Greening in European higher education institutions

A governance, funding and efficiency perspective

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Table of Contents

List of graphs

List of boxes

Introduction

Faced with indisputable proofs of the effects of climate change, governments, organisations, businesses and individuals must make fighting for environmental sustainability a priority. In the past decade, the international community rallied behind the 2030 Agenda for Sustainable Development, pledging to support a prosperity that does not come at the expense of the environment, but goes hand in hand with protecting the planet from degradation, including through sustainable consumption and production.

At the European level, initiatives that align with the sustainability agenda have multiplied in the past decade. For instance, the European Commission developed the EU SDG indicator set, used to monitor progress towards the achievement of the Sustainable Development Goals (SDGs) in an EU context, and in 2019 the European Green Deal was adopted—a major landmark in tackling climate and environmental-related challenges.

The European Green Deal is a new growth strategy, committed to achieving zero net emissions of greenhouse gases as of 2050 and decoupling economic growth from resource use. Just as the challenge that it aims to address, funding for this green transition is on a historical level—overall 1 trillion EUR is expected to be invested, with 503 billion EUR coming from the EU budget.[1] All sectors of activity will be affected by disruptive changes—from agriculture to energy generation, food consumption, transport, construction to research and innovation.

For a successful transition, the European Green Deal depends on, among other things, the role of universities in engaging with learners, educators, parents and the wider community on climate challenges. Given their education, research and societal missions, universities are important actors in the transition towards carbon neutrality, sustainable societies and economies. They are well placed to play a key role in achieving the objectives of the UN SDGs, the Agenda 2030 and the Green Deal.

National legislation, initiatives, and funding are also important stimuli for the design and implementation of sustainability and greening strategies at universities. For instance, the French environmental protection law[2] contains specific provisions dedicated explicitly to the greening of the higher education sector. Its article 55 on sustainable development education and training lays the basis for a number of greening measures and activities in the education sector in France.

At the sector level, national university associations can play a key role in leading the sustainability agenda among their member universities. In 2019, Universities Finland (UNIFI) set up a national working group on sustainable development to enhance universities' work on sustainability. Fourteen universities, alongside the National Union of University Students in Finland (SYL), drafted a pledge containing commitments on greening and sustainability to be acted upon by the university community. At the institutional level, there is a plethora of fields where universities can enact sustainability, for instance through their learning and teaching activities (learning platforms, teaching materials, digitalisation, etc.),[3] research and innovation missions (equipment, consumables, labs, etc.), campus infrastructure (maintenance, housing, utilities, etc.), strategic and operational management (HR, travel and mobility, payroll and other services) and third mission (i.e., their work with and within their local communities). Universities' role in advancing sustainability does not end with curriculum design, research and knowledge transfer: within their communities, universities are major employers and consumers of goods and services, hence their economic behaviour can have a meaningful impact in addressing the sustainability challenge.

1   https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649371/EPRS_BRI(2020)649371_EN.pdf

2   https://www.legifrance.gouv.fr/loda/article_lc/LEGIARTI000020950502/2015-08-19
3   Gwilliam, J., Peterbauer, H. (2021), "Environmental sustainability of learning and teaching", European University Association, https://eua.eu/resources/publications/964:environmental-sustainability-of-learning-and-teaching.html

To make the sector's contribution more visible and accessible, the European University Association (EUA) has engaged in initiatives on greening in higher education institutions.[4] In spring 2021, an EUA survey collected evidence of the institutions' diverse activities on and approaches to greening. This survey gathered 390 responses from 56 higher education systems; 372 higher education institutions from the European Higher Education Area (EHEA) participated in the survey, 305 of which had greening measures and initiatives in place and were hence considered for the evaluation.[5]

In the context of this paper, greening is defined as increasing awareness of and taking concrete action towards a green, environmentally friendly and resources-efficient university. This may include the institution's missions and its campus, and involve its members and the larger community. Many of these initiatives and activities are part of a broader approach to address the SDGs and contribute to the Agenda 2030. This paper will focus on four areas through which sustainability and greening can be addressed at higher education institutions, namely:

➤ funding

➤ efficiency and effectiveness

➤ procurement

➤ governance and leadership.

A university that seeks to achieve sustainability generally undertakes corresponding initiatives in all these areas.

Although there is no "one-size-fits-all" approach in terms of good practice and policies, the paper will put forward cases from universities across Europe to serve as source for inspiration and peer learning for other institutions ready to take up the greening agenda in their own contexts. The case studies and examples in this paper are non-exhaustive and come from the EUA's survey on greening referenced above, from the EU-funded USTREAM project (2016-2019)[6] and from a literature review exercise.

4   https://eua.eu/issues/14:green-transition.html
5   The survey results are available here: Stöber, H., Gaebel, M., Morrisroe, A. (2021), "Greening in European higher education institutions", European University Association, https://eua.eu/downloads/publications/greening%20in%20european%20higher%20education%20institutions.pdf
6   https://eua.eu/101-projects/607-ustream.html

Funding

Greening represents a financial challenge for many universities, especially in a context of declining levels of public funding for the higher education sectors in parts of Europe. Cost remains the most significant factor in implementing greening measures, as confirmed by the majority of higher education institutions recently surveyed by EUA. **General underfunding and the lack of specific funding incentives were identified as the two main obstacles in addressing environmental sustainability.**

For universities, underfunding has been a major challenge to maintaining high quality in their main missions of teaching and research, especially since the economic crisis of 2008. New areas for action and increasing demands have also added to the financial pressure. Especially in systems that have not yet returned to pre-2008 levels of funding and which have experienced long periods of cuts, investing in new activities has been difficult.[7] Investing in meaningful greening initiatives becomes particularly difficult, especially as they require upfront investment, for instance via major changes to infrastructure.

Moreover, the Covid-19 crisis is also expected to have a long-term negative impact on university funding in the coming years. A total of 20% of the respondents to the EUA survey on greening said that due to Covid-19 funds are reduced, limiting their ability to set up greening measures.[8]

Graph 1 Obstacles to the implementation of greening measures
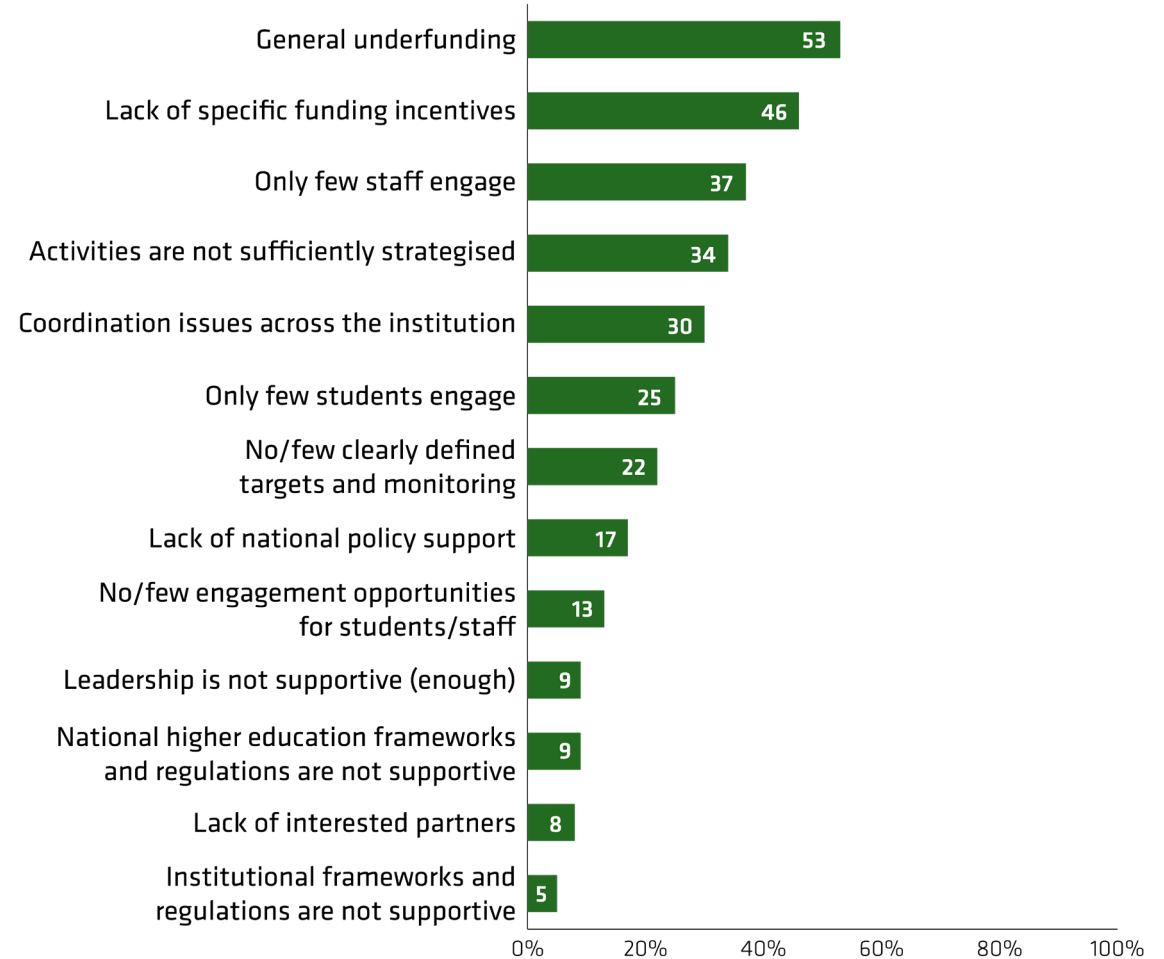
N=305. Q13: Which barriers does the implementation of greening measures face at your institution? Please select up to five barriers.

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7   Bennetot Pruvot E., Estermann, T., Stoyanova, H. (2021), "Public Funding Observatory 2020/2021, Part 2", European University Association, https://eua.eu/downloads/publications/eua%20pfo%20part%202%20report.pdf

8   Stöber, H., Gaebel, M., Morrisroe, A. (2021), "Greening in European higher education institutions", European University Association, https://eua.eu/downloads/publications/greening%20in%20european%20higher%20education%20institutions.pdf, p.21

Just as the lack of financial resources constitutes the main obstacle, **adequate funding is seen as the main enabler for the future advancement of greening activities.**

Enhanced national funding was perceived by 64% of the EUA greening survey respondents as the most helpful measure for consolidating greening initiatives at universities; over half of the respondents pointed to more European funding as another significant enabler. In this sense, tailoring calls under the European Green Deal so that universities can also apply, as well as considering universities as potential beneficiaries of other EU-funded initiatives in addressing climate change (such as the EU's post-pandemic recovery instrument NextGenerationEU, or through EU programmes such as Erasmus+ and Marie Skłodowska-Curie Actions) would be a positive development. It would allow universities to lead by example in enhancing sustainability, starting with their own campuses, facilities and infrastructure. It is worth mentioning that over a third of the respondents would like to see, in addition to EU funding, a European initiative on greening higher education institutions.

So far, environmental sustainability has not played a major role in university funding models in Europe. It is therefore important to consider which instruments can be used without endangering the financial sustainability of universities.

Further development of greening activities requires support through a mix of different measures such as a general increase in block-grant funding, targeted incentives and the potential integration of new tools into the general university funding model. Sustainability strategies are important, but without financial support, it will be difficult for universities under financial pressure to invest in larger projects.

Possible instruments include performance-based funding indicators or performance contracts, within which certain targets are agreed between the governments and the universities. Performance contracts may provide a suitable frame for this, as they can be adapted to institutional differences on an

Graph 2 Helpful measures for the advancement of greening activities
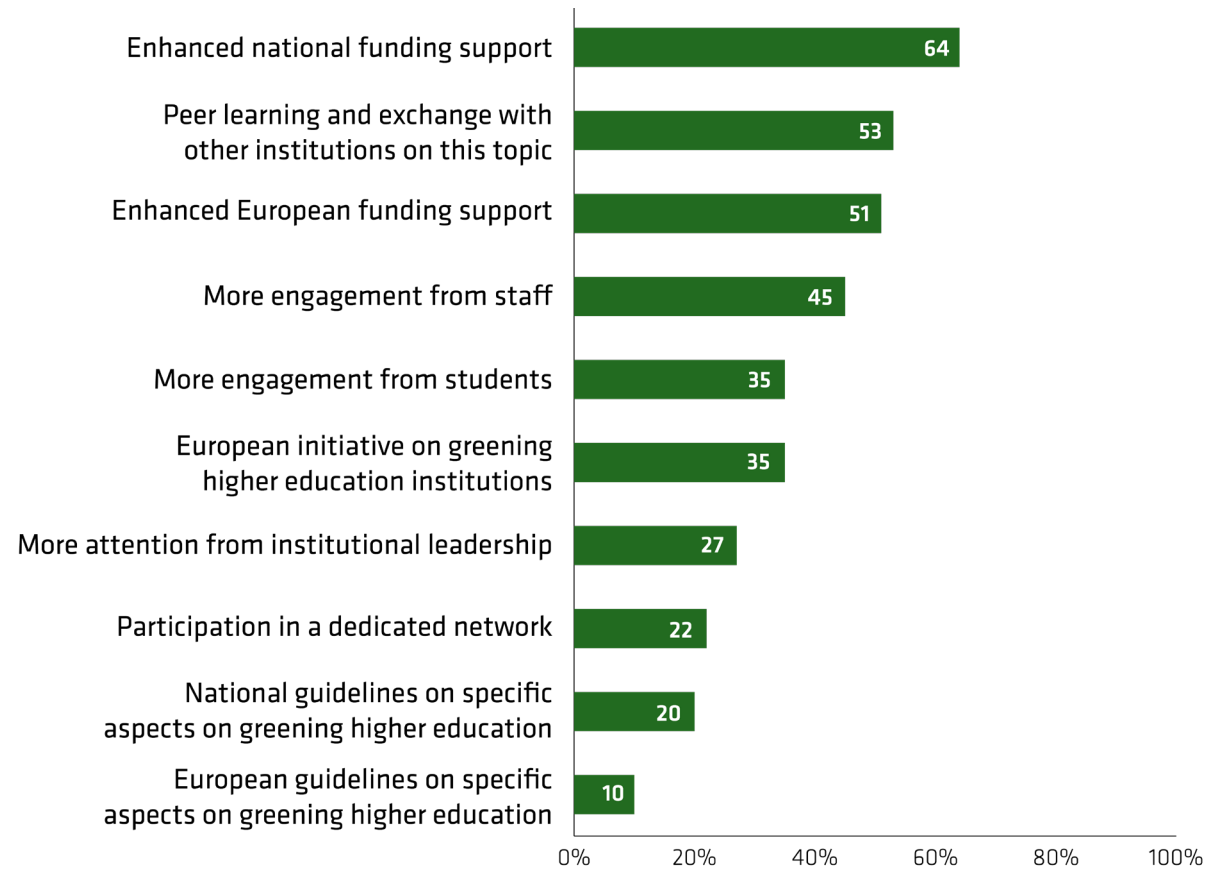
N=305. Q14: What would be helpful for the future advancement of greening activities at your institution? Please select up to five enablers.

individual basis. However, it is important to work with positive incentives, in other words, additional funding if the targets are met, instead of reduced funding if they are not achieved.

Targeted funding is another way of exerting steering. For example, a budget for green measures could be allocated to the university sector on an annual basis. This could be done through a mix of fixed and competitive grants.

Indirect funding could include technical and strategic support, funding consultations and experts to implement appropriate greening measures and supporting leadership training that includes training for planning and implementing greening activities (further insights on the importance of leadership development for the advancement of the greening agenda at universities will be discussed in the following chapter on *Leadership and governance*).

Coherence between different funding policies at the European and national level and funding synergies between EU and national funding programmes are required for holistic solutions to both present and future social and economic challenges. [9]

It is also all the more important that investment incentives, such as those offered at the European level through the NextGenerationEU (NGEU) funding in conjunction with green objectives, are used efficiently. Since greening activities (especially for infrastructure investment) often require high upfront investment costs, before any efficiencies are achieved, the barrier effect for underfunded universities remains strong. NGEU funding could therefore create an important stimulus to kick-start those type of greening activities.

Box 1: Public funding for greening activities

In Germany, through the "Research for Sustainability" (FONA) Strategy, the Federal Research Ministry (BMBF) funds research on climate protection and more sustainability, amounting to 4 billion EUR over the next five years. Grants disbursed under FONA are awarded for research and work carried out in one of the topics: biodiversity, bioeconomy, city of the future, energy, geosciences, society, climate, land management, marine and polar research, resource efficiency, sustainable water management.

In Finland, the government is working to ensure that the country is carbon neutral by 2035 and carbon negative soon after. Among the measures taken/to be taken by the government are a property tax relief for offshore wind power plants and an energy aid scheme which will shift the focus from production aid to grants supporting investments in new energy technologies. An energy subsidy scheme designed especially for housing companies foresees that assistance will be paid in proportion to the energy efficiency benefits achieved. The government is also exploring the possibility of bringing the costs of planning energy renovations under the scope of the domestic help credit, applying a higher credit percentage for renovation work that aims to increase the energy efficiency of buildings or to transition away from fossil fuel-based heating systems. All measures are to be coupled with increasing the availability of continuing education in the construction sector in order to raise the level of energy efficiency expertise.

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9   Bennetot Pruvot E., Estermann, T., Kupriyanova, V., Stoyanova, H. (2020), "Public Funding Observatory 2020/2021, Part 1: Financial and economic impact of the Covid-19 crisis on universities in Europe", European University Association, https://eua.eu/downloads/publications/pfo%20part%201_ppt%20 -%20im.pdf, p.31.

The National Recovery and Resilience Plans, which are at the heart of NextGenerationEU, represent an opportunity for Member States to earmark funds for greening their universities. Several European countries committed to do so in their national plans; comprehensive information and relevant examples on this can be found in EUA's briefing on the topic.[10]

Additionally, it will be important to communicate that many measures related to greening lead to greater efficiency gains in the long run. Developing life-cycle costing and greening of buildings in conjunction with efficiency improvements and associated long-term cost reductions (see next chapter on *Efficiency and effectiveness*) should also help to make those necessary investment decisions.

As funding remains the biggest obstacle to the implementation of greening measures at universities, it is all the more relevant that public authorities and funders consider all means for providing higher education institutions with incentives and resources for advancing the greening agenda. This could include, for example, direct budget support, specific grants for greening initiatives, offering loans with low interest rates for green investment, tax incentives, technical assistance in the development and implementation of initiatives, fast-tracking of building permits, awards and prizes. This would all contribute to partially offsetting the general level of underinvestment for the transition towards greener societies and economies.

Box 2: Examples of greening universities through NGEU's National Recovery and Resilience Plans

Belgium included in its Recovery and Resilience Plan the renovation of university buildings from the Wallonia-Brussels region. The investment will be based on an open call for participation. 50 million EUR were set aside for this objective, and the universities themselves are expected to co-fund at least 16% of the expenditure. It is estimated that at least 34.000 square meters of university buildings will be renovated (Component 1.11. of Belgium's Recovery and Resilience Plan).

Cyprus committed in its Recovery and Resilience Plan 2021-2026 to enhance its climate neutrality, energy efficiency and renewable energy diffusion. To achieve this objective, it plans to invest in, among other things, the upgrading of renewable energy and smart grids testing infrastructure at the University of Cyprus (Investment 6, Component 2.1. of Cyprus' national plan).

In France, the Conference of University Presidents (CPU) has been stressing the need for a greener and energy-saving transformation plan for university buildings, most of which are ageing and no longer fit for the energy transition. As part of the French Recovery Plan, 4 billion EUR are earmarked to retrofit public administration real estate, including university campuses and student housing.

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10   Bennetot Pruvot, E., Estermann, T. (2021), „NextGenerationEU: What do National Recovery and Resilience Plans hold for universities?", European University Association, https://eua.eu/resources/publications/984:nextgenerati oneu-what-do-national-recovery-and-resilience-plans-hold-for-universities.html

Efficiency and effectiveness

Enhanced pressure on public finances in many systems across Europe brought efficiency (understood as getting more output for the same or less input) and effectiveness (i.e., getting better at what universities set out to do) to the forefront of the higher education debate. Previous work by EUA (USTREAM project[11]) has illustrated the need to integrate both. This holistic approach is also supported by the responses to the EUA's survey on greening, where 86% of respondents confirmed that achieving efficiency across the university is very important/important in driving forward their institution's engagement in greening.

Graph 3 Important aspects for driving forward institutional engagement in greening

Aspect	Very important	Important	Not important
Institutional values	59	37	2
Leadership engagement	56	38	3
Student engagement/initiatives	52	43	2
Staff engagement	51	46	2
Third mission and wider community	42	42	4
Local and regional context	37	52	8
Efficiency across the institution	36	50	7
European funding	35	35	15
Collaboration with industry	34	46	12
Targeted public funding	31	40	15
European policies/guidelines	30	37	16
System-level policies/guidelines	29	49	10
International funding	27	34	21
System-level benchmarking or indicators	23	50	15

■ Very important   ■ Important   ■ Not important

N=305. Q11: Please rate how important the following aspects are in driving forward your institution's engagement in greening?
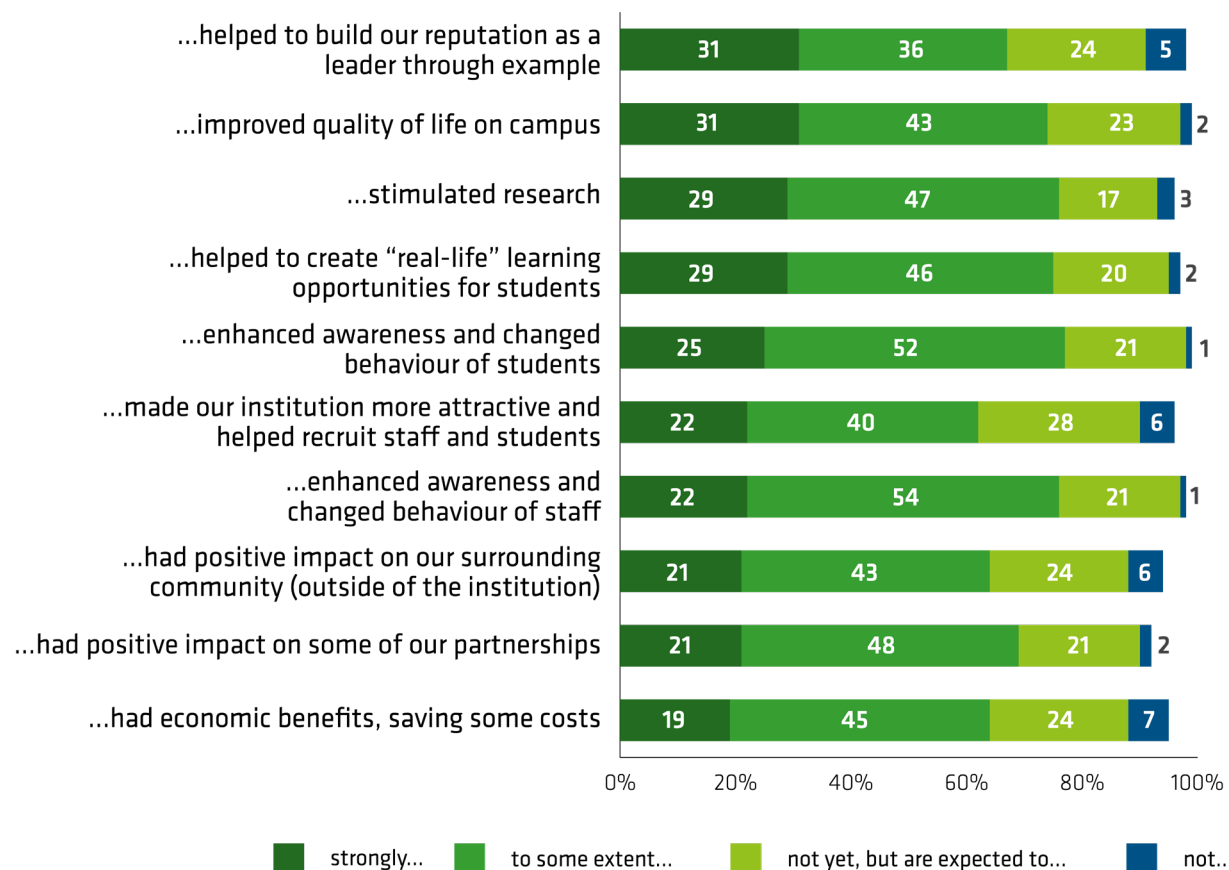

Most universities seem to be aware of the economic benefits of greening: 64% of respondents agreed (strongly or to some extent) that their institutional activities around greening saved some costs, whereas almost a quarter (24%) expect that this will be the case in the future.

Even when the motivation for change is driven by climate considerations, financial benefits also play a role, often being an important incentive to turn to more environmentally-friendly options. A time-lag needs, however, to be considered for the financial benefits to become visible, given that efficiencies are generated over the medium to long term (rather than short term), and require upfront investment in many cases.

Efficiency, however, is not aimed exclusively at reducing costs, but rather at making the best possible use of the various resources in order to achieve the university's various goals. There is a broad range of potential efficiency measures at different levels and in different areas such as operational services, academic matters and strategic governance.[12]

Graph 4 Impact of institutional greening activities

	strongly	to some extent	not yet, but are expected to	not
...helped to build our reputation as a leader through example	31	36	24	5
...improved quality of life on campus	31	43	23	2
...stimulated research	29	47	17	3
...helped to create "real-life" learning opportunities for students	29	46	20	2
...enhanced awareness and changed behaviour of students	25	52	21	1
...made our institution more attractive and helped recruit staff and students	22	40	28	6
...enhanced awareness and changed behaviour of staff	22	54	21	1
...had positive impact on our surrounding community (outside of the institution)	21	43	24	6
...had positive impact on some of our partnerships	21	48	21	2
...had economic benefits, saving some costs	19	45	24	7

N=305. Q11: How would you rate the impact/ benefits from your institution's greening activities? The activities have...

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12   Estermann, T., Kupriyanova, V., Casey, M., 2018, "Efficiency, effectiveness and value for money: insights from Ireland and other countries. A USTREAM report", European University Association, https://eua.eu/downloads/publications/efficiency%20effectiveness%20and%20value%20for%20money%20insights%20from%20ireland%20and%20other%20countries.pdf

Operational efficiency, for example, covers a broad range of activities that support day-to-day university operations, such as facility and space management, procurement (see chapter below), finances, HR management and student support services.

Academic efficiency embraces processes that relate to how university teaching and research are organised, such as streamlining of course programmes, learning analytics, management of class sizes, and research output requirements.

Strategic governance efficiency relates to performance management and institutional development; an institutional efficiency culture based on leadership (see chapter below) and staff engagement, investment in skills, technology and capacity-building; internal and external communication, the engagement of governing bodies and integrated reporting.

The university campus includes all three areas, where both efficiency and greening measures can be implemented. However, making the campus greener and more sustainable first involves having a vision and a strategy and planning for what is really needed (including mobility and accessibility) for their implementation. It may happen that such a vision goes beyond the campus and includes also the university's surrounding community. As shown in the EUA's greening survey previously referenced, universities integrate sustainability commitments into their strategies, often in response to student and staff engagement, or to reflect institutional values.

> **Box 3: Financial benefits of environmentally-friendly measures at universities**
>
> The Department of Plant and Environmental Sciences at **the University of Copenhagen** decided to raise the freezer temperature by ten degrees, which led to energy savings of 20-22%, longer service life and fewer expenses on new freezers in the laboratory budget, without negative impacts on research.
>
> In Sweden, through its greening activities, **Södertörn University** managed to reduce its energy consumption by 60% over the last ten years. When procuring and purchasing, the university must take environmental considerations into account. In addition, the university must constantly work to reduce its materials and energy use, and reduce its emissions of pollutants.

In recent years, universities started to be more aware of their estate and facilities management, especially as estate is the biggest cost after personnel, and the expenditure associated with infrastructure only keeps increasing. This phenomenon is linked, in certain countries, to the actual devolution of campus real estate competences to universities themselves. Estate quality is also an important factor in student choice and expectations, and campus influences the performance of a university, being a place for research, education, valorisation, team work and community building.[13] The campus may be a key enabler/disabler in attracting students, depending on its technical state, functionalities and location.

Campus management, and the capacity to make decisions in this area, alongside the right of universities to own land and buildings are key factors in universities' decision to invest (or not) in greener and more sustainable campuses. According to EUA's Autonomy Scorecard, in Europe the large majority of systems make it possible for universities to own buildings.[14] However, high maintenance costs or restrictions associated with historical buildings may deter some of the higher education institutions from owning and investing in their facilities.[15]

> **Box 4: Examples of greening strategies at universities**
>
> Sustainability is a core pillar of the **NUI Galway Strategy 2020-2025**. Over the lifetime of this strategy, the university will pay attention to the environmental, social and financial sustainability of its operations; through its teaching and research activities and by using the SDGs as a framework, it aims to develop the next generation of students, research and innovators for tackling society's sustainable development challenges. The envisaged flagship actions entail living positive change on campus by aiming for the SDG Champion status, embracing proven new technologies to increase buildings' energy efficiency and developing a roadmap to move ambitiously towards carbon neutrality by 2030. The university aims to scale sustainability successes beyond the campus by building sustainability partnerships with neighbouring communities, national bodies and international partners.
>
> **La Rochelle University** has developed an ambitious project around "the sustainable coastal city". By 2050, the university aims to have a low-carbon, sustainable, digital, responsible, smart, connected and integrated campus that would benefit the academic community and would contribute to the reputation of the region, through co-construction of citizen, sport, cultural and technical projects.
>
> **Kedge Business School** is a pilot institution for the United Nation Environment Programme's initiative "The Little Book of Green Nudges". This video by CNN highlights the nudges deployed on Kedge campuses, how they interact on student behaviour, and how they have a huge impact on the environment.

13   Den Heijer, A., "Managing the European campus. Providing decision-supporting information and tools", p. 5, https://www.eua.eu/component/attachments/attachments.html?task=attachment&id=1517

14   According to the 2017 Autonomy Scorecard, in 22 out of 29 higher education systems it was possible for universities to own real estate. Bennetot, Pruvot, E., Estermann, T. (2017), "University Autonomy in Europe III. The Scorecard 2017", European University Association, https://www.eua.eu/downloads/publications/university%20autonomy%20in%20europe%20iii%20the%20scorecard%202017.pdf, p.23

15   Bennetot Pruvot, E., Estermann, T., 2017, „University Autonomy in Europe III. The Scorecard 2017", European University Association, p.23, https://www.eua.eu/downloads/publications/university%20autonomy%20in%20europe%20iii%20the%20scorecard%202017.pdf

A greener campus means, among others, also achieving energy efficiency through building and renovation works. Reducing carbon emissions in buildings is critical in achieving net zero emissions by 2050, given that buildings represent 39% of global greenhouse gas emissions.[16]

Although building green is associated with higher upfront costs than conventional building, the picture changes when one considers the entire building life cycle. Evidence by the World Green Building Council cited by UNEP[17] shows that green building has two major benefits:

➤ **Operating costs**: green buildings have lower maintenance costs, saving money through reduced energy and water use;

➤ **Workplace productivity and health**: research shows that building green can improve worker productivity and well-being of those using the indoor spaces. This can lead to better outcomes for both students and staff, contributing to the overall well-being of the higher education institution.

Box 5: Energy efficiency in buildings

Through its 2018 institutional strategy, **KU Leuven** committed itself to reducing by 20% the CO2 emissions of its buildings in the next ten years. To achieve this goal, the university will gradually improve the insulation of the current buildings and switch to more sustainable ways of heating. Single glazing will also be gradually replaced. The university wants to use the existing buildings as efficiently as possible to limit new building projects as "the most environmentally-friendly building is the one that was never built".

Students of medicine and dentistry at **the University of Copenhagen** undertake research at the Maersk Tower, built to resist future climate change in a number of ways, for instance:

➤ Rainwater is collected for toilet flushes and for watering the park
➤ Solar panels produce energy for the building
➤ A consistent use of LED lighting and light automation reduces the electricity consumption
➤ Energy-efficient freezers based on water cooling and cryogenic technology save energy
➤ Integrated flexibility in the building allows for the layout of the floors to be altered to best suit potential future research needs
➤ Green roofs delay rainwater and contribute to biodiversity

Energy consumption at Maersk Tower is estimated to be two-thirds of the average Danish laboratory building, and the yearly energy production of the solar panels is approximately 180 MWh, which equals the electricity use of 45 households.

The recently inaugurated **IE Tower** in Spain has been specifically constructed with a focus on sustainability – from the location with access to public transport to the type of building, which optimises space. The 180 meters-high tower has the LEED Gold Certification, which certifies that the building was designed and built using strategies aimed at improving performance in energy efficiency, water efficiency, CO2 emissions reductions, improved indoor air quality and resource stewardship.

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16   https://www.weforum.org/agenda/2021/09/how-to-build-zero-carbon-buildings/
17   United Nations Environment Programme (UNEP), 2014, "Greening Universities Toolkit V2.0", p.22

Payback periods depend on the different green projects and initiatives, but different case studies and reports show that most green strategies can pay back less than ten years through energy cost savings.[18] Hence, building green can be an effective alternative to the high maintenance costs associated with historical buildings.

In addition to building green, sharing services and assets within the institution and with other organisations, and streamlining use of ICT in learning and teaching and administration can lead to greater efficiency.

While asset sharing and shared services are widely used within institutions, the USTREAM project showed that there is still untapped potential in expanding those to other institutions. All these measures not only have an impact on greater efficiency but also in achieving greater sustainability.

Box 6: Examples of institutional strategies for sharing assets and services

The member institutions of the **University of London** currently share the following services: student accommodation, joint halls facilities management and development, treasury management, student occupational health, university press, student services, legal and compliance services, and project co-ordination. The members also share career services based on joint infrastructure (e.g., common career service interface, shared IT, job vacancy list, promotion, and internship scheme).

In the Netherlands, **the University of Amsterdam** and **the Amsterdam University of Applied Sciences** set up a joint logistics hub on the outskirts of Amsterdam where the suppliers deliver the orders for both universities. From there, the orders are bundled and driven into the city by electric transport to the various locations. Because suppliers can now deliver their goods to the outskirts of the city, they no longer have to enter the busy city center. This saves time and money.

The Austrian Research Infrastructure (RI) Database (Forschungsinfrastruktur - Datenbank) is a data management system and a cooperation platform. It was created in 2015 to boost cooperation between research institutions and companies by sharing infrastructure. It collects some basic data (description, hosting organisation, type of RI, field of science, RI category, keywords/tags); as well as internal (initial cost, depreciation, operational cost, type of use, degree of utilisation, reinvestment cost, research focus) and public data (short description, research services, terms of use, methods & expertise, contact details, location, research partner, reference projects). Around 2,200 RIs run by 45 research organisations, including 22 universities and 17 universities of applied sciences, are registered in the database.

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18   Idem, p.25

Procurement

According to the European Commission, every year, over 250 000 public authorities in the EU spend around 14% of GDP (around €2 trillion per year) on the purchase of services, works and supplies.[19] In many sectors such as energy, transport, waste management, social protection and the provision of health or education services, public authorities are the principal buyers. Hence, sustainable procurement is a very important factor for sustainable development.

Procurement in universities is a vast field of high strategic relevance, notably with regard to environmental sustainability. On average, Europe's public universities spend 10-15% of their annual operational budgets on purchasing goods, services and works. This makes them major contributors to a dynamic, innovative, resource-efficient and socially inclusive economy and ecosystem. In purchasing the goods and services needed to achieve their mission, universities can deliver efficiencies and value for money in higher education and research. However, procurement can be taken even further. Purchasing those goods and services that have a reduced environmental footprint throughout their life cycle can embed sustainability into the university's mission. Moreover, the considerable collective purchasing power of universities can also create markets for products and services that benefit the environment, create sustainable jobs and increase the quality of life of their local communities.

In the past years, several systems have evolved from the lower bidder principle to an "enhanced value" principle that considers social and environmental criteria. Such developments point to the fact that procurement moved beyond being a mere technical tool for transparent and efficient purchasing, and turned into a steering instrument for influencing the green transition.

Of the universities that answered to the EUA's survey on greening, 36% said they had a sustainable procurement

Graph 5 Ensuring a sustainable campus
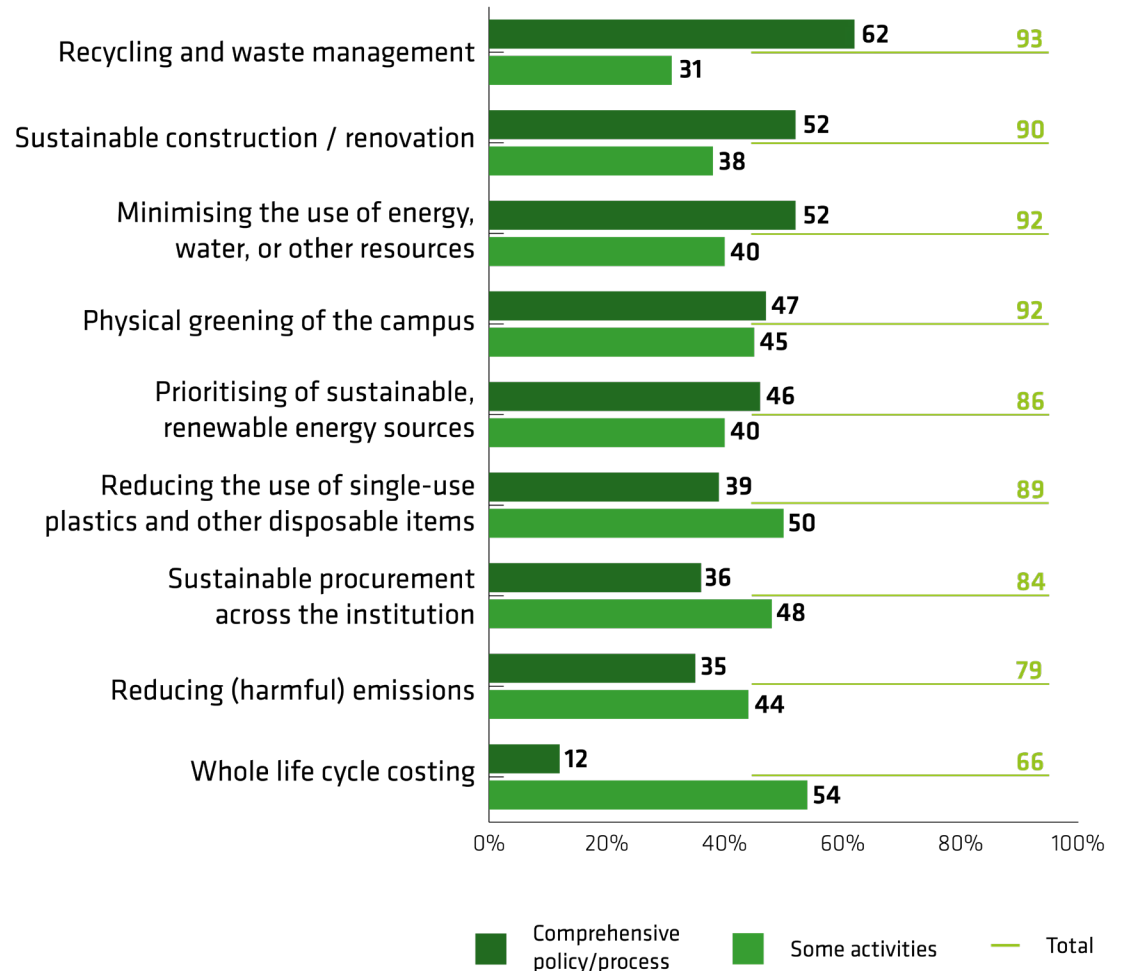
N=305. Q6: Which of the following activities and measures take place at your institution? Please select all that apply in the following categories.

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19   https://ec.europa.eu/growth/single-market/public-procurement_en

process in place across the institution, while 48% reported deploying at least some activities in this sense. While individual projects and activities to advance environmental sustainability are necessary, major progress in becoming a sustainable university will only be registered if this becomes an institution-wide strategic priority. The most widespread comprehensive policy was recycling/waste management (62%), followed by sustainable construction/renovation (52%) and minimising the use of energy, water, or other resources (52%).

The survey results also point to areas where greening activities exist, but comprehensive policies are less frequent, namely when it comes to whole life cycle costing, reducing the use of single-use plastics and other disposable items, adopting sustainable procurement across the institution and reducing (harmful) emissions.

When evaluating tenders, organisations (including universities) may look at an array of sustainability criteria, for instance (but not limited to) if the supplier of goods or services has internal sustainability management practices (such as ISO 14001), if it follows public reporting and if its services/goods come with sustainability attributes (such as recyclable packaging, eco-label, good practice in waste management, etc.). In 2018, EUA produced a dedicated report on procurement[20], which includes various examples retrieved from different EU member states on system, sector and institutional level initiatives to promote sustainable procurement practices. This includes introducing and giving significant weight to environmental (and social) criteria in procurement processes, as well as setting targets for sustainable development in institutional purchasing action plans.

While universities can, to some extent, implement a sustainable procurement policy voluntarily by including clear and verifiable environmental criteria for products and services in the procurement process, procurement rules are certainly a driving factor for greening, providing in addition a common standard across Europe. In the EU, public funding and regulatory frameworks oblige public universities to comply with EU procurement law as well as national procurement procedures. Hence, the EU procurement law is a strong driver towards green and sustainable procurement.

> **Box 7: Examples of sustainable procurement practices at universities**
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> **Frankfurt University of Applied Sciences** decides about acquisitions with a view to sustainability and thus ensures that sustainability does not fail due to financial feasibility. As a matter of principle, Frankfurt UAS only enters into cooperation with companies and organisations that are committed to sustainability - where possible, verifiably so.
>
> In the Czech Republic, **Masaryk University** introduced principles of socially responsible public procurement policies. For instance, in 2021 the university purchased energy with a certificate confirming that the supply of energy comes from renewable resources. It has taken this step to meet the targets set out in the memorandum for reducing CO2 emissions in the city of Brno, signed by the university in 2020.

The opportunity to use procurement as a leading instrument for enhancing the green transition at both European and national levels comes also with the 750 billion EUR post-pandemic recovery package of the EU, namely NextGenerationEU, which aims to invest 30% in climate targets. If decision-makers ensure that the tenders to use this money include sustainability criteria, then there will be a significant boost to the green transition across the EU member states.

20   Estermann, T., Kupriyanova, V. (2018), „A comparative analysis of public procurement frameworks and practices in universities in Portugal and selected EU member states", EUA report, https://www.eua.eu/resources/publications/806:a-comparative-analysis-of-public-procurement-frameworks-and-practices-in-universities-in-portugal-and-selected-eu-member-states.html

Leadership and governance

The design and implementation of holistic sustainability strategies is arguably one of the broadest change management processes that universities have been grappling with. Leadership and governance play a key role in steering and implementing a greener vision for higher education institutions.

Work under the USTREAM project showed that the implementation of efficiency measures depends very much on the commitment of the institutional leadership team. The same is true for greening. The EUA survey on greening shows that leadership engagement is the second most powerful driver for greening at universities, with 94% considering this as very important and important (see graph 3). The role of leadership in institutional transformation is vital for defining a clear approach and division of responsibilities, steering the strategic agenda and development, ensuring internal and external communication and engagement activities, and committing the necessary funds for the implementation of activities.

The success of any change management programme relies heavily not only on the financial, but also on the human resources available, particularly on knowledgeable, skilled and experienced managers and leaders. The latter are key in designing, implementing and coordinating a greening and sustainability strategy across the institution. As shown in Graph 1, it is precisely the lack of strategising greening across the institution and the lack of coordination that feature among the key obstacles to the implementation of greening measures.

Achieving the goal of sustainability within universities requires, too, the involvement of the university governing bodies (such as boards and senates). The selection of board members with a background in sustainability and greening is of high importance in driving the institutional transformation.

Half of the respondents to EUA's survey on greening stated that central leadership plays an important role in steering greening measures at their universities, and 38% of the respondents confirmed that at their institution there is a specific portfolio in the leadership team (vice rector or similar) managing greening issues. A recent survey conducted by News Tank among 69 French higher education institutions shows that 45% of them have a Vice-President for Environment, Sustainable Development and Greening.

Graph 6 Governance and steering of greening measures

N=305. Q10: Who is in charge of the governance and steering of your greening measures? Please select all that apply.

Slightly over a third of the respondents said that at their institution there is a specific committee or a dedicated central office/team in charge of steering and implementing greening measures. Other respondents mentioned the existence of a Sustainability Coordinator within their institution; at some universities, this is either a part-time position or a role added to regular academic activities (i.e., teaching, research, grant applications and administration).

Institutional leadership is also essential in ensuring the buy-in and supporting the engagement of the entire academic community. Bottom-up action by staff and students is necessary, so that any policy on sustainability becomes systematic and implemented across the entire institution – for 97% of respondents to the EUA's survey on greening, staff engagement is very important/important in driving forward the institution's engagement with greening, and for 95% of them student engagement and initiatives are also essential.

The buy-in of all academic stakeholders should be complemented by corresponding awareness-raising policies, through regular induction sessions that explain the university's sustainability policy and related action plans, as well as the importance of relevant legislation and regulations. Many measures for sustainability have to do with simple behavioural changes (e.g., turning off computers, printers and lights when not in use), but it is often wrongly assumed that students and staff know all too well what sort of actions to take in order to make the campus more sustainable, and what impact their action (or non-action) has. Awareness-raising among students is pivotal, given that the students are the largest group of users of university facilities, including classrooms, laboratories, dormitories, etc.

Nevertheless, the challenge remains that few senior leaders have significant experience in managing large-scale institutional transformation of the sort that greening requires. Leadership development opportunities for senior leaders are lacking, as shown by two recent surveys conducted as part of the EU-funded NEWLEAD project: in many cases (47%), leadership development is supported at the institutional level via access to national and/or international professional networks, and via participation in thematic peer groups at national (41%) and international/European level (34%), which are not fully-fledged leadership development programmes, but rather soft mechanisms for enhancing leadership. Top management programmes for senior leaders, leadership teams or open to all university members and staff, are not the norm across Europe according to the institutional respondents, representing only under a third of the reported leadership development offer.[21]

> **Box 8: Examples of institutional bodies in charge of greening at universities**
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> At **TU Graz**, the Sustainability Advisory Board is the central body for sustainability issues. In addition to advising university management in matters of sustainability, the board works on the sustainability strategy and on projects and initiatives in this area – for instance on optimising energy and mobility management at TU Graz and developing measures to achieve the SDGs.
>
> **Frankfurt University of Applied Sciences** has its own sustainability department, as well as a standing working group on environmental issues. The goal of this working group is to create a green campus that takes into account aspects related to greening and sustainability. Its members also focus on biodiversity and justice – aiming to achieve the certification as Fairtrade University.

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[21]   The EU-funded NEWLEAD project, in which EUA is a partner aims to enable leaders and senior managers at higher education institutions to successfully steer complex institutional transformation agendas. A series of thematic focus groups, which would also potentially address greening at universities, will take place starting in Spring 2022. For further information visit the project webpage: https://eua.eu/resources/projects/793-newlead.html

Not only are leadership development programmes for senior leaders in short supply, but when they are offered, greening and sustainability are not among the topics often discussed in such settings, as shown by the NEWLEAD surveys.[22] Those undertaking specialised environmental management tasks must have appropriate training and competences to perform their tasks and to be exposed to most recent technologies and developments on the topic of sustainability.

Institutional leadership and governance board members also need to have appropriate management tools at hand to allow them to monitor their progress on sustainability, and identify areas for improvement and future action. Such management tools would allow them to measure strategic goals against their achievement, by including specific indicators in an evaluation plan or by using benchmarking, external evaluation or labels to assess specific elements of the institutional achievements.

Certainly, what should be measured often depends on the context. There is no unique set of environmental sustainability indicators that can be put forward, as universities function in different regulatory, economic and social contexts, marked by diverging challenges and priorities, including environmental ones.

However, aspects of university sustainability may be included in a core set of university indicators of environmental performance, essentially covering four key themes, namely:

- ➤ energy, carbon and climate change (examples of indicators: electricity consumption, natural gas consumption, etc.)

- ➤ water use (example of an indicator: wastewater production)

- ➤ land use (example of indicator: vegetation cover) and

- ➤ material flows (e.g., by looking at the solid waste disposal).[23]

Box 9: Examples of management tools for greening at universities

The EU Eco-Management and Audit Scheme (EMAS) is a management instrument launched by the European Commission for all types of organisations to evaluate, report, and improve their environmental performance. Greening the campus with EMAS ensures that the environmental challenges are addressed in all three fields of activity of a higher education institution, namely education, research and administration.

In France, the environmental protection law set the ground for the establishment of a "**Green Plan**" for all campuses and of a label system for sustainable development and social responsibility in higher education. The "Green Plan" consists of a framework of objectives and actions drawn from the European Sustainable Development Strategy and is designed to pilot and evaluate those actions.

In Ireland, **the Green Campus Programme** has been in operation since 2007. A total of 40 campuses are currently registered in the programme, with 19 awarded the Green Flag. The programme encourages a partnership approach to environmental education, management and action at universities. It aims to ensure that members of a campus community can engage in a meaningful way to enhance sustainability on campus.

The Assessment Instrument for Sustainability in Higher Education (AISHE) was developed and validated in the Netherlands by the Dutch Foundation for Sustainable Higher Education (DHO). Based on the AISHE results, universities or their departments can be awarded the Certificate of Sustainable Higher Education.

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22   The NEWLEAD surveys on leadership development and institutional transformation showed that the topics most discussed in leadership development programmes are strategic planning and leading & managing staff and teams. For additional information, see here: https://eua.eu/downloads/publications/newlead%20report.pdf, pp.27-28

23   UNEP put forward a list with a recommended set of core university environmental performance indicators, available here: United Nations Environment Programme (UNEP), 2014, "Greening Universities Toolkit V2.0", p.43

Different tools have been developed to evaluate and benchmark the implementation of Education for Sustainable Development (ESD) at universities. These tools may be very different, ranging from those that assess only one of the dimensions of implementing sustainability at universities such as campus operations, evaluating only one pillar of sustainability (e.g., environmental), serving as manuals or supportive conceptual models, to those solely assessing the level of literacy and knowledge of the population. Furthermore, they may be specific to a type of higher education institution (e.g., business school) or serve as guidelines for supporting communication of performance for sustainability, without being an assessment tool.[24]

In addition to management tools, networks and working groups on greening are also important, as they facilitate peer learning and exchange of experiences, while addressing governance aspects around greening and sustainability at universities.

Respondents to EUA's survey on greening mentioned over 80 networks that they participate in, either dedicated to environmental sustainability in general, or to some more specific thematic issues such as green energy and water management. Most of these networks comprise a broad membership, not specific to higher education. However, 35 networks[25] focus on the contribution of the higher education sector to advancing sustainability through best practice sharing, data collection, and the development and implementation of environmental policies and processes at the institutional level.

While networks on environmental sustainability may serve an array of aims and purposes, another way to address the challenge of greening at universities is to establish collaboration in specific areas that would lead to higher efficiencies. The responses to EUA's survey on greening underscore this option and show that achieving efficiency across the university is an important driver for engaging in greening. The USTREAM analysis[26] showed that, in particular, partnerships between universities, as well as between universities and other actors, offer multiple opportunities for achieving efficiency and effectiveness. Such partnerships can be designed in specific areas or fields. For example, operational efficiency can be achieved by means of collaborative procurement or asset sharing. Cross-institutional collaborations in different forms and by different means have therefore the potential to achieve ambitious green strategies.

Driving partnerships requires a strategic approach to greening, which needs to be led by institutional leadership and supported by adequate governance structures. Moreover, integrating the efficiency and effectiveness agenda with the greening agenda, in particular with a view on partnerships requires the commitment of the senior institutional leaders. Hence, institutional leadership remains essential in adopting a holistic and strategic approach to greening at universities, while ensuring the engagement of the entire academic community.

24   For a review of tools for sustainability assessment in higher education check Caeiro, S. et al. (2020), "Sustainability assessment and benchmarking in higher education institutions – a critical reflection", https://www.researchgate.net/publication/338553160_Sustainability_Assessment_and_Benchmarking_in_Higher_Education_Institutions-A_Critical_Reflection
25   European University Association (2021), "Networks on greening and sustainability. EUA survey on greening in European higher education institutions", https://www.eua.eu/downloads/content/greening%20report_networks.pdf

26   Estermann, T., Kupriyanova, V. (2019), "Efficiency, effectiveness and value for money at universities. A USTREAM report", European University Association, https://eua.eu/downloads/publications/efficiency%20effectiveness%20and%20value%20for%20money.pdf

Recommendations

For policymakers:

➤ Provide resources and incentives for universities to engage in greening and sustainability activities.

➤ Consider direct budget support, specific grants for greening initiatives, offering loans with low interest rates for green investment, tax incentives, technical assistance in the development and implementation of initiatives, peer learning, fast-tracking of building permits, awards and prizes. This would all contribute to partially offsetting the general level of underinvestment for the transition towards greener societies and economies.

➤ Consider targeted funding as a way of steering development. For example, a budget for green measures could be allocated to the university sector on an annual basis. This could be done through a mix of fixed and competitive grants.

➤ Think about specific elements (such as indicators and performance contracts) to be included in the funding model; performance contracts may be an adequate frame, as they can be adapted to institutional differences on an individual basis. `

➤ Ensure that European funding opportunities, for instance through the NextGenerationEU, benefit universities and help them in developing and implementing their greening strategies.

➤ Provide technical and strategic support through consultations and use of experts to implement appropriate greening measures.

➤ Support leadership training that includes training for planning and implementing greening activities.

➤ Develop and promote national procurement procedures that include green criteria, as procurement rules are a driving factor for greening.

➤ Support efficiency mechanisms that also have a sustainability element (such as cooperation, networks, etc.)

For higher education institutions:

➤ Make greening and sustainability a top leadership priority.

➤ Include greening and sustainability in the institutional transformation processes, as well as in the leadership development programmes.

➤ Include greening and sustainability in the institutional strategy, with clear targets and action plan for implementation.

➤ Include members in universities' governing bodies with skills and capacities for sustainable development.

➤ Move towards green procurement in a systematic way (i.e., across the institution).

➤ Provide financial incentives for projects and initiatives on greening and sustainability, and promote internal competitions and prizes.

➤ Engage with peers to exchange and learn about other institutional practices that address the topic.

➤ Engage in partnerships and with the wider community to promote a culture of sustainability beyond the university.

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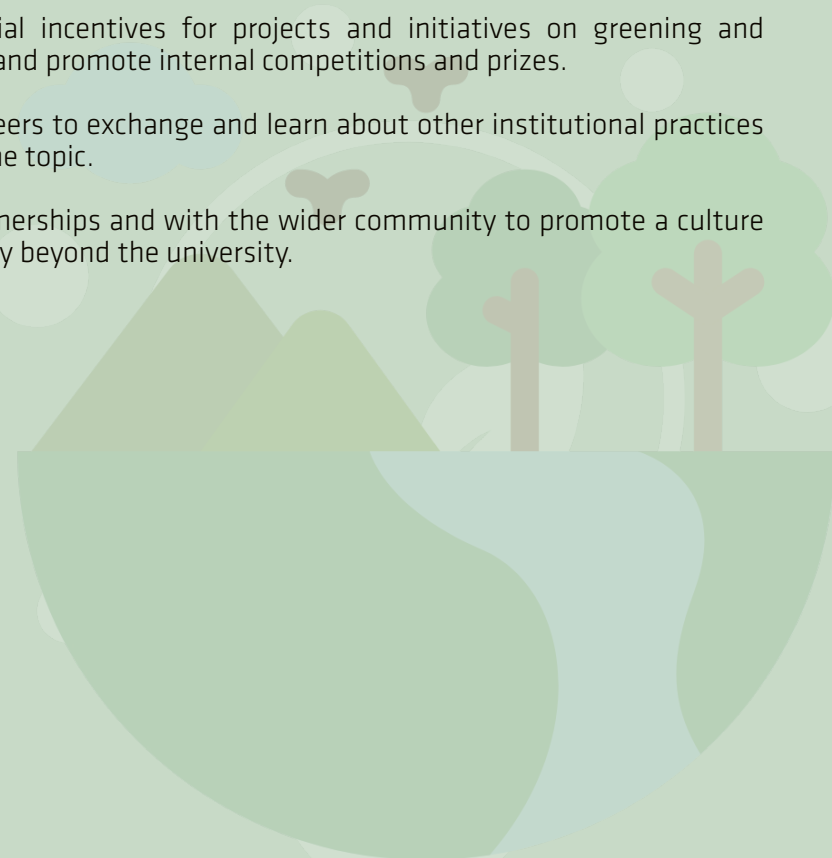
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