



ILCA
Innovation Laboratories
for Climate Actions



CASE STUDY

Engaging students and academic staff
in activities on Climate Actions

Stefan cel Mare University, Romania

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INTRODUCTION

Addressing the pressing issue of climate change requires a collective effort that encompasses individuals, communities, and institutions. Universities, as centers of learning and innovation, play a crucial role in fostering a generation of climate-conscious individuals equipped with the knowledge and skills to tackle climate change effectively. Engaging students and academic staff in climate action activities is paramount to driving sustainable solutions and shaping a more environmentally responsible future.

Student engagement in climate action is crucial for several reasons. First, students are the future leaders, decision-makers, and innovators who will shape the world's response to climate change. By actively involving them in climate-related initiatives, we instill in them a sense of responsibility and ownership towards the environment. Additionally, students bring fresh perspectives, creativity, and energy to climate action efforts. Their innovative ideas and solutions can spark groundbreaking advancements in sustainable practices.

Academic staff, as educators and researchers, have a unique ability to guide and mentor students in climate action. Their expertise in various fields, from science and technology to economics and social sciences, can provide students with the necessary knowledge and tools to tackle climate challenges. Moreover, academic staff can play a pivotal role in research and development, identifying and implementing innovative solutions to mitigate climate change and adapt to its impacts.

The Innovation Laboratory for Climate Actions (ILCA) project at Ștefan cel Mare University of Suceava exemplifies the transformative power of student and academic staff engagement in climate action. Through its comprehensive approach, ILCA has successfully incorporated students and faculty into various initiatives, fostering a culture of environmental responsibility

and innovation. This case study aims to showcase the successful strategies employed by ILCA to engage stakeholders in climate action, providing a valuable model for universities worldwide.

Objectives of the Case Study

This case study aims to showcase the successful strategies implemented by SCMUS's ILCA project to engage students and academic staff in climate action initiatives. By highlighting these effective approaches, the case study aims to provide guidance and inspiration for other universities seeking to empower their stakeholders to contribute to climate solutions.

The Objectives of the ILCA Project

The ILCA project aims to:

1. Foster a culture of sustainability within the university community by promoting climate action initiatives and embedding sustainability principles into the curriculum.
2. Empower students and academic staff to become active climate change agents through training, mentorship, and opportunities to participate in research projects and community outreach programs.
3. Develop innovative solutions to address climate change challenges by leveraging the expertise and creativity of students and academic staff across various disciplines.
4. Contribute to the development of a sustainable future by disseminating knowledge, promoting responsible practices, and advocating for climate-resilient policies within the institution and beyond.

CONTEXT AND CHALLENGES

Climate change is a pressing global challenge with far-reaching consequences. Rising temperatures, extreme weather events, and environmental degradation are threatening ecosystems and human well-being. The Intergovernmental Panel on Climate Change (IPCC) warns of severe consequences, including more frequent and intense heatwaves, disruptions to food and water supplies, and rising sea levels.

Despite the urgency of the climate crisis, many universities, also Stefan cel Mare University, are struggling to engage students and academic staff in climate action initiatives. Some of the challenges that have been identified include:

- Lack of awareness and understanding: Many students and staff may not be fully aware of the severity of the climate crisis or the role that they can play in addressing it.
- Perception of the issue as being too big or too overwhelming: Some people may feel that climate change is such a large and complex issue that they cannot make a difference individually.
- Perception of complacency: Some people may believe that climate change is a problem for future generations to worry about.
- Lack of motivation: People may feel overwhelmed by the scale of the problem and feel that their individual actions will not make a difference.

- Lack of resources: Organization may lack the resources to develop and implement effective climate action initiatives.

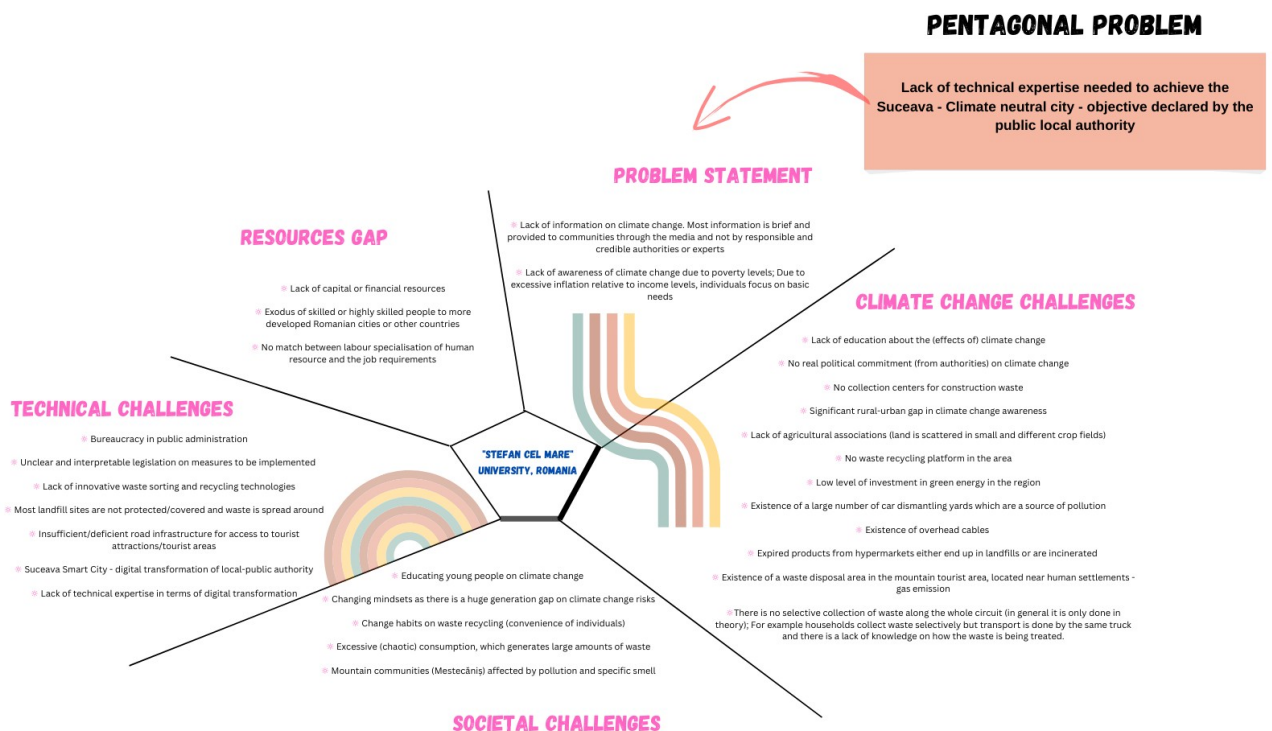
The ILCA Project: Harnessing the Potential of Students and Staff

The ILCA project (Innovation Laboratory for Climate Actions) at Stefan cel Mare University of Suceava became a unique initiative that aims to address the challenges of engaging students and academic staff in climate action. The project is based on the following principles:

- Creating awareness and understanding: The project provides students and staff with opportunities to learn about climate change and the role that they can play in addressing it.
- Focusing on solutions: The project focuses on developing and implementing practical solutions to climate change, rather than just talking about the problem.
- Fostering collaboration: The project encourages collaboration between students, staff, and external stakeholders to develop and implement climate action initiatives.
- Promoting innovation: The project encourages students and staff to think creatively and develop innovative solutions to climate change.

Example:

Figure 1: _Building entrepreneurial mindset



The Importance of Overcoming Challenges

Academic institutions have a responsibility to educate and empower students and staff to address climate change. By overcoming the challenges of engaging students and staff in climate action

initiatives, universities can play a leading role in mitigating climate change and building a more sustainable future.

Stefan cel Mare University of Suceava (USV) is committed to addressing climate change and promoting sustainable development. The university has initiated several initiatives to engage students and academic staff in climate action, including the Innovation Laboratory for Climate Actions (ILCA) project.

The project has developed a variety of engagement processes to involve stakeholders in climate action initiatives. These include:

- Workshops and seminars: The project organizes workshops and seminars to educate stakeholders about climate change and to discuss potential solutions (Roadmap example, Siret Hub workshop).



One of the workshops, hosted in the *Industrial & RDI Hub Siret Suceava*, was facilitated through a hybrid system, allowing for an inclusive and diverse participation from key stakeholders. Chaired by Carmen Nastase of Stefan cel Mare University of Suceava (USV) and coordinated by Miika Kajanus from Savonia University Finland, the event saw a significant contribution from both Romanian and Ukrainian perspectives.

Innovative Methodologies and Collaborative Processes

A highlight of the workshop was the presentation of the PRIA method by Miika Kajanus, which set the stage for an engaging co-creation process among participants. Through three focused groups, stakeholders collaboratively explored opportunities, threats, strengths, weaknesses, values, and



Assessment of the systematic innovation management capability workshop - Organized within the ILCA project for Vatra Boierească, a workshop in which members of our team participated, along with Vilho Jonsson from Curlabs, Sweden.

The **Assessment of Systematic Innovation Management Capability** refers to evaluating an organization's ability to effectively manage innovation processes in a structured, repeatable, and sustainable way. This assessment focuses on understanding how well an organization integrates innovation into its strategic and operational activities, ensuring that innovation is not a random or isolated effort but a core aspect of the business.

Key areas assessed include:

1. **Innovation Strategy**: How clearly defined and aligned the innovation strategy is with the organization's overall goals.

actions, facilitating a comprehensive understanding of the challenges and potential solutions for climate action.

Data Analysis, Results and Evaluation

The "Learning Coffee" sessions provided an innovative platform for participants to discuss and update on other groups' findings, fostering an environment of mutual learning and information exchange. This phase transitioned into the individual assessments using the Into-tool, where participants evaluated factors from different perspectives on a scale of 1 to 5, contributing to a nuanced understanding of priorities and viewpoints. The workshop culminated in a presentation of initial results and a discussion that illuminated the path forward for the Siret Technological Park as a nexus for climate action and cooperation. The evaluation process highlighted the importance of integrating perspectives from both the hub's and participants' viewpoints, ensuring that future strategies are aligned with the needs and priorities of all stakeholders.

2. **Leadership and Culture:** The role of leadership in fostering an innovation-friendly culture, encouraging creativity, and supporting risk-taking.

3. **Processes and Tools:** The presence of systematic processes and tools for generating, evaluating, and implementing innovative ideas.

4. **Collaboration and Networks:** How the organization collaborates internally and externally (with partners, academia, or customers) to enhance innovation.

5. **Resource Management:** Allocation and management of resources (human, financial, and technological) to support innovation initiatives.

6. **Monitoring and Measurement:** How innovation efforts are tracked, measured, and adjusted over time to ensure continuous improvement.

The goal is to identify strengths and gaps in the organization's innovation management, ensuring that innovation is well-structured and consistently contributes to growth and competitiveness.

- Competitions and challenges: The project encourage stakeholders to develop innovative solutions to climate change.



Activities from INNOVATION WEEK - This event is part of the ILCA project - "Innovation Laboratories for Climate Action", including the following planned activities for this week:

- Presentation of innovative methods in education - demonstrative course - with an interactive presentation
- **Alumni Fair** with Innovative businesses - Meeting with representatives from the business community
- **Business Plan Competition** and Business Fair
- Online scientific discussion panel: "**Regional Business Ecosystem Involvement in Digitalization and Green Transition and the University's Role**"
- Presentation of **funding opportunities** for businesses
- Public online presentation of the **best business ideas** and their awards (international event with guests from partner countries)

All these activities will spark curiosity, encourage team creation, and generate ideas... fostering a culture of lifelong learning.

- Community events: The project organizes community events to raise awareness of climate change and to promote sustainability practices.

ILCA
Innovation Laboratories
for Climate Actions

USU
Universitatea
Ștefan cel Mare
Suceava

CLIMATE ROADMAP

Atelier de descoperire antreprenorială
Identificarea unor parteneriate, soluții și idei de proiecte
inovative în sprijinul dezvoltării sustenabile

Evenimentul este deschis profesioniștilor din domeniul turismului și al specializării
conexe (digitalizare, alimentație, sănătate) – cadre didactice universitare și din
vătamântul preuniversitar, cercetători, studenți, reprezentanți ai mediului de afaceri,
ai administrației publice și ai societății civile. Vor fi abordate următoarele teme de
interes (ateliere):

- 1 TURISMUL SUSTENABIL – DEZVOLTAREA DE
NOI PRODUSE SERVICII TURISTICE
SUSTENABILE**
- 2 DIGITALIZAREA ÎN TURISM – DEZVOLTAREA
DE SERVICII SUPTOR PENTRU TURISM**

In mod interactiv, cu participarea tuturor celor prezenți, va fi analizată situația
actuală a sectoarelor economice relevante, vor fi identificate și prioritizate
nevoile specifice de dezvoltare, vor fi identificate soluții pentru depășirea
respectivelor provocări. Cele mai fezabile idei vor fi transpuse în fișe
simplificate de proiect.

ADR Nord-Est
18 OCT 10:00 AM
SALA SENATULUI
USU

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EIT HB Initiative

Ștefan cel Mare University, within the framework of the ILCA project, together with the North-East Regional Development Agency (ADR North-East), organized an entrepreneurial discovery workshop with the main objective of identifying innovative solutions and project ideas to support the sustainable development of tourism in the North-East Region.

In an interactive manner, with the participation of all attendees, the current situation of relevant economic sectors was analyzed, and specific development needs were identified and prioritized, with the aim of finding solutions to overcome these challenges (CLIMATE ROADMAP).

The most feasible ideas will be further developed into simplified project sheets, based on a model provided by the Regional Development Agency - ADR North-East.

Topics of interest addressed:

- Sustainable tourism – development of new sustainable tourism products and services;
- Digitization in tourism – development of support services for tourism.

The event was aimed at professionals in the tourism sector, related fields (digitization, food, health) – university and pre-university teachers, researchers, students, representatives of the business community, public administration, and civil society.

By overcoming these challenges and harnessing the potential of students and academic staff, USU can play a significant role in addressing climate change and building a more sustainable future.

The ILCA project at Ștefan cel Mare University of Suceava demonstrates the crucial role that universities can play in



engaging students and academic staff in climate action. By overcoming the challenges and harnessing the potential of these stakeholders, universities can contribute significantly to addressing climate change and building a sustainable future:

Figure 2: Role of Stefan cel Mare University (Role of HEIs)



Engaging Students and Academic Staff in Climate Action: The Stefan cel Mare University of Suceava's ILCA Project

In the face of the escalating climate crisis, universities are playing an increasingly crucial role in fostering sustainability and addressing environmental challenges. The involvement of students and academic staff in climate action initiatives is paramount to driving innovation and implementing effective strategies to mitigate the effects of climate change. This chapter delves into the significance of student and academic staff engagement in climate action activities and highlights the successful strategies employed by Stefan cel Mare University of Suceava's (SCMUS) Innovation Laboratory for Climate Actions (ILCA) project.

The Importance of Student and Academic Staff Engagement

Universities act as incubators for knowledge and innovation, with students and academic staff representing a wealth of talent and expertise. Their active participation in climate action initiatives is essential for several reasons:

- **Knowledge and Innovation:** Students and academic staff possess a fresh perspective, coupled with specialized knowledge and expertise in various disciplines. Their involvement brings together diverse perspectives and fosters interdisciplinary collaboration, leading to the development of innovative and effective climate action solutions.
- **Sustainability Education and Awareness:** Engaging students and faculty in climate action activities provides them with hands-on experience, practical skills, and a deeper

understanding of the climate crisis. This knowledge and experience empower them to become agents of change, promoting sustainable practices within their communities and beyond.

- **Community Engagement and Mobilization:** Actively involving students and academic staff in climate action initiatives helps raise awareness and encourage broader community engagement. Their involvement serves as a catalyst for collective action, mobilizing individuals and organizations to address climate-related challenges.

Fostering Sustainable Solutions through Engagement

SCMUS's ILCA project exemplifies the transformative power of student and academic staff engagement in climate action. The project aims to integrate sustainability into the university's curriculum, research, and operations, and it has successfully implemented several strategies to engage its stakeholders:

- **Multidisciplinary Climate Action Workshops:** The ILCA team organizes workshops that bring together students, faculty, and experts from various disciplines to discuss climate change issues and explore potential solutions. These workshops foster collaboration and cross-pollination of ideas, leading to innovative and holistic approaches to sustainability.
- **Sustainability-Focused Research Projects:** ILCA encourages faculty to incorporate sustainability themes into their research projects, providing funding and support for interdisciplinary research that addresses climate-related challenges. This research contributes to the development of knowledge and solutions that can be applied to real-world problems.
- **Green Campus Initiatives:** ILCA spearheads initiatives to promote sustainable practices within the university campus, such as waste reduction, energy conservation, and green building design. These initiatives demonstrate the university's commitment to sustainability and inspire students and faculty to adopt eco-friendly practices in their daily lives.

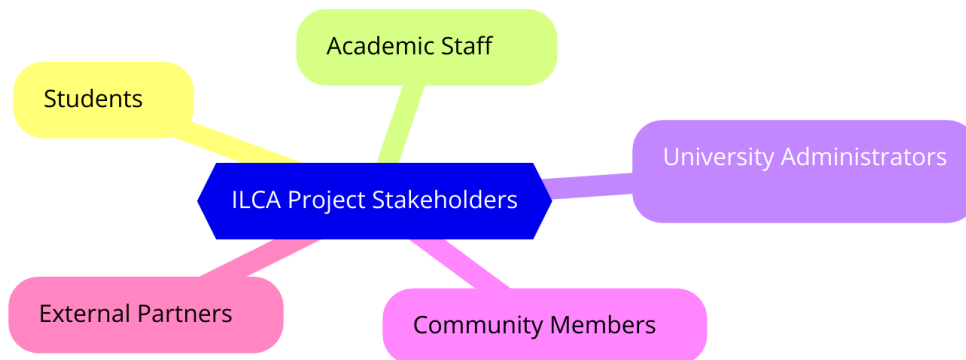
ILCA's Strategies for Engaging Students and Academic Staff

The ILCA project employs a multi-pronged approach to engage students and academic staff in climate action:

1. **Dedicated activities within ILCA Innovation Laboratory:** The ILCA project provides a physical space for students and faculty to collaborate, conduct research, and develop innovative solutions to climate change challenges.
2. **Organizing workshops and seminars:** Regular workshops and seminars are conducted to equip students and faculty with the knowledge and skills necessary to understand and address climate change.
3. **Promoting student-led initiatives:** The ILCA project encourages and supports student-led initiatives focused on climate action, providing them with resources and mentorship.
4. **Faculty-student partnerships:** The project facilitates partnerships between faculty members and students, enabling them to work together on research projects and community engagement activities.

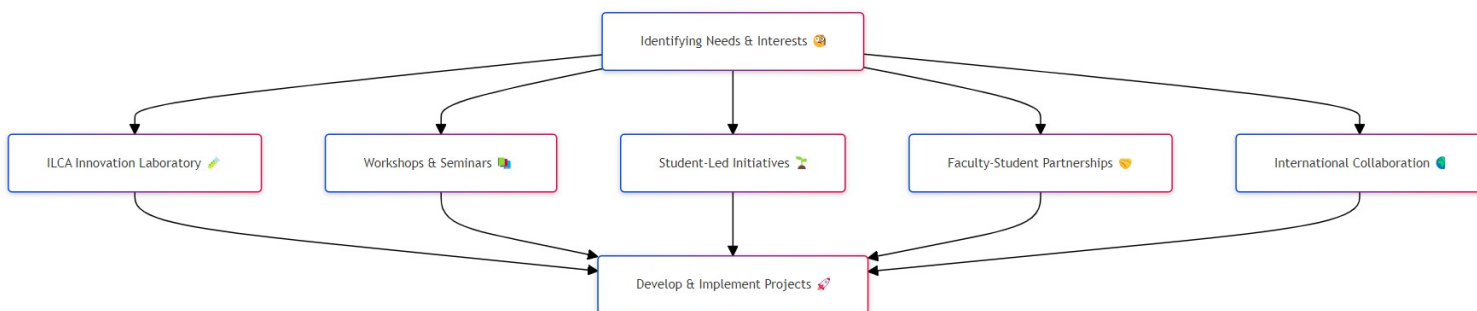
- Promoting international collaboration: The ILCA project encourages international collaborations to share knowledge, expertise, and best practices in climate action.

Figure 3: Stakeholder Mapping



This diagram illustrates the various stakeholders involved in the ILCA project, including students, academic staff, university administrators, community members, and external partners.

Figure 4: Engagement Processes



This flowchart outlines the various engagement processes employed by the ILCA project, from identifying needs and interests to developing and implementing projects. In conclusion, the Stefan cel Mare University of Suceava has demonstrated a commendable commitment to engaging students and academic staff in climate action initiatives through the ILCA project. By fostering a culture of sustainability and empowering individuals to make a difference, the university is paving the way for a more environmentally conscious future.

Importance of Student and Academic Staff Engagement in Addressing Climate Change results also from the following aspects:

1. Knowledge Dissemination:

- Students and academic staff act as key knowledge disseminators within institution.
- They have the potential to spread awareness about climate change, its impacts, and potential solutions.

2. Research and Innovation:

- USV together with its partners are hubs for research and innovation.

- Engaging students and academic staff can lead to the development of sustainable solutions through research projects and academic initiatives.

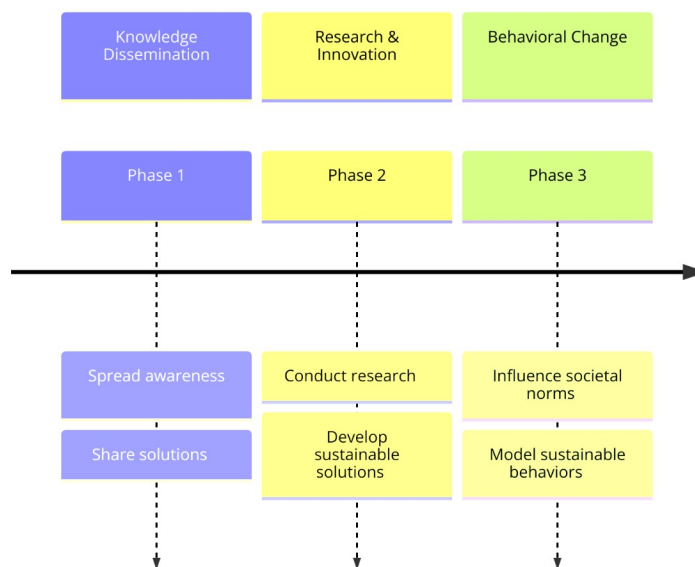
3. Behavioral Change:

- Students, as the future workforce, can influence societal norms and practices towards sustainability.
- Academic staff can model sustainable behaviors, contributing to a culture of environmental responsibility.

Figure

Addressing Climate Change

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climate action

activities enhances the educational experience, providing practical applications of theoretical knowledge. It fosters a sense of responsibility and activism among students.

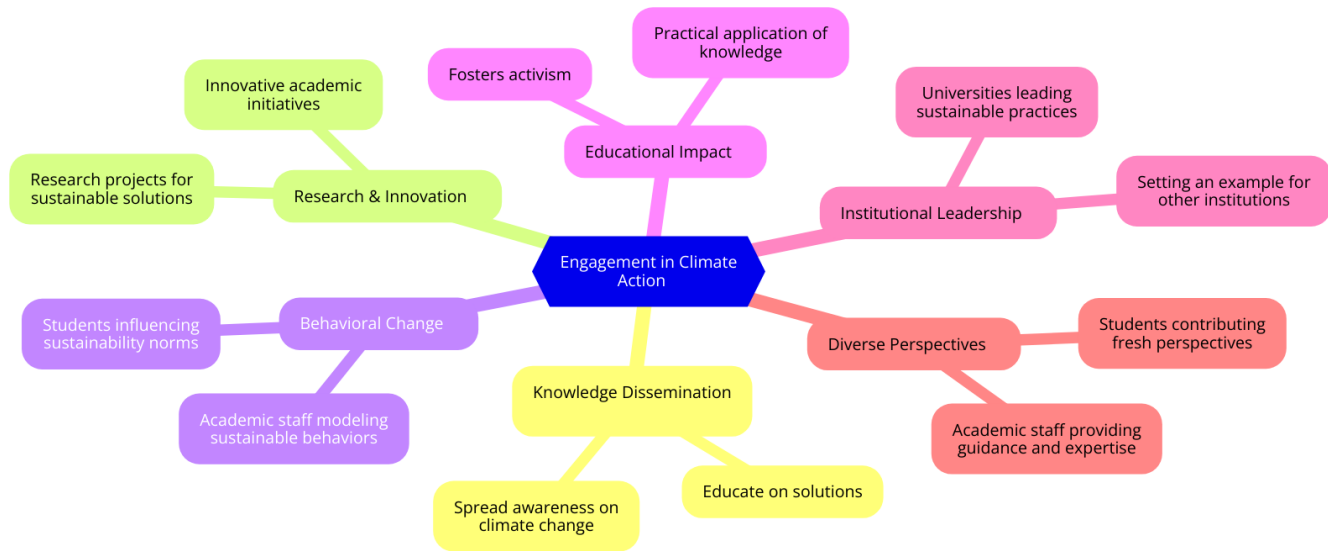
Universities and academic institutions, by involving their staff and students, can demonstrate leadership in sustainable practices. This sets an example for other institutions and contributes to a broader societal shift towards climate consciousness.

Students bring fresh perspectives and creativity to problem-solving, contributing to a more comprehensive approach in tackling climate issues.

Academic staff, with their expertise, can guide and mentor students, ensuring the quality of initiatives.

Here is the mindmap diagram illustrating the **Importance of Student and Academic Staff Engagement in Climate Action:**

Figure 6: _Importance of Student and Academic Staff Engagement in Climate Action



DESIGNING ENGAGING PROGRAMS

The first step in designing an attractive programme is to identify **the interests and motivations of students and staff**. This process involves a careful exploration of their needs and preferences with regard to climate change, the results of which can guide the direction of the programme.

The Programme take into account the diversity of knowledge levels of students and teaching staff. Therefore, different modules and levels of complexity can be developed so that each participant can contribute and feel challenged appropriately.

The use of educational technologies can add interactivity and attractiveness to climate action programmes. The integration of online platforms, simulations, mobile applications and other digital tools can facilitate learning and make content more accessible and attractive.

Including real and relevant examples can make programmes more concrete and applicable. When participants see concrete examples of climate change measures and solutions, they can better understand the impacts and are more willing to actively participate.

The programme should be flexible and allow personalisation of the educational experience according to the individual interests and needs of students and faculty. In this way, more relevant and engaging educational experiences can be created.

The inclusion of interactive and challenging activities such as debates, simulations, role-plays and open discussions will encourage participants to play an active role and express their views and opinions on climate action.

In order to tailor the programme content to individual skill levels and interests, optional courses or additional materials may be offered for those wishing to study a particular subject in more depth.

The programme can be designed to bring together different experiences and expertise and encourage collaboration between different disciplines. This interdisciplinary aspect can provide a broader perspective on climate issues and encourage innovative solutions.

The integration of practical projects into the programme allows participants to apply theoretical knowledge in a practical context. Working on projects related to climate action develops practical skills and a concrete understanding of the issues.

Field trips, study visits and field activities provide participants with hands-on experience and direct exposure to climate change issues. These experiences contribute to better understanding, awareness and motivation for participation.

Stefan cel Mare University of Suceava (USV) has implemented a number of strategies and approaches to design engaging programs on climate change action. These programs are tailored to appeal to students and academic staff, considering their interests, skills, and areas of expertise.

Strategies and Approaches

USV has adopted a number of strategies to make its climate change programming more engaging and relevant to students and faculty:

- Focus on real-world problems: The university focuses on projects that address real-world climate change challenges, such as developing renewable energy sources, improving energy efficiency, and reducing greenhouse gas emissions.
- Interdisciplinary collaboration: USV encourages interdisciplinary collaboration between faculty and students from different disciplines, such as engineering, science, business, geography and forestry. This collaborative approach brings together different perspectives and expertise to address climate change challenges from multiple angles.
- Project-based learning: Students participate in project-based learning activities that allow them to apply their knowledge and skills to solve real-world climate change problems. This hands-on approach helps students gain practical experience and develop problem-solving skills.
- Hands-on experiences: USV provides hands-on experiences for students and faculty, such as field trips to renewable energy installations and workshops on sustainable practices. These

experiences help students and faculty connect with the practical aspects of climate change action.

Stefan cel Mare University of Suceava has demonstrated that it is possible to design engaging and effective programs on climate change action. By focusing on real-world problems, interdisciplinary collaboration, project-based learning, and hands-on experiences, USV has created a learning environment that motivates students and faculty to take action on climate change.

PROMOTING AWARENESS AND PARTICIPATION

- **Education campaigns:** USV organize educational campaigns that highlight relevant information about climate change, its impacts, and the role that students and staff can play in combating it. These campaigns include presentations, seminars, and awareness events.
- **Interactive workshops:** USV organize interactive workshops that allow participants to better understand issues related to climate change and develop practical skills to contribute to sustainable solutions.
- **Collaboration with non-governmental organizations (NGOs):** Partnership with environmental NGOs and the use of their expertise help in organizing common events and awareness campaigns. This can provide a broader perspective and additional resources.
- **Social media:** USV actively use social media platforms to share information, news, and events related to climate action. This channel offers a fast and extensive way to reach a wide and diverse audience.
- **Online events and conferences:** Organizing online events and conferences bring together the academic community and provide a forum for discussions, presentations, and exchange of ideas on climate action.
- **Rewards:** Recognition for those actively involved in climate change mitigation actions, such as research grants, awards, or commemorations during academic ceremonies.
- **Sustainable project competition:** USV organize competitions to encourage the development and implementation of sustainable projects. This fosters creative thinking and active participation of students and faculty.
- **Awareness campaigns with prizes:** Awareness campaigns with attractive prizes encourage participation and support climate change mitigation actions. Such campaigns include

online challenges, event participation, and other specialized activities.

COLLABORATIVE PROJECTS AND INITIATIVES

- **Online collaboration platforms.** USV is using online platforms to manage and coordinate collaborative projects. These platforms facilitate communication between team members, resource sharing, and real-time tracking of project progress (e.g., USV drive, @usm.ro, Google Classroom).

- **Brainstorming and planning sessions:** Periodically we organize brainstorming and planning sessions where students and academic staff present ideas and strategies for collaborative projects. During this process, all stakeholders determine the direction of the project.



- **Mentorship and institutional support:** USV is providing institutional support and mentorship to guide participants' collaborative projects. This includes access to training sessions, educational resources, and experts (e.g., COACH USV, CCOC) to support project development.



- **Identification of complementary skills:** We consider the different skills and expertise of participants when organizing teams. It is important to match students and academic staff with complementary skills and knowledge to maximize everyone's contribution.
- **Encouraging direct interaction:** We create an environment where students and academic staff from different disciplines can interact directly with one another. This direct exchange of ideas and perspectives can stimulate creative thinking and interdisciplinary approaches.
- **Establish efficient communication structures:** We set up efficient communication structures among team members to ensure the smooth and accessible exchange of information. Both technical tools and periodic meetings can be used to maintain effective communication.
- **Facilitate knowledge-sharing sessions:** Organization of regular sessions and workshops where team members can share their knowledge and experiences is also important. These sessions can contribute to developing mutual understanding within the team and strengthening cooperation.
- **Distribute responsibilities fairly:** We ensure and fairly distribute responsibilities within the team so that each member can contribute significantly to the project. This can be managed by setting clear individual tasks and objectives.

INTEGRATION INTO CURRICULUM

Starting with the ILCA Project and the courses organized within it, especially the digitalization course, we identified the need to launch a new master's program, which we successfully accredited

and for which we already have enrolled students for this year, 2024.

The master's program "Digitalization and Data Science" is designed to meet the emerging requirements of the labor market in the era of digital transformation and big data. This program addresses essential aspects of digital processes such as cybersecurity, data analysis, artificial intelligence, and digital project management. It rigorously tackles both theoretical and practical aspects of digitalization, providing students with the skills needed to navigate and innovate in a constantly changing digital landscape. The "Digitalization and Data Science" master's program trains specialists capable of managing and leveraging big data, implementing digital transformation solutions, and addressing the ethical and legal challenges of the digital era. The program also integrates the development of transversal skills necessary for adapting to diverse professional contexts. Entrepreneurial skills offer training in the field of digital entrepreneurship, while Digital Project Management equips students with the skills needed to efficiently manage resources and teams in digital transformation projects. A key aspect of the program is the practical integration of theoretical knowledge through internships and the final dissertation project. These activities allow students to apply the knowledge gained in real-world settings, providing them with a concrete perspective on implementing digitalization and Data Science projects within organizations.



Program Objectives: The main objectives of the program are to train specialists capable of understanding and applying advanced data processing techniques, managing and optimizing digital transformation processes in various organizations, and promoting innovative solutions based on emerging technologies. The program aims to develop the skills necessary for integrating digital technologies in different economic and social sectors, as well as for using big data in decision-making processes.



Program Structure:

Year I: Students will develop fundamental knowledge in data analysis (Big Data) and an introduction to data science, focusing on the use of digital technologies in various sectors. Mandatory subjects include courses such as "Digital Data Analysis," "Introduction to Digitalization," and "E-commerce Security." These provide a solid foundation in data and information security. In the second semester, the focus shifts to advanced applications of Data Science and statistical methods, preparing students to work with complex data and develop innovative solutions. Students also have the opportunity to choose optional subjects such as "Sampling Methods and Techniques" or "Digital Marketing," allowing them to customize their academic path according to their interests. Elective courses such as "Extracting Data from Unstructured Information" or "Entrepreneurial Skills" complement the training, offering an interdisciplinary perspective on data applicability.

Year II: The curriculum becomes increasingly applied, integrating courses on digital transformation and digital project management. Subjects such as "Artificial Intelligence and Augmented Reality" and "Data Warehouse and Data Mining" emphasize emerging technologies and the advanced use of data in business. In the final semester, students are encouraged to apply the knowledge gained through internships and the preparation of their dissertation. Courses on "Ethics and Academic Integrity" and "Personal Data Protection" address the legal and moral challenges of digitalization.

DDS Program Specifics:

- **Digitalization and Innovation:** The program provides an in-depth understanding of digitalization processes, focusing on the digital transformation of businesses and the use of cutting-edge technologies such as blockchain and artificial intelligence.
- **Data and Security:** Data security and protection are central themes, covered through courses on cybersecurity, personal data protection, and digital legislation.

- **Interdisciplinarity:** The DSPP module adds a pedagogical and educational management dimension, including courses on "Psychopedagogy" and "Educational Research Methodology," offering students an integrated perspective on digital education.

Furthermore, USV strategy include:

- **Organization of specialized courses:** Organize specialized courses focused exclusively on climate change to provide students with a solid knowledge base in this field. These courses can address scientific, social, economic, and technical aspects of climate change.
- **Integration of climate change topics into existing courses:** Incorporate climate action topics into existing courses in various disciplines. For example, economics courses could discuss the economic impact of climate change and sustainable solutions.
- **Partnerships with industry and non-governmental organizations (NGOs):** Collaborate with industry and NGOs to develop learning modules that reflect real-world situations and practical solutions in climate action.
- **Interdisciplinary courses:** Develop interdisciplinary courses and include contributions from various disciplines. This will provide students with a comprehensive understanding of the complexity of climate change.
- **Interdisciplinary group projects:** Conduct group projects that involve collaboration between students and faculty from different disciplines. For example, projects addressing both scientific and social aspects of climate change.
- **Interdisciplinary workshops:** Organize workshops and study groups to promote interdisciplinary discussions and the exchange of ideas between different disciplines.
- **Problem-based learning:** Introduce problem-based learning methods where students are involved in solving practical problems related to climate change. This encourages critical thinking and creative problem-solving.
- **Service Learning:** Include elements of service learning, where students apply their knowledge in a real-world context and work with communities and organizations to implement specific projects related to climate action.
- **Simulation and practical experience:** Use simulation and practical experience to bring realistic situations into the classroom. For example, simulate global climate change negotiations or participate in field projects that examine the on-site impact of climate change.

**CAPACITY BUILDING
AND SKILL DEVELOPMENT**

- Discuss capacity-building initiatives and skill development opportunities provided to students and academic staff.
- Highlight workshops, training programs, or seminars that focus on building knowledge and skills related to climate change mitigation and adaptation.
- Present examples of successful skill development initiatives and their impact on student and academic staff engagement.
- **Continuous Training Programs:** Establish continuous training programs for both students and academic staff. These programs could include specialized courses, seminars, and workshops that address specific climate change issues and provide opportunities to gain necessary knowledge and skills.
- **Online Learning Platforms:** Implement online learning platforms to facilitate access to educational resources and skill development programs. This way, students and academic staff can access learning materials at any time and participate in courses tailored to their needs.
- **Partnerships with Industry Experts and NGOs:** Establish partnerships with industry experts and NGO representatives to offer training programs based on real-world experience and practice. These collaborations can provide opportunities for students and academic staff to learn directly from professionals experienced in climate change.
- **Mentorship Program:** Implement a mentorship program that offers students and academic staff access to guidance and advice from climate change experts. This personalized approach can help develop skills and guide careers related to climate action.
- **Optional Courses and Certifications:** Introduce optional courses and certifications that give students and academic staff the opportunity to expand their knowledge and develop skills in climate change. These courses can be customized to meet the specific needs of participants.
- **Practical Skills Workshops:** Organize workshops focused on developing the practical skills needed to address the challenges of climate change. These may include practical exercises, simulations, and case studies to provide participants with hands-on and applied experiences.
- **Incorporating Cross-disciplinary Skills:** Encourage the development of cross-disciplinary skills, such as critical thinking, problem-solving, effective communication, and collaboration. These skills are essential in the context of climate action, where an integrated and innovative approach is needed.

IMPACT AND SUCCESS STORIES

The ILCA project was presented as a model of best practices by the North-East Regional Development Agency (ADR Nord-Est) in the fields of smart specialization.

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POVEȘTI DE SUCCES

Regiunea Nord-Est
ILCA
Innovation Laboratories for Climate Actions

Articol transmis de:
Lect. univ. dr. Otilia-Maria BORDEIANU
- Responsabil distribuție
Prof. dr. Carmen Nastase
- Coordonator proiect în România

Domeniile RIS3:
TURISM, TIC, MEDIU

Nișe de specializare: Economie circulară,
Digitalizare, Schimbări climatice

Program de finanțare:
EIT Climate KIC

Grant agreement ID: 220194

Perioada de desfășurare:
Iulie 2022 - Iunie 2024

Buget: Faza 1 - 300.000 EUR
Faza 2 - 900.000 EUR

Coordonator proiect:
Savonia University of Applied Sciences
(Finlanda)

Compartii 9 parteneri din Finlanda,
Lituania, Bulgaria, Ucraina și **România**, care
este reprezentată de **Universitatea "Ștefan
cel Mare" din Suceava**.

SCOP:
ILCA promovează capacitatea de inovare
socială și climatică multidisciplinară prin
înființarea Laboratoarelor de Inovare
Climatică și implică actorii din ecosistem în
design-ul inovației Climatice.

ILCA reunește instituții de învățământ superior (HEI) și organizații de cercetare având ca tematică principală schimbările climatice.

În Faza 1 a proiectului se va dezvolta și testa un program de formare și mentorat cu două dintre instituțiile de cercetare partenere în proiect, precum și cu partenerii asociați din ecosistemele regionale care cunosc bine piața muncii.

O altă acțiune va consta în cartografierea fluxului de valori și implicarea actorilor din ecosistemele climatice prin identificarea scopurilor și motivațiilor comune. În această fază, proiectul va începe și dezvoltarea **laboratoarelor de inovare climatică**. Ca parte a celui de-al treilea obiectiv, proiectul va derula un sondaj în rândul IMM-urilor pentru a identifica nevoile acestora și pentru a crea un **portofoliu de servicii de asistență care vor fi testate**.

În Faza 2, fiecare instituție de învățământ va dezvolta în continuare programul de formare conform domeniului său de activitate. La sfârșitul proiectului, consorțiul va dezvolta „**microcredite climatice**” care respectă pe deplin Cadrul comun de microcredite. **Laboratoarele de inovare climatică** vor dezvolta **proiecte de cercetare și inovare (R&I)** bazate pe zone de impact/misiune predefinite pentru acțiunile climatice. Între timp, modulul organizațional (rolul actorului, protocoalele de colaborare și canalele de comunicare) al laboratoarelor de inovare va fi dezvoltat și adaptat continuu prin bucle de feedback.

Obiective proiect:

- realizarea aplicațiilor care înlocuiesc procesele și activitățile fizice în laborator, precum și dezvoltarea de noi servicii de asistență pentru IMM-uri;
- promovarea spațiilor de dezvoltare de servicii climatice orientate spre soluționarea problemelor de teren climatice și spre realizarea activităților necesare în domeniul proiectelor de servicii climatice;
- realizarea unor servicii de asistență și activități climatice în baza climatice și a personal de aplicații.

Rezultate proiect

- Consolidarea capacităților: Cel puțin patru instituții de învățământ superior vor adopta „micro-acreditații climatice” care au fost dezvoltate, testate și îmbunătățite în timpul proiectului.
- Integrarea și implicarea ecosistemelor: cel puțin opt proiecte de inovare climatică și socială vor fi dezvoltate în cel puțin patru ecosisteme diferite de inovare bazate pe specializarea inteligentă.
- Creșterea regională și competitivitatea: cel puțin 32 de întreprinderi noi/inființate și companii care se vor extinde își vor îmbunătăți capacitatea de tranziție climatică și transformare digitală, precum și competitivitatea și creșterea lor generală.
- Schimbare instituțională: Cel puțin un mecanism organizațional multidisciplinar și un sistem de stimulare vor fi implementate pentru a permite natura integrată și sistemică a activităților de educație, cercetare și inovare ale instituțiilor de învățământ superior.

<https://ilca-project.eu>

<https://eit-hei.eu/projects/ilca>

ILCA - laboratoare de inovare climatică care vor dezvolta proiecte de cercetare și inovare (R&I)

The success stories are also related to training results and feedback from Ștefan cel Mare University members:



"ILCA has brought together students, faculty, and staff from different disciplines to work together on climate action projects. This collaborative approach is essential for tackling this complex issue." - Lucia Morosan Danila - Lecturer PhD



"I'm proud to be a part of USV's commitment to sustainability. ILCA is a testament to the university's dedication to addressing climate change and shaping a more sustainable future." - Carmen Nastase- Professor, Dean of the Faculty of Economics and Business Administration.



"The ILCA project is our chance to not only teach but to actively contribute to sustainable solutions. It's a call to action for students and staff alike." - *Carmen Boghean, team member ILCA project*



"Getting involved in ILCA projects has opened my eyes to the real impact we can have. It's not just about studying; it's about making a difference. I participated in the ILCA project, in the Digital Transformation course within the project, where we discussed digital businesses, technologies such as blockchain, the benefits of these technologies in reducing the carbon footprint, and their positive impact on the planet's climate. I learned about business transformation and digitization, as well as aspects of management and leadership in such a business. By attending the Digital Transformation course, I gained new skills and competencies for our future projects. Thank you, ILCA" - **Cristian Constantin Iftimescu**, student - *ILCA training course - Digitalization:*



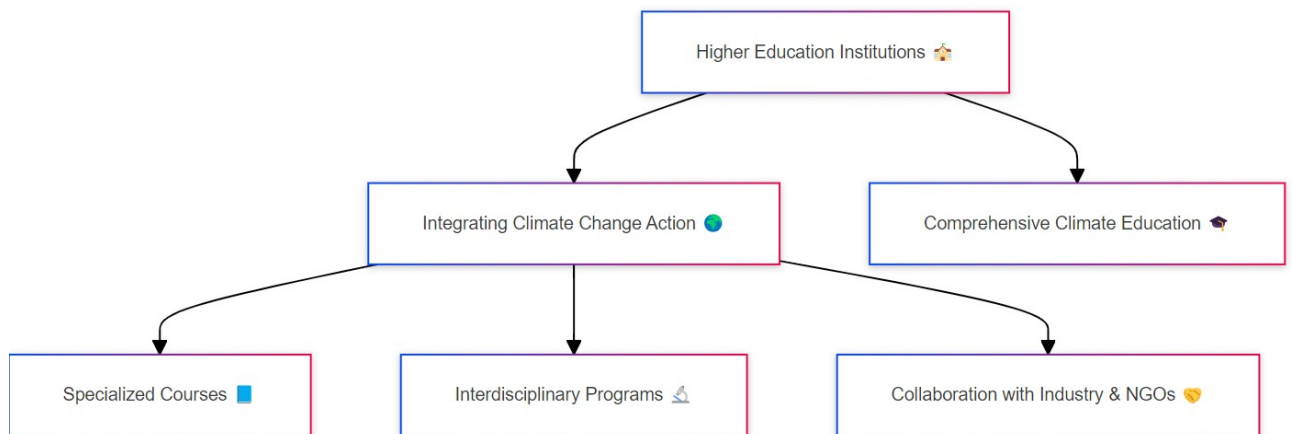
"Sustainability is no longer just a word or an idea; it is part of our lives. Universities have a responsibility to educate the public about climate change and encourage action to address it. We can do this by providing students with opportunities to learn about climate change, by supporting them to get involved in climate action initiatives, and by communicating our commitment to sustainability." - Professor Angela Albu.

LESSONS LEARNED

Examining various aspects of student and staff involvement in combating climate change and emphasizing the importance of training and capacity building in the context of climate change, several lessons have emerged that need to be learned. The way in which higher education institutions can lead the academic community in addressing this global issue was examined. Discussions focused on integrating climate change action into educational programs and highlighted the need for **specialized**

courses, interdisciplinary programs, and collaboration with industry and NGOs to provide comprehensive education on climate change.

Figure 7. USV addressing global issues



Innovative teaching methods, such as problem-based learning and service learning, which encourage students and faculty to engage in finding practical solutions to climate change challenges, were also discussed. Additionally, ways to develop skills and abilities through training programs, workshops, and seminars are analyzed, emphasizing the importance of adapting to sustainable technologies, understanding climate policy, and developing practical skills. The necessity of promoting a proactive attitude by addressing specific mitigation and adaptation measures through simulations, practical projects, and community involvement was also highlighted.

CONCLUSION

In conclusion, it is evident that education and continuous training are crucial tools in mobilizing and preparing students and academic staff to address climate change. By promoting an interdisciplinary approach, innovation in the teaching process, and collaboration with external stakeholders, higher education institutions can play a significant role in creating an academic culture sensitive to climate issues and in developing professionals prepared to contribute to sustainable solutions for the future. The pivotal role of students and academic staff in addressing the climate crisis cannot be overstated. By fostering a culture of climate action within universities, we empower future leaders to drive sustainable solutions and contribute to a greener planet. However, to maximize the impact of these efforts, concerted and strategic initiatives are imperative.

We suggest all the HEIs to prioritize the following:

- **Integrate climate action into core curricula:** Embed climate change across disciplines, equipping students with the knowledge and skills to tackle environmental challenges.
- **Empower student leadership:** Provide platforms for students to initiate and lead climate projects, fostering a sense of ownership and responsibility.

- **Support faculty research and innovation:** Allocate resources for climate-focused research and encourage interdisciplinary collaboration.
- **Foster partnerships:** Collaborate with local communities, industries, and policymakers to create tangible climate solutions.
- **Measure and communicate impact:** Track progress, celebrate achievements, and share best practices to inspire continuous improvement.



By working together, students, faculty, and institutions can create a sustainable future where education and action converge to address the climate crisis. The time for change is now. Let us harness the power of academia to build a resilient and equitable world for generations to come.