programme 2024-2030 EduCity	Basic sustainability training for all staff and students Promotion of sustainable culture and adaptation to change Support for work-life balance and personal well-being
	Responsible purchasing and supplier practices External collaborations	**ESRS S2: Workers in the value chain**	Fair Trade University	Sustainability criteria in purchasing and suppliers Dependence on external suppliers
Strategic Plan 2023-2027 UPV SIRVE (OINT 4, OINT 5, OREL 6, OREL 7, OREL 9, OEXC 15)	Inclusion and support for vulnerable groups International cooperation and external partnerships Positive impact on the community Participation in development projects	**ESRS S3: Affected communities**	Sustainable Development and Environmental Responsibility Programme 2024-2030 Fair Trade University	Collaboration with companies and regional entities Positive impact on the community (handprint) Supporting companies in sustainability reporting Promotion of sustainable mobility and social projects

UPV. Secondary sources	UPV. Primary sources	ESRS	Turku UAS. Secondary sources	Turku UAS. Primary sources
Strategic Plan 2023-2027 UPV SIRVE (OVIT 12, OVIT 13, OEXC 16)	Information and awareness-raising actions Participation in decision-making	**ESRS S4: Consumers and end-users**	EduCity Fair Trade University	Involvement and collaboration with students and companies Coherence between what is taught and what is practised
Strategic Plan 2023-2027 UPV SIRVE (OSOS 2, OSOS 3, OINT 5, OREL 7, OREL 8, OREL 9, OEXC 15, OEXC 16) Code of Good Academic Practices and University Governance	Integrating sustainability into institutional strategy and leadership Governance, transparency and accountability Evaluation and continuous improvement Participation and internal communication Use of external indicators and certifications	**ESRS G1: Business conduct**	Sustainable Development and Environmental Responsibility Programme 2024-2030 EduCity Sitoumus 2050	Governance and transparency Corporate strategy aligned with sustainability Continuous improvement and self-criticism Coordination and participation in networks and alliances Adaptation of European regulations and own framework

Source: Own elaboration based on the information analysed from primary and secondary sources

The comparative analysis carried out between the Universitat Politècnica de València and the Turku University of Applied Sciences allows several conclusions to be drawn about the degree of awareness and integration of European regulations in both institutions, as well as recognising opportunities and areas for improvement, which will be developed in the following section by way of conclusion.

7 Conclusions and future prospects

The main objective of this Final Degree Project was to analyse and compare how the Universitat Politècnica de València (UPV) and the Turku University of Applied Sciences (Turku UAS) approach sustainability and how they prepare for a future in which sustainability transparency and accountability are becoming increasingly important.

The analysis of the legislative and conceptual framework shows that neither of the two institutions is currently obliged to comply with the Corporate Sustainability Reporting Directive 2022/2464/EU (CSRD) nor with the European Sustainability Reporting Standards (ESRS) of the Delegated Regulation 2023/2772/EU, but it is noted that both universities have made significant progress in integrating the principles and requirements of these regulations into their management and strategic planning.

When analysing the level of awareness and knowledge of sustainability and transparency at UPV and Turku UAS, through the analysis of primary and secondary sources, it can be seen that both institutions have given a central role to these values in their operating models and organisational culture. Both have incorporated sustainability as a strategic axis, integrating it in their institutional plans, internal management, teaching and research. In the case of the UPV, although there are numerous projects related to sustainability, the Strategic Plan 2023-2027 UPV Sirve stands out in particular, which represents an important step towards sustainability. For its part, Turku UAS has promoted multiple initiatives, including the development of its own sustainability report model, adapted to the characteristics and needs of its activity and main areas of interest, which allows it to clearly and effectively evaluate and communicate its performance in terms of sustainability.

This high level of awareness has facilitated the implementation of specific actions, from strategic plans to environmental management systems and responsibility policies - among others - that reflect their real commitment to sustainability. The study and analysis of primary and secondary sources shows that both universities clearly meet the general standards (ESRS 1), as well as those related to governance (ESRS G1), climate change (ESRS E1), efficient use of resources and circular economy (ESRS E5), management of own staff (ESRS S1) and the relationship with affected communities (ESRS S3). However, there are differences in the degree of organisation and monitoring of actions, as well as in the integration of some standards.

Despite progress, areas requiring further attention have been identified, such as the integration of sustainability criteria in purchasing and suppliers, which is still at an early stage and without a structured process, referring to ESRS S2. Other actions such as water resource management (ESRS E3) or biodiversity (ESRS E4) are also in the process of being fully developed in both organisations, although a favourable path is being followed. The need to further improve the information and involvement of the entire university community in sustainability initiatives (ESRS S4) is recognised, as well as the need to develop new systems for monitoring and measuring results that can guarantee continuous improvement.

It is recommended to organise in a structured way the integration of sustainability principles of less developed ESRS, especially in relation to value chain and natural resource management. It is also advisable to strengthen training and communication to

involve the entire university community. It is also important to develop more robust evaluation and monitoring mechanisms, as well as to foster collaboration between universities to share good practices.

Some specific strategic recommendations would be, in the case of the UPV, to strengthen training and awareness-raising in sustainability by expanding specialised programmes and integrating these contents in all study plans. Likewise, incorporate sustainable criteria in purchasing policies, supplier management, establishing effective monitoring mechanisms. To encourage participation, it is advisable to promote working groups, volunteering and collaborative projects that involve the entire university community. In addition, it is recommended that collaboration with other universities, public and private entities be strengthened in order to share good practices, as well as to continue supporting applied research and innovation, to facilitate the transfer of sustainable solutions to the productive and social environment.

Turku UAS should continue to make progress in improving environmental and resource management, consolidating practices that reduce its ecological footprint and promote the efficient use of energy, water and materials, in line with its strategic commitment. It is also advisable to study the environmental and social impact of its main activities, using tools such as its recent sustainability report, which can serve as an evaluation and monitoring tool to identify areas for improvement and measure progress. In addition, the university should coordinate and optimise procurement and supplier management processes, integrating sustainability criteria and fostering closer and more responsible relationships in the value chain. To strengthen participation and social engagement, initiatives that actively involve students, staff and external partners in sustainability projects, volunteering and national networks should be promoted.

It should be noted that this study had some limitations. Firstly, the number of people interviewed was relatively small, although the profiles selected were those whose position in the organisation provided relevant and representative testimony. In addition, both the initiatives analysed and the responses collected in the interviews focused on those considered most significant for the objectives of the study, so it was not possible to cover all the actions or perspectives existing in both universities. Therefore, the results should be interpreted as an informed approximation of the degree of awareness, integration and relationship of the ESRS in the institutions analysed.

In conclusion, this analysis reflects the commitment and progress of the UPV and Turku UAS in the integration of sustainability and the principles of European regulations, while pointing out the challenges and opportunities that both institutions must take into account in order to consolidate an even more responsible and transparent management in line with the growing social and regulatory demands in terms of sustainability.

8 Closing chapter

This work has made it possible to compare how the UPV and Turku UAS approach sustainability, showing a proactive integration of the key principles of transparency and accountability, despite not currently being obliged to do so by current European regulations. It has been demonstrated that both institutions have incorporated sustainability in their strategic planning, management and academic activities, highlighting initiatives such as the UPV's Strategic Plan 2023-2027 and Turku UAS's own sustainability reporting model.

The evaluation of the work carried out shows significant progress, especially in areas such as governance, climate action and efficiency in the use of resources, although there are still opportunities for improvement. These include the need to structure the integration of sustainability criteria in procurement and supplier management, to strengthen the involvement of the university community and to develop more robust monitoring and evaluation systems.

The results obtained can be used as a guide for both universities to orient their sustainability strategies, update their internal policies and become a reference for other higher education institutions seeking to align with evolving European standards.

Looking to the future, it is recommended that stakeholder involvement be broadened, longitudinal studies be carried out to assess the impact of the measures implemented, and new ways of integrating sustainability into all areas of the university be explored. It would also be valuable to compare against other institutions and to deepen specific actions, such as biodiversity management or sustainability in the supply chain, to foster continuous improvement.

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11 AI Used

This thesis was originally written in Spanish and subsequently translated into British English using the automatic translation tool DeepL. All the sections of the work have been translated literally from Spanish, thus guaranteeing fidelity to the original content. It should be noted that the only section written directly in English corresponds to the interviews conducted at the Turku University of Applied Sciences, as these were carried out in English.

DeepL SE. (2025). DeepL Translator. [Online]
<https://www.deepl.com/es/translator>

For the transcription of the interviews (see **Section 6.1 and Section 6.2**) and other audio files used in this work, the TurboScribe tool was used. This automatic transcription service, based on artificial intelligence, makes it possible to convert audio and video files to text with high precision and efficiency, thus facilitating the processing and analysis of the information collected in different languages.

TurboScribe. (2025). TurboScribe Transcription Software. [Online]
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Appendix 1. Structured script of the interviews conducted with objectives per thematic block

Introduction:

- **Introduction of the interviewer and brief explanation of the purpose of the interview.**

The purpose of this interview is to gather information for an academic research within the framework of a Final Degree Project (TFG). To this end, the aim is to explore in depth the process of adaptation and awareness of organisations with regard to Directive 2022/2464/EU (CSRD) and the Delegated Regulation 2023/2772 (ESRS).

It will be emphasised that the main objective is to understand the UPV/ Turku UAS perspective on sustainability, exploring how the institution perceives the growing importance of transparency and accountability in this area. It will be stressed that the study does not seek to assess compliance with the CSRD/ESRS (given that they are not directly applicable to universities), but rather to analyse the level of awareness and the actions being taken to integrate sustainability principles into their management and academic programmes, recognising the fundamental role of universities in training future professionals committed to a more sustainable future.

The aim is to understand the starting point of each entity, document their implementation process, assess the impact of the directives on various organisational aspects and identify the best practices adopted. This approach will provide a comprehensive view of the challenges, opportunities and strategies employed by organisations on their way to compliance with these new sustainability regulations, generating valuable information for the analysis and understanding of this transition process.

- **Request for consent to record the interview and use of the information.**
- **Acknowledgement of time and willingness to collaborate.**

Block 1: Perception and knowledge of sustainability (10 minutes)

1. General question: What does the concept of sustainability mean to you in the context of the university? *(Objective: To obtain a personal and spontaneous definition of sustainability.)*
2. Knowledge of initiatives: Are you familiar with any specific sustainability initiatives or policies being carried out at the UPV/ Turku UAS, and could you mention any? *(Objective: To assess knowledge of existing initiatives).*
3. Relevance of Sustainability: Do you consider sustainability to be a relevant issue for the UPV/ Turku UAS and why? *(Objective: To assess the perception of the importance of sustainability for the university).*

Block 2: Awareness of CSRD and ESRS (10 minutes)

1. Awareness of CSRD/ESRS: Have you heard about the European Directive 2022/2464 (CSRD) and the European Sustainability Reporting Standards (ESRS)? *(Objective: To measure the level of awareness of CSRD and ESRS).*
2. Perceived impact: In your opinion, how could the CSRD and ESRS impact the UPV/ Turku UAS, considering that they are not directly bound by these regulations? *(Objective: To assess the perception of the potential impact of the CSRD/ESRS).*
3. Importance of transparency: Do you consider it important for the UPV/ Turku UAS to report publicly on its sustainability performance, and why? *(Objective: To assess the importance of transparency and accountability).*

Block 3: Sustainability actions and practices (15 minutes)

1. Participation in initiatives: Do you participate, or do you know someone who participates in any initiative or project related to sustainability at the UPV/ Turku UAS? *(Objective: To identify concrete examples of sustainability actions and practices.)*.
2. Areas for improvement: In your opinion, in which areas could UPV/ Turku UAS improve its sustainability performance? *(Objective: To identify areas for improvement and opportunities).*
3. Facilitating/difficulting factors: What factors do you consider facilitate or hinder the implementation of sustainable practices in the UPV/ Turku UAS? *(Objective: To identify challenges and opportunities).*
4. University recognition: In relation to its commitment to sustainability, has the UPV/ Turku UAS considered the possibility of obtaining some kind of recognition or certification that accredits its performance in this area, for example, through Law 18/2018 or Decree 200/2022, Register of responsible entities of the Valencian Community (in the case of Spain), or other similar mechanisms at national or international level? Could you comment on the reasons behind this decision? *(Objective: To find out if the university has considered seeking some kind of formal recognition for its efforts in sustainability).*
5. Current recognitions: What recognitions or certifications does the UPV/ Turku UAS currently have in the field of sustainability? Does it participate in international rankings or evaluations related to sustainability? *(Objective: To identify current recognitions and active participation in rankings).*

Block 4: The role of the University and recommendations (10 minutes)

1. Role of the University: What do you think is the role of the UPV/ Turku UAS in promoting sustainability in society? (Objective: To assess the perception of the role of the university as an agent of change).
2. Training of future professionals: Do you think the UPV/ Turku UAS is adequately preparing students to address sustainability challenges in their professional life? How could this preparation be improved? *(Objective: To assess the integration of sustainability in academic programmes).*

3. Recommendations: What concrete recommendations would you make to UPV/ Turku UAS management to strengthen its commitment to sustainability and prepare for a future with greater demands for transparency and accountability? *(Objective: To obtain practical recommendations adapted to the institutional context).*

Closing:

- **Is there anything else you would like to add about your experience with these guidelines or about the future of corporate sustainability?**
- **Thank you for the time and information shared.**
- **Explanation of the next steps in the research process.**

Once the interview is completed, the data collected will be confidentially analysed to identify patterns, trends and differences in policy implementation across participating organisations. The results will be used to produce a comparative report, highlighting challenges, best practices and key insights related to policy compliance. Upon completion of the research, we will be able to share a summary of the overall findings with you and your organisation if you wish. We greatly appreciate your participation and time for this interview".