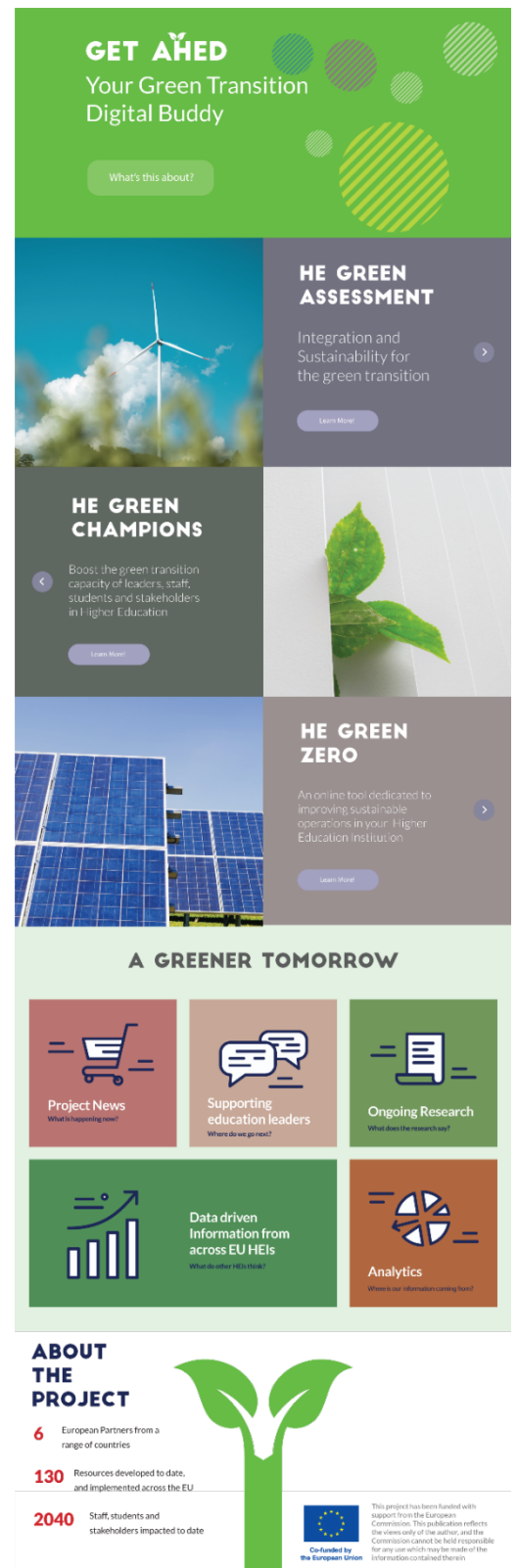![GET-AHED logo]

GET-AHED

Green Education & Transition - A Higher Education Online Digital Buddy

DELIVERABLE D2.1

HEI Green Transition and Sustainability Mapping

31st of January 2024

Basic project information

Project title	**Green Education & Transition - A Higher Education Online Digital Buddy**
Acronym	**GET-AHED**
Project number	**101087248 — GET-AHED**
Start	February 2023
End	January 2026
Website	www.get-ahed.eu
Project team	WPZ Research GmbH, Austria (WPZ Research)
	Universidade de Aveiro, Portugal (UAveiro)
	Munster Technological University, Ireland (MTU Hincks and MTU TEL)
	University of Ruse "Angel Kanchev", Bulgaria (URAK)
	FH Vorarlberg – University of Applied Sciences, Austria (FHV)

Information on the document/report

Dissemination Level:	Public (PU)
Due date of Deliverable:	31 January 2024
Work Package:	WP2
Lead Beneficiary:	UAveiro
Contributing beneficiaries:	All partners
Type:	Report (R) document
Status:	Final version

Table of Contents

1. Introduction

This **Deliverable** presents a data collection on current sustainability plans, aspects and operations related to green transition and sustainability areas within the Higher Education Institutions (HEIs) of the GET-AHED consortium, information on their national and European sustainability legislation (see Section 2), the conceptual framework of WP2 (see section 3), an overview of Sustainable Assessment Tools (SAT) see Section 4, as well as good practices on sustainability in HEIs (see Section 5) and practices of the GET-AHED consortium partners (see section 6).

GET-AHED (Green Education & Transition - A Higher Education Online Digital Buddy) aims to develop **a digital platform developed in consultation with several associate partner EU ministries, HEI representative bodies and an existing European University alliance** which will provide HEIs across EU with a range of online tools to enable them to implement EU's Green Transition, Green Education, and the corresponding Training priorities. GET-AHED therefore acts as a green transition digital buddy for the HE community across the EU. The platform aims to provide a range of tools to allow a multiple of HE stakeholder groups to **promote and develop whole institutional approaches to sustainability** which will focus on:

- Designing, implementing, and monitoring institution sustainability plans.
- Supporting Higher Education leaders, in embedding sustainability into all aspects of the institution's operations.
- Supporting staff and students in promoting greater involvement in sustainability initiatives both internally and externally.
- Designing, implementing, and monitoring approaches related to sustainability operations of a given HEI, particularly with energy and energy related systems.

The final deliverables of GET-AHED will be made available on a user-orientated online digital platform and will be promoted with the assistance of associate partner ministries and HE representative bodies. Ideally, the aim of project partners is to have the online tools and associated training initiatives to become the basis of (or be integrated into) current and future EU led online green transition initiatives. The **GET-AHED digital platform is anticipated to have a reach and impact that will be far greater** than traditional face to face conference, seminar, and other training events. GET-AHED specifically aims to develop the following online tools to be made available on a one stop digital platform to supports HEIs with the green transition.

1.1. WP2 HE – Green Assessment Tool

WP2 is dedicated to the HE-Green Assessment Tool. This WP is led by UAveiro, and all project partners have contributed to it. It aims to develop a tool to support Higher Education Institutions in the assessment of their readiness for green transition and sustainability of the whole institution, focusing on the relevant dimensions and indicators to be addressed.

Users of HE-Green Assessment Tool will have access to data, guidelines and best practices to improve potential weaknesses and gaps within their Institution. To accomplish this goal, WP2 has one main objective, together with three more specific objectives, as described below:

Main objective: The development of a self-assessment tool (HE-Green Assessment Tool) for evaluating the current stage of the institutional practice regarding green transition and sustainability strategies.

And:

Objective 1 (deliverable for reporting period 1: months 1-12): Mapping dimensions and indicators to assess institutional practice regarding green transitions and sustainability strategies, and the collection of best practices according to the identified dimensions of the HE-Green Assessment Tool. These best practices aim to support users in the decision-making and action to improve the level of preparedness of the HEI regarding green transition and sustainability plans and practices.

Objective 2 (deliverable for reporting period 2: months 12-24): The piloting of the HE-Green Assessment prototype by the Associate Partners and Rectories of the HEIs involved in the consortium. Piloting of the self-assessment tool involves a key phase for the optimisation and refinement of the assessment tool to its final version.

Objective 3 (deliverable for reporting period 3: months 24-36): The integration of the final version of the HE-Green Assessment Tool into GET-AHED platform, making it publicly available to users of HEIs in their mission of the green transition and sustainability.

1.2. Consortium short description

The GET-AHED consortium is composed of five partners, coming from four countries, namely:

- WPZ Research GmbH, Austria (WPZ Research) (Coordinator)

- Universidade de Aveiro, Portugal (UAveiro)

- Munster Technological University, Ireland (MTU Hincks and MTU TEL)

- University of Ruse "Angel Kanchev", Bulgaria (URAK)

- FH Vorarlberg – University of Applied Sciences, Austria (FHV)

The geographical diversity of the higher education institutions of the consortium (four in total) and their different typologies (two universities, one technological university and one university of applied sciences) allows the consortium to acquire data from a range of different contexts regarding the current practices of sustainability in Higher Education Institutions.

2. Sustainability initiatives in Higher Education Institutions (HEIs) in the partner countries.

From the conducted research, the current information of the partners' countries regarding their sustainability initiatives, plans, strategies, and recommendations for Higher Education Institutions was analysed, and the following data was obtained.

2.1   Austria

The European Higher Education Area 2020 report, of the Federal Ministry Republic of Austria Education, Science and Research [1] (pp. 44-47), describes a set of good examples in promoting sustainability and sustainable development goals in HEIs in Austria as shortly described below:

- Alliance of Sustainable Universities, founded in 2012, the debates and actions consider research, education, day-to-day operations, and social engagement. There are also dedicated working groups to address specific issues as: i) "CO2-neutral universities"; ii) Mobility and procurement and other topics relevant to the "Green Campus", iii) "Education for sustainable development", (iv) "University management", (v) "Research" and, (vi) "Teaching".

- Climate Change Center Austria (CCCA). It is a research network composed by the most relevant research institutions in the country, that links and supports research into climate change and its consequences. Consequently," *provides society and policymakers with in-depth scientific information – and advice, where required – on climate-relevant topics*" as stated in the report.

- University Colleges of Teacher Education in the ÖKOLOG network. It is an initiative of the Federal Ministry of Education, Science and Research, "*which for the last 20 years has provided support for schools seeking to establish an ecologically sustainable everyday culture, based on the teaching principles of "Environmental education for sustainable development""* as referred in the report.

- Austrian Sustainability Award. As described in the report: "*The Austrian Sustainability Award for universities, universities of applied sciences and university colleges of teacher education has been given every two years since 2008, for pioneering sustainability projects in eight different spheres of activity. There are award categories for teaching and curricula, research, structural integration, student initiatives, administration and management, communication and decision-making, and for regional and international collaborations.*"

- Universities and responsibility for sustainable development – The UniNEtZ project. As detailed in the report, "*The UniNEtZ project aids inter- and intra-university networking and the integration of the SDGs in areas of university life such as research, teaching, student initiatives, management and administration, and aims over the long term to make a significant contribution to sustainable development in Austria. The initiative for the project came jointly from the Federal Ministry of Education, Science and Research and the Alliance of Sustainable Universities in Austria.*".

2.2. Bulgaria

From the Bulgarian "Bulgaria 2030 National Development Programme – Detailed Strategy" [2], and as stated by the European Environment Agency [3], sustainability and sustainable development are important priorities for the government of Bulgaria. Ahead of the EU Presidency of the Council of the European Union in 2018, Bulgaria identified sustainable development as an integral element of its Presidency agenda. The former President Rosen Plevneliev adopted the Bulgarian 2030 Agenda that was based on the United Nations Sustainable Development Goals. A set of priorities and further aligned actions were settled to promote sustainability and sustainable development in education, namely in Higher Education. The implementation of the strategic goals is grounded in targeted policies aggregated into five interconnected and integrated development axes, one of them being the Green and Sustainable Bulgaria that encompasses three National Priorities: i) P4 Circular and Low- Carbon Economy; ii) P5 Clean Air and Biodiversity and iii) P6 Sustainable Agriculture. Higher Education Institutions stand as core-elements for promoting and acting for sustainable development and sustainability, reinforcing the National Priority P1 Education and Skills and priorities P4, P5 and P6. In [4] it is described the areas of sustainability and sustainable development as educational offer in Higher Education as curricula, Masters' courses and doctoral theses related

to renewable energy, energy efficiency, hybrid and electric vehicles. Measures have been taken to increase the knowledge and skills on climate change issues of the teaching staff.

2.3. Ireland

Irish public Higher Education Institutions (HEIs) have the autonomy to govern themselves within an established sectoral framework, guided by appropriate legislation, statutory obligations, collective agreements, and voluntary measures. Additionally, they are required to create and disclose their own statutes, regulations, policies, and procedures related to sustainability. The Irish Universities Association (IUA) [5] considering the urgencies regarding environment and sustainability and the relevant role of Higher Education Institutions for tackling these challenges and policies across their campuses and work, created an IUA Sustainability Working Group to bring together expertise and experts from the IUA universities for the identification, development and implementation of actions adopting a systems-wide approach to sustainability and sustainable development across all IUA universities. Gallagher-Cooke [6] published in Public Policy a set of HEI Policy Actions to embed environmental sustainability in HEIs to tackle the mission of sustainability and sustainable development. Based in within the IUA, CampusEngage is dedicated to supporting Irish higher education institutions to embed, scale and promote civic and community engagement across staff and student teaching, learning and research. In [7], CampusEngage is aligned with the Department of Further and Higher Education, Research, Innovation and Science presenting 7 high level recommended actions as follows:

1. *Higher Education Institutions should have Education for Sustainable Development targeted plans that are ambitious, timely and resourced; as well as being regularly monitored and evaluated for their impact.*

2. *All higher education staff promotional criteria need to include embedding societal engagement across civic, civil society, industry partners to address the UN SDGs.*

3. *Launch Department of Further and Higher Education, Research, Innovation and Science (DFHERIS) Funding Calls to support HEIs to embed associated societal engagement infrastructure across campuses.*

4. *Refine HEA System Performance Framework to better capture data to evidence how higher education is working with government, society, industry partners to implement UN SDGs across teaching learning, skills, research, innovation, human capital, and addressing societal challenges.*

5. *Align Education for Sustainable Development (ESD) policy with ambitions of Horizon Europe FP9 Impact Assessment Framework; Mission Based Calls; Erasmus Plus.*

6. *Invest in updating HEIs data collection systems to better align with Systems Performance Framework needs; this will better prepare HEI to submit data for EU Commission Horizon Europe funding calls and ranking tools, including Times High Societal Impact tool; benchmark best practice; inform budget/ policy decisions.*

7. *Particular attention should be paid to supporting capacity building of staff and students, and the university executive team so that they can drive the institutional agenda for sustainability."*

A particular example is the Campus Living Labs Sustainability project. A two-year partnership project between the Environmental Protection Agency (EPA) and the Irish Universities' Association (IUA). The aim is to provide data to support HEIs' sustainability initiatives and nurture and advance actions that will bring about systemic change in waste reduction and recycling rates on campuses.

Other initiatives and HEIs are fully engaged in the topic, as two projects funded under the "Human Capital Initiative" (HCI) in Ireland also address sustainability, aiming to enable Ireland's higher education system to respond more rapidly to the changes and challenges the country faces. Emphasis can be made on climate action projects under this call: 1) Ireland's Knowledge Centre for Carbon and Climate [8], led by MTU, and 2) Resilient Design Curricula for 21st Century Professionals. Both led by HEIs, with a range of national and commercial partners, aim at the professional development of students, community stakeholders, and those in the workplace to foster the transition to a carbon neutral society.

2.4. Portugal

The Portuguese HEIs were considered on a case study published in 2019 [9], focusing on the sustainability strategies in national institutions. At the publishing date, some conclusions were highlighted, namely universities' actions related to Education for Sustainable Development were not apparently integrated according to a whole-institution approach and the relevance of analysing the strategy and sustainability plans of HEIs to collect the best and good practices in the topic, among other conclusions. Some of the major conclusions are transcribed below:

1. *"As the largest number of codified references in public universities' documents were about integration and environmental education, it might seem that universities were not sufficiently engaged in SD during UN DESD 2005–2014, compared to the terms sustainable or sustainability, which had few references. Nevertheless, at this point some sustainability implementation actions in public universities were found in the documentation. However, outcomes show that the movement has made progress at the university level, with good*

examples and initiatives in several Portuguese universities, notwithstanding the insufficiency of national combined strategies or policies related to ESD;

2.   UN DESD 2005–2014 was not found to be, in itself, a common motivation for implementing university sustainability, as it is not one of the most well-found codified references in universities' documents. Nevertheless, the results show that Portuguese public universities implemented sustainability through different and multiple actions whether under any DCI or not;

3.   Universities' actions related to ESD seemed to have been taken in "isolation" and were not integrated according to a whole-institution approach;

4.   The implementation of ESD at public universities provides insights about (best) practices regarding green campus procedures, which were found in many of the studied universities;

5.   *This study contributed to a country profile for the implementation of sustainability in the HE sector, highlighting the importance of analysing the content of strategic and activity plans of HEIs. The information gathered by this systematic documental analysis is more thorough than that obtained through questionnaire surveys, a tool usually used in this kind of study.*"

A Sustainable Campus Network (RCS- acronym in Portuguese) was created in 2018 in Portugal to establish the cooperation among citizens and Portuguese HEIs for the implementation of sustainable development at environment, social and economic levels. RCS-PT provides a set of resources and links to relevant initiatives as the Higher Education Sustainability Initiative (HESI), the Alliance for Sustainability Leadership in Education (eauc), the Global network of Regional Centres of Expertise on Education for Sustainable Development (Global RCE Network) and a database with sustainable assessment tool (SATs).

3. Conceptual Framework of the GET-AHEAD Tools

Higher Education Institutions play a crucial role in implementing practices for Sustainable Development in a holistic and whole-school approach. This broad and challenging approach means that they should consider and cover all the different dimensions of their activities and mission [11]. According to the United Nations guidelines, followed by several researchers, the integrative approach to implement sustainability in HEIs includes six major European Sustainability Dimensions to allow a whole-school approach: (i) Facilities or Operations; (ii) Teaching and Curriculum; (iii)

Organization Management; (iv) External Community; (v) Research; (vi) Assessment and Communication [11].

The core elements of the Higher Education (HE) Green Assessment Tool (WP2) are organized in six main **Dimensions**: (i) Operations; (ii) Education and Curricula; (iii) Organizational Management; (iv) Community/Outreach; (v) Research; and (vi) Assessment and Reporting (see Figure 1 and 2).

Figure 1: Core elements of the Higher Education (HE) Green Assessment Tool (WP2) adapted from Lozano et al. [23] and UNESCO [25]

These six dimensions form a cohesive and comprehensive framework for a green assessment of a Higher Education Institution (HEI). These dimensions were supported by research conducted on a previous ERASMUS+ Project: EUSTEPs [10] and from Caeiro et al. [11, 12].

Given that the Green Champions tool, being developed in WP3, is following six main European **Modules**, based on the Green Deal Pillars, the Green Assessment Tool need to integrate these modules into its conceptual framework. They are:(i) Climate Action and Emissions Building; (ii) Environment and Circular Economy; (iii) Skills, Education and Training; (iv) Greening Public and Private Finances; (v) Just Transition; and (vi) Research and Innovation (see Figure 2).

The HE Green Zero survey, being developed in WP4, is dedicated to improve sustainable operations, targeting 10 HEIs sectors, namely: (i) Energy consumption, (ii) Water consumption, (iii) Mobility and Transport, (iv) Environmentally sustainable teaching/learning/researching/outreaching, (v) Infrastructure, (vi) Food/Meals, (vii) Materials and Equipment, (viii) Cleaning services, (ix) Assessing and Reporting, and (x) Organizational Management/ Institutional Governance (see Figure 2).

Legend

- HE Green Assessment Tool
- HE Green Champions
- HE Green Zero
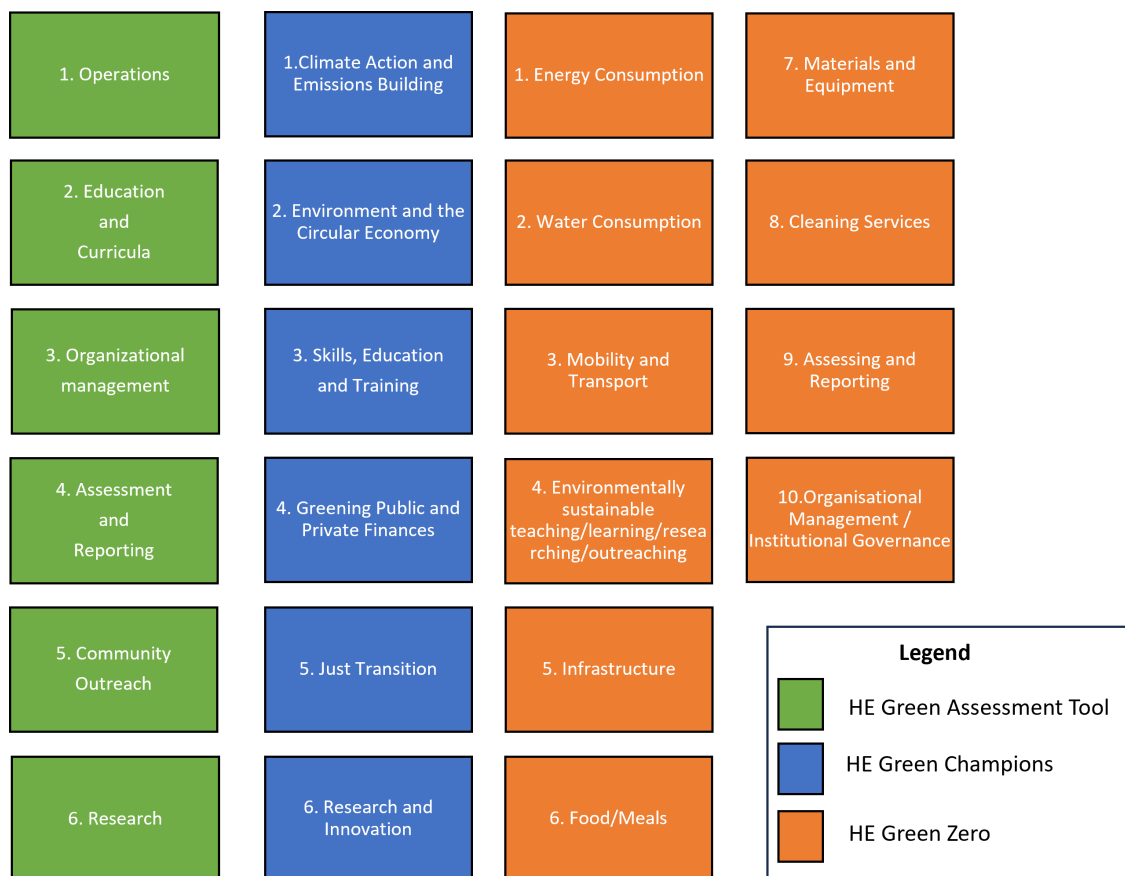
Figure 2. HE Green Assessment Tool (Dimensions), HE Green Champions (Modules) and HE Green Zero (Sectors).

Given that the Dimensions, Modules and Sectors of WP are critically **interrelated** in the work, activities and impacts of HEIs, the project tool should align these in a single conceptual framework (see next section).

3.1 Integrating the HE Green Assessment Tool, HE Green Champions and HE Green Zero

The UAveiro team has proposed the integration of the different Dimensions, Modules and Sectors of GET-AHED work packages into a structured framework, as shown in Figure 3 below.

The initial sectors from the HE Green Zero that are specifically focused on the Operation dimension have been included and two new ones (highlighted below) were considered, based on the work of Mancini et al. [13] and Dawodu et al. [14]: (i) Energy Consumption; (ii) Water Consumption; (iii) **Waste Management**; (iv) Mobility and Transport; (v) Infrastructure; (vi) Food/Meals; (vii) Materials and Equipment; (viii) Cleaning Services; and (ix) **Renature**.

3.1.1 Operation Dimension

Inside the Operations dimension and the Energy Consumption sector, we can identify examples of activities/projects/initiatives of higher education institutions (HEIs) that aim to reduce annual energy consumption. These include, for instance, reducing electricity, heating, cooling, and hot water consumption, as well as promoting energy conversion operations, such as incorporating energy production from various renewable resources.

Within the Operations dimension and the Water Consumption sector, we can find examples of University activities/projects/initiatives aimed at integrated sustainable water management, which will allow university campuses to simultaneously address issues of water quantity (consumption and wastewater) and quality, conserving and collecting water (rain) management, making efforts to protect water quality.

Inside the Operations dimension and the Waste Management sector, we can come up with examples of HEI activities/projects/initiatives that promote infrastructure development, including waste management and collecting data on waste generation.

Within the Operations dimension and the Mobility and Transport sector, we can provide examples of HEI activities/projects/initiatives aimed at achieving a sustainable modal split of commuting to and from the HEI for teaching, research or administrative purposes.

Inside the Operations dimension and the Infrastructure sector, we can identify examples of university's-built environment that measures the sustainability performance of buildings.

Within the Operations dimension and the Food/Meals sector, we can find examples of food provided either directly by a specific university service or by a third-party service provider subcontracted by the university to feed its population on university property in support of a sustainable food system, and may be served in canteens, restaurants, cafes, dining halls, or any other location where the University provides food.

Inside the Operations dimension and the Materials and Equipment sector, we can find examples of data on the use of university funds to purchase specific categories of materials and equipment during the reference year.

Within the Operations dimension and the Cleaning Services sector, we can provide examples of data on cleaning services in all university infrastructures, either provided directly by a specific university unit or by a third party subcontracted by the university for such services.

And finally, inside the Operations dimension and the Renature sector, we can identify examples of environmental sustainability aspects such as biodiversity, green and blue spaces, air quality and

emissions surrounding the campus, from the operational level to include larger aspects management functions.

3.1.2 Education and Curricula dimension

Within the Education and Curricula dimension, one sector from the HE Green Zero was considered, namely Environmentally Sustainable Teaching/Learning, which matched perfectly with the Module of Skills, Education and Training from HE Green Champions, and we can find examples of how universities can properly integrate sustainability concepts into all academic disciplines and improve sustainability awareness among students and staff through academic courses, graduate programs, sustainability literacy assessment, campus as a living laboratory.

3.1.3 Organizational Management dimension

Within the Organizational Management dimension, one sector from the HE Green Zero was considered, namely the Environmentally Sustainable Organizational Management/Institutional Governance, and we can identify examples of developing sustainability plans and engage stakeholders in governance and have human resource management programs. Higher education campuses are important test beds and leadership sites for various types of sustainable solutions. Inclusive and participatory governance.

3.1.4 Assessment and Reporting dimension

Similarly, within the Assessment and Reporting dimension, one corresponding sector from HE Green Zero was considered, namely Environmentally Sustainable Assessing and Reporting, and we can provide examples assessment focuses on sustainability values, behaviours and beliefs, and may also address awareness of campus sustainability initiatives.

3.1.5 Community Outreach dimension

Within the Community Outreach dimension, one sector from the HE Green Zero pillar was incorporated, namely Environmentally Sustainable Outreaching and we can find examples of how support sustainable communities in the surrounding area by developing relationships. International cooperation and international students.

3.1.6 Research dimension

Finally, within the Research dimension, one sector from the HE Green Zero was also integrated, namely Environmentally Sustainable Researching, and we can identify examples of how

sustainability research focus on pursuing sustainability in universities and campuses, focus on sustainable policies, as well as issues of sustainable energy, economics, and technology.
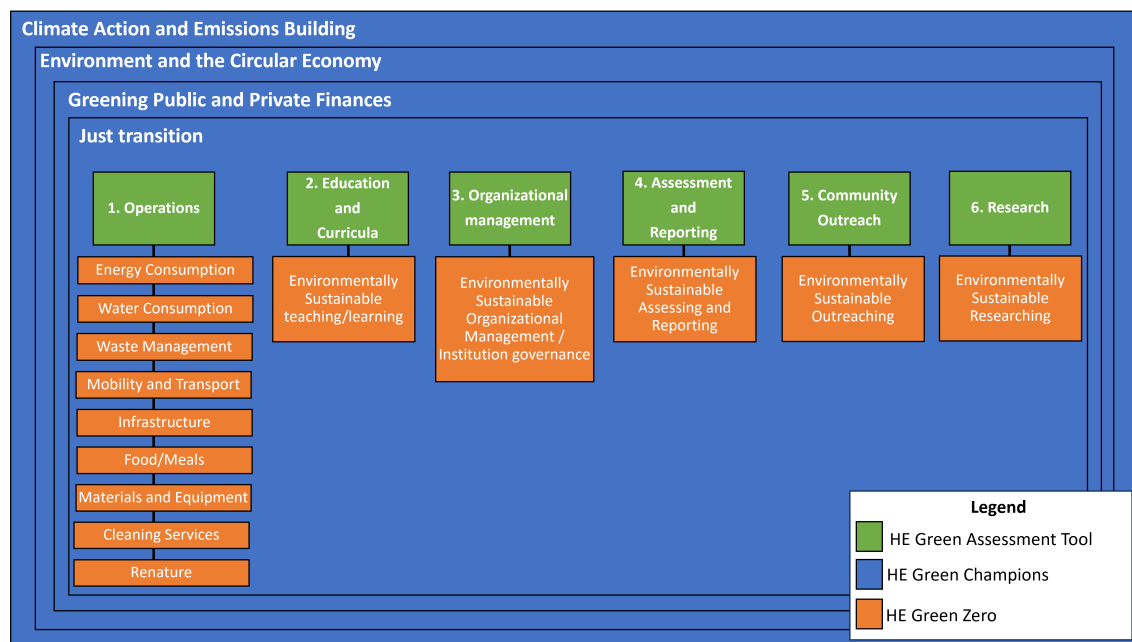
Figure 3. Conceptual Framework of GET-AHEAD tools: integrating the HE Green Assessment Tool, HE Green Champions and HE Green Zero

All the above six Dimension of HEI are now aligned to contribute in an integrated way to the four Modules of WP3 (Green Champions): (i) Climate Action and Emission Building; (ii) Environment and Circular Economy; (iii) Greening Public and Private Finances; and (iv) Just Transition.

These relationships consider a holistic perspective of HEIs work and activities, ensuring a comprehensive approach across all facets of their missions. In this way, the GET-AHEAD project is supported by a conceptual framework able to transform HEI for Green Education and Transition: the GET-AHED conceptual framework (Annex I).

After setting the GET-AHED conceptual framework, a literature review was carried out to describe and facilitate the understanding of the Dimensions, Modules and Sectors as well as to gather information on the criteria, indicators and variables that are critical. This assessment was based on different current Sustainability assessment tools for HEI, providing an in-depth concept and knowledge of indicators and data that are considered in these tools. Three studies were selected according to their contributions in the field. A summary of their importance is detailed below:

(i) The Roadmap for Universities [15] highlights four key areas for universities to focus on during the green transition: Research & Innovation, Education & Students, Staff & Operations, and Public

Engagement & Societal Impact. It emphasizes the need for broader reforms and cultural changes beyond green initiatives. The roadmap assesses the current state of each area, provides a direction for transition, and suggests actions for both universities and the EUA. It also identifies catalysts - interdisciplinarity, collaboration, and a commitment to equity, diversity, inclusion, and belonging - that cut across these areas.

(ii) In Mancini et.al. [13] it details how each dimension can be measured, by quantitative and/or qualitative procedures (scales). They developed an EUSTEPs University Footprint Calculator, an accessible digital tool for HEIs to monitor and manage operations, in particular consumption of natural resources and ecosystem services. Using the Ecological Footprint (EF) accounting methodology tailored for HEIs, the calculator allows institutions to track resource use related to educational, research, and community activities which promotes sustainability by assessing resource efficiency, improving sustainability and contributing to Sustainable Development Goals 11, 12 and 13.

(iii) Finally, Dawodu et.al. [14] highlight a detailed description of Campus Sustainability Assessment Tools (CSATs), analysing their advantages and limitations. First, for each dimension and subcategory, it is bringing the conceptualization of each, also examples of best practices in HEI, the critiques of the researchers about the gaps found, the percentage distributions of the coverage of the dimensions and subcategories and finally, possible solutions for each problem presented.

These three studies address the connection between dimensions, best practices and a range of sustainability assessment tools, integrating and connecting these areas to ensure the green transition of universities across sustainability.

4. Overview of existing Sustainable Assessment Tools (SAT)

From the start of the GET-AHED project, 1st February 2023, research was conducted to revise and analyse data on the existing SATs for Higher Education Institutions at the international level.

A total of 76 SATs were identified from the literature review [11, 14, 16-24, 27-29] and they are presented below in Table 1, in alphabetical order.

Table 1. SATs for Higher Education Institutions at the international level identified.

#	Name of the SAT	Acronym	Year
1	American College & University Presidents' Climate Commitment	ACUPCC	2006
2	Audit family-friendly university	AFFU	2002
3	Assessment Instrument for Sustainability in Higher Education	AISHE	2000
4	Adaptable Model for Assessing Sustainability in Higher Education	AMAS	2014
5	Rectors' Conference of Finnish Universities of Applied Sciences carbon footprint calculator	Arene	n/a
6	Academic Ranking of World Universities	ARWU	2003
7	Assessment Standard for Green Campus	ASGC	2019
8	Assessment System for Sustainable Campus	ASSC	2007
9	Assessment of University Sustainability Policies	AUSP	2009
10	Benchmark Indicator Questions - Alternative University Appraisal	BIQ-AUA	2014
11	Basic Sustainability Assessment Tool	BSAT	n/a
12	Business School Impact System	BSIS	n/a
13	Campus Ecology	Campus Ecology	n/a
14	Canadian Center for Policies Alternatives Missing Pieces	Canadian Center for Policies Alternatives Missing Pieces	n/a
15	Campus Environment	CE	2011
16	ClimCalc – CO2Accounting Tool	ClimCalc	n/a
17	Conference of Rectors of Spanish Universities	CRSU	n/a
18	Campus Sustainability Assessment Framework	CSAF by SYC	2009
19	Campus Sustainability Assessment Framework Core	CSAF core	n/a
20	Campus Sustainability Assessment Review Project	CSARP	n/a
21	College Sustainability Report Card	CSRC	n/a
22	Campus Sustainability Selected Indicators Snapshot	CSSIS	n/a
23	Campus Sustainability Selected Indicators Snapshot and Guide	CSSISG	n/a
24	Red de Ciencia, Tecnologia, Innovacion y Educación Ambienal em Iberoamerica	CTIE-AMB	2014
25	Driving Force-Pressure-State-Exposure-Effect-Action	DPSEEA	n/a
26	German Commission for UNESCO	DUK	2011
27	Ecological Footprint for Educational Institutions	EFEI	n/a

28	Environmental EMS Self-Assessment	n/a	1996
29	Education for Sustainable Development and Global Citizenship	ESDGC	2012
30	Enhancing Universities' Sustainability TEaching and Practices	EUSTEPs	n/a
31	Flexible Framework Sustainable Assessment Tool	FFSAT	n/a
32	Graphical Assessment of Sustainability in Universities	GASU	2006
33	Good Company's Sustainable Pathways Toolkit	GC	2001
34	Gemeinwohl Matrix/Bilanz	n/a	n/a
35	Graz Model for Integrative Development	GMID	n/a
36	Green Plan	GP	2010
37	GPGT	GPGT	n/a
38	GRC	GRC	n/a
39	Greening Campuses	n/a	n/a
40	Global Reporting Initiative Modified for Universities	GRIMU	n/a
41	Higher Education 21 or Higher Education Partnership for Sustainability	HE21	2001
42	Higher Education Funding Council for England's Strategic Review of Sustainable Development in Higher Education in England	HEFCE	2008
43	Innovación y Educación Ambiental en Iberoamérica	IEAI	n/a
44	Indicators Snapshot Guide	n/a	n/a
45	Maclean's Magazine Annual Guide to Canadian Universities	n/a	n/a
46	National Wildlife Federation's State of the Campus Environment	NWFSCE	n/a
47	Ökologisches Projekt für Integrierte Umwelttechnik	ECOPROFIT (transl)	1991
48	People & Planet University League	P&P	2007
49	Performance Sustainability	n/a	n/a
50	Princeton Review's Green Ratings	PRGR	n/a
51	Pacific Sustainability Index	PSI	2011
52	Penn State Indicator Report	PSIR	1998
53	Sustainability Assessment of Food and Agriculture Systems	SAFA	n/a
54	Sustainability Assessment Questionnaire	SAQ	2001
55	Sustainable Campus Assessment System	SCAS	n/a
56	Sierra Club's Cool Schools	SCCS	n/a
57	Sustainable Development Advisory Group	SDAG	n/a
58	Sustainability Leadership Scorecard	SLS	2016
59	Sustainable Pathways Toolkit	SPT	n/a
60	College Sustainability Report Card	SRC	2010
61	Sustainability Tracking, Assessment & Rating System	STARS	2010
62	Sustainability Tool for Auditing University Curricula in Higher Education	STAUNCH	n/a
63	Sustainability Literacy test	Sulitest	n/a
64	Sustainable University Model	SUM	2006
65	SusHEI	SusHEI	n/a
66	Program Sustainable Assessment Tool or PSAT	SustainTool	2013

67	Times Higher Education Impact University Ranking	THE	2019
68	The Guardian's Green League	n/a	n/a
69	Toolkit -Greening Universities	n/a	2014
70	Three Dimensional University Ranking	TUR	2009
71	Uncertainty-based quantitative assessment of sustainability for HEIs	uD-SiM	2011
72	University Environmental Management System	UEMS	2008
73	UI Green Metric	n/a	2010
74	University Leaders for a Sustainable Future	ULSF	n/a
75	University Sustainability Assessment Framework	UniSAF	n/a
76	Unit-Based Sustainability Assessment tool	USAT	2009

The next step focused on selecting specific SATs that can account for a holistic approach, and with the following conditions [23], [24]:

"*i) Tools that were specifically developed for assessing the performance of sustainability implementation in HEIs.*

ii) Tools covering at least two of the seven core elements of sustainability implementation in HEIs, adopted from the studies of Lozano et al. and Findler et al., [23] and [24] respectively: governance, education, research, outreach and collaboration, operation, on-campus experience, and assessment and reporting.

iii) Tools covering at least two of the sustainability dimensions (environmental, social, economic, academic, and institutional), to guarantee that the tools, in some way, were based on a holistic and whole-university approach.

iv) Tools that are, to a large degree, indicator-based assessment tools, which means that they are more easily measurable and comparable."

This integrative exercise resulted in the identification of twenty-seven holistic sustainability assessment tools that are relevant, with highest citation frequency, and specifically designed for higher education institutions [11], as illustrated in Figure 4.
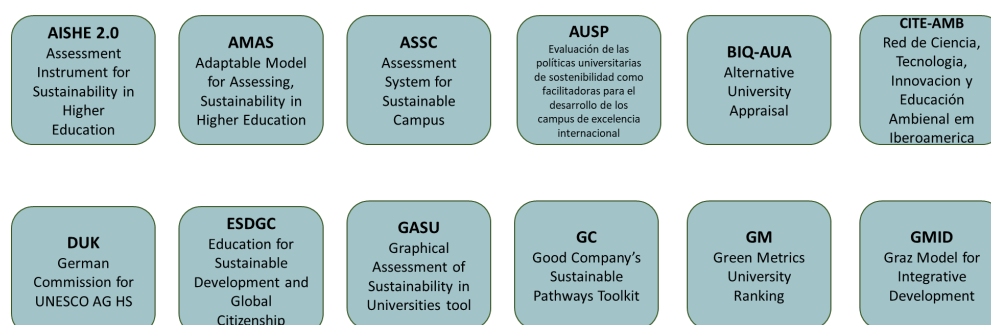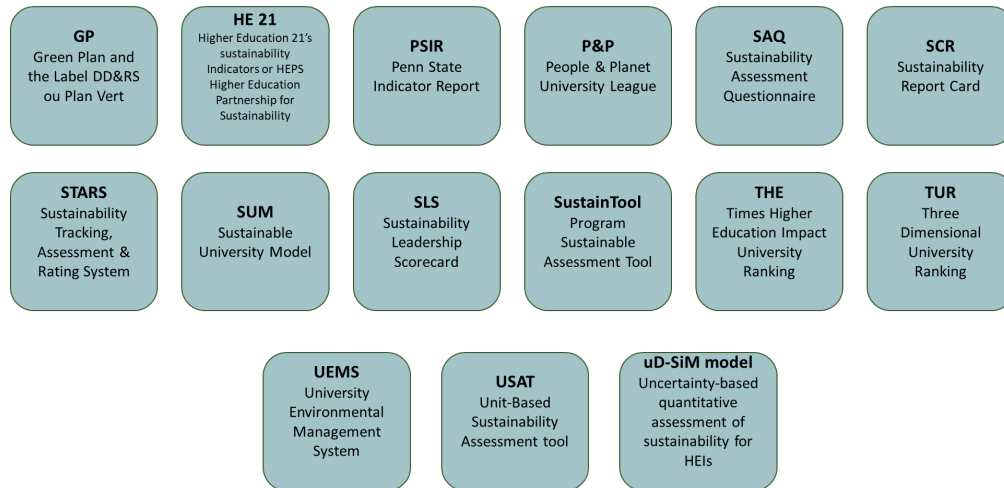
Figure 4: Twenty-seven Holistic SATs for HEIs

4.1   Most common issues present in Holistic SATs for HEIs

The work of Dawodu et al. [14] and Du et al. [18] (with a focus on application in China) have comprehensively reviewed indicators and dimensions to consider when designing and assessing sustainable campuses. They provide an extensive analysis of 15 Holistic SATS for HEIs (namely, PSI, GASU, AISHE, ASSC, USAT, AMAS, P&P, STARS, SUM, Toolkit, SAQ, ASGC, SusHEI, CSAF Core and GM).

From these works, a deeper analysis of emphasis by grouping indicators into issues and then grouping issues into topics resulted in a total of 1051 indicators that were clustered into a number of topics and issues under each dimension. This resulted in a total of 44 themes, 148 issues related to different SATs, and 11 "unique issues" identified in a particular SAT.

With regard to the central dimensions identified in the last section and the groups of topics and questions per dimension mentioned, it can be seen that some of these indicators, dimensions and questions have a greater potential to be aligned with the context and objectives of the project adopted by GET-AHED, which will be analysed in depth in the next steps of this WP2.

In Annex II, adapted from [17], it is provided a detailed list of the referred issues, distributed across the following dimensions: Governance; Operations (subdivided on Environmental, Social, Financial categories); Education; Research; and Engagement (subdivided on Campus, and Public categories), with the corresponding aggregated issues.

5. Good practices on sustainability in Higher Education Institutions

In order to gain a deeper understanding of the interrelationships between the dimensions, modules and sectors of the HE Green Assessment Tool, HE Green Champions and HE Green Zero, a literature review was conducted to collect examples of sustainability best practices in HEIs across Europe.

Initially, a significant number of examples were extracted from the European University Association) [15] guidelines, providing a substantial base. A further round of online research was then conducted to ensure comprehensive coverage and to enrich the content of these links. This included exploring the official websites of prominent universities such as Boston University, Ghent University, University of Zurich, and others, as these universities present successful and contextualized sustainability initiatives.

It is possible to say that sustainability examples of best practices covering all the Dimensions were found, namely: (i) Operation – Energy consumption and Cleaning Services; (ii) Education and Curricula - Environmentally Sustainable teaching/learning; (iii) Organizational management - Environmentally Sustainable Organizational Management/ Institution governance; and (iv) Research - Environmentally Sustainable Researching. A summary of the findings can be seen in Annex III.

6. Practices of GET-AHED consortium partners

The GET-AHED consortium is composed of four HEIs, as described in Section 1.2. Data was collected from the contribution of each Institution and based on the following questions: i) SAT used, ii) SAT website or reference, iii) Target-Groups, iv) Type of user(s), v) Type of deliverable(s). From all collected data, the general information obtained can be summarized as follows.

SATs used by the HEIs and their network partners:

- **Audit family-friendly university**. This approach is a philosophy and strategy, which systematically anchors family-friendly working and study conditions in the organization, its culture, instruments, and communication, which ensures a high degree of penetration, enables a critical review of the effectiveness of the measures and the adaptation of existing measures. Link: https://www.berufundfamilie.de/auditierung-unternehmen-institutionen-hochschule/audit-fgh

- Environmental management approach of the **environmental program "ÖKOPROFIT" and the corresponding certification**. It is a cooperation project between the regional economy, the public administration and experts. The aim is to reduce emissions in the company,

conserve natural resources, increase eco-efficiency and raise awareness of the environment and sustainability. https://www.oekoprofit.info/%C3%B6koprofit

- **Turn to zero** - carbon footprint calculator/report (not only for universities, also for companies, etc.). Link: https://www.turntozero.com/en/

- **ClimCalc – CO2Accounting Tool**. ClimCalc is an Excel-based tool to create a carbon2footprint. The tool was specially tailored for educational institutions but can be used by various organizations.

- Link: https://klimaneutralität.boku.ac.at/en/projects/climcalc/

- **Gemeinwohl Matrix/Bilanz** – The matrix describes the content of 20 common good issues and provides guidance on how to evaluate them according to common good standards, leading to a common good balance sheet. The matrix can be used by a wide range of organisations; a separate guideline is available for HEIs.

- Link: https://austria.ecogood.org/bildungseinrichtungen/

Other SATs applied:

- o THE Impact (presented above)
- o Association of University Estates Directors – Sustainable Leadership Scorecard:
  Link: https://www.sustainabilityleadershipscorecard.org.uk/login
- o QS Sustainability (presented above)
- o UI Green Metric (presented above)
- o Arene – the Rectors' Conference of Finnish Universities of Applied Sciences carbon footprint calculator. https://www.arene.fi/julkaisut/arenen-hiilijalanjalkilaskuri/
- o Maturity levels of sustainability in Finnish Universities of Applied Sciences (target: all Universities of Applied Sciences in Finland).
  Link:https://www.arene.fi/wp-content/uploads/Raportit/2023/Maturity%20levels%20of%20sustainability.pdf?_t=1683725484
- o EUSTEPs (presented above)

It was also identified a set of initiatives/procedures towards the green transition as described below:

- Waste materials from laboratories are collected and given to special firms.

- From 24 December to mid-February there are no classes with the students, for heating energy saving.

- July and August are the months when university strongly ask not to come to the university premises – then dramatically reduces the energy for cooling the buildings.

- On academics' business trips with personal vehicles, it is asked to be at least 2 or more people in one car. It is up to the user to choose if to use a car or a public transport (bus/train).
- Research in energy efficiency, green economy, waste management, etc.
- Bachelor, Master, and PhD programs addressing sustainability and sustainable development.
- "Climate Action Roadmap" [30] is available at the institutional level.

Conclusions

The current summary report collects and organizes all the information gathered and researched regarding the current practices from the GET-AHED consortium Higher Education Institutions as well highlighting some of the relevant initiatives at the National level of the involved countries (Austria, Bulgaria, Ireland, and Portugal) related to sustainability in Higher Education Institutions. Independently of the used SATs, and/or implemented procedures according to each HEI's context and National legislations, sustainability and green transition are strategic and relevant areas of intervention for Higher Education Institutions.

The summary report also describes the research on existing Sustainable Assessment Tools for Higher Education Institutions, especially those considering holistic approaches. This effort in compilation and systematization was carried out in order to obtain a preliminary (although robust and detailed) database on the current SATs, together with the identification of the corresponding dimensions and indicators involved. It was evidenced that a consensual set of six core-elements of dimensions are transversal to the most used SATs in HEIs, from which the GET-AHED instrument can be based. The clustered issues, and consequent indicators, are also relevant for deeper research on the current needs and gaps about qualitative and quantitative indicators, aligned with the needs of HEIs in supporting the green transition and according to each context and organizational structure, within their respective ecosystems.

Finally, a thorough review of relevant projects has been conducted to develop an appropriate methodology for formulating indicators. The summary report provides insights into the intricate development and alignment of the basic structures of three different tools (WP2, WP3 and WP4), with particular emphasis on the derivation of dimensions and indicators essential for the establishment of the GET-AHED self-assessment tool.

The upcoming initiative will be characterized by a collaborative exchange with pilot HEIs, fostering a dynamic and informed approach to the development of the tool.

References (APA 7th)

[1]   De Pasqualin, S., & Eichhorn, K. (2020). *Report on the implementation of goals and priorities of the european higher education area in Austria - EHEA Implementation Report*. Austrian Federal Ministry of Education, Science and Research Minoritenplatz 5, Vienna, Austria.

[2].   Republic of Bulgaria. (2020). *National Development Programme BULGARIA 2030*. Retrieved from https://www.minfin.bg/en/1394

[3]. European Environment Agency. (2020). *Bulgaria country profile - SDGs and the environment*. Retrieved fromhttps://www.eea.europa.eu/themes/sustainability-transitions/sustainable-development-goals-and-the/country-profiles/bulgaria

[4].   United Nations. (2020). *Voluntary National Review on Sustainable Development Goals*. Retrieved from https://sustainabledevelopment.un.org/content/documents/26290VNR_2020_Bulgaria_Report.pdf

[5].   Irish Universities Association. (2024). *Climate and Sustainability*. Retrieved from https://www.iua.ie/ourwork/sustainability/

[6].   Gallhagher-Cooke, M. (2023). *Higher Education Institution policies in the Climate and Ecological Emergency*. Retrieved from https://publicpolicy.ie/environment/higher-education-institution-policies-in-the-climate-and-ecological-emergency/#_edn19

[7].   Ireland Government (2021). Campus Engage Submission – Public Consultation Response Development of the Second National Strategy on Education for Sustainable Development to 2030. Irish universities association. Retrieved from https://www.gov.ie/pdf/?file=https://assets.gov.ie/227432/d72588e6-cdc7-4c89-9592-5b9d962351f3.pdf#page=null

[8].   IKC3. (2023). Ireland's Knowledge Centre for Carbon, Climate and Community Action. Retrieved from https://ikc3.ie/

[9].   Farinha C, Caeiro S, Azeiteiro U. (2019). Sustainability Strategies in Portuguese Higher Education Institutions: Commitments and Practices from Internal Insights. *Sustainability 11(11):3227*. https://doi.org/10.3390/su11113227

[10].   EUSTEPs (2023). *Student & Educator Teaching Material*. Retrieved from https://www.eusteps.eu/resources/student-educator-teaching-material/

[11].   Caeiro, S., Sandoval Hamón, L.A., Martins, R., Bayas Aldaz, C.E.(2020). Sustainability Assessment and Benchmarking in Higher Education Institutions—A Critical Reflection. *Sustainability 12, 543*. https://doi.org/10.3390/su12020543

[12]. Caeiro, S., Malandrakis, G., Bacelar-Nicolau, P., Galli, A., Moreno Pires, S., Nicolau, M., Papadopoulou, A., Mapar, M., Patrizi, N., Pulselli, F.M., Theodosiou, N., Zachos, D. (2022). *EUSTEPs Students' teaching module - Unit 6: Higher Education Institutions (HEI) and Sustainability*. Retrieved from https://www.eusteps.eu/wp-content/uploads/2020/10/Unit-6-HEI-_-University-Sustainability.1.pdf

[13]. Mancini, M.S., Galli, A., Bacelar Nicolau, P., Caeiro, S., Galanis, N., Gigliotti, M., Madeira, C., Malandrakis, G., Mapar, M., Moreno Pires, S., Niccolucci, V., Nicolau, M., Papadopoulou, A., Patrizi, N., Pulselli, F.M., Shaffer, M., Theodossiou, N., Wambersie, L., Williams, R. (2022). *EUSTEPs University Footprint Calculator – User Manual*. ERASMUS+, KA203 2019-2022, Agreement No. 2019-1-ELO1-KA203-06. Retrieved from https://www.eusteps.eu/resources/university-footprint-calculator/

[14]. Dawodu, A., Dai, H., Zou, T., Zhou, H., Lian, W., Oladejo, J., Osebor, F. (2022). Campus sustainability research: indicators and dimensions to consider for the design and assessment of a sustainable campus. *Heliyon 8 (12).* Retrieved from https://doi.org/10.1016/j.heliyon.2022.e11864

[15]. European University Association EUA.(2023). *A Green Deal roadmap for universities*. Retrieved from eua.eu/downloads/publications/eua%20green%20deal%20roadmap.pdf

[16]. Paper submitted by WPZ Research with co-authors from GET-AHED consortium, accepted at 45th Annual EAIR Forum 2023, The European Higher Education Society (EAIR)

[17]. Mapar, M., Bacelar-Nicolau, P., & Caeiro, S. (2022). Sustainability Assessment Tools in Higher Education Institutions. In *The Wiley Handbook of Sustainability in Higher Education Learning and Teaching* (eds K.A.A. Gamage and N. Gunawardhana). Retrieved from https://doi.org/10.1002/9781119852858.ch8

[18]. Du, Y., Arkesteijn, M.H., den Heijer, A.C., & Song, K.(2020). Sustainable Assessment Tools for Higher Education Institutions: Guidelines for Developing a Tool for China. *Sustainability 12, 6501*. Retrieved from https://doi.org/10.3390/su12166501

[19]. Villeneuve, C., Tremblay, D., Riffon, O., Lanmafankpotin, G.Y., & Bouchard, S. (2017). A Systemic Tool and Process for Sustainability Assessment. *Sustainability 9, 1909.* Retrieved from https://doi.org/10.3390/su9101909

[20]. Dyer, G. & Dyer, M. (2017). Strategic leadership for sustainability by higher education: The American College & University Presidents' Climate Commitment. *Journal of Cleaner Production 140.* Retrieved from https://doi.org/10.1016/j.jclepro.2015.08.077

[21]. Findler, F., Schönherr, N., Lozano, R., Stacherl, B. (2019). Assessing the Impacts of Higher Education Institutions on Sustainable Development— An Analysis of Tools and Indicators. *Sustainability 11*, 59. https://doi.org/10.3390/su11010059

[22]. Gutiérrez-Mijares, M.E, Josa, I., Casanovas-Rubio, M., & Aguado, A. (2023): Methods for assessing sustainability performance at higher education institutions: a review. Studies in Higher Education 48:8, 1137-1158. Retrieved from https://doi.org/10.1080/03075079.2023.2185774

[23]. Lozano, R., Ceulemans, K., Alonso-Almeida, M., Huisingh, D., Lozano, F.J., Waas, T., Lambrechts, W., Lukman, R., & Hugé, J. (2015). A review of commitment and implementation of sustainable development in higher education: results from a worldwide survey. *Journal of Cleaner Production, 108, A*. Retrieved from https://doi.org/10.1016/j.jclepro.2014.09.048 .

[24]. Findler, F., Schönherr, N., Lozano, R., Stacherl, B. (2019). Assessing the Impacts of Higher Education Institutions on Sustainable Development—An Analysis of Tools and Indicators. *Sustainability 11, 59*. Retrieved from https://doi.org/10.3390/su11010059

[25]. UNESCO. (2014). *Shaping the Future We Want—UN Decade of Education for Sustainable Development (2005-2014) Final Report Summary*. Retrieved from http://unesdoc.unesco.org/images/0023/002301/230171e.pdf

[26]. Yarime, M., & Tanaka, Y. (2012). The issues and methodologies in sustainability assessment tools for higher education institutions: A review of recent trends and future challenges. *Journal of Education for Sustainable Development 6, 63–77*. Retrieved from https://doi.org/10.1177/097340821100600113

[27]. Berzosa, A., Bernaldo, M.O., Fernández-Sanchez, G. (2017). Sustainability assessment tools for higher education: An empirical comparative analysis. *Journal of Cleaner Production 161, Pages 812-820*, ISSN 0959-6526. Retrieved from https://doi.org/10.1016/j.jclepro.2017.05.194

[28]. Du, Y., Ye, Q., Liu, H., Wu, Y., Wang, F. (2023). Sustainable Assessment Tools for Higher Education Institutions: Developing Two-Hierarchy Tools for China. Sustainability *15, 11551*. Retrieved from https://doi.org/10.3390/su151511551

[29]. Nantes, O. N. L., Padgett, R. C. M. L. (2022) Insights sobre ferramentas de evidenciação socioambiental e sua aplicabilidade em Universidades Federais Brasileiras. *Encontro Internacional de Gestão, Desenvolvimento e Inovação 6(1).* Retrieved from https://periodicos.ufms.br/index.php/EIGEDIN/article/view/17290

[30]. Munster Technological University. (2023). *Climate Action Roadmap.* Retrieved from https://www.mtu.ie/media/mtu-website/governance/Climate-Action-Roadmap-V1.5-website.pdf

Annex I. Conceptual Framework - Integration of HE Green Assessment Tool, HE Green Champions and HE Green Zero

WP2 Dimensions	WP4 Sectors	Description	WP3 Modules			
			Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just Transition
Operations	Energy Consumption	HEI activities/projects/ initiatives that target the reduction of annual energy consumption, including electricity, heating, cooling, and hot water, and promote energy transition operations such as the use of energy production from multiple renewable resources.	Reduce & meet energy consumption needs by self-production, clean and net-metering energy.	Use of renewable energy sources; use of recycled materials in energy transition operations.	Energy transition operations done by local companies and/or environmentally certified companies; Contracts for energy transition operation with green criteria.	Fight the energy poverty of economically vulnerable individuals and groups within (HEI community) and outside the HEI.
	Water Consumption	University activities/projects/initiatives aimed at integrated sustainable water management, which will allow university campuses to simultaneously address issues of water quantity (consumption and wastewater) and quality, conserving and collecting water (rain) management, making efforts to protect water quality. Collect data on the annual consumption of water and wastewater, both expressed in m3.	Permeable pavement as an alternative to asphalt that improves water sustainability and reduces runoff water treatment.	Ensure pipe design and fittings are optimized and use leak detection and isolation technologies. In response to local weather conditions, the campus implemented the use of a rainwater harvesting system (RWH) to collect rainwater for use in toilets and fire suppression systems.	In terms of water recycling strategies, universities are implementing various types of water recycling technologies to improve resource use and reduce economic impact on campus.	Installing eco-friendly bathroom fixtures in residence halls, reducing water waste and water bills, saving money for students.
	Waste Management	HEI activities/projects/initiatives that promote infrastructure development, including waste	Achieve Zero Waste by reducing, reusing, recycling and composting.	Eliminate laboratory waste, such as pipette boxes.	Recycle and reuse various types of waste, improve	Raise public awareness of reduce, reuse and

WP2 Dimensions	WP4 Sectors	Description	WP3 Modules			
			Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just Transition
		management, collect data on waste generation, expressed in tons per year. Waste generation data may be reported as the total generation of all wastes or disaggregated by type of waste: Plastics, Paper, Glass/Can, Organic, Waste Electrical and Electronic Equipment (WEEE), and undifferentiated.	Solid Waste Management (SWM) Program	However, achieving sustainability in terms of integrated solid waste management (SWM) programs is one of the biggest challenges for higher education institutions.	resource utilization, and reduce economic impact on campus.	recycle (3R) strategies. Through proper and timely planning, waste education, and strict adherence to waste policies and procedures, a 3R culture has been more easily fostered within campus communities.
	Mobility and Transport	HEI activities/projects/initiatives aimed at achieving a sustainable modal split of commuting to and from the HEI for teaching, research or administrative purposes.	Use renewable energy sources to meet energy needs for heating, cooling, and transportation. Reduce GHG emissions from air travel, "make science not miles" project.	Prefer renewable and clean transportation fuel sources, such as biomethane, that support environmental, social and economic sustainability.	Encourage sustainable transportation for campus users, reduce parking lot construction costs, and preserve green space on campus.	Participation in an energy community with the regional authority and municipalities on renewable energy for transportation.
	Infrastructure	Physical space, or area, of the university's built environment that measures the sustainability performance of buildings. Buildings that house classrooms, laboratories, lecture halls, auditoriums, libraries, professors' and researchers' offices and study rooms, dormitories, dining facilities, parking lots, and	Green data center on a new campus, powered by a photovoltaic farm built on campus. Increase the use of buildings by students and staff, and adapt to different uses. Targeting buildings for sustainable campus	All the green aspects: building utility rate and longevity, building land use, building types, functions and distributions.	Targeting buildings for sustainable campus development can reduce energy, heating, and cooling costs.	Supporting infrastructures, modern sustainable development goals by creating a more intelligent, personalized and inclusive (adaptive) learning environment.

WP2 Dimensions	WP4 Sectors	Description	WP3 Modules			
			Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just Transition
		administrative and management offices.	development can reduce energy consumption, thereby reducing carbon footprints and emissions.			
	Food/Meals	Food provided either directly by a specific university service or by a third party service provider subcontracted by the university to feed its population on university property in support of a sustainable food system, and may be served in canteens, restaurants, cafes, dining halls, or any other location where the University provides food. Include total quantity (expressed in tons of food for solid foods (including oils and dairy products) and in liters for beverages (alcoholic and non-alcoholic)), method of production, origin of food, and type of packaging for beverages (plastic, aluminum, glass, cardboard).	Provide guests with information about the environmental impact and global warming potential of their menu, with the goal of raising their awareness of sustainable catering. Provide food with a minimal environmental footprint.	Offer 50% of the menu with vegetarian dishes. Sustainable Catering List to find the most sustainable caterer for a reception, meeting or event.	Sustainable food systems institutional policy and governance to manage food waste and reduce costs.	Caterers take or can provide: -Fair trade, seasonal, organic and short-chain products -Low-waste operations and residual processing -Social projects -Green transportation -Ability to offer 100% vegetarian and/or vegan options
	Materials and Equipment	Data on the use of university funds to purchase specific categories of materials and equipment during the reference year. The categories are: Furniture and Fixtures, Electronic Equipment, Newspapers, Books and Stationery, Reams of Paper.	Cover all the computing and storage needs of the academic community, as well as similar needs of other public and private institutions. Paper that is more	Equipment upgrades. Intelligent building projects, intelligent machines and robots.	Saving paper campaign initiative, reduce the cost of materials: Non-printing, electronic paper.	Equipment exchange accepts equipment that is complete, fully functional, and clean.

GET-AHED

WP2 Dimensions	WP4 Sectors	Description	WP3 Modules			
			Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just Transition
		environmentally friendly than virgin fiber paper.				
	Cleaning Services	Data on cleaning services in all university infrastructures, either provided directly by a specific university unit or by a third party subcontracted by the university for such services, based on intensities in terms of cleaning carts and time, or based on the average annual hourly cost of cleaning services by country.	Provide students with simple tips to reduce their carbon footprint. Sustainable cleaning equipment.	Sustainable cleaning products and materials.	The university reduced operating costs and increased water and energy savings by reducing material consumption and packaging waste.	Identify the best tools, products and practices to protect human health and the environment. Employee Training: BU provides training to maintenance personnel, tailored to the needs of each facility, on the hazards of using, disposing of and recycling cleaning chemicals, dispensing equipment and packaging.
	Renature (landscape management & Biodiversity)	Botanical gardens, parks, forests, farms, or crops owned or managed by the university and/or any areas occupied by water surfaces (e.g., wetlands, lakes, rivers, ponds) owned or managed by the university. Environmental sustainability aspects such as biodiversity, green and blue spaces, air quality and emissions surrounding the	Protecting the integrity of natural ecosystems can enhance the surrounding environment and improve the quality of campus and community life by reducing hot spots and high temperatures on campus.	By managing its grounds sustainably and implementing a biodiversity management strategy, an institution can maintain healthy ecosystems and promote biodiversity.	Reduce operating costs, improve campus green and blue spaces, and enhance the well-being of students and staff. Minimize climate impact by reducing exposure to sun, wind, rain,	Campaign to encourage students and staff to plant native plants in campus green spaces to increase local biodiversity.

WP2 Dimensions	WP4 Sectors	Description	WP3 Modules			
			Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just Transition
		campus, from the operational level to include larger aspects management functions.			and external campus noise.	
Education and Curricula	Environmentally Sustainable teaching/learning	How universities can properly integrate sustainability concepts into all academic disciplines and improve sustainability awareness among students and staff through academic courses, graduate programs, sustainability literacy assessment, campus as a living laboratory.	The Climate and Health in Medical Education (CHIME) 2020 network has developed a curriculum that any school can use as a framework for integrating planetary health (PH) into the classroom.	Education and training for sustainable development provides the basis for a number of greening measures and activities in the education sector. One of these is the establishment of a "Green Plan" by all institutions. Network of 20 university partners from around the world with a shared vision of contributing to sustainable global development.	Provide students with sustainability learning experiences outside of the formal curriculum (co-curricular activities), use outdoor spaces, and reduce energy costs (lighting, computers, etc.).	An alliance of universities, its mission is to strengthen society and develop skills, opportunities and cooperation for a better and more sustainable environment. Provides an inspiring work environment for all its employees (scientific and administrative-technical) and supports their professional development.
Organisational Management	Environmentally Sustainable Organizational Management/Institution governance	Develop sustainability plans and engage stakeholders in governance, and have human resource management programs. Higher education campuses are important test beds and leadership sites for various types of sustainable solutions.	Promote sustainability in all areas of the university, not just in theory, but with concrete actions that engage the entire university/campus community in addressing climate change.	Promote sustainability in all areas of the university, not just in theory, but with concrete actions involving the entire university/campus community,	Sustainability policies must be tailored to the campus context. Institutionalize sustainability by dedicating resources to sustainability	Improve areas of socio-institutional aspects that govern equality, fairness, etc. Students and staff; opportunities to work on sustainability.

WP2 Dimensions	WP4 Sectors	Description	WP3 Modules			
			Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just Transition
		Inclusive and participatory governance.		prioritizing sustainable suppliers, local ingredients for meals in canteens, moving toward a circular economy.	coordination. Universities should select business partners and adopt policies that support equitable and resilient local economies.	Improve forms of engagement, improve strategies for people's willingness to participate.
Assessing and Reporting	Environmentally Sustainable Assessing and Reporting	The assessment focuses on sustainability values, behaviors and beliefs, and may also address awareness of campus sustainability initiatives. An assured report can provide campus stakeholders with a greater sense of confidence in what is publicly reported, minimize reputational risks associated with inconsistent data quality, and increase the value of sustainability reporting.	Assess the sustainability of higher education institutions, including environmental degradation, biodiversity loss, and climate change, among others.	Evaluate the long-term effectiveness of campus recycling systems.	According to the results of the assessment on various sustainability issues, it is possible to reduce and manage costs to make a university ecosystem more efficient and sustainable.	According to the results of the assessment and reporting on various sustainability issues, it is possible to manage the issues with equality and integration of all university staff and students, making the university ecosystem more efficient and sustainable.
Community and Outreach	Environmentally Sustainable Outreaching	Support sustainable communities in the surrounding area by developing relationships. International cooperation and international students.	Competition among colleges and universities to increase recycling. During the competition, the institution conducted outreach and hosted events about the benefits	College conducted an outreach campaign to reduce bottled water consumption on campus. on campus. Before the campaign, the	Reducing operational costs through campaigns that engage the campus community in sustainability issues can help raise	Engaging community members and organizations in problem solving is fundamental to solving

WP2 Dimensions	WP4 Sectors	Description	WP3 Modules			
			Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just Transition
			of recycling. Before the competition, the institution recycled 30 percent of its total waste. Because the recycling rate increased after the outreach campaign, the institution can demonstrate that the campaign had a measurable, positive impact on its sustainability performance.	bookstore sold approximately 5,000 bottles of water per week. After the campaign, bottled water sales dropped to 3,000 bottles per week.	student and employee awareness of sustainability. Campaigns also encourage students and employees to adopt or experiment with sustainable practices and lifestyles.	sustainability challenges.
Research	Environmentally Sustainable Researching	Sustainability research focus on pursuing sustainability in universities and campuses, focus on sustainable policies, as well as issues of sustainable energy, economics and technology. Reputation (reputation for research excellence among its peers), productivity (integrated into student research on topics related to sustainability)	The research activities at UZH until 2030 have created a global potential to reduce greenhouse gas emissions within the framework of the research activities on climate neutrality.	A hub for global sustainability organized around nine areas, with more than 100 research groups: 1) Climate change; 2) Environmental protection; 3) Conservation of biodiversity; 4) Energy and ecological transition; 5) Sustainable management of natural resources and ecological	Sustainability research focus on pursuing sustainability in universities and campuses, focus on sustainable business.	Open Access (Repository programs and policies that facilitate open access to new peer-reviewed research and scholarship.

WP2 Dimensions	WP4 Sectors	Description	WP3 Modules			
			Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just Transition
				economy; 6) Healthy life and prevention of new pandemics; 7) Safe and sustainable food; 8) Urban and territorial transformation; 9) Education, communication and culture of sustainability.		

Annex II. Description of issues per dimension (adapted from [4])

	Issues		Issues
Governance	Vision	**Operation - Social**	Safe, fair and healthy circumstances
	Implementation/Actions		Handicapped design
	Internal and External Commitment		Smart tools
	Internal and External Policy		Physical and mental health
	Strategy		Emergency and safety
	Plan		Guideline for earthquake
	Organization structure		Students affordability and access to education
	Gender equality		Staff employment
	Management Structure		Occupation health and safety
	Staff/expertise		Compensation
	Hiring and promotion		Recruitment
	Coordination		Staff training
	International and domestic network		Employe satisfaction
	Involvement		Remediation
	Coherence		Policy contributions
	Process and mechanism		Disaster prevention/support for local community
	Feedback		Employee satisfaction
	Report assurance		Social and environmental responsibility
	Process and procedures		Diversity, equity, human rights
Operations - Environmental	Goals/policy		Ethically and environmentally investments
	System		Product responsibility
	Environmental auditing	**Operations - Financial**	Budget/expenses/investments
	Expenses and fines		Economic performance
	Asset and facility		Funds for operation
	Contracts and purchase		Funds/revenues for research
	Products and services		Strategies for operation
	System/measure		Purchase
	Holistic plan		Procurement
	Master plan		Supply chain
	WLAN, CAD		Environmental and social
	Site safety		Health and safety fines
	Land-use/space use		Tuition fees
	Outdoor environment		Wage gap
	Green space		Ethically and enviromentally investments
	Open space	**Education**	Issues
	Green infrastructure		Plan
	Ecosystem		Curriculum
	Biodiversity		Supports for curriculum
	Pesticides		Programs/experience
	Water quality		Learning skills
	Ladscape		Literacy and assessment
	Strategy		Education and Training
	Consumption		Supports for teaching
	Energy efficiency measures		Professional development
	Renewable energy	**Research**	Plan
	Emissions		Research Integrating SD issues
	Reduction measures		Research contributing to campus/community/global SD
	Strategy		Researchers, facilities and centres
	Consumption		Collaboration
	Water conservation measures		Support and management
	Potable water		Funds/budget/scholarship
	Recycling/reuse		Graduates students
	Strategy		Publications
	Total amount		Implementation/commercialization
	Hazardous waste	**Engagement-Campus**	Programs
	Recycling/reuse		Students' and staffs' opportunities to working on sustainability
	Waste reduce measures		Incentives
	Water waste		Information and communication
	Design/construction/renovation		Evaluation
	Indoor environment		Student and staff organizations
	Operation and maintenance		Student and staff orientation
	Green office		Student and staff career development
	Green Lab	**Engagement-Public**	Campaigns/program
	Green IT		Partnerships
	Historical Buildings		Impact assessment
	Building material		Volunteerism
	Vehicles		Service
	Public transportation		Disaster prevention/after strike education
	Circulation design		Shared university assets
	Commute modal split		Public policy participation
	Slow traffic		Information disseminated
	Parking		

Annex III. Examples of sustainability HEI Best Practices

Dimension/Module	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
1. Operations				
1.1 Energy Consumption	**1.University of Western Macedonia****, Greece, aims to cover all its energy needs for heating, cooling, **electricity**, and transportation from renewable energy sources. This energy community will develop and implement actions aimed at promoting **energy sustainability** in order for its members to meet their electricity needs by self-production of energy and net-metering and fight the **energy poverty** of economically vulnerable individuals and groups. **2. University of Zurich***** reduces its direct and indirect greenhouse gas emissions when operating its buildings. The university management will issue an energy strategy for buildings by mid-2021 at the latest. The Real Estate and Operations Directorate is taking measures to reduce energy consumption. The Real Estate and Operations Directorate sensitizes UZH members to resource-saving use of buildings, e.g. office sharing,	**1. University of Zurich***** One of the provisions of the Energy Guidelines of UZH is the continual reduction of environmental pollution through energy conservation and efficiency (Paragraph 2.1., UZH energy guidelines, in German). A measure-based agreement between UZH and the Department for Waste, Water, Energy and Air of the Canton of Zurich aims to reduce UZH's energy consumption from 2018 to 2027. UZH has been able to fulfil the agreement since 2018; among other things, through the installation of PV systems, conversion of lighting to LED and energy efficiency measures in the area of heat supply. In 2021, UZH consumed 135 GWh of energy for heating and electric power. In 2022, this number decreased to 125 GWh. Solar power Electricity from solar power has been generated on some of UZH's rooftops since	**1. University of Zurich***** All financial contributions to UZH over CHF 500,000 are handled by the UZH Foundation. The Foundation is implementing the recommendations for sustainable investments and takes sustainability aspects into account **in all investments** since mid-2018. The assets of the Foundation are managed by three banks, which use their own methods for selecting sustainable stocks. In 2021, the UZH Foundation commissioned an external service provider to examine the products in the portfolio in terms of their impact on climate change, their footprint according to nine criteria (including biodiversity, education, labour market) and their influence on nine megatrends (including climate, health, age, digitalization). It turned out that the portfolio currently unfortunately still has a so-called global warming	**1.University of Western Macedonia****, Greece, aims to cover all its energy needs for heating, cooling, electricity, and transportation from renewable energy sources. An important step is participation in an energy **community together** with the regional authority and the 13 municipalities of Western Macedonia. This energy community will develop and implement actions aimed at promoting **energy sustainability** in order for its members to meet their electricity needs by self-production of energy and net-metering and fight the energy poverty of **economically vulnerable individuals and groups.**

Dimension/Module	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
	increasing the utilization of teaching areas, meeting rooms.	1990. Even if self-generation through photovoltaic systems is still hardly significant in terms of total demand, there has been a clear increase. In 2022 a total of 0.33 GWh was produced. In the long term, 10 percent of the electricity demand is to be covered by own production from solar energy. During the reporting period of 2021/2022 a PV system with a capacity of around 102 kWp was built on the new laboratory building UZI 5.	potential of 3.4 degrees, which contradicts the goals of the UZH Foundation. Therefore, UZH Foundation decided the significant reduction of the warming potential of their portfolios.	
1.2 Water Consumption	**1. University of Zurich***** since 2018 Fresh water consumption has decreased significantly despite the increasing number of employees and students. In order to reduce freshwater consumption, **UZH collects rainwater on its roofs, which is used for cooling and for toilets, fountains, animal stables and gardens**.			
1.3 Waste Management	**1. University of Zurich***** The zero-waste concept, in which food is sold in reusable containers, was already implemented in the centre, Irchel (main cafeteria) and Platte14 before the reporting period. In 2021 it was expanded to the following locations: Brunnenhof, Rämi59, Binzmühle (partially) and animal hospital.	**1. University of Zurich***** One pilot project that tries to avoid waste is the project «new life for pipette boxes». At UZH, numerous plastic products are being used in research, including pipette boxes. Usually, these boxes only serve as packaging and dispensers. Many of them are reused, which is		**1.Ghent University****** presents other sustainable initiatives which the listed caterers take or can provide: -Fair trade, seasonal, organic and short-chain products **-Low-waste operation and residual processing** -Social projects -Green transportation

Dimension/Module	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
		sustainable, but unfortunately not always possible. **2. Green Lab**** specialist Auditing & Reporting Audits help identify where you can make the greatest gains the quickest. They cover space, design, policy, equipment, efficiency, procurement, waste, and any other relevant areas to improved sustainability. Findings are summarized into clear reports, which include estimates on energy savings, payback periods, recommended methods, rationale, and summarized project lists.		-Possibility of offering 100% vegetarian and/or vegan supply
1.4 Mobility and Transport	**1.University of Western Macedonia****, Greece, aims to cover all its energy needs for heating, cooling, electricity, and **transportation from renewable energy sources**. **2.University of Zurich***** has recently launched an initiative, "Make science, not miles", that advocates for forms of scientific collaboration that require fewer flights. It includes a set of recommendations on how to reduce flight related GHG emissions, as well as what can be done when air travel cannot be avoided, among other resources.			**1.University of Western Macedonia ****, Greece, aims to cover all its energy needs for heating, cooling, electricity, and transportation from renewable energy sources. An important step is participation in an energy **community together** with the regional authority and the 13 municipalities of Western Macedonia.

Dimension/Module	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
1.5 Infrastructure	**1.University of Western Macedonia **, Greece, aims to cover all its energy needs. An additional step is the construction of a **green data centre on a new university campus** in Kozani, covering all computational and storage needs of the academic community, as well as similar needs of other public and private entities. Power will be sourced from a 3 MW **photovoltaic park** that will also be **built** on campus. **2 University of Zurich*** In 2022, UZH used 223 buildings with a total of 351,005 square meters of main usable space. Due to increasing student and employee numbers, new buildings have to be planned and constructed in some cases. In principle, ambitious sustainability targets are defined for new buildings, overall refurbishments and adaptations of use. Compliance with this is proven based on the Canton of Zurich's «Standard Nachhaltigkeit Hochbau» with appropriate standards and certifications, for example DGNB/SGNI Gold or Minergie-P, -A or -Eco. The UZH also pays attention to creating and maintaining high architectural quality.	**1.Green Lab **** provide a dedicated expert to achieve recommendations or a particular project, Green Lab Associates can assist. Hire a team member for a set period to achieve a specified project or set of goals. This will allow you to skip the learning curve associated with some of the more complicated areas and ensure the quickest implementation of your project. Examples include supporting a **refurbishment or building design**, a local engagement campaign, policy implementation, or equipment upgrades		

Dimension/Module	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
1.6 Food/Meals	**1. University of Zurich***** The "Food2050" pilot project started at the Irchel campus in January 2022. By providing guests with information about the environmental impact and global warming potential of their menu, the aim is to raise their awareness of sustainable catering. The Seerose cafeteria offered, among other things, sandwiches, bowls and muesli with a minimal ecological footprint. A display showed the number of environmental impact points saved. Since September 2022, the contribution to global warming has been shown for all menus instead of environmental impact points.	**1.Ghent University****** has committed itself to providing 50% of the menu with vegetarian dishes by 2025. Currently, there are 2 veggie and 2 meat/fish dishes on the menu on Tuesdays, and on Thursday Veggie Day the ratio is 1 to 3. Also, Departments or services can use a **sustainable catering list** to find the most sustainable caterer for a reception, meeting or event. Researchers search for a healthy and ecologically sound diet, with less meat and unsustainable fish consumption.		**1.Ghent University****** presents other sustainable initiatives which the listed caterers take or can provide: **-Fair trade, seasonal, organic and short-chain products** -Low-waste operation and residual processing **-Social projects** -Green transportation -Possibility of offering 100% vegetarian and/or vegan supply
1.7 Materials and Equipment	**1.University of Western Macedonia ****, in the construction of a green data centre on a new university campus in Kozani, covering **all computational and storage** needs of the academic community, as well as similar needs of other public and private entities. Power will be sourced from a 3 MW photovoltaic park that will also be built on campus. **2. University of Zurich***** Since fall 2018, UZH has a one-paper-strategy: UZH offers only one type of copy paper in its material and office supply store (Irchel Shop) and recommends	**1.Green Lab **** provide you a dedicated expert to achieve recommendations or a particular project, Green Lab Associates can assist. Hire a team member for a set period to achieve a specified project or set of goals. This will allow you to skip the learning curve associated with some of the more complicated areas, and ensure the quickest implementation of your project. Examples include supporting a refurbishment or building design, a local engagement campaign,		**1. University of Zurich***** The equipment exchange accepts equipment that is complete, fully functional, and clean. Wherever possible, equipment should be accompanied by the relevant handbooks, manuals, and descriptions. If the piece of equipment stems from a BL2 or BL3 lab, or a toxin, chemical or radiation lab, a clearance declaration must be filled out and attached to the equipment prior to its removal (relocation, disposal).

Dimension/Module	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
	its employees to use this paper. The selected paper (Refutura) consists of 100 % recycling paper and fulfils the strict requirements of the environmental label «Blauer Engel». This paper is far more environmentally friendly than fresh fibre paper. The production of fresh fibre paper causes more than 2.5 times more GHG emissions than the production of the paper of the one-paper-strategy (Refutura).	policy implementation, or equipment upgrades		
1.8 Cleaning Services	**1.GeorgeTown University** ***** orient students with simple tips to Reduce Your Carbon Footprint, for example, only do full loads of laundry and use the bright colors cycle whenever possible. (https://sustainability.georgetown.edu/community-engagement/things-you-can-do/) **2.Boston University** ****** and Sustainable Cleaning Equipment: All equipment used will limit or eliminate the use of hazardous materials, improve indoor air quality, minimize environmental impact, and allow for the healthy reuse of space and materials.	**1.Boston University** ****** has Sustainable Cleaning Products and Materials purchasing only the Carpet and Rug Institute Sustainable Label, Green Seal– and EcoLogo–certified cleaning products, and Forest Stewardship Council–certified paper products. In addition, microfiber technology is used for mops and dust rags as they are more efficient, require less water, and last longer.	**1.Boston University** ****** has identified the best tools, products, and practices that protect human health and the environment. The University's program adheres to LEED (Leadership in Energy & Environmental Design) standards established by the US Green Building Council. The university reduced operating costs and increased water and energy savings through reduced material consumption and packaging waste.	**1.Boston University** ****** has identified the best tools, products, and practices that protect human health and the environment. Staff Training: BU provides training for maintenance personnel appropriate to the needs of each facility to address the hazards of use, disposal and recycling of cleaning chemicals, dispensing equipment, and packaging. Continuous Improvement: The University supports the capability for building occupants and custodians to provide feedback on maintenance effectiveness and assess new sustainable cleaning technologies, procedures, and processes to assure continuous improvement.

2. Education and Curricula	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
2.1 Environmentally Sustainable teaching/learning	**1.Royal College of Surgeons in Ireland (University of Medicine and Health Sciences) **,** in conjunction with Irish Doctors for the Environment, formed the **Climate and Health in Medical Education (CHIME)** network in 2020. **The network subsequently developed a curriculum that each school could use as a framework to integrate planetary health (PH) into teaching.** Three main topic areas are now included: implications for clinical practice, the role of the physician as a health advocate, and clinical leadership in **decarbonising the health sector**. Implementation has included integrating PH into case-based learning, development of a **climate and health module,** and incorporation of Sustainable Quality Improvement (SusQI) proposals. Next steps include integrating health professional **learning**, introducing PH to postgraduate training, and integrating SusQI projects within the clinical setting. **2. French environmental protection law **,** in Its Article 55 on sustainable development education and training lays the basis for a number of greening measures and activities in	**1. Global Challenges University Alliance 2030 **** (GCUA 2030) is a network of 20 university partners from across the globe with a common vision of contributing to sustainable, global development. GCUA 2030 offers a global learning forum for doctoral students and young researchers, providing a range of learning and networking activities.	**1. University of Barcelona **** created the hUB-Sostenibilitat Global, a hub on global sustainability. The hUB is organised in nine areas, with more than 270 experts from over 100 research groups: 1) Climate change; 2) Protection of the environment; 3) Preservation of biodiversity; 4) Energy and ecological transition; **5) Sustainable management of natural resources and ecological economy;** 6) Healthy life and prevention of new pandemics; 7) Safe and sustainable food; 8) Urban and territorial transformation; 9) Education, communication and culture of sustainability	**1.EU GREEN **** (responsible GRowth, **inclusive Education** and ENvironment) is an alliance of nine European universities. Its mission is to **empower society and develop the capabilities, opportunities, and cooperation** for a better and more viable environment in the long run. EU GREEN's four-year strategic objective is the creation of a European hub for education, research, and innovation in sustainability that **goes beyond the consortium's borders and acts globally to provide solutions to local or regional challenges, which can be replicated at a global level.** **2.University of Zurich*** offers all of its employees (scientific and administrative-technical staff) an inspiring working environment and supports their professional development. This enables employees to identify with their task and to use their potential in the spirit of sustainability.

2. Education and Curricula	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
	the education sectors. One of them is the establishment of a "Green Plan" by all institutions. **3.University of Zurich***** Aware of this fact and in order to act as a role model, UZH has set itself the goal of becoming climate neutral by 2030. At least half of the reduction compared to 2018 is to be achieved through our own measures. The reduction of other emissions can be achieved through climate-protecting effects of our own research can be achieved ("carbon handprint"). This is possible through research activities at UZH until 2030 created global potential to reduce greenhouse gas emissions within the framework of the research activities on climate neutrality (see goal I.1.3) are valued. Only potentials are shown taken into account, which will most likely lead to real reduction effects by 2030, i.e. which will be realized. The results are checked by an independent body.			

3. Organizational management	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
3.1 Environmentally Sustainable Organizational Management/ Institution governance	**1.Green Lab Associates ** helps you improve the efficiency and sustainability of laboratories. We know that laboratories are unique, energy and resource intensive environments. We guide and advise to ensure these environments are as sustainable as possible, saving money, reducing pollution, and maximizing research potential. **2. University of Zurich*** ** When it comes to new buildings and renovations, the requirements of sustainability are dealt with High priority project application considered. In construction projects with the necessary planning The Real Estate and Operations Directorate requires a design space that is adapted to the project high sustainability standards and strives for certification.	**1.Irish Green Labs **** (https://irishgreenlabs.org/) was established in July 2021, growing out of **SEAI's Working Group for Public Sector Labs**. The SEAI group has been meeting since 2018, with the aim of assisting public sector labs to optimise their **energy management systems**. The group evolved to include targeted actions combatting any negative impact that laboratory activities could have on the **environment.** Irish Green Labs climate actions now fall under the four pillars of Energy, Plastic, Chemistry and Wate **2. University of Zurich***** The operational services maintain the areas according to the criteria of high and site-appropriate biodiversity. To this end, the Real Estate and Operations Directorate is developing a guideline "Biodiversity on UZH sites" with the involvement of UZH biodiversity researchers. Care and Usage orders to third parties also comply with these criteria.	**1. University of Zurich*** ** uses funds that are available in a transparent and responsive. This investment is significant in terms of values defined in "Recommendation of Sustainable Investments"	**1.Boston University ** ****** provide simple steps for everyone make your space more welcoming while working toward a more sustainable, healthy campus, with: -"Green Your Dorm" program; - Green Office Certification program; - Achieve Zero Waste; - Conserve Water - Food Waste Diversion - Get Around Campus Sustainably - Student Sustainability Leadership Award Selection Committee - Host a Sustainable Event -Dine Sustainably

4. Assessment and Reporting	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
4.1 Environmentally Sustainable Assessing and Reporting	**1.Green Lab ****specialist **Auditing & Reporting** Audits help identify where you can make the greatest gains the quickest. They cover space, design, policy, equipment, efficiency, procurement, waste, and any other relevant areas to improved sustainability. **Findings are summarized into clear reports**, which include estimates on energy savings, payback periods, recommended methods, rationale, and summarized project lists. **2.Erasmus University of Rotterdam** publishes each year a CO2 footprint report that includes information about the emissions per source of CO2, which can be very useful to grasp where the changes are most urgent and if the measures already implemented have had an impact. (https://uni-foundation.eu/hei-internationalisation-sustainable/) **3.University of Edinburgh** also released a report on the methodology for recording and assessing business travel within the university. This type of reporting could be used for different types of travel, such as international mobility students' journeys within their host country, or visitors and invited guests of the university, etc. By gathering this			

4. Assessment and Reporting	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
	information, HEIs would be able to assess which measure would be more interesting to reduce their carbon footprint, and also determine which journeys are necessary and which are not. A valuable tool is currently being developed under the Erasmus+ "Erasmus Goes Green" project: the carbon footprint calculator. Especially designed to fit Erasmus+ mobilities' reality, the calculator will be a helpful measuring instrument. (https://www.ed.ac.uk/files/atoms/files/business_travel_report_methodology_statement_-_october_2020.pdf)			

5. Community Outreach	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
5.1 Environmentally Sustainable Outreaching	**1.Ghent University****** With lectures, workshops and debates, the university inform and engage people, and regularly launch our own awareness-raising campaigns, pamphlets and memoranda. In this way, show which actions already happen at the Ghent University, imagining how a more sustainable university can look like.	**1. University of Zurich***** The communication department provides information together with the sustainability team and below whose professional supervision UZH members on questions of sustainable action in the workplace and everyday study life.		**1.Boston University** ****** supports social and environmental objectives and local markets with Sustainable Purchasing Program, in alignment with BU's Climate Action Plan and Zero Waste Plan, the Sustainable Purchasing Program (SPP).

6. Research	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
6.1 Environmentally Sustainable Researching	**1. Durham University **** established the Durham Energy Institute (DEI) in 2009 to **develop sustainable and resilient low-carbon energy systems for different contexts** and with fair access for everyone. By approaching energy with a socio-technical framing ("Energy, Science and Society"), solutions are explored in a multidisciplinary environment. This promotes a **whole-systems approach to energy research and education**, integrating the social, environmental, economic, policy, technical, and regulatory implications of energy pathways and choices **2. Université de Lorraine **** foregrounding a **project-based approach**, the initiative strongly encourages interdisciplinarity in relation to the SDGs and specific socio-economic challenges such as: **the sustainable metallurgy and new materials**; the ecological, societal and energy transitions. **3.Labos1 **** Implement measures to make laboratory research more sustainable, as exemplified by **1point5 lab** (https://labos1point5.org) initiative in France, **Green Labs** in Ireland, and **Green Lab Associates** in the UK.	**1.Université de Lorraine **** Foregrounding a **project-based approach**, the initiative strongly encourages interdisciplinarity in relation to the SDGs and specific socio-economic challenges such as: the **circular economy**, the ecological, societal and energy transitions.	**1. University of Barcelona **** created the hUB-Sostenibilitat Global, a hub on global sustainability. The hUB is organised in nine areas, with more than 270 experts from over 100 research groups: 1) Climate change; **2) Protection of the environment**; 3) **Preservation of biodiversity; 4) Energy and ecological transition; 5) Sustainable management of natural resources and ecological economy**; 6) Healthy life and prevention of new pandemics; 7) Safe and sustainable food; 8) Urban and territorial transformation; 9) Education, communication and culture of sustainability.	1.Durham University ** established the Durham Energy Institute (DEI) in 2009 to develop sustainable and resilient low-carbon energy systems for different contexts and with fair access for everyone. 2. University of Barcelona ** created the hUB-Sostenibilitat Global, a hub on global sustainability. Based on interdisciplinarity and the perspective of competitive sustainability, it provides independent expertise and solutions to challenges outlined in different political and the social pacts and agreements, at local, regional, and state levels, as well as internationally. Justice, equity, and social challenges are also at the centre of the hUB strategy, with the aim to ensure that no citizen is left behind in achieving sustainability. 3.EU GREEN ** (responsible GRowth, inclusive Education and ENvironment) is an alliance of nine European universities. Its mission is to empower society and develop the capabilities, opportunities, and cooperation for a better and more viable environment in the long run. EU GREEN's four-year strategic objective is the creation of a European hub for education, research, and innovation in sustainability that goes beyond the consortium's borders and acts globally to

6. Research	Climate Action and Emissions Building	Environment and the Circular Economy	Greening Public and Private Finances	Just transition
				provide solutions to local or regional challenges, which can be replicated at a global level.

** EUA .(2023). *A Green Deal roadmap for universities*. Retrieved from: eua.eu/downloads/publications/eua%20green%20deal%20roadmap.pdf

*** University of Zurich. (2023). Sustainability in UZH operations. Retrieved from: https://www.sustainability.uzh.ch/en/campus-operations/campus.html

(2020). UZH Commission for Sustainability. Retrieved from: https://www.sustainability.uzh.ch/dam/jcr:77b31f07-1639-43c0-95b0-e5153a72ca7a/Umsetzungsstrategie%202030%20zur%20Sustainability%20Policy.pdf

**** Ghent University. (2023). Sustainable food. Retrieved from:https://www.ugent.be/en/ghentuniv/mission/sustainability/guidelines/food

***** GeorgeTown University. (2023). Simple Tips to Reduce Your Carbon Footprint. Retrieved from: https://sustainability.georgetown.edu/community-engagement/things-you-can-do

******Boston University.(2023). Sustainable Purchasing Program. Retrieved from: https://www.bu.edu/sustainability/how-to/purchase-sustainably