



INGENIUM
European University

Deliverable 7.1

The INGENIUM SGD/EGD and Global Partnership Agenda

Work package 7 – INGENIUM for Sustainable Development

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Description of the deliverable	This Policy for the INGENIUM Alliance addresses the Sustainable Development Goals and the European Green Deal regarding education, research/innovation and outreach activities, sustainable campus and global contacts.
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Document history

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09/02/2024	_v2.0	WP7 representatives of MTU, XAMK, URN, HKA and HS	Version to be discussed at MTU during 10-Days and by the Student Sustainability Board
10/04/2024	_v3.0	WP7 representatives of MTU, XAMK, URN, HKA and HS	Draft inclusive feedback from 10-days meeting, Student Sustainability Board and from Ud'A for presentation to WP1 and for Steering Committee

Definitions and acronyms

Definition/Acronym	
#FurthestBehindFirst	Leaving No One Behind and Reaching the Furthest Behind: Strategic Plan 2022-2025 (unfpa.org)
EGD	European Green Deal
ESD	Education for Sustainable Development
GHG	Greenhouse Gas
HEI	Higher Education Institution
RDI	Research, development and innovation
SDG	Sustainable Development Goals
SIDS	Small Island Developing States
UNESCO	United Nations Educational, Scientific and Cultural Organization

EXECUTIVE SUMMARY

The world needs to respond and adapt to current, evolving and new global challenges, with more expected to arise in forthcoming years, as identified in the Sustainable Development Goals (SDGs) of the United Nations. As written in the INGENIUM mission statement, the Alliance should jointly respond to Europe's and global challenges. [Jointly responding to Europe's and global challenges - Ingenium \(ingenium-university.eu\)](https://ingenium-university.eu). Work package 7, INGENIUM for Sustainable Development, aims to integrate a sustainable development perspective in all work packages and activities within the Alliance.

INGENIUM recognises that embracing the SDGs and the European Green Deal (EGD) is critical to ensuring that we empower current and future learners, leaders, and citizens with the capacity to address sustainable development challenges and aligned EGD challenges across the environmental, social and economic realms. Climate change can lead to growing inequality, famines, climate refugees, deterioration of human health and armed conflicts. The Alliance must raise awareness and empower students, staff and external partners to take action. The Alliance will encourage and give hope!

It is the responsibility of the Alliance to provide students with knowledge and skills through education for sustainable development regarding sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development (UN, 2015).

This policy addresses sustainable development in the areas described below. When implementing the policy, the partner universities can choose what recommendations and activities they will prioritize based on the different preconditions at every university. The Sustainability Committee will follow up this policy with indicators by helping, advising and sharing good examples with each other. It is highly recommended to have the commitment of the higher management.

Education

The INGENIUM Alliance is committed to ensuring our staff, students, and graduates are well-equipped to deliver on current and future challenges by pivoting our educational offers at all levels in line with SDG 4 Quality Education and with an Education for Sustainable Development 2030 (ESD) approach. INGENIUM will transform education, delivering cross-cutting knowledge, skills, values, and attitudes to empower change across our spheres of influence. Our work on SDGs/EGD will be balanced, addressing environment and climate actions, human rights, democracy, the rule of law, non-discrimination, economic inequalities, corporate responsibility and intercultural understanding.

INGENIUM will align its actions to the five priority areas outlined in the UNESCO ESD Priority Areas namely, 1) Advancing Policy 2) Transforming learning environments, 3) Building capacities of educators, 4) Empowering and mobilizing youth and 5) Accelerating local-level actions.

Research, innovation and outreach activities

The INGENIUM Alliance recommends that all research within INGENIUM should reflect a commitment to the SDGs, the European Green Deal (EGD), and the principle 'furthest behind first'. Academics and students will be encouraged to propose multi- and transdisciplinary research projects with focus on sustainable development. The Alliance recommends that public participation and policy input by university staff should be valued.

The implementation of research results should reflect societal needs and planetary boundaries. To this end the Alliance recommends collaborating intensively with businesses, governments, and civic organizations to valorise these results to meet the Sustainable Development Goals and the European Green Deal.

Sustainable universities

To make our campuses more sustainable, a model with four steps can be used, where universities prepare (create commitment and develop policy), act (implement actions), reach out (expand impact by engaging surrounding communities), and reflect (calculate effectiveness and plan future steps). This chapter focusses on campus related actions regarding energy, water usage, mobility, procurement, waste management, biodiversity, and social sustainability. As all partner have different preconditions, all can choose what actions to prioritize.

Global contacts

The INGENIUM Alliance is committed to promoting global education and sustainable development by fostering collaborations beyond the EU. The Alliance is focused on addressing sustainability challenges that aligns with the SDGs and the EGD priorities and aims to establish meaningful global partnerships, particularly with higher education institutions in developing countries through Capacity Building and Policy Support projects. These efforts aim to tackle climate change and promote sustainable development, leveraging the Alliance's multidisciplinary strengths to share innovative practices, encourage mutual growth and learning among partners, and implement a long-term, Alliance-wide sustainable policy.

The INGENIUM Alliance is committed to its core values and objectives and has devised a framework for building partnerships with developing countries. This framework is divided into three distinct categories of criteria: (1) inclusive strategies for global partnerships, (2) shared vision and sustainability alignment, and (3) scalability and infrastructure in partnerships. This approach allows for a tailored and flexible partnership that aligns with the Alliance's overarching goals and resonates with individual member institutions' specific interests and capabilities.

DESCRIPTION, METHODOLOGY AND DISCUSSION OF THE FINAL OUTCOME

The SDG/EGD and Global Contacts Agenda is based on the INGENIUM grant agreement and mission statement.

A workshop about the principles and background of the SDGs was given by MTU and HS during spring 2023 for all work package leaders to make them aware of the importance to integrate SDGs in all activities.

The first activity that led to input to this policy was a workshop about purpose and impact during the work package kick off in Skövde, September 2023 (appendix 5).

At the kick off the INGENIUM Sustainability Committee was established. The Committee consists of a Sustainability Leader from every partner university and two representatives of the Student Sustainability Board. Their role is to monitor the implementation of this policy and to propose actions to boost the contribution to sustainable development.

A self-assessment was conducted by all partners to list all activities related to sustainable development (appendix 6). This assessment was a good way for the partners to get to know all these activities at their own university. The challenge was to gather this information as so many departments and colleagues are working with topics related to sustainable development. In October 2023 we sent out a student survey to 30 to 50 students per university regarding their engagement towards environmental, social and economic sustainability (appendix 7).

Important input to this policy was also the 'Greendead Roadmap for Universities' launched October 2023 by the European University Association [Publications \(eua.eu\)](https://publications.eua.eu). The layout of this policy is partially based on the 'Greendead Roadmap for Universities' but we adjusted it to the following chapters: Education, Research/Innovation and Outreach activities (the university's main activities), Sustainable Universities (operations) and Global Contacts (as written in the project description).

The partners in this work package have different backgrounds which is considered valuable as sustainable development touches so many areas. A working group consisting of five partner universities (XAMK, MTU, HKA, URN and HS) wrote the drafts and discussed them. Feedback from all partner universities was collected at the monthly plenary meetings, during the period October 2023 – February 2024. For the chapter Global Contacts, a small survey was conducted within the working group to agree upon the criteria.

Feedback was asked from partners from other work packages when the topic related to their work and meetings were set up with partners with the aim to integrate sustainable development into other work packages and activities. It should be stated that work package 9 is dedicated to equality, diversity and inclusion. The version that followed was discussed by all partners at Munster Technological University during the 10-days event in February 2024.

Valuable feedback was received by the Student Sustainability Board. All comments were considered before writing the final version. Some feedback was considered to be too detailed and technical to put in the policy but this feedback is still valuable for using in the follow up and implementation phase.

During the 10-days meeting we decided to draft indicators (appendix 4) to be able to follow up this policy more concrete. In this way the Sustainability Committee members can advise each other to accelerate sustainable development. Also, the framework (annex 1) for monitoring the policy will be used for this. The Student Advisory Board thought that the recommendations in this policy could be more specific. The challenge was to balance between general recommendations and more specific actions (the project description mentions an action plan), because of the different preconditions at the partner universities regarding sustainable development in education, research and innovation, outreach activities, campus operations and global contacts. This challenge will be partially addressed by discussing the policy document related to the indicators and actively monitor its implementation.

1. INTRODUCTION

The INGENIUM Alliance is fully committed to the Sustainable Development Goals and the European Green Deal as stated in the INGENIUM mission:

'Europe needs to respond and adopt to new and evolving challenges, with more expected to arise in forthcoming years, which are also connected to the global challenges, as identified in the Sustainable Development Goals of the United Nations.'

Sustainability: research, educational programmes and joint projects connected to the 2023 Sustainable Development Goals will be encouraged and supported, involving the whole university community.

Inclusiveness: specific actions will be undertaken to facilitate the access to higher education and completion of people belonging to under-represented and disadvantaged groups, as well as those from developing countries.

Societal challenges: partners will be embracing both global and local challenges, acting as an Alliance in the common search for the successful solution of challenging societal problems`.

This policy describes how the Alliance will contribute to sustainable development regarding education, research/innovation/outreach activities, campus operations and global contacts. It is a mix of recommendations and concrete activities. The results from the self-assessment show that all partners actively work with sustainable development in many different ways. Because of the different preconditions of the partners, it is possible to choose what activity to prioritize. To contribute to sustainable development could mean a serious investment in time and money. Therefore, it is considered extremely important to have the commitment of the higher management. The results from the student survey show that the Alliance has engaged students and also their answers to the one open question were considered when writing this policy.

Sustainable development is not just a project or policy, it is integrated in all work packages and activities of the Alliance. This is reflected in this policy and activities.

1.1 Commitments

Our 10 INGENIUM commitments for transforming our world are:

1. INGENIUM recognises that embracing the Sustainable Development Goals, SDG and the European Green Deal, EGD is critical to ensuring that we empower current and future learners, leaders, and citizens with the capacity to address sustainable development challenges and aligned EGD challenges across the environmental, social and economic realms.
2. INGENIUM is committed to playing its part in delivering on the 'supremely ambitious and transformational vision' set out in Agenda 2030 and its SDGs and to urgently take the 'bold and transformative steps' needed for success across all areas of operation of our Alliance.
3. INGENIUM will disrupt higher education across our alliance member universities to create new knowledge, new ways of thinking, and future-proofed competent graduates better equipped to meet the challenges of this and future generations.
4. INGENIUM positions SDG 4 Quality Education at the heart of INGENIUM Alliance Universities' purpose and we are committed to Target 4.7: By 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and

sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development (UN, 2015).

5. INGENIUM commits to the five Education for Sustainable Development priority areas of UNESCO:
 - > Advancing Policy
 - > Transforming learning environments
 - > Building capacities of educators
 - > Empowering and mobilising youth, and
 - > Accelerating local-level actions.
6. INGENIUM embraces a whole institution, whole of society approach to SDG and EGD adding value to university culture, operations, education, research, outreach and community engagement.
7. INGENIUM Alliance Universities are central assets in their regions and make transformative differences in the communities they serve, through multi-stakeholder partnerships for change operating within a quintuple helix approach spanning academia, government, industry, civil society, UN and international.
8. INGENIUM Universities see their communities and regions as hubs for action, the campuses and communities are living labs for action across the SDGs and EGD supporting youth-led and intergenerational dialogue sharing and shaping change.
9. INGENIUM embraces global outreach and think tanks as part and parcel of our approach, learning from each other especially those in the global south, SIDS (small island developing states), Africa and other prioritised regions.
10. INGENIUM purposefully addresses gender equality and human rights across all its SDGs and EGD activities.

1.2 Actions

- > The INGENIUM Alliance will actively monitor the implementation of this policy by the indicators set in appendix 4 and annex 1 during the plenary meetings with the Sustainable Development Committee.
- > The Alliance will organize a sustainability week every year in autumn.
- > The Alliance will actively share best practices.

2. EDUCATION

The 2021 World Conference on Education for Sustainable Development¹, led by UNESCO brought together stakeholders representing international, EU and intergovernmental, academia, teaching and learning, youth, business, and civil society to produce and adopt the Berlin Declaration on Education for Sustainable Development (ESD). It affirms education as a powerful enabler of mindset and world-view change to support the urgent balanced sustainable development needed to address the huge interrelated environmental, social, and economic challenges facing the world. To deliver, education must intentionally transform itself at pace and scale to disrupt change across society and deliver on the SDGs (see Appendix 1).

The INGENIUM Alliance is committed to ensuring our staff, students, and graduates are well-equipped to deliver on current and future challenges by pivoting our educational offers at all levels on an Education for Sustainable Development 2030 (ESD) approach in line with SDG 4 Quality Education. INGENIUM will transform education, delivering cross-cutting knowledge, skills, values, and attitudes to empower change across our spheres of influence. Our work on SDGs/EGD will be balanced, addressing environment and climate actions, human rights, democracy, the rule of law, non-discrimination, economic inequalities, corporate responsibility and intercultural understanding.

INGENIUM will align its actions to the five priority areas outlined in the UNESCO ESD Roadmap as outlined in Figure 1 below. The Alliance partners will address the five ESD Priority Areas namely, 1) Advancing Policy 2) Transforming learning environments, 3) Building capacities of educators, 4) Empowering and mobilizing youth, 5) Accelerating local-level actions. Advancing policy while technically the brief of Government is interpreted at the INGENIUM Alliance level in terms of both integrating ESD and advancing SDGs.

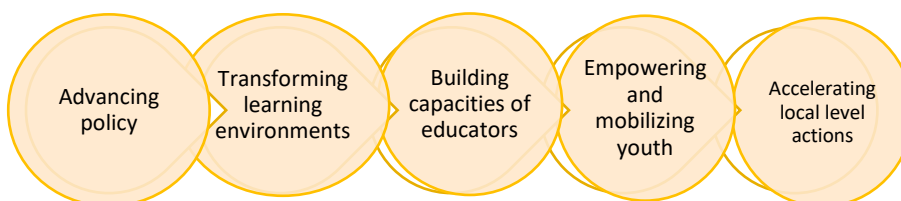


Figure 1. Education for Sustainability Priority Areas

¹ [2021 World Conference on Education for Sustainable Development](#)

2.1 Institutional and societal transformation through ESD 2030

ESD 2030 across INGENIUM is grounded in real-world problems of relevance in our local communities, nationally and internationally. Creating solutions requires a broader understanding of how the world works and our roles in it than traditional discipline-specific siloed approaches in education and wider society. INGENIUM embraces the following quintuple helix approach to ESD implementation and partnership creation as a cornerstone of our transformative pedagogy.

At local, national, and international levels INGENIUM Alliance Partners forge collaborations to ensure relevant educational and learning opportunities for our students. Staff become facilitators of partnership and collaborative learning with internal and external partners. Interdisciplinarity brings greater collaboration across academic disciplines shaping different perspectives theories and methods while transdisciplinary connects our academic institutions to the outside world bringing real-world societal relevance.

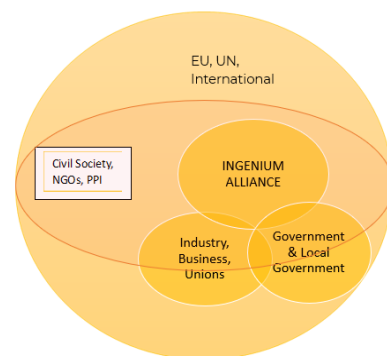


Figure 2. INGENIUM Quintuple Helix Approach

INGENIUM embraces its responsibility to deliver a new type of graduate, empowered to address the problems of today yet equipped to address the challenges of the future. They learn differently, work collaboratively, and deliver innovative and disruptive solutions in line with the ESD 2030 mission.

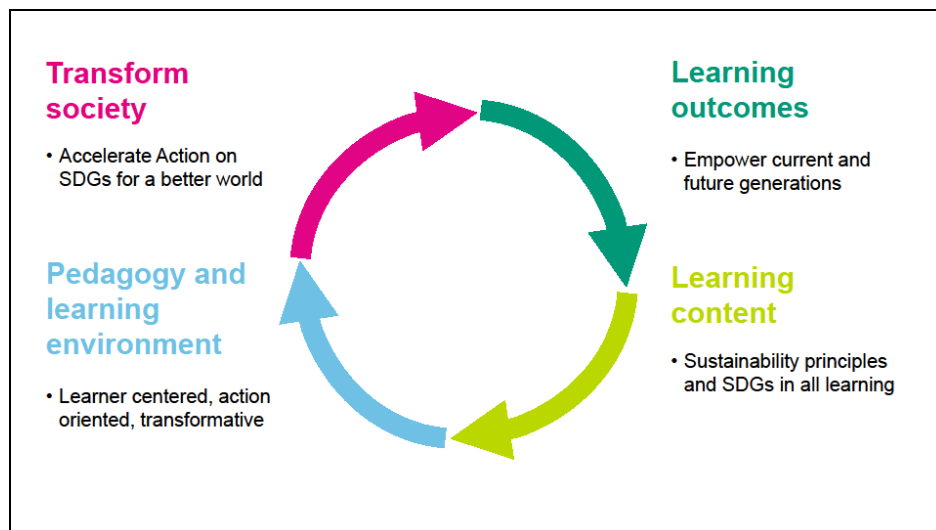


Figure 3. ESD 2030 (UNESCO, 2017)

2.2 Competence development for ESD 2030

INGENIUM embraces Education for Sustainable Development as a lifelong learning process that addresses the cognitive, social, emotional, and behavioural dimensions of learning and associated competency development. The learning dimensions are integrated with human rights knowledge understanding and appreciation.

Learning Objectives	ESD 2030 Learning Dimension/8 Key Competencies*	Descriptor
 How we think	Cognitive 1. System Thinking Competency 2. Anticipatory Thinking Competency 3. Critical Thinking Competency	Understand sustainability challenges and their interlinkages, explore disruptive ideas and alternative solutions.
 How we are	Social-Emotional 4. Strategic Competency 5. Collaboration Competency 6. Integrated Problem-solving Competency	Build understanding, values and attitudes for sustainability, cultivate empathy and compassion for others and the planet, motivate to lead change.
 How we act	Behavioural 7. Self-awareness Competency 8. Normative Competency	Take practical action for sustainable transformations in the personal, societal and political spheres.

Table 1 Learning & Competence Development. *Full descriptors of the competencies are in Appendix 2.

2.3 Transforming teaching and learning

ESD 2030 is a transformative pedagogy that represents a shift from teaching to active learning. Developing the competencies needed to address sustainable development requires new holistic ways of shaping learning and learning environments. An INGENIUM education is designed to empower learners to examine the impact of their actions on current and future social, cultural, economic, and ecological impacts locally and globally. Particular attention is paid to those in greatest need in line with the #FurthestBehindFirst principle of the SDGs. INGENIUM Alliance universities embrace a whole institution approach to sustainability and are committed to local, regional and international sustainability efforts. ESD 2030 changes why, what, how and with whom we teach and learn (see figure 4).

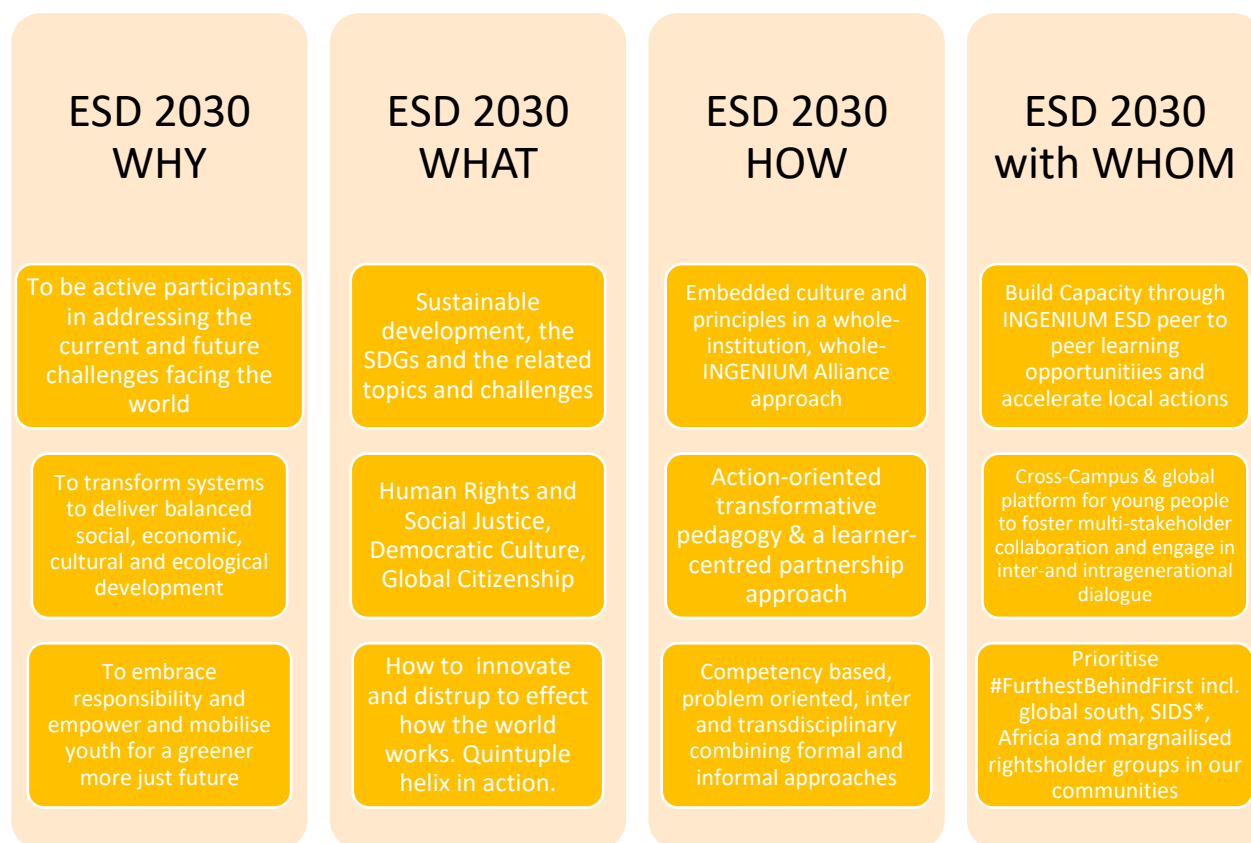


Figure 4. ESD WHY, WHAT, HOW, WHOM *Small Island Developing States

The University of Rouen implemented a ten hours course on sustainability for all first-year students. Five notions are explored: Energy, Climate change, Biodiversity loss, Exhaustion of natural resources linked to planetary boundaries, New economic development: <https://www.univ-rouen.fr/actualites/le-ddrs-au-coeur-de-nos-missions/>.

Munster Technological University has designed a programme to transform learning, teaching and assessment by focussing on transforming the student experience and developing the capabilities of all staff to address a sustainable pedagogical and learning environment with particular and critical focus on digital transformation, the Sustainable Development Goals (SDGs) and equality, diversity and inclusion (EDI). [NTutorr | Munster Technological University - MTU.](#)

2.4 Actions

Besides implementing this policy, the Alliance will:

- > Develop course materials related to the SDG transitions in society (appendix 3).
- > Develop tools for teachers to help them integrate the SDGs in their education.
- > The Alliance will favour new joint study programmes in the INGENIUM European Campus to consider environmental challenges.
- > Develop a list with student activities related to sustainable development.

3. RESEARCH, INNOVATION AND OUTREACH ACTIVITIES

The world's ability to solve the complex social and environmental challenges, like climate change and increasing inequalities, is dependent on excellent research, innovation, and on international collaborations. Guided by the United Nations Agenda 2030 and the European Green Deal (https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en), the INGENIUM Alliance shall collaborate on high-quality multi and transdisciplinary research, resulting in new technologies, knowledge and competence that can contribute to solutions and policymaking and assist businesses and public organisations in their handling of societal and environmental challenges.

The university G. d'Annunzio of Chieti-Pescara has a network with other universities that focusses on environmental sustainability and social responsibility; developing a multidisciplinary approach, guides students towards a positive lifestyle, training and updating the staff, developing awareness and increasing collaboration with public institutions and private businesses. And the University of Crete provides an advanced Corporate social responsibility (CSR) school for external partners [CSR School - Corporate Sustainability & Responsibility \(csr-school.eu\)](https://csr-school.eu).

3.1 Research

The INGENIUM Alliance recommends that all research within INGENIUM should reflect a commitment to the Sustainable Development Goals, the European Green Deal, and the principle 'furthest behind first' as a value. Like the South-Eastern Finland university of applied science (XAMK) that has integrated the SDGs into their project management system to make the link to the SDGs more concrete and measurable [Modelling the impact of applied research | Xamk](#).

INGENIUM academics and students will be encouraged to propose multi- and transdisciplinary research projects on all levels, BSc, Master, or PhD thesis, including projects and theses on undergraduate and postgraduate levels, addressing the Sustainable Development Goals and aiming at developing knowledge and solutions to global challenges. The INGENIUM Alliance will create new knowledge for a sustainable world.

In addition to focus on research in technology and engineering the focus should also be on social science that can support the creation and improvement of the relationships among individuals within societies with indirect impacts on each aspect of sustainability. Output through commercial spin out companies and other forms of knowledge transfer are seen as extremely valuable. The INGENIUM Alliance recommends aligning its governance with the Declaration of Research Assessment (DORA) (<https://sfedora.org>) and/or the Coalition for Advancing Research Assessment <https://coara.eu> to improve the way in which the output of scientific research is evaluated by funding agencies, academic institutions, and other parties. The Alliance recommends that public participation and policy input by their staff should be valued.

For example, the University of Skövde organised in March 2024 an international hybrid workshop to discuss the outcomes of a five-year research project [End biodiversity loss through improved tracking of threatened invertebrates - University of Skövde \(his.se\)](#). Relevant stakeholders from several public authorities were invited to join the discussion on how the research data could be utilized to change existing policies. And the Gheorghe Asachi Technical University of Iasi organized in November 2023 an international workshop with over 150 participants from the public sector to raise awareness and to put SDGs and EGD on their agenda.

3.2 Partnerships with surrounding society

The INGENIUM Alliance is in a unique position to meet the Sustainable Development Goals and the European Green Deal by bringing together multi- and transdisciplinary teams of researchers, innovators, policy and decision

makers from public and private sectors, diverse communities, and indigenous groups. For successful partnerships it requires long-term relations rather than a purely instrumental funding-driven mindset. For example Karlsruhe University for applied science agreed to a climate pact together with seven other higher education institutions and the city of Karlsruhe <https://www.h-ka.de/en/die-hochschule-karlsruhe/aktuelles/news/2021/klimapakt>.

The Alliance will set up an INGENIUM university partnership for low-carbon and circular economy. The members of the Alliance will work with local industries to support them in the transition to a low-carbon, less resource-intensive and circular economy and the development of new more sustainable products, redesign of products, production processes and services.

The Alliance will organise Challenge Labs where external partners can present their challenges, related to one or several of the great transitions (see appendix 3) [UNSDG | Six Transitions: Investment Pathways to Deliver the SDGs](#), for an international and multidisciplinary group of students, researchers, and external partners. During these events participants can work and learn from different perspectives related to the challenge.

3.3 Innovation and knowledge transfer

The implementation of research results requires additional time and investment, and it should reflect societal needs and planetary boundaries. To this end the Alliance recommends collaborating intensively with businesses, governments, and civic organizations to valorise these results to meet the Sustainable Development Goals and the European Green Deal. For this the INGENIUM partners can make their facilities available, encourage entrepreneurship, support start-ups and open up campuses as experimental labs and testbeds for local communities.

A shift in focus from developers to users is necessary to align innovation with societal needs. Innovation should not be reduced to inputs and outputs. Processes are equally important to achieving just and desirable social outcomes and including marginalised voices. Our tech-transfer offices should not only focus on commercial models but also on social innovation, policy change and other non-commercial utilizations and always take sustainable business models into account.

The Alliance recommends that training in knowledge transfer should be widely available so that researchers and students can co-create, transfer, and valorise knowledge at the interface between science and policy. The Alliance recommends that their tech transfer offices play an active role to facilitate this.

3.4 Actions

- > INGENIUM academics and students will be encouraged to propose multi- and transdisciplinary research projects addressing the United Nations Global Goals of Sustainable Development and the European Green Deal.
- > The Alliance will assess joint research proposals that consider sustainability issues and the potential contribution to the SDGs and EGD.
- > The Alliance will establish an INGENIUM University Partnership for low-carbon and circular economy.
- > The Alliance will organise Challenge Labs with external partners, researchers and students
- > The Alliance recommends collaboration intensively with businesses, governments, local communities and civic organisations, also to valorise their research results to meet the United Nations Global Goals for Sustainable Development and the European Green Deal.

4. SUSTAINABLE UNIVERSITIES

4.1 Introduction

This section deals with making universities and campuses more sustainable. In this model, the development work is divided into four steps, during which universities prepare, act, outreach, and reflect on the effectiveness of the development work before initiating the development cycle again.

The first step of preparing includes commitment and policy development as well as awareness-raising activities, such as offering training or organizing different campaigns. **The second step** includes actions that can be done to make the universities and campuses more sustainable or “green”. **The third step** consists of outreach and engaging others and the aim is to expand the impact of the development work into the wider society by engaging the surrounding communities, sharing information, and acting as a forerunner. Research, development, and innovation cooperation is an important tool for reaching this impact. **The fourth step** requires that universities reflect on or calculate the effectiveness of their activities and development work, in addition to planning the future steps for development. Finally, drafting a sustainability report is a great way to demonstrate transparency and accountability of the university’s sustainability work and to communicate it to stakeholders.

Universities operate mostly in office-like environments and thus, there is a limited number of aspects and operations, in which sustainability and responsibility can be considered and improved. For the purpose of this model, seven different aspects were chosen. These aspects are **energy, water usage, mobility, procurement, waste management, biodiversity, and social sustainability**.

As the partner universities have different preconditions, it is important to emphasize that every university itself will choose what activity related to these aspects mentioned will be prioritized.

In order to effectively introduce this model in universities, it is important to engage the top management. Management commitment is important especially in the beginning of the sustainability journey as they are responsible for developing, approving, and implementing the organisation’s policies and strategies by providing staff and economic resources. Nevertheless, it is also important to engage people and experts from the operating level, such as procurement, human resources, estate management, maintenance, and cleaning. Experts from the operating level can have the most impact on how well the sustainability goals are met and they possess the tools and know-how on how to implement and succeed in different sustainability endeavours.

The Greenhouse gas (GHG) Protocol (<https://ghgprotocol.org/>) is the main global greenhouse gas accounting standard to measure emissions. Several of the aspects described here below in this chapter, could directly be related to this protocol. According to this standard, GHG emissions can be classified into three scopes. Scope 1 emissions are direct emissions from operations, scope 2 emissions are from facilities that provide energy that is bought and consumed by the organisation, and easy to measure and manage. Measuring and managing scope 3 emissions can be more difficult, even though, in many organisations, scope 3 emissions account for the highest proportion of total emissions. Carbon offsetting is one way for reaching carbon neutral operations. Carbon offsetting can help organisations meet their net-zero targets. One of the most common forms of carbon offsetting is related to air travel as the carbon footprint of air travel is quite easy to calculate. Many carriers or travel agencies provide carbon footprint calculators and also offer the opportunity to compensate for your travel’s greenhouse gas emissions as you purchase your ticket.

4.2 Energy sustainability

Saving energy and using cleaner energy sources is one of the most cost-effective ways to reduce greenhouse gases and help tackle climate change. Universities and campuses consist of spaces for working, studying, and teaching. Maintaining these kinds of spaces consumes energy to power lighting, technology, hot water and for heating or cooling. Emissions related to purchased energy are included in GHG Protocol scope 2.

Universities aiming to decarbonize their campuses can contribute by reducing their overall energy demand by e.g., optimizing heating and cooling, using automation in lighting, replacing energy from fossil fuels with renewable energy, generating their own energy with e.g., solar panels, and building more energy efficient facilities. Some partner universities do not own their buildings but rent them, in this case a close collaboration with the owner of the buildings is needed to discuss and take action regarding sustainable operations.

Energy efficiency should also be taken into consideration when renovating older facilities. Awareness raising campaigns on campuses could include instructions on small everyday actions that everyone can take, such as switching off lights and unplugging chargers when leaving a room, turning off one's computer at the end of the day and using the stairs instead of elevators, if possible.

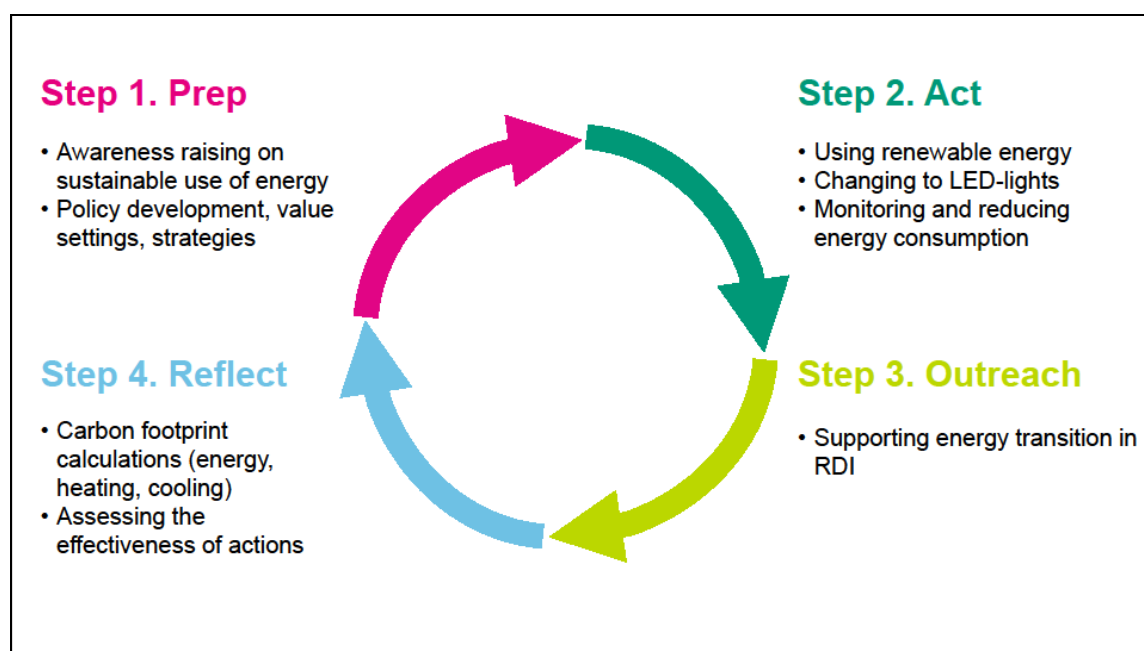


Figure 5. The four steps and suggested activities in the development cycle for energy sustainability

4.3 Sustainable water usage

The aim of sustainable water usage in universities is to ensure that clean water is available to all users and water quality is not negatively influenced. This also includes sustainable wastewater management, water consumption by lab facilities, kitchens, sports facilities etc. Ensuring water availability and quality is especially relevant during droughts and other events causing water-supply constraints. Universities and campuses consist of spaces that have many people visiting, working, and studying in them every week. These people use water e.g., while using restrooms and visiting campus restaurants and cafeterias. Different countries need to prioritize differently when it comes to saving water or not polluting it.

Awareness raising campaigns should include reminding staff and students on the importance of saving water and encouraging them to small daily actions, such as turning off the running water while taking soap or reporting possible leaks as soon as possible. Other actions to be taken include e.g., planning outdoor areas and gardens in such a way that they don't require a large amount of watering by e.g., choosing appropriate plants and encouraging rainwater harvesting for watering purposes. Automatic faucets and water-efficient appliances can also reduce the amount of water used on campuses. It should also be noted that heating water requires energy and thus, using cold water instead of hot, reduces energy consumption.

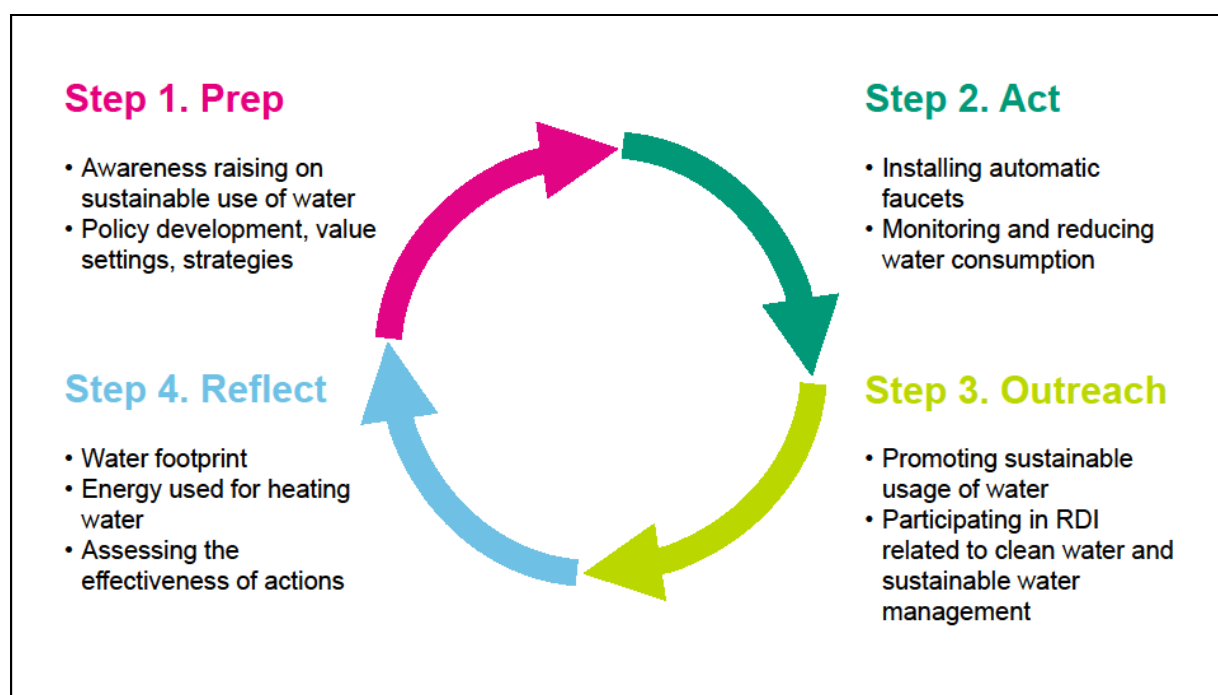


Figure 6. The four steps and suggested activities in the development cycle for sustainable water usage

4.4 Sustainable mobility

Addressing the ways people travel to and from campus and during work- or study-related travels is critical in reducing universities' carbon footprint. Especially walking, wheeling, i.e., travelling using wheeled mobility aid, including wheelchairs, scooters or walking aids, and cycling are amongst the simplest forms of sustainable transport. Emissions related to travel are included in GHG Protocol scope 3.

Key strategies for universities to engage in sustainable mobility include encouraging sustainable commuter, work- and study-related travel; reducing the reliance on private vehicles and encouraging sustainable options like walking, wheeling, cycling, public transport or carpooling; ensuring that the campus infrastructure supports sustainable travel options by having for example, well-maintained sidewalks; updating campus vehicle fleet and exploring the possibility to have shared electric bicycles on campus; reducing the overall need to travel by smart planning and co-organizing INGENIUM activities, using e.g., teleworking, teleconferencing and virtual mobility, when possible; introducing sustainable travel principles that guide staff and students' travel plans. The INGENIUM Alliance will develop guidelines for meeting and traveling.

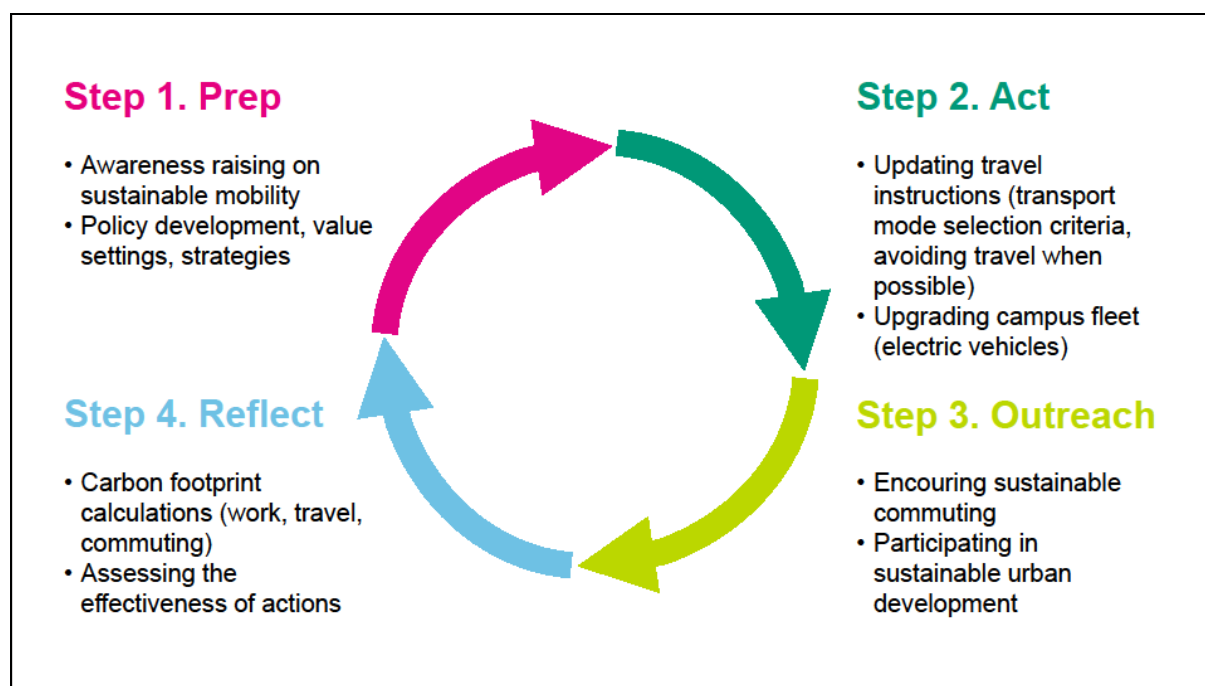


Figure 7. The four steps and suggested activities in the development cycle for sustainable mobility

INGENIUM partners have already started to implement important measures to foster green mobility in their campuses. As an example, the university of Oviedo is [supporting green car sharing](#).

4.5 Sustainable procurement

Procurement has developed during the recent years, and it is not merely seen as a technical tool for purchasing anymore. Nowadays, procurement has been identified to be a tool for sustainability transitions. Sustainable procurement practices can have a significant relevance on environmental and social sustainability though we have to take into account that some partner universities need to follow public procurement rules by regional or national governments.

When purchasing e.g., equipment and supplies, catering and materials, it is important to follow sustainable procurement practices and choose sustainable suppliers. Sustainable procurement has its challenges, such as lack of transparency and lack of data from the supply chains, but these are issues that can be tackled partly with the right procurement practices. According to the GHG Protocol, sustainable procurement practices can have a great impact on reducing scope 3 emissions.

Sustainable procurement practices include identifying low-impact suppliers that follow the principles of sustainable development in their operations and choosing sustainable products and materials. Preferring certified or eco-labelled products is one way to ensure the sustainability of procurement. It is also important to remember to consider the emissions from logistics and transportation, when making sustainable procurement decisions.

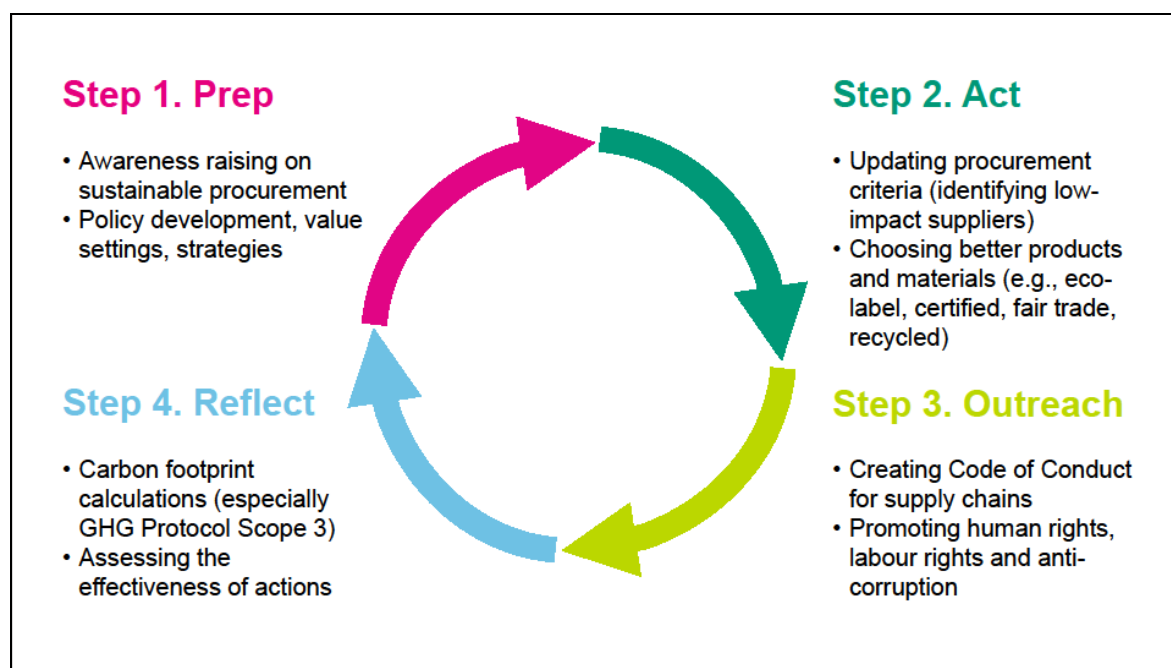


Figure 8. The four steps and suggested activities in the development cycle for sustainable procurement

4.6 Waste management

Waste and emissions from waste depend on the type of waste and the waste diversion method. Thus, consumer behaviour has a significant impact on waste management. Recycling waste as raw material reduces the consumption of natural resources. Waste can also be used to moderate climate change by using it in energy generation instead of fossil fuels. Waste-related emissions are included in GHG Protocol scope 3. The calculated emissions include emissions from third-party disposal and treatment of waste generated in the organisation's operations.

Campus waste management should aim at reducing the amount of waste generated, increasing the recycling rate, reducing food waste generated in campus restaurants and promoting circular economy.

Reducing the amount of waste is something that should be considered already during the procurement process. E.g., campus restaurants should use reusable tableware. In order to increase the recycling rate, it is important to provide enough recycling points with enough options for recycling different waste fractions, including compostable material, and related instructions, to encourage proper recycling practices.

As an example, the Medical University of Sofia has a yearly 'Clean-up Day' [MU – Sofia joined for another year the initiative clean up Bulgaria – Медицински Университет София \(mu-sofia.bg\)](https://mu-sofia.bg/).

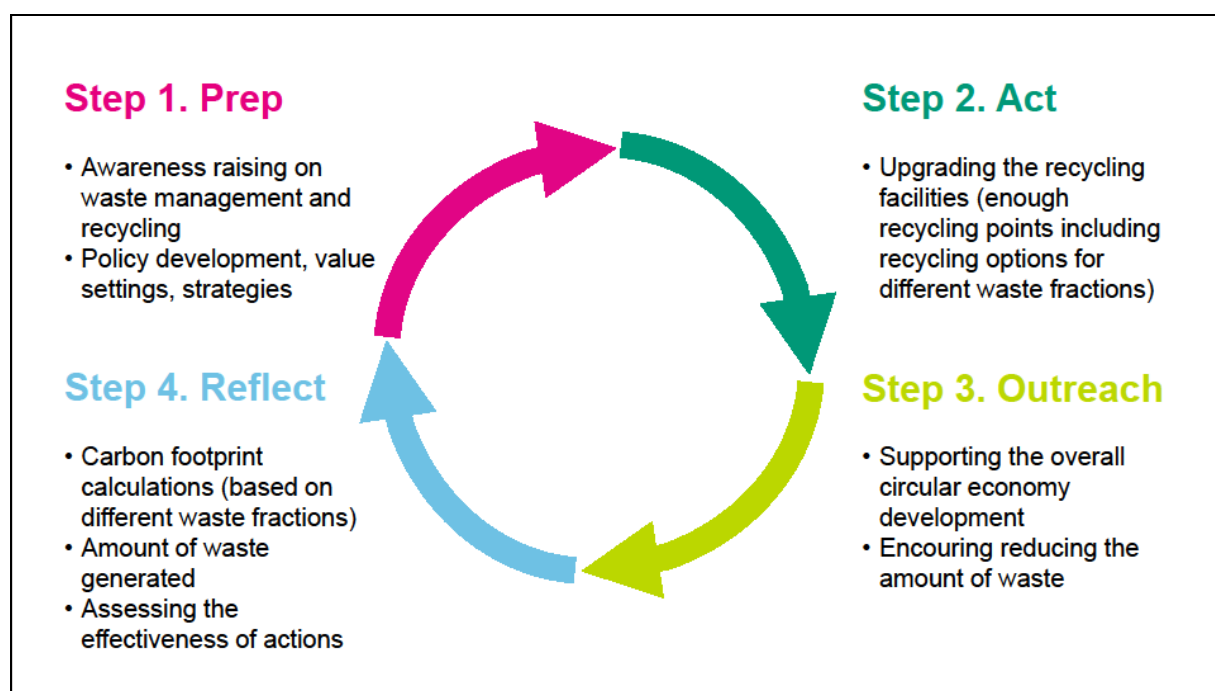


Figure 9. The four steps and suggested activities in the development cycle for sustainable waste management

4.7 Biodiversity

University campuses can be important components of green spaces in urban environments. On campuses and surrounding areas, there can be a diverse range of habitats rich in flora and fauna. These areas are not only important for the plants and animals, but they also provide value to the university as they provide ways to engage with students, staff and local community, and to educate and communicate the importance of biodiversity. Planting fruit and berry plants and herbs in common areas for everyone to use is also a good way to encourage nature preservation.

Green areas also improve people's quality of life, and it has been studied that it is easier to solve problems if one is out in nature. In university campuses, the aim should be in maximising the ecological value of the university's green space, while also retaining its functional value. Possible actions to be made include setting up bug and insect hotels, planting pollinator friendly plants and turning grass areas into meadows, where native plants can thrive. Campus restaurants could also switch to offering local, plant-based food.

When plants are used on the walls and roofs of buildings, they can also reduce energy usage by moderating temperatures. Well planned green areas can also act as carbon sinks, removing greenhouse gases and reducing climate change.

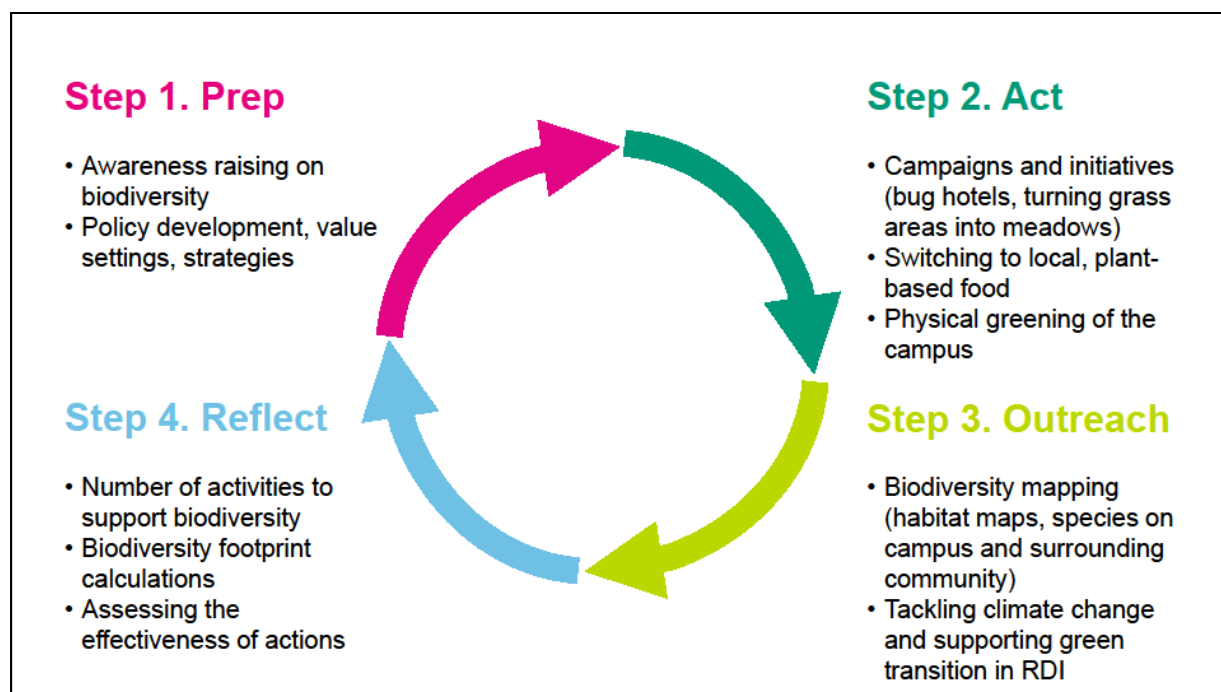


Figure 10. The four steps and suggested activities in the development cycle for biodiversity

4.8 Social sustainability

In social sustainability, everyone gets to live, study and work in a safe, equal, and healthy environment. INGENIUM will have its own Action Plan for Equity and Inclusion that addresses these issues within the Alliance. The goal is to ensure universal accessibility and provide equal opportunities to all. To achieve this, it is important to include staff and students from different backgrounds to participate in the decision making and development processes.

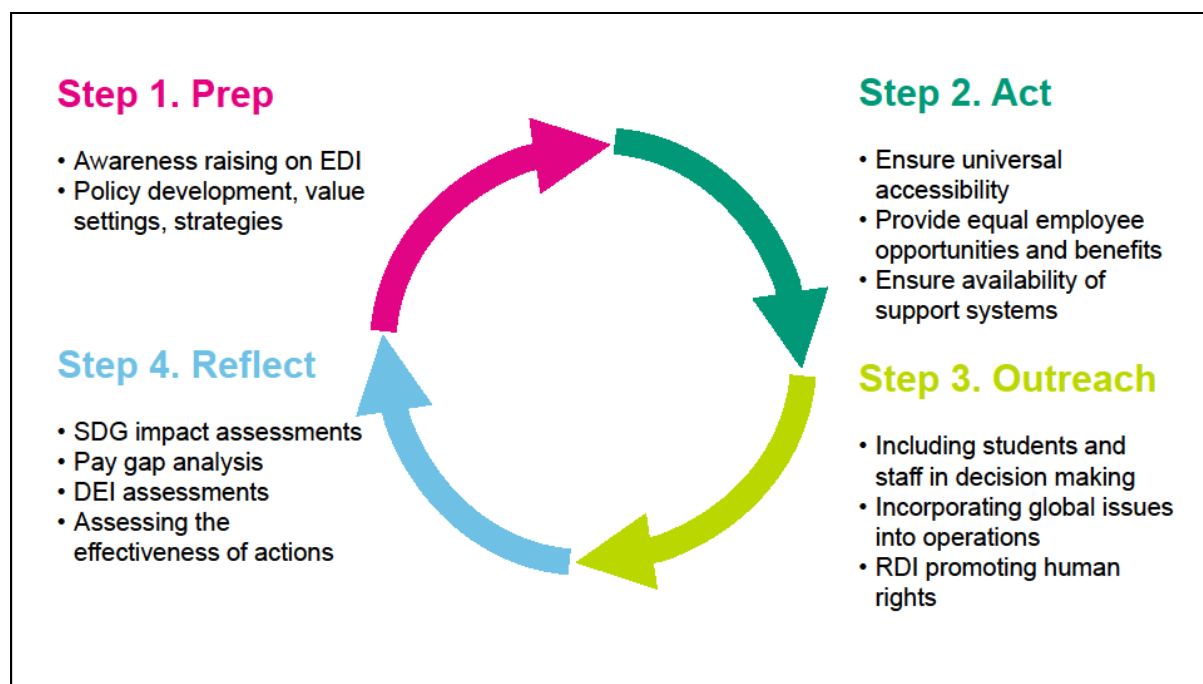


Figure 11. The four steps and suggested activities in the development cycle for socially sustainable universities

4.9 Actions

Besides implementing this policy, the Alliance will:

- > Write an INGENIUM meet- and travel policy.
- > Write a sustainability checklist for the 10-days of INGENIUM events.
- > Implement the winning Hackathon solution.
- > Consider sustainability, decarbonisation, resource efficiency and other environmental-related challenges in all activities.
- > Implement university-specific actions related to the Sustainable campus areas.

5. GLOBAL PARTNERSHIPS

The landscape of international academic collaboration is undergoing a paradigm shift arising from geopolitical transformations, the proliferation of multilateral partnerships, a widening array of partner types, and the crucial role played by higher education and research in national economies and security. These factors contribute to a substantial increase in the complexity of international academic collaboration. This paradigm shift poses a significant challenge for many institutions if they want to sustain a high level of international and global engagement in a responsible manner.

The INGENIUM Alliance is committed to promoting global education and sustainable development by fostering collaborations beyond the EU. The member universities of the Alliance are already involved in several partnerships with international universities and labs to expand and enhance these collaborations. The Alliance is focused on addressing sustainability challenges that align with the SDGs and the EGD priorities and aims to establish meaningful global partnerships, particularly with higher education institutions in developing countries. These efforts aim to tackle climate change and promote sustainable development, leveraging the Alliance's multidisciplinary strengths to share innovative practices, encourage mutual growth and learning among partners, and implement a long-term, Alliance-wide sustainable policy.

5.1 Current state of global contacts

Each of the partners in the Alliance has been working to establish and strengthen partnerships with higher education institutions globally, reaching beyond the European sphere. While varied in scope and objectives, these partnerships are united in their commitment to some fundamental values: fostering educational excellence, promoting research innovation, and contributing to sustainable development. A self-assessment has been conducted among all the partners in order to identify a map of all the ongoing collaboration with developing countries. This showcases the potential of addressing global challenges through education and research. Notably, Latin America stands out with many partnerships with Brazil, Colombia, and Mexico, highlighting the Alliance's active engagement in the region. Similarly, the Alliance's collaborations in India focus on expanding educational and sustainable development initiatives in populous nations in Asia. Although Africa's partnerships are fewer, critical engagements in several African countries indicate a targeted approach to fostering development in diverse educational and environmental contexts.

Ingenium collaboration developing countries

Legend: 0-5 (yellow), 5-10 (orange), 10-15 (red), 15-20 (purple), 20+ (dark blue)

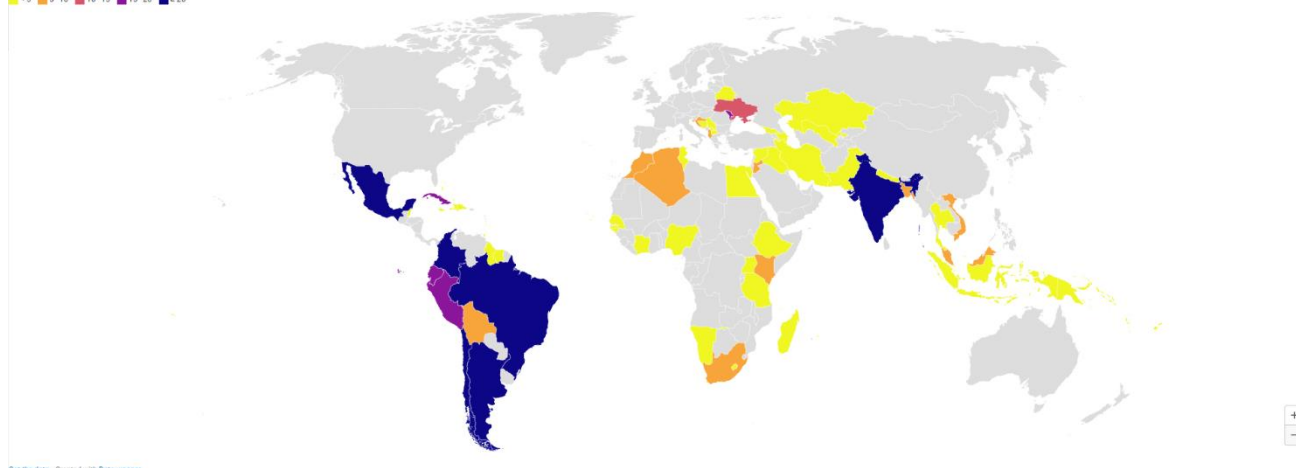


Figure 12. Map collaboration developing countries, <https://datawrapper.dwcdn.net/zcU9O/4/>

This map includes collaboration with SIDS (small islands developing states). As the islands are so small, it is hard to see their bright yellow colour. See the complete list in appendix 8.

5.2 Framework for building and strengthening partnerships

The INGENIUM Alliance is dedicated to developing strong, enduring global partnerships through a streamlined and focused approach. Our flexibility allows us to effectively address diverse challenges and opportunities, ranging from joint research projects to shared educational initiatives. Emphasizing capacity building and knowledge sharing is an essential aspect of our approach, which includes fostering faculty and student exchange programs, joint seminars (both physical and virtual), and collaborative research projects (both physical and virtual). By implementing monitoring and evaluation mechanisms, we can assess our impact, make timely adjustments, and focus on continuous improvement to ensure our collaborations remain dynamic and effective. Our commitment to building sustainable and long-term relationships with partner institutions is grounded in regular communication, joint strategic planning, and a shared commitment to mutual growth. Through these efforts, we aim to extend our network and make substantial contributions to international education and research, fostering a collaborative spirit that transcends geographical and cultural boundaries.

5.3 Criteria for building partnerships with developing countries

The INGENIUM Alliance is committed to its core values and objectives and has devised a framework for building partnerships with developing countries. This framework is divided into three distinct categories of criteria: (1) inclusive strategies for global partnerships, (2) shared vision and sustainability alignment, and (3) scalability and infrastructure in partnerships. The Alliance recognizes its members' unique strengths and priorities and encourages each partner to focus on one or more of these criteria. This approach allows for a tailored and flexible partnership that aligns with the Alliance's overarching goals and resonates with individual member institutions' specific interests and capabilities. The Alliance would also ensure that partnerships are mutually beneficial and promote equitable sharing of resources, expertise, and opportunities. This equitable collaboration would actively involve partners from developing countries in decision-making processes.

5.3.1 Inclusive strategies for global partnerships

The INGENIUM Alliance considers capacity building critical for successful global partnerships. By recognizing socioeconomic needs, partnerships can be more responsive and effective in addressing disparities and promoting equality. Collaboration is enriched by considering cultural and geopolitical factors, allowing diverse perspectives, and navigating complex global dynamics. Inclusivity is championed through a commitment to global representation and diversity, ensuring a wide range of voices and experiences contribute to shared goals. Additionally, a focused approach towards vulnerable countries experiencing climate change or economic challenges highlights a dedication to addressing unique vulnerabilities and promoting resilience. In recognizing our developing country partners' diverse capabilities and starting points, the INGENIUM Alliance ensures that our collaborative efforts are grounded in mutual understanding and respect for each country's unique path toward sustainable development. Our approach is to co-develop projects that are not only ambitious but also achievable, taking into account the specific socioeconomic contexts, resources, and challenges of our partners.

5.3.2 Shared vision and sustainable alignment

The INGENIUM Alliance shapes its Global Partnership Agenda by prioritizing criteria that embody its members' collective vision. Central to this are the principles of mutual interest and commitment, ensuring that partnerships are founded on a shared dedication to their success and longevity. Additionally, a key criterion is the alignment

with the SDGs and the EGD priorities. This strategic alignment signifies the Alliance's commitment to partnerships that yield mutual benefits and contribute to the global sustainability agenda. Such criteria facilitate selecting partnerships likely to be effective, sustainable, and valuable to all involved, driving collective action towards a more sustainable future.

5.3.3 Scalability and infrastructure in partnerships

Based on the principles of scalability and sustainability of impact, the INGENIUM Alliance proposes to assess the growth potential of each partnership. This ensures that projects can evolve and extend their reach over time, maximizing their long-term benefits. At the same time, an existing teaching and research infrastructure with a proven track record is a crucial criterion, laying a solid foundation for collaboration. This infrastructure catalyzes advanced research and educational initiatives, providing a stable platform for partnerships to flourish and adapt to future opportunities. Together, these criteria are essential to fostering resilient academic collaborations, designed not only to achieve immediate results but also to evolve and make a lasting contribution to education and sustainability on a scale far beyond the INGENIUM Alliance.



Figure 13 Criteria for academic collaborations.

5.4 Actions

The INGENIUM Alliance will

- > Encourage to increase the cooperation with HEIs in developing countries according to the three defined criteria through Capacity Building and Policy Support projects.
- > Leverage digital tools for virtual collaboration through engagement of selected students from developing countries partner universities to participate in INGENIUM Winter/Summer Schools virtually.
- > Facilitate student exchanges with partner universities in developing countries to have more experiential learning in different cultural contexts to enhance global citizenship of students.
- > Engage alumni to serve as ambassadors and bridge builders.

CONCLUSION

The INGENIUM Alliance is fully committed to the SDGs and EGD by working with the recommendations and activities mentioned in this policy regarding education, research/innovation and outreach activities, campus operations and global contacts. Some of the proposed recommendations could have substantial consequences for the partners in terms of adjustments in education curriculum and pedagogy, focus on multi- and transdisciplinary research, investment on campus, student engagement and another way of working with HEIs in developing countries. Because of the different preconditions of the partners it is important that they can prioritize themselves with what recommendations and activities to start. It is highly recommended to have the commitment of the higher management in this process.

The Sustainability Committee will follow up on this policy with the indicators (appendix 4) and the framework to monitor progress (annex 1) to help, advice and share best practices on how to accelerate sustainable development by raising awareness and to encourage staff, students and external partners to take action.

Sustainable Development is a journey, not a destination.

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The Declaration on Research Assessment that recognizes the need to improve the ways in which the outputs of scholarly research are evaluated, 2012
<https://sfdora.org/about-dora/>

UN SDGs, 2015, <http://www.un.org/sustainabledevelopment/sustainable-development-goals>

UN transitions, September 2023, UNSDG | Six Transitions: Investment Pathways to Deliver the SDGs

Appendix 1

Sustainable development goals

1. No Poverty – End poverty in all its forms everywhere
2. Zero Hunger – End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Good Health and Well-Being – Ensure healthy lives and promote well-being for all at all ages
4. Quality Education – Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. Gender Equality – Achieve gender equality and empower all women and girls
6. Clean Water and Sanitation – Ensure availability and sustainable management of water and sanitation for all
7. Affordable and Clean Energy – Ensure access to affordable, reliable, sustainable and clean energy for all
8. Decent Work and Economic Growth – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. Industry, Innovation and Infrastructure – Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. Reduced Inequalities – Reduce inequality within and among countries
11. Sustainable Cities and Communities – Make cities and human settlements inclusive, safe, resilient and sustainable
12. Responsible Consumption and Production – Ensure sustainable consumption and production patterns
13. Climate Action – Take urgent action to combat climate change and its impacts
14. Life below Water – Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Life on Land – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. Peace, Justice and Strong Institutions – Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Partnerships for the Goals – Strengthen the means of implementation and revitalize the global partnership for sustainable development

<http://www.un.org/sustainabledevelopment/sustainable-development-goals>

Appendix 2

Key competencies in education for sustainable development (UNESCO, 2017)

These eight competencies are transversal, multifunctional and context independent.

Systems thinking competency: the abilities to recognize and understand relationships; to analyse complex systems; to think of how systems are embedded within different domains and different scales; and to deal with uncertainty.

Anticipatory competency: the abilities to understand and evaluate multiple futures – possible, probable and desirable; to create one's own visions for the future; to apply the precautionary principle; to assess the consequences of actions; and to deal with risks and changes.

Normative competency: the abilities to understand and reflect on the norms and values that underlie one's actions; and to negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions.

Strategic competency: the abilities to collectively develop and implement innovative actions that further sustainability at the local level and further afield.

Collaboration competency: the abilities to learn from others; to understand and respect the needs, perspectives and actions of others (empathy); to understand, relate to and be sensitive to others (empathic leadership); to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving.

Critical thinking competency: the ability to question norms, practices and opinions; to reflect on own one's values, perceptions and actions; and to take a position in the sustainability discourse.

Self-awareness competency: the ability to reflect on one's own role in the local community and (global) society; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.

Integrated problem-solving competency: the overarching ability to apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive and equitable solution options that promote sustainable development, integrating the above-mentioned competences.

Competency	Teaching and Learning	Pedagogy and Assessment
System Thinking	This involves big-picture thinking. Exploring how complex systems work, interconnect, and shape each other. You will learn to challenge your understanding and see your role in systems. You must examine multiple perspectives by listening to different voices.	Try to choose real-life problems on campus or in the community that are relevant to your discipline area and any other discipline area in which you are involved in shaping solutions.
Anticipatory Thinking	Examine current sustainability issues and examine the future based on varied scenarios: no change, +ve change, -ve change. You will learn to project outcomes based on scenarios, determine risks and mitigating factors, and how to demonstrate evidence.	Mix pedagogical approaches and try to involve collaboration with others internal and external to the university. Pedagogical approaches could include:
Critical Thinking	Examining current issues impacting people prosperity and planet you will question norms, practices, and opinions, reflect on your values, actions, and perceptions, and define your position on sustainability issues.	Case studies – Roleplay – Debates – Design thinking challenges – Hackathons – Scenario planning – Teamwork – Problem-based learning – Reflective practice – Scenario planning – Imaginative reflection – Assessment
Strategic Competency	Working with others, you will leverage knowledge from various fields to develop and implement innovative actions to advance sustainability on campus, in the local community, and further afield.	
Collaboration Competency	Engage students with others on and off campus to collaborate on a problem. You learn with and from others, understanding, respecting and being sensitive to others' perspectives while developing empathy and empathic leadership.	Match the assessment to the pedagogical approach taken and integrate the assessment outputs into the project deliverables where possible, e.g., a reflective journal, a project proposal, a presentation, a business plan, a report, a critique, etc. Where relevant, enable external collaborators to contribute to assessment by providing constructive feedback or contributing to formative or summative assessment. Integrate reflection or individual or group collaboration into the assessment.
Integrated Problem-solving Competency	Choose a real-world problem. Introduce and apply a variety of problem-solving frameworks, tools, and techniques to address complex sustainability problems. Co-design viable, inclusive, and equitable solution options that promote sustainable development, integrating the abovementioned competencies.	
Self-awareness Competency	Introduce relevant scenarios in your local community and reflect on your role in taking action and being an agent and motivator of change. Depending on the topic, this may address law, policy, science, ethics, values, transformative change, or other disciplines.	
Normative Competency	Choose a relevant topic area: climate action, nutrition, leadership, disability inclusion, women's rights, animal welfare, or social welfare. Learn to consider, understand, and reflect on the norms and values that underlie societal or individual actions. What norms and values support fairness and flourishing?	

Appendix 3

The great transitions defined by the United Nations

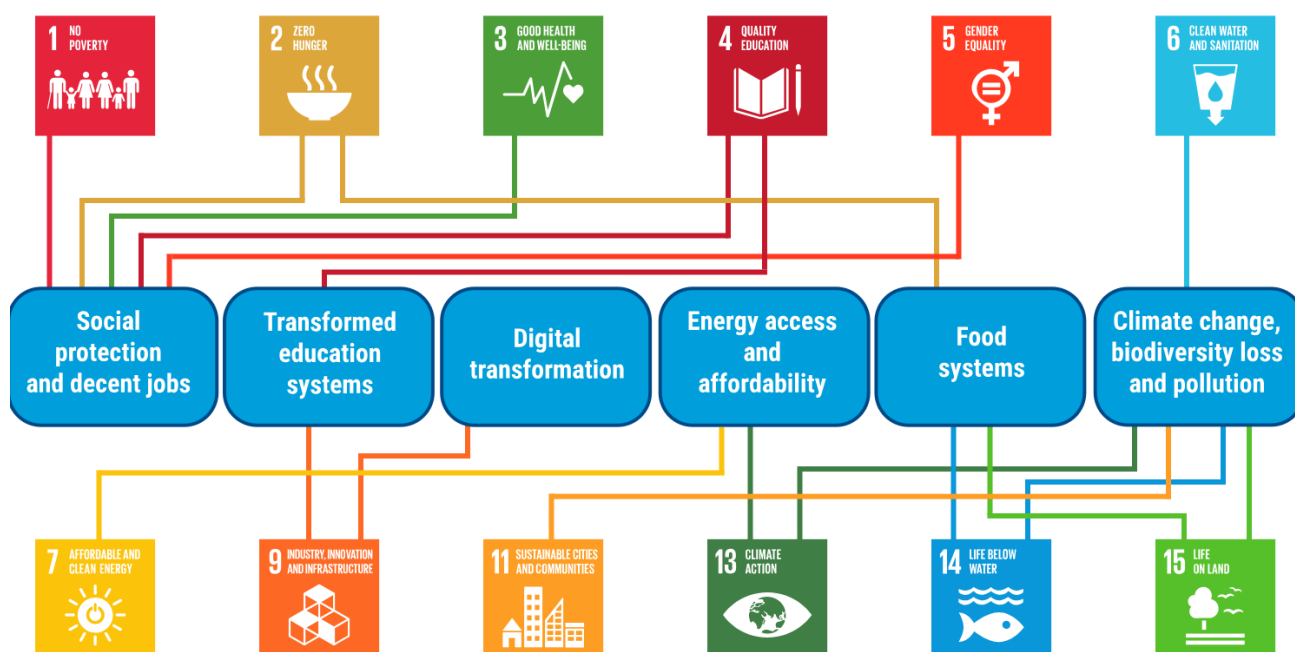
UNSDG | Six Transitions: Investment Pathways to Deliver the SDGs

<http://www.un.org/sustainabledevelopment/sustainable-development-goals>

Unlocking transition pathways: A global perspective to SDG costing with synergistic approaches – UNCTAD SDG Pulse 2023

Rooted in the 17 Goals, there are transformative entry points or - key transitions that can have catalytic and multiplier effects across the SDGs. This includes:

- > Food systems, Game-Changers: Towards Sustainable Food Systems, How to feed, not deplete the world | United Nations DCO (un-dco.org)
- > Energy access and affordability, Game-Changers: Energy access and affordability, Powering ahead to 2030 | United Nations DCO (un-dco.org)
- > Digital transformation, Game-Changers: Wired for Good, Digital Connectivity for a Sustainable Future | United Nations DCO (un-dco.org)
- > Education, Game-Changers: Making The Grade, Transforming Education by 2030 | United Nations DCO (un-dco.org)
- > Jobs and social protection, Game-Changers: Fostering Inclusion, Strengthening Social Protection and Decent Jobs | United Nations DCO (un-dco.org)
- > Climate change, biodiversity loss and pollution Game-Changers: Driven by nature, the economic transformation we need by 2030 | United Nations DCO (un-dco.org)



Source: UNCTAD mapping based on United Nations (2023b).

Appendix 4

Indicators for implementation and list of actions

Indicators SDG EGD and Global Partnership

Agenda

UNIOVI MUS UOC HKA XAMK UDA HIS MTU URN TUIASI

EDUCATION

Advance Policy
Transform pedagogy and learning environment
Building capacities of educators
Empower and mobilize youth
Accelerating local level actions

RESEARCH, INNOVATION AND OUTREACH

Research
Partnerships
Innovation and knowledge transfer

SUSTAINABLE UNIVERSITIES

Energy
Water usage
Mobility
Procurement
Waste management
Biodiversity
Social sustainability

GLOBAL PARTNERSHIPS

Apply Erasmus+ capacity building and policy support
Facilitate student exchange developing countries

STUDENT ENGAGEMENT

Numbering/colouring

1. Prep
2. Act
3. Outreach
4. Reflect

Action	Timeline	Main responsible	Means of Verification	Comments
> Develop a list with student activities	April 2024	HS with all partners and WP9	Sustainability Committee	Activities related to sustainable development and could be used during sustainability week, 10-days and other events
> Implement the winning Hackathon solution	May 2024 - 2026	All partners	Sustainability Committee	The winning team will present their idea during 10-days in Rouen, May 2024. And students will start to build the prototype.
> Write an INGENIUM meet- and travel policy	June 2024	XAMK, HKA	Sustainability committee (drafting) Steering Committee (approval)	This policy addresses all INGENIUM activities, meetings and events
> Write sustainability checklist for the 10-days of INGENIUM events.	June 2024	XAMK	Sustainability Committee Implementation by organisers of 10 days and 10 days of INGENIUM working group	Could be used for all other events (related to WP4)
> Organise Challenge Labs	Autumn 2024	HS with all partners	Sustainability Committee	6 Workshops with external partners, researchers and students. Related to the UN great transitions
> Set up partnership for low-carbon and circular economy	2024	HS, HKA, Iasi	Sustainability Committee	For collaboration in research and development, also with surrounding society and industry
> Organise a sustainability week	Yearly in autumn	All partners	Sustainability Committee	Tools and activities will be shared to organize one or several events during this week to raise awareness and empower students and staff (also related to WP9)

> Develop course materials	June 2025	HS with all partners	Steering Committee June 2025	10 course modules and a general module related to the SDGs / UN transitions (also related to WP5 and WP9)
> Develop tools for teachers	June 2025	HS with all partners	Steering Committee June 2025	To aim teachers to integrate sustainable development in their teaching (also related to WP5 and WP9)
> Increase cooperation with HEIs in developing countries	2025 - 2026	All partners	Sustainability Committee	According to the three defined criteria the Alliance will apply for at least one Erasmus+ capacity building and policy support project
> Engagement of students from developing countries	2025 - 2026	All partners	Sustainability Committee	During summer – and winter schools and other events (related to WP4)
> Facilitate student exchanges with partner universities in developing countries.	2025 - 2026	All partners	Sustainability Committee Erasmus / mobility coordinators	To have more understanding for different cultural contexts to enhance global citizenships of students. INGENIUM partners will work on a coordinated manner to increase their portfolio of Erasmus+ KA171 and other global mobilities with developing countries
> Engage alumni of our INGENIUM universities	2025 – 2026	All partners	Sustainability Committee	International students in all INGENIUM universities will be informed about the possibilities provided by the alliance through targeted communication materials, so they can serve as ambassadors and bridge builders
> Encourage new joint study programmes and support its preparation	Continuously	All partners WP representatives	Sustainability Committee	Addressing environmental challenges, the SDGs and EGD (related to WP4) WP representatives will support academics working on new joint study programmes to incorporate sustainability related elements. Sustainable development components must be considered positively and encouraged in internal calls for proposals for joint programmes.

> Encourage multi- and transdisciplinary research projects	Continuously	All partners	Sustainability Committee	Addressing the SDGs and EGD (related to WP6)
> Collaboration with businesses, governments, local communities	Continuously	All partners	Sustainability Committee	Long term, addressing environmental and societal challenges, and also to valorise research result (related to WP8)
> Assess joint research proposals	Continuously	All partners	Sustainability Committee Work Package 6	Addressing environmental and societal challenges (related to WP6)
> Implement Sustainable Campus guidelines	Continuously	All partners	Sustainability Committee All partners	According to the 4-steps model in chapter 4 (also related to WP9)
> Consider sustainability, decarbonisation, resource efficiency and other environmental-related challenges in all activities.	Continuously	All partners	Sustainability Committee	As sustainable development should be integrated in all activities
> Implement university-specific actions related to the Sustainable campus areas	Continuously	All partners	Sustainability Committee	All partners can prioritize the activities themselves because of the different preconditions (also related to WP9)
> Share best practices	Continuously	All partners	Sustainability Committee	Actively during plenary meetings and physical meetings and on the repository and website

Appendix 5

Result kick off in September 2023



The world and our university is a place to thrive
Face social and ecological challenges in the world

Vertical (across) and horizontal (within work packages) impacts
Sustainability as a cross-cutting element in all INGENIUM work packages

Common policy on sustainable education and human rights
Common vision on sustainable development
Become a university Alliance concentrated on inclusion and sustainability within its partner universities

Collaborative education formats
SDGs in academic programs and joint programs
Better opportunities to exchange students
Reform education / programs -- sustainability skills
Developing SDG materials and courses
Increase the ecological knowledge
More active sustainable learning formats: boat tour, treasure hunt on campus ('SDG')
Stimulate/ initiate small, sustainable initiatives for society and the university eg awareness week

Education and research
Better international research opportunities

Develop sustainability competences of the students and the staff

Transform sustainable awareness into action
Provide practical examples in addressing SDGs
Share good practices, learning, examples and experiences between INGENIUM universities and externally
Innovations
Implementation at the university



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1

Impact

(social) Awareness (about human impact on the ecosystem)
Spread awareness for inequality and implement inclusion methods
Young people engagement / mobilizing young people / let students engage more
Better formed, more responsible and aware (sustainable and socially) students
Students with a world wide vision

To be more open minded
Dialogue
Commitment

Shared knowledge
Improve universities resilience thinking
Form some resistance against short term and promote long term thinking
Ensure equal positive and negative of technological change

Reduce energy consumption and waste
Stop decrease of biodiversity
Environmental friendly

Producing learning material to students and local communities
Feeding back sustainable development to local ecosystem
Proposals to government for new regulations, new agenda at EU level
Directly and indirectly drive national and regional change / positivity in health transition
Dissemination of SDGs in local geographical environment
Partnership approaches



To survive + quality of life

Making SDG topics / thinking for our daily life and not something special
Implement SDGs and principles across all our universities functions
Grow together in Europe and be a shiny example for the world
To become a good practice on how a university embodies sustainability within its operations (education, research, management)

Purpose

Through research provide evidence for policy, government, industry and how and why to implement SDGs
To form a layer that can handle knowledge - improvements
Knowledge and technology transfer to third parties
Promote new and innovative solutions
Deliver feedback to the government decisions - for politics / regulations
To improve partner sustainability for regions, people, society

Equip learners to have positive impact for people and planet

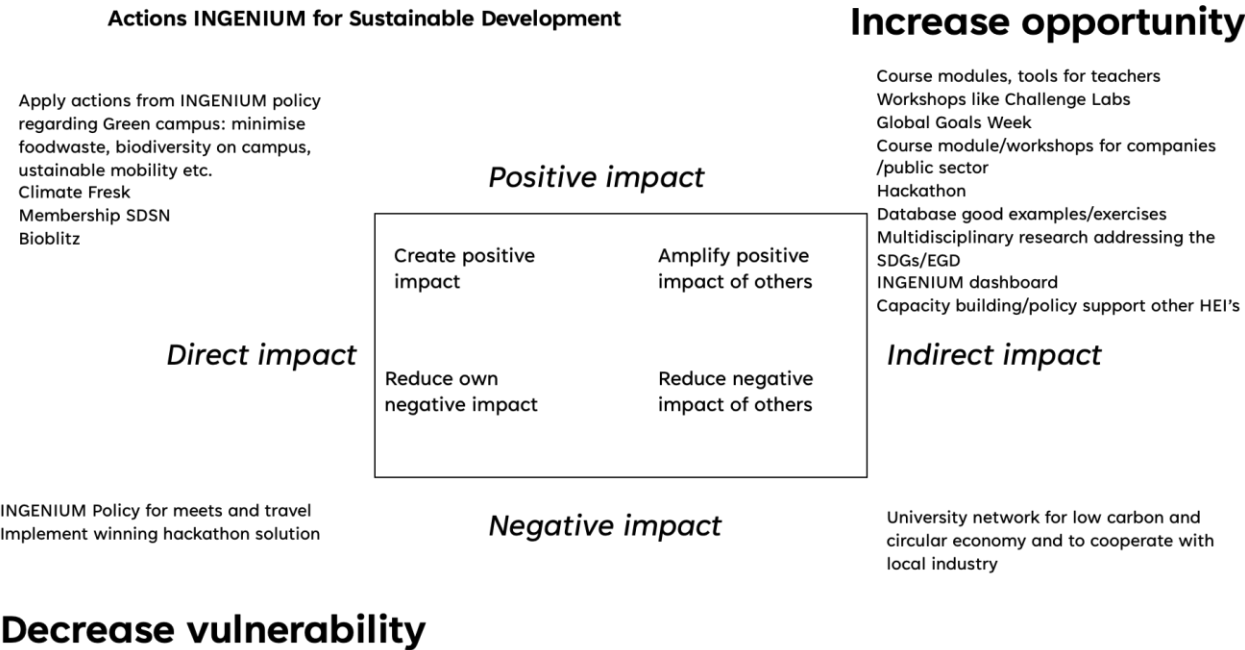
Ensure our students understand the challenge and route to solutions
Empower our students to change systems
Educational programs on SDGs, 4 equality, 5 gender

To share good examples and inspire (people, organizations, society)



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2



Appendix 6

Results self-assessment



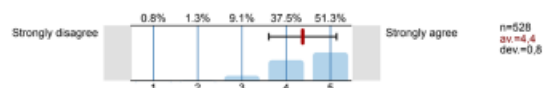
self assesment
results CM.pdf

Appendix 7

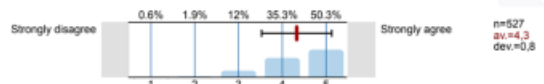
Results student survey

Answers Student Survey

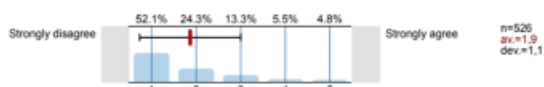
Higher Education can contribute towards sustainable development



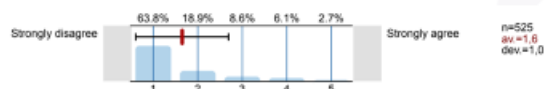
Higher Education can contribute towards human rights



The right to education only applies to primary and secondary schools

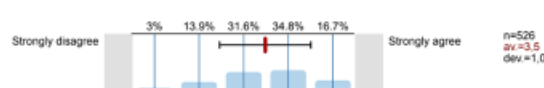


Human rights are only relevant for marginalised groups

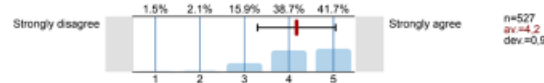


Answers Student Survey

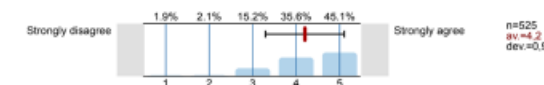
Higher education institutions offer training and educational resources to learn more about human rights and sustainable development



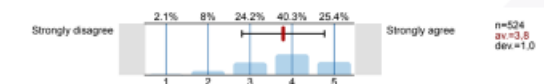
I would like to have the skills to advocate for human rights and sustainable development



A human rights-based approach should be used in education and training

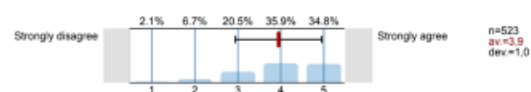


I understand how a human rights approach intersects with global, regional, and national policy objectives

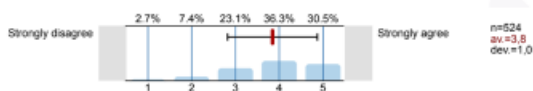


Answers Student Survey

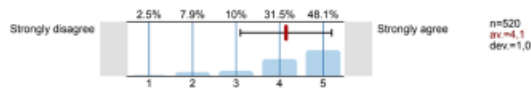
I understand how a human rights approach can deliver better outcomes in my field of study



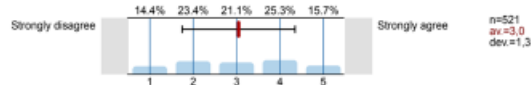
I can ensure my practice in my field of study addresses the needs and rights of all including minority groups



I think people have the power to protect the planet in their daily lives

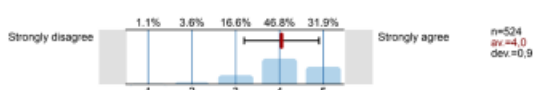


Striving for global sustainability is very expensive: rich people can worry about it, but poor people don't have that luxury

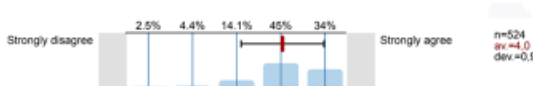


Answers Student Survey

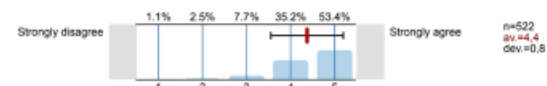
In my daily life, I strive to do things that protect the planet and environment



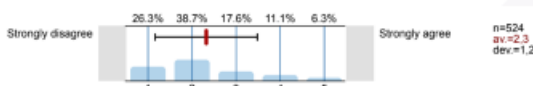
I normally consider how my habits and behaviours affect the planet or environment



Even if changing behaviour is difficult, I will continue to try my best

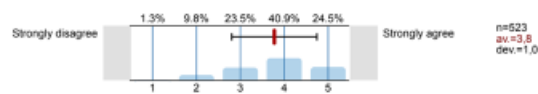


When I do something, I rarely think about how it will affect the environment or the planet

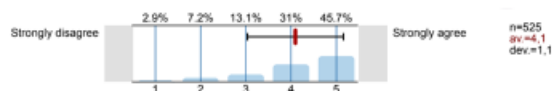


Answers Student Survey

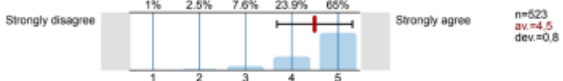
I pay much attention to whether what I do is good for the planet



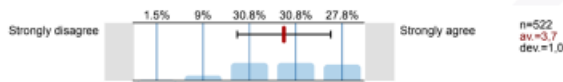
If each of us does little things in our daily lives, it will have a big influence on the planet



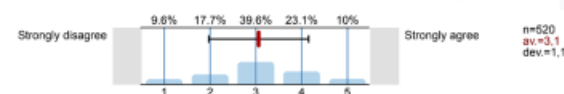
I feel concerned about the future of the planet



I feel proud of the things I do to make the world better



The sustainable operation of economies should be left for regulation from governments



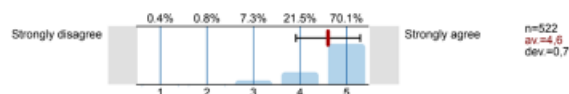
Co-funded by the European Union

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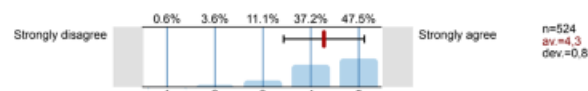
5

Answers Student Survey

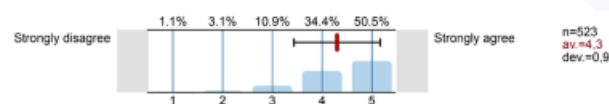
Business must consider more intensively the environmental and social impact of their production processes



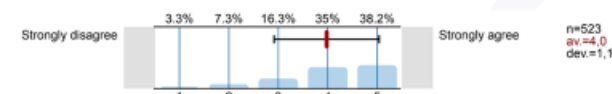
Consumers can contribute to the achievement of sustainable development goals



Consumers must consider more intensively the environmental and social impact of their consumption choices



Universities are responsible for educating responsible professionals and consumers



Co-funded by the European Union

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6

Summary open question 'What should your university do regarding sustainable development'

In today's interconnected world, universities play a pivotal role in shaping the future by cultivating informed and responsible global citizens. Integrating human rights and sustainable development into university education and activities is essential.

Interdisciplinary courses that explore the intersections with human rights.

Since the change comes from the new generation, it would be good if the universities could develop more educational activities on human rights, since it is a topic that is included in every field of research.

The fact that universities are seen as isolated bubbles also suggests that we should try to reach the external, non-academical world, particularly the more marginalized and distressed parts of society.

Ensure that not only social careers like education, health mention human rights, but also educate entrepreneurs, engineers and other student from different careers, to create new products, business ideas for the planet and people.

One of the fundamental steps our university can take is to incorporate dedicated courses on human rights, sustainability. These courses should be offered across various disciplines to ensure a holistic understanding among students.

Highlight domain specific sustainability and human rights issues. E.g. For computing students, address issues such as the lack of diversity in AI training datasets. Or Highlight the energy usage caused by various technologies used day to day that these students will likely work with and implement in the future.

Through curriculum development, research initiatives, community engagement, sustainable practices, and global partnerships, the university can contribute to creating a more just, equitable, and sustainable world.

Include more Human rights and sustainable development in engineering.

Foster an inclusive and diverse campus environment that respects and celebrates different cultures, backgrounds, and perspectives by opening a dialogue on human rights issues, encouraging students to express their opinions and learn from each other.

Educational game for younger generation (primary school, secondary school).

Partnerships with primary schools, promoting specific, fun educational programs adapted to each age group.

I often make things when I need something, it's much better than just ordering an item. Some people can't because they don't have access to a place to make things nor tools, nor knowledge. Giving student the possibility to do so would be great.

Encourage! Organize forums, debate, cleans walks.

Creative ways for an activity with sustainability and humanitarian rights to be slightly integrated into a lesson game/activity. That would make it more engaging and insightful to the lesson.

I consider really important the development of green areas and, especially, vegetable patches.

The university should organize Talks, courses, and even practical sessions in each faculty focused on raising awareness and educating.

It would help to have some meetings where students in groups can work on projects taken from real life examples. Then they could work together to find some solutions. Hands on experience is always the best.

Equip students with a cross-disciplinary lens, preparing them to address real-world challenges.

The university trains the citizens of tomorrow, we must all know the impact of our lifestyle and consumption choices.

Work with politicians and students to build the future.

The university should spread the values and importance of sustainable behaviour for both businesses and consumers.

Organize workshops, seminars, and events to raise awareness among students, faculty, and staff about human rights issues and sustainable practices. Encourage dialogue, activism, and advocacy through clubs, societies, or student-led initiatives.

Incorporate Relevant Courses that specifically address human rights and sustainable development, ensuring a cross-disciplinary approach, and encourage and support research projects focusing on human rights and sustainable development issues, fostering a culture of inquiry and innovation.

Foster partnerships with local communities and NGOs, also, would be really beneficial to enhance the impact of these practical experiences.

Promoting community engagement through service-learning programs allows students to apply theoretical knowledge in practical contexts.

Students are encouraged to participate in community-based projects, fostering experiential learning and a sense of social responsibility.

Educate and bring awareness to the university professors.

Create awareness and encourage.

Make students to know more about other countries and cultures. Students need to get cultural exchange and respect of others.

Appendix 8

List of existing collaborations with developing countries

Brazil	37	Syria	1
Mexico	33	Uzbekistan	1
Chile	32	Tunisia	1
Colombia	30	Azerbaijan	1
Argentina	27	Côte d'Ivoire	1
India	24	Senegal	1
Ecuador	16	Uganda	1
Cuba	15	Lesotho	1
Moldova	15	Thailand	1
Peru	15	Haiti	1
Ukraine	14	Antigua and Barbuda	1
Albania	9	The Bahamas	1
Bangladesh	9	Barbados	1
Vietnam	9	Belize	1
Algeria	8	Cape Verde	1
Bolivia	8	Comoros	1
Tunisia	8	Fiji	1
Jordan	6	Grenada	1
Malaysia	6	Guinea-Bissau	1
Morocco	6	Guyana	1
Croatia	5	Jamaica	1
Kenya	5	Kiribati	1
South Africa	5	Maldives	1
Dominican Republic	4	Marshall Islands	1
Bosnia and Herzegovina	3	Micronesia	1
Georgia	3	Nauru	1
Iraq	3	Palau	1
Pakistan	3	Papua New Guinea	1
Serbia	3	Samoa	1
Egypt	2	Saint Kitts and Nevis	1
Kazakhstan	2	Saint Lucia	1
Kosovo	2	Saint Vincent and the Grenadines	1
Mauritius	2	Seychelles	1
Tanzania	2	Solomon Islands	1
Palestine	1	Suriname	1
Belarus	1	Timor-Leste	1
Ethiopia	1	Tonga	1
Indonesia	1	Trinidad and Tobago	1
Iran	1	Tuvalu	1
Madagascar	1	Vanuatu	1
Namibia	1		
Nepal	1		
Nigeria	1		
North Macedonia	1		

Appendix 9

Tools

Climate Fresk - Collaborative workshop that will teach the fundamental science behind climate change and empowers to act

<https://climatefresk.org/>

Enactus Network - Global network of leaders / students committed to using business as a catalyst for positive and social environmental impact

<https://enactus.org/network/>

Footprint exercise

[Ecological Footprint Calculator](#)

Framework to implement pedagogic method for embedding Education for Sustainable Development in curriculum design <https://codesignsesd.org/toolkit/>

National Geographic - Science, exploration and education to protect the world

<https://www.nationalgeographic.org/projects/bioblitz/>

SDG Assessment tool

<https://sdgimpactassessmenttool.org/en-gb>

Sustainable Development Solutions Network - Net zero campus guide

<https://www.unsdsn.org/net-zero-on-campus>

Tools for awareness and assessment

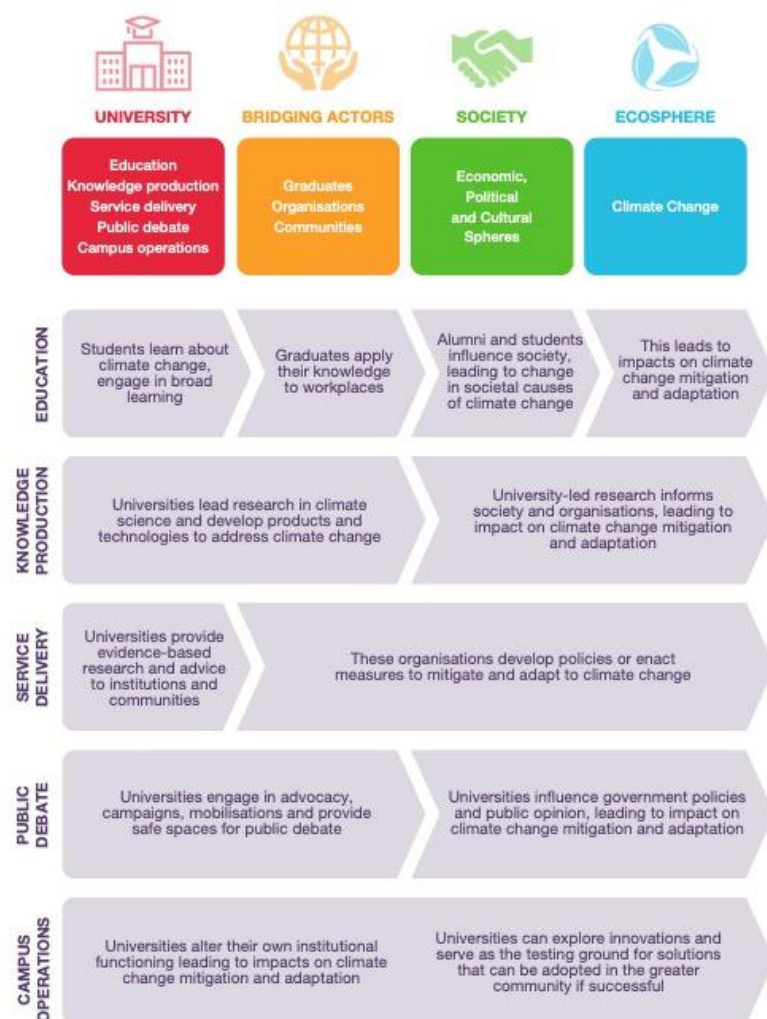
<https://www.sulitest.org/>

UN Sustainable Development Solutions Network for Academy

<https://www.unsdsn.org/>

NET ZERO ON CAMPUS | Understanding Net Zero

A framework that explains how universities can enable systemic change in climate change mitigation and adaptation.



Source with slight modifications: McCowan (2020)

The full Guide is available at <https://www.unsdsn.org/net-zero-on-campus>.

Annex 1

Matrix to be used by partners to list and to monitor the progress of their key institutional priorities related to the deliverable.

Institutional transformation objectives	<i>Please list the institutional transformation objective that you seek to attain.</i> <i>Select between 3/5 institutional objectives.</i>
Barriers faced to achieve those objectives at the institutional level	<i>Please list and explain the barriers that you currently face to achieve your institutional objectives.</i>
Potential Actions to be taken at the institutional level	<i>List the actions that you plan to take within your institution.</i>
Actions to be taken at other levels	<i>List potential actions concerning other actors, such as regional or national governments.</i>
Responsible(s) within the institution	<i>Explain who from the institution will be involved in the actions. Include the main responsible and other involved actors.</i>
Expected timeline and key milestones	<i>Please define an expected timeline and establish milestones if possible.</i>