TERTIARY EDUCATION

in a

WARMING WORLD

Reflections from the field

UCD DUBLIN

WUN WORLDWIDE UNIVERSITIES NETWORK

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The Consortium:
Who We Are

This report has been produced as part of the Education in a Warming World Research Consortium, supported by Worldwide Universities Network. The consortium comprises university academics with a broad range of expertise in education, sociology, climate change, science communication, health, sustainability, and human behaviour. The group has interest and experience in promoting sustainability and climate change education portfolios at the tertiary level.[1] The consortium aims to contribute to the growing field of transdisciplinary work dedicated to understanding the evolving role of education in this era of rapid climatic change and overlapping socio-ecological crises. This report is a compilation of research, practical examples, and reflections from our own experience of advancing pro-environmental agendas at Institutes of Higher Education (IHEs). It is intended to be a resource to other academics and policymakers who are also grappling with promoting a robust climate change and sustainability agenda within IHEs. For this report, we define IHEs as universities and colleges engaged in teaching, research, and public service.

Background

Human-induced planetary warming and the destruction of ecological systems pose an existential threat to human civilisation.[2] In a recent survey of top climate scientists, six in ten expect the world to warm by at least 3 °C above pre-industrial levels by the end of the century.[3] Such an increase in average global temperatures will intensify extreme heat and precipitation patterns which in turn will displace large populations, disrupt food systems, proliferate health threats, and exacerbate global inequality.[4] Through rigorous research, teaching, knowledge sharing and public engagement[5], IHEs have a critical role in driving the scientific, political, technological, and cultural change needed to avoid the worst-case climate change scenarios.[6] IHEs are also helping to advance the societal adaptive capacities needed to meet the ongoing challenges posed by the crisis through building preparedness and resilience.

However, the role of higher education in confronting the environmental crisis[*] is not clear-cut. Notably, global gains in educational attainment have increased lockstep with

[*] We use the term environmental crisis as a catch-all term to refer to human-caused ecological degradation and destruction and the associated climate, biodiversity and species extinction crises.

environmental degradation. Moreover, the accumulation of scientific understanding of the impact of humans on the environment has not resulted in the structural reform needed to stem the environmental crisis.[7] In addition, IHEs' efforts to respond to the climate and ecological crises are limited by the broader political economy of declining public funds, increasing privatisation and marketisation.[8] Further, change agents within IHEs are often constrained by management structures, policies and processes, employment conditions, and social norms that are resistant to change. As a result of these challenges, many argue that the response among IHEs has to date not been proportionate to the scale and urgency of the problem.[9]

Pressure is growing for IHEs to respond according to the gravity of the crisis. In reaction, an increasing number of institutions are declaring climate emergencies and making public commitments to supporting and contributing to the realisation of global environmental and social goals.[10] There are nuances and complexities to this – for example, not all IHEs have the same capacity to respond to the crisis. And of those that do commit to climate action, especially those with higher responsibilities, it is important to apply a constructively critical lens to ensure that the values the IHE espouses translate to meaningful actions.[11] Within organizations there are paradoxes. Individual academics and/or departments work directly on climate change mitigation and adaption efforts, while others contribute to the (re-) production of technologies and knowledge systems that exacerbate the crisis.

Over the last two decades, a large interdisciplinary field of research has explored the relationship between IHEs and environmental outcomes. Some themes within the research include education for sustainable development[12], climate change research[13], and campus greening[14]. More recently, other researchers have advanced helpful conceptual and analytical frameworks to help unpack how education can be reoriented in response to the global environmental crisis. These frameworks provide a lens for re-evaluating the function of education as a whole[15], and IHEs in particular, in the context of the climate emergency.[16]

To contribute to understanding how IHEs can best meet the challenge of the environmental crisis, this report illustrates some trends, examples, and reflections on how IHEs can work towards creating a more sustainable future. We focus on five modalities of IHE operations: (1) education, (2) knowledge production, (3) service delivery, (4) public debate, and (5) campus operations. These modalities are drawn from Tristan McCowan's theoretical framework, which provides an analytical lens to understand better the complex interplay between IHEs, societies, and climate change.[17] We situate our reflections within this framework as a helpful structure that considers the multiple dimensions of institutional action. We build on it and engage with it by considering relevant literature and case studies from universities that form the WUN Education in a Warming World research consortium.

1.
Climate Change Education:
Dynamics of Power and Empowerment

Article 6 of the United Nations Framework Convention on Climate Change provides a statutory basis for climate change education across multiple sectors.[18] Since the 1990s, a growing body of literature has provided insights into strategies for knowledge transfer in climate change education. A review of the subliterature on climate change education is beyond the scope of this report.[19] We did, however, identify attention to "power" both i) through highlighting the powerful structural forces driving the crisis and ii) engaging in empowering classroom practice as central to best practice climate change and environmental education at the tertiary level.

i) Identifying Powerful Drivers

Those in the field of environmental justice, and some strands of environmental education, have long argued that issues of power, justice, and historical responsibility must be central to discussions and education on the environmental crisis.[20] Many in the field are critical of 'business as usual' approaches to discussions of sustainable development that avoid a critical exploration of the structural climate change drivers.[21] Specifically, there is a growing consensus among climate change educators about the need to be more explicit about the role of the dominant economic model - based on overconsumption and production - in perpetuating the crisis. Approaches to climate change education that mask these dynamics, including obscuring the responsibilities of those in positions of most power - governments and multinational corporations - are no longer adequate in the face of ecological collapse.[22] As a result, there is growing momentum to recalibrate teaching and learning to acknowledge the underlying drivers of the crisis more explicitly while also creating space to forge a new perspectives on and relationships with the natural world.[23]

If however discourses of justice, power, and responsibility are to be systematically integrated into curricula, it is critical that educators in IHEs have the resources, freedom, and training to engage with students on these themes.[24] Case study 1 presents a reflection from one of the Education in a Warming World research consortium members on aspects of educational practice that can provide students with the tools to engage in critiques of power.

Case Study 1

Reflections on Moving Beyond the Natural Sciences

Professor Vaille Dawson,
University of Western Australia

A personal and professional reflection on teaching climate change by moving beyond the natural sciences

Over the course of my career, the nature of school science education has slowly evolved to consider the social aspects of science. It is now standard at the secondary school level to consider the human and societal aspects of the scientific endeavour. This change has slowly seeped into the university sector with tertiary institutions offering courses such as environmental humanities, science communication, and philosophy of science. There have also been calls for multi-disciplinary approaches where ideas and concepts from one discipline are used in another. However, the science/non-science divide remains strong, with university faculties firmly segregated along traditional lines.

Based on my own teaching experiences and on recent research[25] I suggest that university climate change education be comprehensive and multi-disciplinary, encompassing scientific and media literacy, understanding of attitudes to climate change, social, economic, political, environmental and health aspects, steps for adaptation and mitigation, thinking skills (reflection, problem-solving, decision-making, critical thinking, futures thinking), values (of self, other humans, living organisms, environment, lifestyle), emotions (loss, grief and hope) and activism.

The change in emphasis from being about the science only to a multi-disciplinary approach will require academic cooperation, suspending judgement, breaking down disciplinary values, and respect for different knowledge paradigms.

ii) Empowering Classroom Practice

Research shows that best practice climate change and environmental education engages in pedagogies that enable learners to imagine and work towards a better future. Additionally, research suggests that climate change educational frameworks need to address issues at a global and transnational level while also developing learning processes that are contextually located and focus on agency, capability, and risk negotiation in the learners' everyday life and environment.[26;27] Empowering approaches to climate change education often include knowledge sharing and integration methods between educators and learners. For example, co-creating activities, especially solution-focused ones, engenders commitment to the educational experience and creates space for meaningful change and for multi-disciplinary approaches, as outlined in Case Study 1.

One comprehensive literature review of research on climate change education proposed that best practice climate change education could be best conceptualised as a "bicycle model". The review showed that climate change education, like a bicycle, is one entity that requires all of its parts to function together. Some bicycle parts include the wheels as knowledge and thinking skills, the frame as identity, values, and worldview, and the lamp as hope and other emotions.[28] Similarly, in an extensive review of the literature, Monroe et al. (2019) identified i) a focus on the personally relevant and meaningful information and ii) the use of active and engaging teaching methods as common to environmental education. They identified four additional themes of teaching strategies that may help move learners beyond the basics of climate science: engaging in deliberative discussions, interacting with scientists, explicitly addressing misconceptions, and implementing organisational or community projects.[29]

Case Study 2 from University College Dublin includes several aspects of this action-focused, collaborative, and empowering approach to climate change education.

Case Study 2

Teaching and Learning through Community Projects

UCD Global North-South and Upland-Lowland Interdisciplinary Capacity-Building on Climate Change Research and Education

This project involves a series of knowledge sharing, collaboration, and capacity-building activities concentrating on participatory research, education and skills, and curriculum development between universities in Vietnam's northern uplands (TUAF) and the capital city Hanoi (HANU) and University College Dublin, Ireland. Through this project, students engage in Experiential and intercultural learning with communities via joint research projects involving researchers and students from Vietnam and UCD.

Researchers and students from three universities have been carrying out joint participatory research with Yao (Dao), Hmong, and Muong ethnic minority communities in the northern uplands to explore climate-related changes, livelihood impacts, and local coping strategies. The team is exploring how participatory approaches like community mapping - a well-established approach to gather and analyse local knowledge geographically - can enhance understandings of how climate change is being experienced and responded to by at-risk households and communities. The project has produced a short video about the participatory community mapping using creative graphics and an ethnic minority-positive storyline, which is viewable at this link.

A second component of the project involves the collaborative development of an online Geographic Information System module in climate change and sustainable development education at Vietnamese universities. The module is built on free, open-source software (QGIS) and develops instructor and student geospatial analytical skills applied to real-world examples of current climate-related challenges in the northern uplands and Hanoi city.

2.
Knowledge (Re-)Production:
Engaging Diverse Perspectives and Pedagogies

Knowledge production is a central tenet of IHEs' contribution to the public good. Often the term is used to refer to research, but it can also pertain to the reproduction and legitimation of knowledge systems in the classroom setting. Critical scholars have long emphasised that attempts to achieve sustainable futures need to shift from learning about the world to acting upon it to becoming one with the world around us.[30] For example, a recent report written by the Common Worlds Research Collective and commissioned by UNESCO provides an aspirational vision of what education could look like in 2050 and beyond. Central to this reimaging of education is reconfiguring curricula to foster collectivist dispositions and reparative human and more-than-human relations.[31]

A promising strategy for fostering deeper understandings of human inter-dependence with other species is through creating meaningful engagement with Indigenous knowledge systems.[32] Collective interdependence has been part of Indigenous perspectives and knowledge systems for millennia.[33] Specifically, Indigenous knowledge systems refer to systems of monitoring, recording, communicating, and learning about the relationships among humans, more-than-human plants and animals, and ecosystems that are required for any society to survive and flourish in particular ecosystems which are subject to perturbations of various kinds.[34] However, these perspectives tend to be underrepresented at IHEs.

One of the Education in a Warming World consortium members, Professor Pim Martens, offers a personal and professional reflection on realising the importance of understanding our commonality and collective interdependence with nature through recognising Indigenous worldviews:

> "Addressing the causes of climate change rather than the impacts is a necessary part of climate change education and action. As this is an ethical question, and because the system of ethics in Western thought is largely anthropocentric and therefore not as useful in addressing complex, natural situations, Indigenous ethics provides a valuable alternative. We must engage in dialogue with Indigenous people to learn how their knowledge can help us in the current climate crisis. The more that we learn so, we can strategically recognise those practices that endanger life and, in doing so, prevent further impacts." - *Pim Martens, Professor in Sustainable Development at Maastricht University*

Art-based and creative pedagogies can be helpful tools for platforming such underrepresented perspectives of human-environmental relations. These non-traditional approaches to teaching and learning can help to level hierarchies by creating a shared sense of vulnerability, removing the notions of 'experts' and 'non-experts', and creating a space where all voices can be heard and acted upon. Examples of such an approach include poetry[35], participatory arts[36], and film[37], all of which have been utilised to engage various publics by monitoring, deliberating, and responding to their attitudes towards the adverse effects of anthropogenic climate change. Within the university setting the arts are increasingly appreciated as an important mode to acquire and interpret knowledge of the world.[38] Creative pedagogies offer opportunities to address students' attitudes, beliefs, and emotions,[39] and can also stimulate innovation.[40]

Adopting an arts-based approach is not without its challenges particularly within the typically siloed worlds of IHEs. Such interventions require significant resources, especially if they are to be done effectively. However, several such programmes do exist[41], demonstrating both a need and will for re-producing scientific knowledge through the lens of the arts.

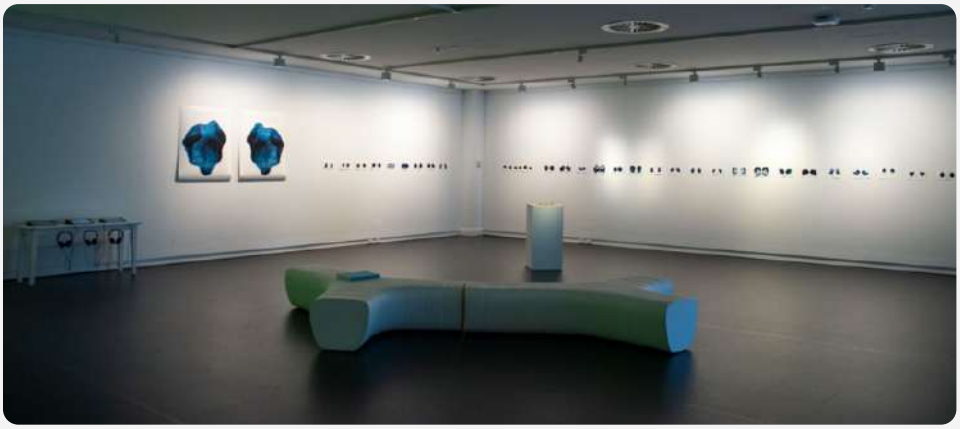
One such example of how the arts can transform understandings of anthropogenic climate change is through public art exhibitions as part of knowledge translation. When the arts, artists, and artistic practice are intentionally planned as part of research projects, this can increase impact and engagement. Case study 3 shows how artistic responses can open up new understandings of human-natural world relations.

Case Study 3

Artistic Responses for Activating New Understandings of Human-Environment Relations

Professor Mindy Blaise, Centre for People, Place, & Planet,
Edith Cowan University, Western Australia

While conducting a year-long responsive and participatory walking inquiry with preschool-aged children, teachers, and Derbarl Yerrigan, a significant waterway in Perth, Western Australia, creative methods were used that encouraged learning with a place rather than solely learning about it. These methods focused on human-environment relations and how children and Derbarl Yerrigan were in connection. Over time, children formed relations with a strange assortment of species, considered 'invasive' or pests. In other words, it wasn't the iconic and graceful Black Swan that caught children's attention. Instead, it was the less beautiful and often annoying Silver Gull, Blowfish, Moonjelly, and Mud Snail that were always present and where new relations between children and place were being made.



Feminist Responses to Climate Change: Unruly experimentations for unstable times, Gallery 25, Edith Cowan University. Photograph credit: Marziya Mohammedali.

To continue thinking through what it means to live with and live well with imperfect worlds, five artists were commissioned to respond to the provocation of the 'unloved and disregarded creatures' that children encountered while walking with Derbarl Yerrigan. These artworks were part of the exhibition, Feminist responses to climate change: Unruly experimentations for unstable times, held at Gallery 25, located on the campus of Edith Cowan University (see photo).

The artworks set into motion new understandings and practices that extend possibilities for alternative climate futures via multispecies relations. What emerges across the artworks are a set of ethical propositions for living well together in these uncertain times. Invitations to think critically, creatively, and expansively about human-environment relations are found in Lilly Blue's unpredictable pouring of indigo ink and water Moonjellies to the page; the personalities of Lyndall Adams' graphite and coloured pencilled drawings of lively Blowfish; the haunting calls and movements of Silver Gull told through Cissi Tsang's digital audiovisual series including field recordings, music visualisation, audio processing, sonification, and vocals; the choreographed and spoken word video piece about Silver Gull by Gabriel and Sebastian Critti-Scnaars; and the eerie resting of Yorga bones in conversation with embroidered Mud Snails by Yabini Kickett. These artworks highlight human and nonhuman bodies connecting through relational (e)motions. What is of significance is how these artworks create the conditions for multiple connections to be made between humans, nonhumans, and imperfect environments.

3.
Service Delivery:
Climate Change Education as Professional Development

Service delivery is a term used to refer to those activities that connect the university with external communities. This could include, for example, environmental monitoring or providing climate change research to governments or civil society, feeding into policy change by providing models and knowledge, as well as other types of public engagement. Given the time frame for climate action, it is critical that as many stakeholders as possible have the immediate opportunity to better understand the causes and consequences of the crisis through climate change education. Therefore, there is an opportunity for IHEs to expand their service delivery for climate action by providing climate change education to professionals across various sectors.[42]

Across industries, demand for climate change education is growing. For example, a report from the European Federation of Academies of Sciences and Humanities called for further professional development of school teachers in the sphere of climate change education, having found existing opportunities to be sparse.[43] Data from a multi-country survey found that fewer than 40% of teachers were confident in teaching about climate change severity and local impacts.[44] IHEs have been identified as important actors in building institutional capacities at the school level by providing support for schools in advancing climate change education, while also educating higher education students.[45]

Beyond the education sector, there are significant opportunities for IHEs to collaborate with industry leaders to co-create climate mitigation and adaption strategies.[46] Such multi-stakeholder partnerships could present exciting opportunities for IHEs advance far-reaching climate action while also creating new opportunities for teaching and research. However, we see potential risks that IHEs could unintentionally become greenwashing agents for polluting industries. Given such pitfalls, IHEs' role in promoting meaningful industry engagement hinges on deliberative decision making by IHE leadership and on the broader context of effective environmental regulation.

Case Study 4 from one of the Education in a Warming World consortium members presents an example of integrating climate change education into professional development in the healthcare sector.

Case Study 4

Integrating Sustainability Learning into Nursing Education

NurSus TOOLKIT

– Dr Maud Huynen, Maastricht University

The Erasmus-funded European NurSusTOOLKIT project was developed by Plymouth University, Esslingen University, the University of Jaen, and Maastricht University to provide free, online, evidence-based Sustainability Literacy and Competency (SLC) resources in Nursing education. The involvement of well-informed nurses is crucial in facilitating the transition towards a more sustainable health care provision. Embedding sustainability in nursing curricula can encourage nurses to practise the full extent of their skills, expand their health promotion role addressing ecological public health threats, and take significant leadership roles in sustainable health policy.

The NurSusTOOLKIT project first identified the key sustainability competencies for nurses by means of an expert consultation. These included competencies around knowledge and skills, attitudes and motivations, and problem-solving strategies. The project then developed education materials for integrating sustainability and climate change in nursing curricula based on these competencies. As an example, two of the sustainability competencies identified are: to encourage a positive attitude towards sustainable behaviour in others (e.g. sustainable transport, waste management, energy use, diet); and ability to identify potential synergies between policies and practices that promote environmental sustainability and those that promote health. The NurSusTOOLKIT offers a sustainability learning/teaching programme providing an evidence-based resource repository for nurse educators. Materials can be freely accessed on the NurSusTOOLKIT online platform. In addition, the NursusTOOLKIT materials also contributed to the Nurses Climate Challenge Europe by Health Care Without Harm Europe (launched 2021), which aims to mobilise nurses to educate health professionals about (the health impacts of) climate change.

4.
Public Debate:
Engagement as Service and a Teaching Tool

IHEs have traditionally engaged with the general public through events, conferences, open days, and in-house media production. Very often, individual academics engage with the public though invited talks, media interviews or research outputs such as reports or journal articles, which in turn filter through the media and into general discussion.[47] Public engagement is increasingly understood as a critical component in the research process. For example, in a recent survey of 94 authors of IPCC reports, two-thirds of the respondents reported engaging in climate advocacy, and almost all of those reported promoting climate science through speeches, publications or videos, and 40% engage in advocacy with politicians and policymakers.[48] The rise of social media platforms, such as Twitter, has increased the number of academics engaging directly in the public sphere. Furthermore, social media has increased the reach of such "public intellectuals" - namely those academics who influence sociocultural and democratic discourses through direct public engagement. For many, this dimension of public engagement adds coherence and depth to climate change education within the university.

There are many ways that IHEs can actively support their staff in undertaking this kind of service. As a first step, IHEs can defend the right of academics to engage in protest and push back against emerging threats to academic freedom.[49] IHEs can also take active steps to facilitate those academics who wish to engage more fully in public engagement. Such support could take the form of altered work allocation models, facilitating engaged research sabbaticals, altering hiring and promotion policies, and providing training to enhance the effectiveness of engagement.[50] In Case Study 5, Education in a Warming World consortium member Professor Julia Steinberger reflects on the importance engagement in public debate in academic life, including teaching practice.

Case Study 5

Reflections on Public Debate

Professor Julia Steinberger, University of Lausanne

Connecting traditional academic teaching, which informs students of research frontiers, with some form of public engagement, or at least reflection about public engagement, is crucial in teaching on climate and sustainability-related topics. Indeed, as so many have pointed out, for decades, the "solutions" to climate and sustainability problems are not lacking. What is lacking is most often termed "political will", "public acceptance", "a solid economic case", or even "consumer preference", depending on the circumstance. These terms usually hide more than they explain, however.

When we try to understand where climate and sustainability proposals succeed or fail in the "real" world, we understand that the realm of academic evidence comes up against forces of political interests, discourses laid out by dominant media, and far-from-neutral economic accounting choices. What constitutes political will, or lack thereof? How is it created, or destroyed? Who are the publics, how much freedom for acceptance or refusal do they really have, how do they make up their minds, who determines the terms of debate, and how can this debate be transformed? What constitutes a solid economic case, who gets to set the parameters that feature in its calculation, and what elements does it omit (like hidden subsidies for fossil fuel industries etc)? And these questions can only be answered, at least partially, via engagement efforts.

This is why introducing students to the realm of debate around climate facts and denial, to the views of citizens, journalists, politicians, and industrial actors are all essential parts of a climate-compatible education. Viewing of documentaries like Merchants of Doubt or documentaries on political campaigns, the financial sector and popular movements could all be part of the curriculum. Other possible student educational activities include interviews with political figures on their views, conducting surveys in their communities, or participating in workshops as part of their work in coming to grips with a warming world.

5.
Campus Operations:
Thinking Beyond the Campus

Campus greening generally refers to initiatives that encourage pro-environmental practices and typically pertain to initiatives such as waste reduction, energy efficiency, sustainable transport, and food.[51] Campus greening has been part of many university operations for the last two decades and is the subject of much interdisciplinary research.[52] While an exhaustive review of this literature is beyond this project's scope, a key theme that has emerged is the importance of taking a "whole-systems approach" to campus greening. As noted by McCowan, every dimension of IHE operations and policies, from how it manages its finances and human resources, purchases equipment, uses fuel and sells food and merchandise, has important implications in climate change mitigation and adaptation.[53] Such changes are only possible at an institutional scale if reflected in university-wide policies and processes and supported at upper levels of administration.

One dimension of campus operations that has been increasingly controversial as IHEs pursue a greening agenda is their ongoing engagement with the fossil fuel sector. Direct engagement from IHEs with the fossil fuel industry typically includes fossil fuel investments or research funding originating from the industry. The fossil fuel divestment movement, primarily driven by student organising, has highlighted the incoherencies between IHEs' public communications and educational offerings on climate change and their behind-the-scenes activities with fossil fuel companies. This (mis-) alignment between espoused values and university operations is sometimes referred to as "institutional embodiment", namely, the degree of articulation and coherence between aims and actions.[54]

Addressing such misalignments could be considered low-hanging fruit in terms of university climate action. Aligned ideals and practices in this realm send a strong message to students and the broader public on the urgency of climate action at all levels. Furthermore, it provides avenues for public debate on climate change, as outlined by Prof Steinberger in Case Study 5.[55]

Whole-systems approaches to greening the campus also provide opportunities for climate change and environmental education. Existing research has established the importance of experiential learning - creative campus greening initiatives create avenues for transformative methodologies, teaching practice, and curriculum, and provide opportunities to implement campus climate mitigation and adaption projects.[56]

There is also an opportunity for IHEs to think beyond the campus and play a role in sustainability initiatives in local communities. This can be achieved through the co-production of knowledge in research projects or via more direct collaboration in greening initiatives.[57] Notably, place-based education projects can expand beyond the natural environment to include cultural, social, and economic conditions. By integrating civic engagement opportunities in place-based curricula, learning is connected to action: students and citizens engage together in the civic life of their communities. Such values-driven approaches can advance educational goals together with locally identified social, economic, and environmental objectives. Case study 6 from a consortium member provides an example of university engagement in local sustainability initiatives.

Case Study 6

Reflections on Sustainability Initiatives Outside the Campus

Professor Fabrizio Butera,
University of Lausanne

The University of Lausanne (UNIL) has recently launched an Interdisciplinary Centre for Sustainability. The Centre's role is to identify all the available competencies relevant for sustainability (both in terms of teaching and research) and make them visible beyond the campus borders. The initiative has been quite successful at attracting the attention of several local communities, in particular public power companies and cities. Notably, the city of Lausanne has decided to consult with UNIL's Interdisciplinary Centre for Sustainability during the development of its "climate roadmap", a multi-year plan to address several challenges concerned with climate change, such as transportation, consumption, education, pollution, etc. The Centre has contacted several researchers within its community, and each researcher has written a short report on the evidence-based research available for each challenge and successfully implemented initiatives. The Centre has compiled all the pieces in a global report. The City of Lausanne has then used the report to propose a climate roadmap that is politically supported and empirically sound.

Conclusion

The environmental crisis, now escalating to an emergency level, is having a profound impact on many communities and poses severe challenges to all societies. In recognition of this, many IHEs are focusing on sustainability through their research, teaching and their institutional actions. However, institutional and policy barriers and external challenges mean that the response of IHEs to the crisis is not proportionate to its urgency.

Despite challenges, IHEs are well-placed to help drive the changes needed to avoid the worst-case environmental scenarios, through research, teaching, knowledge-sharing and public engagement. This report presents reflections and examples of university action on the environmental crisis across five domains of IHE operations. Some of these reflections seek to change our approach to education about the natural world and move towards transformative pedagogies: a paradigm shift in higher education. We also highlight the transformative potential of professional development partnerships, academic public engagement, and systems-wide campus greening initiatives. While some of these recommendations may seem aspirational, the case studies in this report, which highlight some of the actions our consortium members are already taking, illustrate that change is achievable.

We recognise the limitations of this report: they are simply a snapshot of reflections and case studies from our network. They are limited to our understandings and practices within our contexts, situated within the Global North. We offer them as a contribution to the ongoing debates. As IHEs continue their engagement with sustainability issues, we hope to see an emergence of new, innovative, and meaningful actions towards addressing the environmental crisis.

References

BACKGROUND

[1] The research consortium lead is Dr Orla Kelly (University College Dublin). Other members are Dr Sam Illingworth (Edinburgh Napier University), Prof Fabrizio Butera (University of Lausanne), Prof Vaille Dawson (University of Western Australia), Dr Maud Huyden (Maastrict University), Prof Pim Martens (Maastrict University), Prof Julia Steinberger (University of Lausanne), Prof Mindy Blaise (Edith Cowan University), Dr Glenn Savage (University of Western Australia), Dr Geertje Schuitema (University College Dublin), Dr Susan Bailey (Edith Cowan University), Dr Peta White (Deakin University).

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