2020 - WORKING GROUP REPORT

Sustainability In Education

Erasmus University Rotterdam

Introduction 2
Executive Summary 3
1. Vision and profile 4
The EUR: supporting socio-economic transformations 4
Education for sustainable futures 8
Examples from other universities 11
2. Action plan 13
2.1 From vision to principles 14
2.2 From principles to changing education 15
2.3 Erasmus Sustainability Platform 18
3. Conditions and means 24
3.1 Staff and support 24
3.2 Timeline 26
3.4 Strategic positioning 27
3.5 Governance 29
3.6 Risks and mitigation strategies 30
Appendices 31
Appendix 1: Sustainability frameworks 31
Appendix 2: EUR Sustainability Education Inventory 38
Appendix 3: Standpoint Erasmus Sustainability Hub on Erasmus Sustainability Platform 45

Introduction

It is clear to us that at Erasmus University Rotterdam we too often teach the past while we need to educate for the future: to build the capacities, skills, mindsets and expertise to support socio-economic transformations towards sustainable futures. This document puts forward a vision and plan to embed sustainability in education so that all students of Erasmus University Rotterdam are educated to contribute to building sustainable futures. Our vision and plan are responding to loud and clear calls from students as well as our Strategy 2024 that ask for more societal relevance, critical engagement and focus on sustainable development. To develop this plan, the Executive Board and the deans of all EUR Schools established a working group composed of academics from each school. Over the past months, this working group has organized seven working group meetings, an open co-creation session and several exchanges with education directors, the Executive Board and the University Council.

During this process, it became clear that across our academic community we recognize the strong scientific and societal need for fundamental societal changes. That the dominant ways in which policy, business and society is organized fails to incorporate global societal and ecological concerns: our current economic development pathway is unsustainable. This is the motivation behind numerous researchers, teachers, programs, projects and initiatives within our university dedicated to the various aspects of sustainability. These relate to for example new business models, social entrepreneurship, alternative economics, sustainable finance, flexible institutions, public health, transformative governance, social innovation and just transitions. With this working plan we provide a strategy to connect, empower and scale these so far largely hidden and disconnected initiatives. But we also add specific new structures and processes to make our university a national and global leader in education for a global sustainable future.

This working plan encompasses several themes and goals stated in the new Erasmus University strategy: *Strategy2024: Creating Positive Societal Impact: The Erasmian Way.*[1] The main subject of this working plan is the embedding of sustainability in education and forms one important piece of the broader strategic puzzle. It is complementary to and dependent on several other strategic initiatives such as the integration of positive impact at the core of our curricula, establishing innovative and interdisciplinary future-proof education and becoming a carbon neutral campus with the longer-term aim of achieving a positive ecological footprint. While the aim of this working plan is to develop an implementation strategy for the embedding of sustainability in our education, the program that results from it will also fill in other gaps in the strategy and provide input and guidance for faculties and other strategic initiatives. It will give a boost to cross-disciplinary collaboration, provide guidelines for partnerships with external stakeholders, function as a network strengthening the relations between academic staff, and serve as a foundation for cutting edge transdisciplinary research initiatives.

[1] For the entire strategy, see https://www.eur.nl/sites/corporate/files/2019-09/eur-strategy-2020-2024_creating-positive-societal-impact_the-erasmian-way.pdf.

Executive Summary

This working plan sets out the vision and strategy of the working group Sustainability in Education at EUR. This working group consisted of academics from all Schools and was asked to develop this plan to operationalize the ambitions formulated with respect to sustainability in education in *Strategy2024*. We agree with the students that our current education is not delivering: the major ecological and societal challenges of our time require more than business-as-usual. Instead of teaching existing models and knowledge from within existing disciplines, we need to educate students across disciplines, instil a critical and reflexive mindset and support the development of entrepreneurial skills to contribute to socio-economic transformations in society.

We see sustainability in research and education emerging across our university, but it is fragmented, piecemeal and too often marginalized within schools. In education it is mostly in elective or voluntary courses and activities: most students go through their education at EUR without ever being confronted with sustainability challenges or engaged in a critical debate about values, perspectives or intellectual diversity. We thus argue for a broad strategy to mainstream sustainability in education in a way that all students at EUR are at least sustainability literate when they graduate and at best can build their whole education around becoming sustainability leaders.

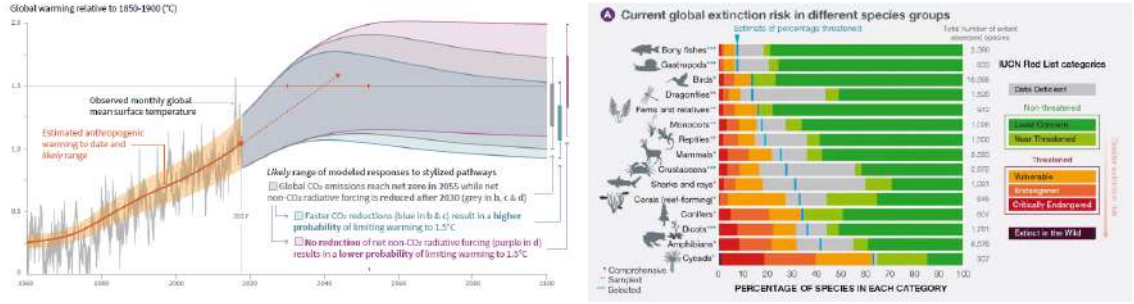
To convincingly and seriously embed sustainability in education at EUR requires us to build up a coherent portfolio and learning pathways around a shared vision on socio-economic sustainability and transformative change. For this, we have identified and linked the Erasmian values with the UN Principles for Responsible Management Education. These values and principles should be translated to each specific faculty. In line with this process, every faculty should engage in critically assessing its existing portfolio and its contribution to this sustainability vision. Furthermore, for students to become sustainability literate, we argue for the development of a compulsory sustainability course in every programme. For the sustainability leaders to-be, a new interdisciplinary master programme needs to be developed. Such a master would empower the student to work on sustainability with the awareness of the multiple challenges posed by the inter-institutional interactions.

These actions mean we will enrich, improve, strengthen and expand sustainability in education at EUR. To support this, we ask for the establishment of an Erasmus Sustainability Platform that is initially staffed with dedicated academics (a lead, four developers and a number of linking pins) and support (project lead, communication and policy) staff. This Platform will closely collaborate with the existing Erasmus Sustainability Hub to implement our strategy and organically grow sustainability in education across the EUR. It can also serve as the Platform through which sustainability research and education is connected to ongoing strategic initiatives at EUR and the outside world.

1. Vision and profile

The EUR: supporting socio-economic transformations

Science is clear: our current economic development pathway based on fossil resources and linear growth leads to increasing global ecological destruction and socio-economic inequalities and is therefore unsustainable. This is hardly a new insight on the long-term, but we are increasingly confronted with the impacts of this unsustainable development on the short term: ecological crises, geopolitical tensions, financial instabilities and socio-economic tensions and protests. Against this backdrop, the failure of policy and business to provide concrete actions rather than ambitions and plans is striking. Yes, economic and social progress has been achieved in terms of reducing global poverty, offering access to electricity, education and health care. But at the same time emissions are still increasing, biodiversity loss still accelerating, vulnerable communities are being displaced or threatened and conflicts over resources are emerging.[23]



Persistent global sustainability problems: climate change and biodiversity loss (sources: IPCC and IPBES).

The scientific understanding of the drivers of climate change, ecological degradation, socio-economic inequalities and the negative effects of these on health, democracy, justice and well-being is overwhelming.[45] This has led numerous academics, also within the EUR, to take a critical perspective upon dominant assumptions and approaches within their disciplines and start to explore new ideas and collaboration across disciplines (interdisciplinarity) as well as between science and practice (transdisciplinarity). The common characteristic is that dominant discourses in disciplines such as economics, business, social sciences or law are fundamentally challenged by the persistent complex sustainability problems. Sustainability research or science is the broad term used to refer to research that is reflexive and critical towards business as usual and explorative and experimental with regards to the development and diffusion of knowledge.

Yet, the university structures are still largely disciplinary and centred around academic knowledge that played such a central role in the historic build-up of the welfare society. Directly linked to it are the educational programs and the transfer of knowledge through education. It is at EUR still largely drawing from the body of disciplinary knowledge supporting economic growth and focused on improvement, innovation and efficiency improvements of economic and business models, institutions and policy-processes. Educating our students this way trains them to support linear economic growth, while we need to prepare them to contribute to structural changes in our economy so that it will become beneficial

[2] https://unstats.un.org/sdgs/report/2019/
[3] https://www.weforum.org/global-risks/reports
[4] https://www.ipcc.ch/sr15/chapter/spm/
[5] https://ipbes.net/global-assessment-report-biodiversity-ecosystem-services

for nature and people. Achieving socio-economic transitions to sustainable futures within planetary boundaries while meeting the basic needs of all in a just and inclusive manner requires completely new types of knowledge and education and therefore a strategic program to reorient education at EUR.[6] While the boundary conditions for a scientifically needed and socially desirable future society seem clear on the longer term, the ways to get there are far from evident and certain. Transforming energy, food, health-care, financial systems, the built environment, mobility systems and so on is inevitable, but how to deal with such systemic changes is a process full of uncertainties, tensions, barriers and ambiguities.[7]

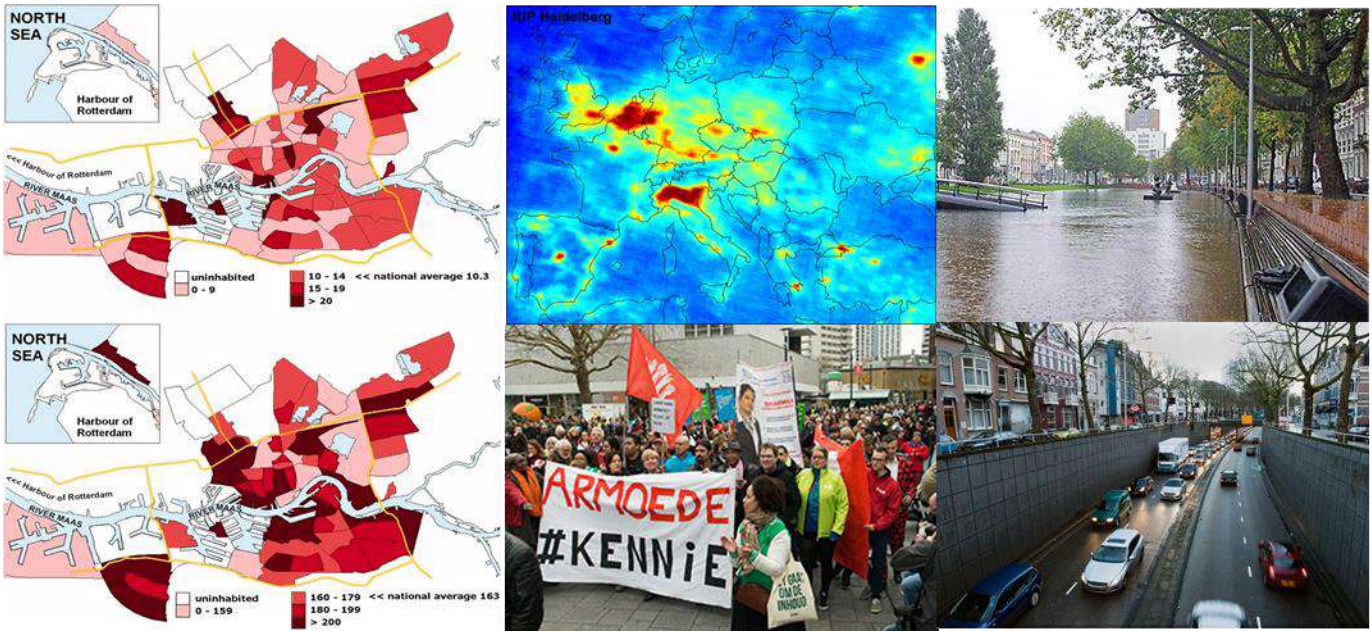
Two guiding frameworks for socio-economic transformations: planetary (ecological) boundaries and the UN Sustainable Development Goals.[8]

The persistent unsustainability and the need for transformative change is also clearly visible at the local scale in our city Rotterdam. In its city and port, the local impacts and transformative tensions related to global sustainability problems are evident:

- The global energy transition poses existential challenges for Rotterdam's fossil-based port. However, it is also creating socio-economic tensions within the city where many tenants face energy-poverty, while also being confronted with policies to shift away from natural gas for heating and renewables.
- Negative effects of (fossil) emissions, most notably ultrafine particles and nitrogen-oxide, combined with unhealthy lifestyles significantly shorten the lives of inhabitants in the city. Between the 'best' and 'worst' neighbourhood in Rotterdam, there is almost eight years of difference in life expectancy. The driving causes are social, economic as well as ecological, and current approaches are often disciplinary, fragmented and reactive. Healthy living areas combined with lifestyle changes and new forms of social support could significantly improve the quality of life.

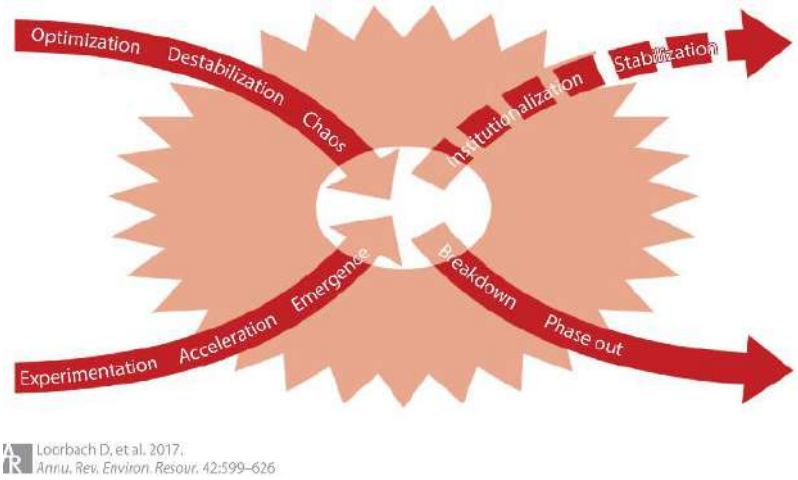
[6] Hess, D. J., & Maki, A. (2019). Climate change belief, sustainability education, and political values: Assessing the need for higher-education curriculum reform. *Journal of Cleaner Production*, *228*, 1157-1166.
Sterling, S. (Ed.). (2010). *Sustainability education: Perspectives and practice across higher education*. Taylor & Francis.
[7] Loorbach, D., Frantzeskaki, N., & Avelino, F. (2017). Sustainability transitions research: transforming science and practice for societal change. *Annual Review of Environment and Resources*, *42*, 599-626.
[8] Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F. S., Lambin, E., ... & Nykvist, B. (2009). Planetary boundaries: exploring the safe operating space for humanity. *Ecology and society*, *14*(2).

- Climate change and associated changes in rainfall and sea levels have triggered a shift in urban water management towards resilience, also including attention to social resilience, changing urban planning and the role of infrastructure.
- The mobility shift towards electric and possible automated and/or shared mobility already has serious implications for the city. New modalities are introduced, and policies start to push back against individual car use.
- Socio-economic differences within the city are persistently problematic: despite over-all economic growth, the number of households that live around the poverty line is slightly increasing.
- Extreme weather events, such as the 2018 summer drought that cracked many dikes in the Netherlands, presents significant future costs that require advance mitigation and adaptation.



Examples of local persistent challenges: socio-economic inequalities, climate change impacts, pollution and health.

Without clear blueprints, evident solutions or quick fixes, effectively dealing with these persistent problems requires transformative changes in our society. It will bring about new economic institutions and practices, demands new ways to do business and finance, it implies behavioural change on individual and collective levels, it requires us to rethink the role of law and government, and it will lead to new ways in which society organizes itself. *That* such more fundamental changes are needed and happening is clear, but *where* they will take us and *how* is structurally uncertain: it is to be discovered through experimentation and learning-by-doing. Drawing upon research into sustainability transitions, what we do know is that they involve patterns of emergence and phase-out and require more explorative and transdisciplinary approaches to help guide and facilitate such changes (see Figure 1). As the future is structurally uncertain, transformative changes are inherently ambiguous and contested, triggering all sorts of psychological, institutional, economic and societal emotions and forms of resistance and conflict. At the same time, they also provide a context for experimentation, entrepreneurship, action research and entrepreneurial policy-making.



Loorbach D, et al. 2017.
Annu. Rev. Environ. Resour. 42:599–626

Our university is traditionally strong in academic disciplines that are highly relevant for exploring ways in which societies can deal with transformative changes: what is the role of law, governance, business? But to be relevant also implies to think ahead and to not only anticipate transformative changes, but proactively explore alternatives and develop ideas of desired directions. In other words: for disciplines to reflect upon whether they now support optimisation and/or can become supportive to exploring and guiding transformative changes needed from a sustainability perspective. Looking forward thus requires us to rethink the existing knowledge base in these disciplines and how to translate existing knowledge into new and changing contexts. In other words: we argue that our university needs to reorient its socio-economic profile from its historical position to support economic growth, efficiency and the welfare state to accelerate and guide transformations to a socially just and economically sustainable future society.

Whereas major universities active in sustainability have either a technological (Delft, Eindhoven, Twente) or ecological (Wageningen) profile, the EUR could build a strong socio-economic position in the sustainability debate. Achieving this position, however, can only be achieved through critical and reflexive discussions about the dominant ecological and social assumptions and discourses present in our schools, an interdisciplinary and open attitude, a focus on transformative changes and a practice-oriented, entrepreneurial way of working. Taking the existing environmental problems serious to make bold strides towards a variety of sustainability solutions, promises to build on EUR's strengths. From the local to the global: government and business are urgently asking for and the support of sustainability literate, entrepreneurially skilled and value-driven academics to support the processes of transformative change. We need to answer this call: because it will inspire and innovate our education and our community, but most of all to make an Erasmian contribution to achieving real impact on socio-economic transformations towards sustainable futures.

Education for sustainable futures

Finding new ways to address such complex, persistent problems requires a critical analysis and rethinking of our disciplines and how they contribute to social change. It is now broadly agreed upon amongst sustainability and education researchers that proactively dealing with sustainability transitions requires more than deep knowledge within a specific discipline and literacy about persistent sustainability problems. It also requires an interdisciplinary perspective and a critical mindset. It requires the ability to collaborate across disciplines and professions. It requires an experimental and entrepreneurial way of working to contribute to societal value creation.[9]

Knowledge	Skills	Mindset
(inter-)disciplinary understanding	Social learning	Systemic
Research methods	Entrepreneurial	Multi-/Transdisciplinary
Research process	Engaged	Entrepreneurial
Research ethics	Critical	Reflexive

Sustainability in education profile

There are quite a number of initiatives and developments at the EUR in this direction (at all schools), but we are convinced that our education needs substantial and structural improvements in this regard to move beyond the electives and voluntary participation of students. A stocktake of existing courses and programmes has been conducted to identify those with substantial content related to responsibility, ethics and sustainability. Table 1 below provides an overview of the sustainability-focused education at EUR and the stocktake including sustainability-related education can be found in Appendix 2.

Notably, this analysis found that:

- EUR currently only has one programme fully dedicated to sustainability: MSc Global Business & Sustainability;
- Both ISS and EUC offer a major which deal with sustainability issues at a broad level;
- Two interdisciplinary honours programmes are focused on sustainability: Grand Challenges and Communicating Sustainability in an intercultural context;
- A wide number of sustainability-focused minors are being offered at the bachelor level;
- A few faculties are developing new courses/specializations focussing on sustainability;
- While not offering sustainability-focused education, ESPHM does offer interdisciplinary education;
- Due to their education programs, EUC, RSM and ISS could be considered the sustainability frontrunners at the EUR, although other faculties offer relevant courses for sustainability and have highly qualified in-house expertise.

Furthermore, due to new faculty strategies and Higher Education Quality Agreement (HEQA) plans, the following developments are worth mentioning:

- ESL has formulated the goal that every course should include a sustainability component by 2030;

[9] See an overview of the recommended learning outcomes of Education for Sustainable Development in Appendix 1.

- RSM is starting to incorporate the Sustainable Development Goals (SDGs) in the learning outcomes for all courses;
- ESE is developing a master specialization in Sustainability and is working on a review of the used study materials given current and future developments in business and society;[10]
- ESSB aims to start new multi- and interdisciplinary education initiatives and develop stronger connections with society;[11]
- ESHPM intends to develop multidisciplinary courses that match the needs of various stakeholders in the healthcare sector and respond to societal issues;[12]
- After the national education reform, education at Erasmus MC will have more focus on prevention and lifestyle and Erasmus MC is working on interdisciplinary education where students will on issues from societal organizations in health and wellbeing. Furthermore, structural attention for the SDG on Health will be embedded in the new educational curricula;
- Through the revision of its master, ESPhil aims to contribute to societal challenges.

Thus, existing teaching offerings with an explicit sustainability focus are fragmented in coverage (e.g. social science students might not fully grasp natural scientific discussions on climate change), and limited in reach (i.e. many of the existing courses are either siloed in particular institutions such as the ISS or RSM and/or offered as electives). Faculties at EUR are also highly heterogeneous in their existing offerings of sustainability content, scientific approaches and political traditions, teaching capabilities on sustainability, and the level to which it is already embedded within existing courses and programmes. While we welcome diversity of approaches and perspective, it is also clear that the differences in quality and engagement are not as it leads to many students at EUR only marginally engaging with sustainability or only engaging in a very superficial, fragmented and sometimes even counterproductive way. As also the students indicate, this does not offer them a basis to build the future society. If the EUR genuinely wishes to support sustainability in research and education, it is needed to connect and bring together alternative voices and perspectives and create institutional space and support for a different type of education.

[10] https://www.eur.nl/sites/corporate/files/2017-12/Strategic%20Plan%202023_0.pdf.
[11] https://www.eur.nl/essb/over-essb/strategie-2019-2022.
[12] https://www.eur.nl/sites/corporate/files/2019-09/eshpm-strategiedocument-2020-2024.pdf.

Table 1 – Overview of sustainability-focused education at EUR

		RSM[13]	ESE	ESL	ESSB	ESHCC	ESPhil	Erasmus MC	EUC	ISS	EUR
Courses	Bachelor	Leadership, Sustainability & Governance	Environmental Economics*			Economic Geography of Creativity and Urban Development*	Eco philosophy Essential Contemporary Challenges	Global Health Environmental Health	The Climate Crisis* Principles of Ecology*		
	Master			International Economic Law*		Corporate Social Responsibility Communication*	Environmental Philosophy*	Public Health in low- and middle-income countries		Earth Economics* Global Political Ecology* Political Economy of Agriculture & Environment	
	Honours					Communicating sustainability in an intercultural context					Grand Challenges Tackling inequalities
Programmes	Bachelor				Management International Social Challenges						
	Minor / Major	Learning by doing: consulting to social entrepreneurs The Moral Limits of Markets	New Economic Thinking & Social Entrepreneurship			Fashion Industry			Think Green Sustainability Major	Major in Agrarian, Food and Environmental Studies	
	Master	Global Business & Sustainability			Engaging Public Issues						

* = elective

[13] RSM also offers online education for sustainability: a SDG video series (https://www.rsm.nl/sdgs/) and the following MOOCs: Business Model Innovation for Sustainable Landscape Restoration; A Business Approach to Sustainable Landscape Restoration; Driving business towards the SDGs.

Examples from other universities

Institutional and academic fragmentation is not unusual for universities and the EUR is not the only one in search of ways to change course and develop a more society-oriented and interdisciplinary profile. But there are a lot of universities, in the Netherlands and abroad, that are way ahead of us in developing interdisciplinary structures and serious institutional support for sustainability in research and education. This section provides an overview of how other universities have incorporated or are incorporating sustainability in education.

Within the Netherlands

Maastricht University is developing an interdisciplinary (university-wide) minor on sustainable development, because the introduction of this minor will ensure that all students will have the possibility to learn about sustainable development.[14] Leiden University also offers an interdisciplinary minor on sustainable development.[15] Moreover, Maastricht University is exploring the possibilities to strengthen sustainable development competencies.

Tilburg University uses the SDG framework to integrate sustainability in education.[16] In their Sustainability Plan 2018-2021, Tilburg University has identified the following actions for integrating sustainability in education:

a) By the end of 2021, every Tilburg University Bachelor's and Master's program will focus on sustainability, based on knowledge, in a way that is appropriate to the program in question, for example, in suitable courses, interwoven throughout the program, and/or through the development of minors with a special focus on sustainability. This attention will also have been explicitly translated into the learning objectives;

b) By mid-2020, a sustainability label will have been developed for Tilburg University courses and programs, and a start will have been made with the implementation;

c) At the end of 2021, multidisciplinary sustainability modules/video lectures will have been developed for a selection of or all 17 SDGs in order to share existing sustainability knowledge and to support Tilburg University lecturers in integrating sustainability into their education.

d) Throughout the entire planning period, Tilburg University is actively committed to making our education easily accessible and to sharing our knowledge with other groups than regular students.

Science for Sustainability is one of the four profiling themes in the VU Amsterdam institution plan.[17] They have further divided the Science for Sustainability theme into the following themes: climate, natural resources and energy. The ambition of the VU with respect to Science for Sustainability is to connect the master programs as much as possible to thematic research. In addition, they are developing university-wide minors for the profiling themes.

Outside the Netherlands

[14] https://www.maastrichtuniversity.nl/about-um/sustainability/sustainable-education
[15] https://www.universiteitleiden.nl/en/dossiers/the-sustainable-university/teaching-and-research
[16] https://www.tilburguniversity.edu/about/policy-and-finance/sustainability
[17] https://www.vu.nl/en/about-vu-amsterdam/mission-and-profile/profile/index.aspx

The University of Copenhagen has established a Sustainability Science Centre that facilitates cross-organisation collaboration, maintains relationships with the business community and helps students find relevant sustainability programmes and projects.[18] Stanford University also has an interdisciplinary sustainability institute: the Stanford Woods Institute for the Environment.[19] This institute connects researchers from all seven schools to perform interdisciplinary, solutions-oriented research, while also preparing the next generation of sustainability leaders. Monash University in Melbourne created their flagship interfaculty institute Monash Sustainable Development Institute MSDI,[20] the Arizona State University has its Global Sustainability Institute as hybrid academic and practice based interdisciplinary research platform[21] and the Stockholm University has its Stockholm Resilience Centre.[22] The University of Cambridge has a living lab where students can participate in projects, internships and research (both outside and in their study programmes).[23] The University of Edinburgh also offers a living lab and they have established an interdisciplinary academic network.[24]

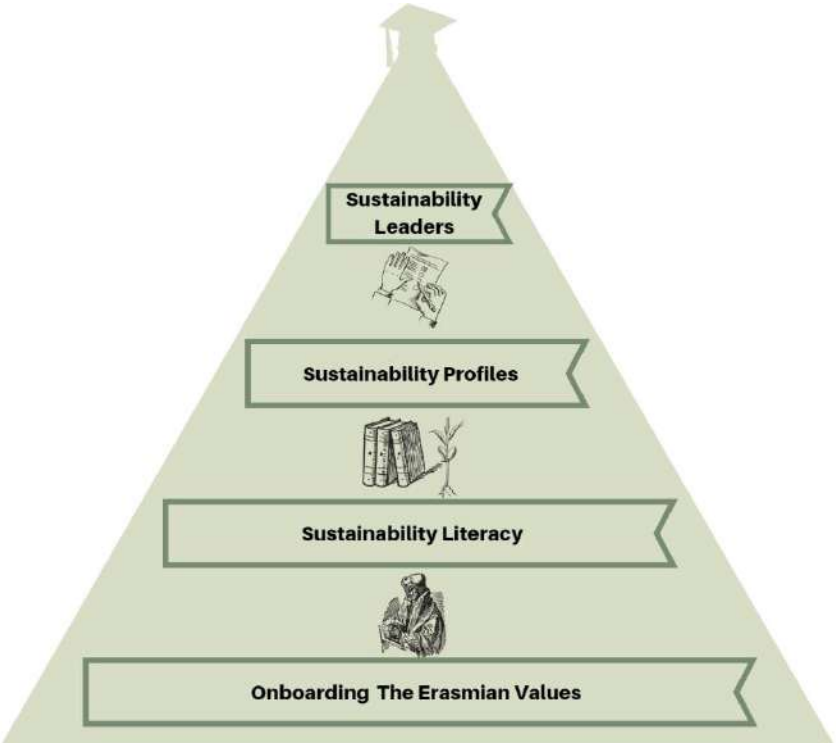
The common denominator in all these examples is that these universities created hybrid structures between existing schools that offer the space for collaboration and exchange between engaged and interdisciplinary academics working within the different schools. But also, that the universities embraced such collaboration seriously and institutionally: these are flagship institutes that have evolved to become cornerstones of how these universities develop research, education and social impact. They become the laboratories for new interdisciplinary thinking, new theories and concepts and influence global sustainability policies and business strategies. It also means that within these universities, sustainability is trickling down into every operational detail of existing curricula and project: it becomes part of the DNA of the whole university. See for example the vision of universities as the KULeuven,[25] Leuphana,[26] or Chalmers.[27] This also leads to all students being introduced into wicked sustainability problems and their responsibility to engage with these. At London University College for example all students receive an introduction into sustainability either face-to-face or through the e-learning course 'introduction to sustainability'.[28]

While this list is a sampling of some of the prominent existing interdisciplinary approaches, they illustrate the serious commitment and steps other universities already made which we can draw from without having to reinvent the wheel. But learning from these examples and building upon our academic strengths, we can claim a significant position in this global playing field. We are locally connected and globally visible: we have all the ingredients for success, but now it comes to action.

[18] https://about.ku.dk/profile-history/sustainability/
[19] https://sustainable.stanford.edu/teaching-research
[20] https://www.monash.edu/sustainable-development
[21] https://sustainability.asu.edu/
[22] https://www.stockholmresilience.org/
[23] https://www.cam.ac.uk/stories/cambridgegreen#group-Green-people-kN8B0cEsWh
[24] https://www.ed.ac.uk/sustainability/what-we-do/research/initiatives
[25] https://www.kuleuven.be/duurzaamheid/duurzaam-onderwijs
[26] https://www.leuphana.de/en/university.html
[27] https://www.chalmers.se/en/about-chalmers/Chalmers-for-a-sustainable-future/Pages/default.aspx
[28] https://www.ucl.ac.uk/sustainable/sustainable-campus/education-sustainable-development

2. Action plan

Our goal is that every EUR student will be introduced to global sustainability challenges and the need to contribute to desired socio-economic transformations in their future careers. All need to embrace the Erasmian values but also develop 'sustainability literacy': the understanding of root causes of persistent sustainability problems and the need for diverse, critical, inclusive and explorative ways to engage with societal change. But we also want to cater to the needs and demands of our diverse student population and offer much more for dedicated and intrinsically motivated students. To facilitate movement across disciplines and schools, to dive deep into specific transition domains, to develop transdisciplinary skills and projects or to combine academic with social entrepreneurial activities. We thus envision a sustainability specialization hierarchy, as depicted in the Sustainability in Education pyramid below. As mentioned before, all students should embody the Erasmian values and be sustainability literate. Furthermore, students that want to can specialize in sustainability through selecting a sustainability profile (i.e. through following electives, a minor or a major) and following a sustainability-focused master (either disciplinary or interdisciplinary).



Our action plan contains three interrelated elements:

- A proposed vision and guiding principles as the basis for academic debate and collaboration, education and collaborative action on and off campus;
- A strategy for embedding sustainability in education;
- An organisational structure to support academics, employees and students to co-create education and collaborative action on and off campus.

2.1 From vision to principles

As a basis for developing our action plan, we have identified seven guiding principles building on existing frameworks and literature.[29] The key elements in most definitions of sustainability are: (1) an appropriate balance between economic, ecological and social developments, (2) the achievement of human well-being for all (environmental and social justice), (3) the balance between current and future generations, (4) the balance between local and global developments, (5) the shift from living of natural and social capital to living of income and (6) to find, enable and support not just human but also more-than-human flourishing, as there is no life without a healthy ecosystem. In our vision, this implies the need to find development pathways that take account of our planetary boundaries and the carrying capacity of our earth eco-systems[30] and to educate our students to develop the understanding and skills needed to contribute to such socio-economic transformations. For such education we have adapted and extended the six UN Principles for Responsible Management Education (PRME), in line with RSM practice, and embedded them to the Erasmian Values. These values illustrate our identity and provide guidance to the different schools of the EUR in fostering sustainability in education. However, these principles need further translation to the specific faculty situation, which we envisage to support through open, critical and engaged academic debates.

Erasmian Values & PRME Principles

Engaged with Society

- Principle 1 – Purpose: We will develop the capabilities of students to be future contributors to sustainable value. That is to enable them to ultimately generate positive socio-economic and environmental impact within their area of specialization and discipline. Our goal is also to convey to our students a common sense of socio-environmental responsibility.

World Citizen

- Principle 2 – Values: The earth is facing a dual crisis of unprecedented biodiversity loss and rapid climate change which are known to be intrinsically linked, if not caused by human economic activities. Thus, to tackle such environmental and social inclusion global and interconnected challenges[31], students of the 21st century should be educated with the necessary knowledge, skills and tools. Thus, we will incorporate into our academic activities, curricula, and organizational practices:
    - Basic knowledge / literacy on the socio-economic and environmental challenges of the 21st century;
    - Definitions and implications of sustainability;
    - Values of global social responsibility.

  Similarly, we will encourage the development of specialized master programs in sustainability and ecological development.

[29] See Appendix 1 for an overview of sustainability frameworks and principles.
[30] The false trickle-down concept that we need to "grow the pie" rather than redistribute what we've already got has long been the road to hell ; the pie will never be big enough to accommodate unending inequality; no amount of "development" will ever satisfy all the new manufactured desires of capitalist systems. This is why equity, limits to the wealth gap, and sustainability are all bound together.
[31] As defined by the Australian Research Institute for Environment and Sustainability.

Open-Minded

- Principle 3 – Skills & Mindset: Expertise, broad-mindedness and critical-skills are essential if we are to "empower learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity"[32]. Thus, readings, research, in-class discussions, debates, systems thinking and problem-based learning exercises will eventually be key to this aim.

Entrepreneurial

- Principle 4 – Method: We will be innovative and enterprising in the creation of educational frameworks, programs, materials, processes and environments enabling each school and discipline to offer its students a qualitative education for sustainability.
- Principle 5 – Research: We will engage in conceptual and empirical academic research in sustainable related topics. We will encourage in-class research and student research assignments on sustainability, ecology, socio-economic development and other relevant topics specific to the student's discipline.

Connecting

Societal impact implies connection, binding, convergence, collaboration: building bridges between different scientific disciplines, working together in collaboration with society. An ethos of dialogue is an intrinsic aspect. Students are educated to become experts in their own individual discipline or in a multidisciplinary context, equipped with the knowledge and insights they need to establish connections.[33]

- Principle 6 – Partnership: We will interact with other universities, schools, disciplines and organizations to foster dynamic and fruitful exchanges. This with the aim to enhance interdisciplinarity, resilience and integrative learning.
- Principle 7 – Dialogue: we will facilitate and support dialogue and debate among educators, students, businesses, government, consumers, media, civil society organisations and other interested groups and stakeholders on critical issues related to global social responsibility and sustainability.

2.2 From principles to changing education

To operationalise such principles we need to rethink, adapt, renew and expand sustainability in education at EUR. In our vision, we need to build upon the strengths of our university and link these principles to the vision of educating professionals to contribute to socio-economic transformations to sustainable futures. Given the differences between faculties, a 'one size fits all' approach for mainstreaming sustainability in education is inappropriate. Instead, each faculty and programme will need to individually consider the best ways to achieve mainstreaming in their operating contexts. To support this mainstreaming sustainability in education, while appreciating the academic diversity of our university, we have developed four strategies: through changing existing courses, developing new courses, new programmes and education beyond boundaries.

[32] UNESCO 2014.
[33] As defined in the EUR *Strategy2024*.

These strategies will help to convincingly and seriously embed sustainability in education at EUR. They will help to develop a coherent portfolio and learning pathways around a shared vision on socio-economic sustainability and transformative change. They also will facilitate the process of adapting and changing existing structures, rules and procedures to enable inter-faculty cooperation, student pathways, and science-practice cooperation. But they do imply that we critically asses the existing portfolio and collaborations in how far they are aligned with this sustainability vision or not. In our view, only adding new elements and improving existing courses is not enough: we also need to engage in serious discussions about existing courses and curricula that have not recently been improved or reviewed considering sustainability challenges. This proposed strategy will help to realize the ambition formulated in *Strategy2024* that 'Sustainability has to be imbedded in the entire educational portfolio'. Not just superficially, but fundamentally, we add.

2.2.1 Existing courses

Given the ambition in *Strategy24* that the entire education portfolio should include sustainable development, some of the existing courses (that do not embed sustainability) need to be adapted. However, for teachers to teach for and of sustainability, they first need to be sustainability literate themselves. To give teachers a basic sense of sustainability and what it means for their education, sustainability should be included in the UTQ (university teaching qualification). Faculties can set additional requirements for their teachers following the UTQ, they could for example make the MicroLab Sustainable Development mandatory as part of the UTQ trajectory. This MicroLab will help teachers develop a plan on how to incorporate sustainable development in one or more aspects of their course and includes a toolbox.[34] After having followed this MicroLab, teachers can be supported in executing the plan they have set up in the Microlab either through following the STQ (senior teaching qualification; course development) or with the support of the CLI and/or Risbo.[35] Furthermore, a working model could be developed for the Learning Innovators so that they can help teachers in integrating sustainability in their course. However, 'substantive issues' relating to sustainability should be addressed in these course and staff hours that go into these courses need to be clearly accounted for in their working hours.

Furthermore, in the interdisciplinary educational setting that is proposed, teachers might need to step out of their comfort zone and acquire a guiding role instead of an expert role. To accomplish this, additional training on pedagogical methods that involve student-centered education and coaching needs to be provided. At the moment, the skills curriculum at EUC is being changed to further link the development of academic skills to societal challenges. One of the skills courses will be a multidisciplinary societal oriented "basestone" project that students will take in their first year of studies. This course will be used as a coaching lab: a place of experimentation of the use of wicked problems in education where EUR

[34] Under a CLI fellowship, Dr. Yijing Wang, Dr Mélodine Sommier and Dr. Ana Vasques are developing a toolbox that will help to integrate sustainability in the EUR educational programmes. The main aim of the toolbox is to connect the different wicked problems with the different skills, know-how and knowledge necessary to best tackle them with sustainable solutions. This will include a framework of appropriate teaching methods (e.g. appropriate assignments, flipped classroom, role play etc.) that will lead to the learning objectives on the different aspects of sustainability literacy (skills, know-how and knowledge). These teaching methods will then be linked to the different disciplines.

[35] The Community for Learning & Innovation (CLI) is a support and knowledge network for education innovation. They offer teachers support and facilities for the realisation of innovation projects, CLI fellowships (0.2 FTE to spend on researching educational innovation or working on an educational project) and lecturer training. Risbo offers numerous different training modules and courses for teachers in order to develop their teaching skills and assist them with the development of their courses.

teachers can be involved to develop their coaching skills. Furthermore, the interactions between different teachers and the multidisciplinary nature of the issues will promote interdisciplinarity at a small scale before the teaching methods can be applied to a larger scale at the EUR. Teachers will also be able to add these coaching skills acquired in the portfolio of their UTQ/STQ.

2.2.2 New Courses

Each programme at bachelor and master level should have a form of dedicated *compulsory module* that focuses on sustainability. The primary aim of this course is to provide every EUR student with a foundation level of sustainability knowledge and to form a critical mindset to consider sustainability issues throughout the curriculum. The course should enable students to encounter rigorous basic knowledge on sustainability, as well as to develop critical skills on which to hold discussions, critique subject content and take positive, informed steps in their own personal and professional lives. A mandatory sustainability course seems to be a good initiative to provide every EUR student with knowledge and skills concerning sustainability that a graduating student could reasonably be expected to have.

To establish such a course, there are two options available:

- A course that runs for the entire academic year. This enables structured reflection on the taught curriculum and the option for a practical project.
- A short course that is taught in one of the first teaching blocks of a programme. For instance, within MSc programmes this may be a 1 ECTS course. Compatibly with feasible changes in the curricula, the course could also take up to 5 ECTS.

The specific content of courses is best decided by the faculties/institutes who will offer them through internal debate and discussion, considering the translation of the sustainability principles to that specific faculty. When possible, inter-faculty cooperation should be established.

Depending upon the existing demand, short courses can be developed for the bachelor and master levels. This short course would encompass the building blocks fundamental for sustainability science of sessions and exercises, that could be relatively 'plugged' into existing programmes by changing certain parts to make them programme specific. Such a short course can be developed through following the STQ (senior teaching qualification; course development).

2.2.3 New Programmes

While all EUR students need a foundational level of knowledge on sustainability, not all are required to become specialists. Yet, there is a need for specialists who have deep content knowledge. At present, we identify only one such specialist programme at EUR: MSc Global Business & Sustainability. This programme operates within RSM and has a management orientation. Two options are identified for students to become sustainability specialists: a new interdisciplinary master and doubling your bachelor with a sustainability degree.

A *new interdisciplinary MSc* would empower the student to work on sustainability with the awareness of the multiple challenges posed by the inter-institutional interactions. There is already a lot of interdisciplinary research on sustainability issues in the current Erasmus Initiatives.[36] Since education is

[36] See https://www.eur.nl/en/research/erasmus-initiatives.

powered through research, this would be a good place to start a new research-intensive master. A working group could be constituted for this purpose. Contemporary society is increasingly oriented to address problems by involving different expertise, as captured for instance by the 'mission-oriented' approach endorsed by the European Commission. At the same time, it is important that the master retains a certain degree of specialization, so that the students acquire high-level skills to enter the work environment. It would be advisable to create a program including core courses and more specialized tracks. This approach permits to add flexibility to add more tracks as the programme grows, rather than setting up a new master programme. This *interdisciplinary MSc* can be established by appointing a program coordinator, whom could apply for the LEC (Leadership in Education Course by Risbo). The selection for the academic staff that would be eligible for the LEC starts in April 2020.

The option of doubling a bachelor's degree with a sustainability degree provides students the opportunity to study the current sustainability problems and its root causes thoroughly. This programme should be highly flexible and must be easy to combine with all bachelor programmes at EUR. For establishing the sustainability degree, a program coordinator can be appointed as well.

2.2.4 Education beyond boundaries

Where strategies of new courses and new programmes are concentrated on providing sustainability to current students, education beyond boundaries considers how to reach students that have already graduated from EUR, those who may choose to attend EUR in the future, and importantly those who do not have access to EUR education. For many, EUR education is hidden behind barriers such as education level entry requirements, time commitment requirements and tuition fees. EUR could make more efforts to reach these persons, in particular reaching marginalized persons in regions with no/ limited access to higher education.

An assessment needs to be conducted on the extent to which EUR is educating sustainability beyond its own organizational boundaries. There are already a number of existing initiatives such as the construction of MOOCs, alumni evenings, outreach to high schools and professor exchanges that can be leveraged and promoted. The 'scholar activist' tradition prevailing in parts of EUR such as the ISS could be instrumental in this regard. For instance, the 'refresher courses' offered through NUFFIC funding could be 'brought home' to the Netherlands to reach both EUR alumni and EUR's 'neighbours' in Rotterdam and the Hague. Yet, at present there is little or no structured incentives for faculty to take part in such initiatives. EUR and faculties could enter discussions regarding how to incentivize faculty.

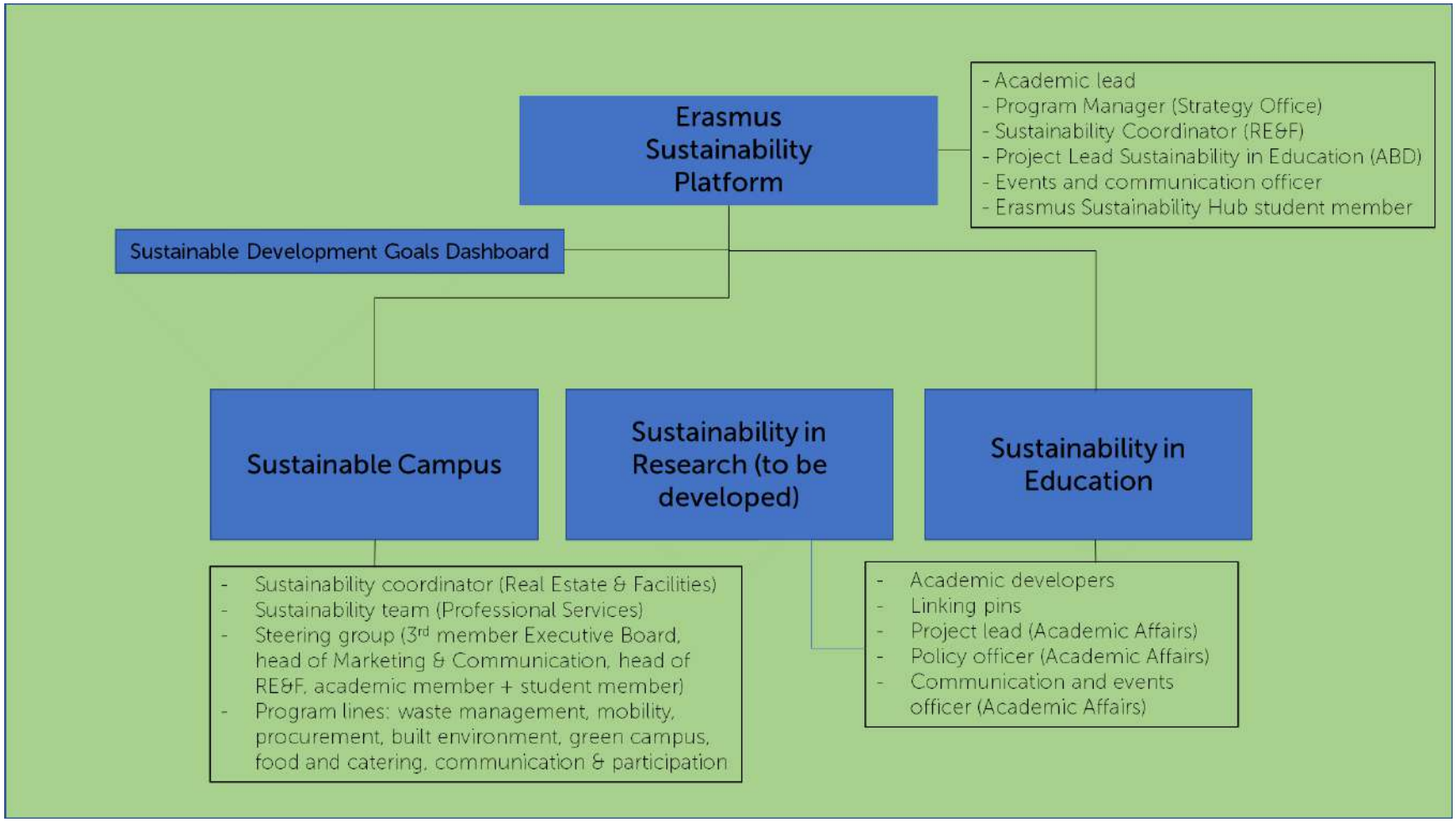
2.3 Erasmus Sustainability Platform

To support our vision and strategy, we need a new support structure that will help to connect, empower, structure and prioritize sustainability in education at EUR. We envisage a platform that unlocks the hidden potential, creates a community of teachers, researchers, students, and professional staff for socio-economic transformations and the basis for bringing sustainability into education at EUR. The development of such a hybrid platform in between the faculties, which will develop new courses, (campus) collaborations and impactful projects, encompasses an organic growth path. It will start from existing initiatives and ideas, but with dedicated staff and institutional support. By supporting collaboration and exchange, and by developing new courses, it will help to establish and further flourish the sustainability community with a new program and over time generate own revenue streams, new students and projects. By inspiring teachers, staff, and students with good examples, new ideas, cross-disciplinary

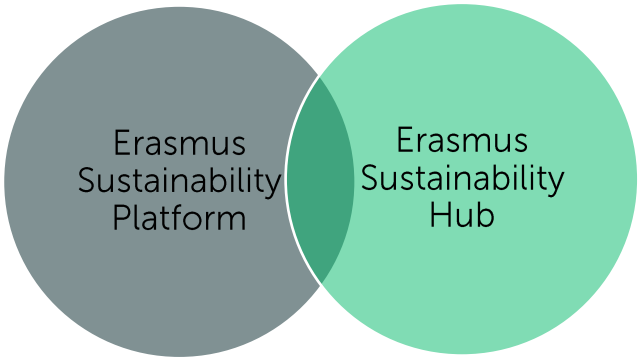
collaborations and support for changing education, the sustainability portfolio will gradually grow. By developing new courses and projects we will enrich our education. And by supporting collaborations with societal actors working on transformative change, we will expand our networks, develop practice-based learning contexts and increase impact through education. The governance model of this platform (depicted in the figure below) has been developed on the basis of the remarks given in the sessions we had with the Education Directors, Deans, Executive Board, Supervisory Board, Strategy Office and University Council. A few points became clear:

- We want to participate in the Times Higher Education Impact Ranking;
- We must be careful in order to avoid greenwashing of our education;
- Alignment with other strategic initiatives must be in place;
- All sustainability initiatives should be bundled in the Erasmus Sustainability Platform;
- The plan is ambitious and requires a readiness at faculty level to change their education (which is a long and difficult process). Therefore, we also need clear goals;
- There is broad consensus on the vision on and definition of sustainability that has been developed in this working plan.
- Professional staff must be actively included in the transition towards a sustainable campus by using the campus as a living lab, together with students and researchers.

Erasmus Sustainability Platform governance model



It is logical to develop this platform in close collaboration with the existing Erasmus Sustainability Hub. The Hub was initially developed to also facilitate academics but has evolved primarily to provide a space and context for engaged students to develop their own projects, ideas, lectures and initiatives. We want to acknowledge the relevance and importance of the Hub and the need to protect this space for students. We therefore see the Platform and Hub as separate but complementary entities that will achieve synergies through cooperation and collaboration. The relationship between the Erasmus Sustainability Platform and Erasmus Sustainability Hub may be portrayed as follows:



See the standpoint of the Erasmus Sustainability Hub on the creation of and its collaboration with the Erasmus Sustainability Platform in Appendix 3.

2.3.1 Mission

The mission of the Erasmus Sustainability Platform should be to support the mainstreaming of sustainability at EUR by supporting initiatives and engagement from our research, education, and professional services community. The sustainability platform should thus coordinate, couple, communicate and connect students, teachers, initiatives like the CLI, ErasmusX, Impact at the Core, the Erasmus Initiatives, as well as external parties (such as the municipality of Rotterdam, the Port, business and citizens), other (international) universities, study associations and the participatory bodies when it comes to sustainability. On the other hand, the platform should remain firmly linked to the *Strategy2024* and the Executive Board, providing input and advice for strategic decisions with regards to sustainability. This includes input for and participation in rankings such as GreenMetrics, joining international sustainability networks such as the Higher Education Sustainability Initiative, and supporting academics and students to initiate collaborations with for example the Leiden-Delft-Erasmus Sustainable Delta and the pillar 'Sustainable Living Environment' of the intensified collaboration with TU Delft and Erasmus MC. It should therefore also aim to play a significant role in supporting research and experimentation to achieve sustainable, eco-positive campuses (Woudestein and Hoboken) and a sustainable city, as the EUR is one of the partners in the Rotterdam Climate Agreement[37].

2.3.2. Activities

Based upon the mission described above, the primary focus of the Erasmus Sustainability Platform will be upon the following activities:

Support the rethinking of education within faculties

[37] See https://en.rotterdampartners.nl/wp-content/uploads//2019/11/Factsheet-Climate-Agreement.pdf.

The Platform will guide the process of discussions between students and faculty members in rethinking education at the faculty level and translate the guiding principles to faculty-specific guidelines. Students should be involved in this process, as they are doing now through organizations such as Rethinking Economics and Education in Transition. At EUR there are also opportunities in rethinking the current and developing new education, for example through ErasmusX, CLI and Students4Students, but with regards to sustainability a more structured and stimulated course of action is needed in order to rethink the education at different scales.

Establish a sustainability network

- Set up and maintain a sustainability network within the EUR and with partners, such as other (international) universities, schools, governmental and non-governmental organizations, the city and port of Rotterdam and businesses;
- Help teachers get in touch with likeminded teachers from other disciplines and support them in the development of sustainability education (a bi-directional mentorship program);
- Establish clear relations and (information) exchange with initiatives such as ErasmusX, Impact at the Core and the Design School;
- Organize open calls for ideas when new projects are developed;
- Set up and maintain a working relation with the sustainability 'delegates' within participatory bodies;[38]
- Acquire funds.

Events/communication

- Organizing events on a regular basis for sustainability on campus and in education, where progress can be shared, and ideas and networks can be exchanged;
- Communicating internally and externally, create content, maintain a webpage and regular newsletter, make sure events have good online visibility;
- Provide trainings, workshops and checklists to study associations, faculties and departments.

Support student initiatives

There is a clear need for the institutional and financial support of student initiatives.[39] The Erasmus Sustainability Platform can allocate funds for projects that contribute to a vibrant community and sustainable campus and use the campus as a living lab. The Platform can also assist academic and professional staff and students in working out their projects and finding the right partners for development, experimentation and implementation.

Develop education innovation fund (in cooperation with CLI)

Crucial to our implementation strategy is allowing teachers the time to follow development courses as well as to implement the necessary changes in their courses. The Platform should develop a sustainability

[38] There are already numerous active committees and working groups in participatory bodies that come up with sustainable initiatives and institutional critique. For example, ISS and EUC have environmental committees that take a critical and constructive stance towards sustainability in policy, operations, and education at the level of the faculty. The ESHCC, RSM and ESE faculty councils take on sustainability as an explicit theme that needs work on the faculty level. The University Council has taken on sustainability as one of its main themes for several years already and has a working group on sustainability with students and staff.

[39] Examples include: the Erasmus Sustainability Hub, Uni-Life, the Rotterdam Climate Table on Consumption, Zero Foodwaste Rotterdam, EcoCoin, the Erasmus Foodlab, Post Plastic Generation, Education in Transition, the cup-sharing system and the campus garden and bee palace.

education innovation fund where teachers can implement changes in their curriculum which are not funded through other means.

Execute the Roadmap Sustainable Campus

The Roadmap Sustainable Campus has been established in 2019 and describes the current ecological footprint of the Erasmus University and possible measures that can be taken in becoming carbon-neutral in 2024 and eco-positive in 2030.[40] Both the Roadmap Sustainable Campus and the working plan for Sustainability in Education are results of the *Strategy2024*. Even though these two plans are developed separately, they are inherently interlinked in several ways. Firstly, one of the ways in which sustainability in operations and education explicitly come together is by using the campus as a living lab. Through projects, initiatives, and proposals, the academic community and especially the students aim to make the campus more sustainable. By using the campus as living lab, students can initiate projects on campus that contribute through a sustainable campus that are derived from knowledge they obtain through their studies. In this way, students and researchers can set up projects on campus that contribute to a sustainable campus and to sustainability theory.

Second, carbon-neutrality and eco-positivity have different definitions, and the methods used to measure them are always debatable. By opening up the definitions, methods, and results to the academic community, the Roadmap Sustainable Campus and the knowledge on sustainability are both increased in quality. Also, it will ensure that the Roadmap Sustainable Campus will be executed and the progress will be checked. Last but not least, in the Roadmap Sustainable Campus carbon pricing and compensation are integrated as an inevitability for becoming carbon neutral. However, where normally compensation would occur through world-wide projects and programs such as tree planting or the installation of cooking stoves in developing countries, compensation can also happen through projects on campus and in the region. In this way, education, research, and operations are benefited through carbon compensation schemes. Think of the funding of educational and/or research projects on sustainability that contribute to a sustainable society, such as behavioural insights projects.

Supporting the sustainability advisory board

Each faculty needs to appoint an academic staff member (preferably included in one of the Erasmus Initiatives) for the sustainability advisory board, which has a proven track record in and affinity with sustainability and is convinced of the importance of integrating sustainability in education. The sustainability advisory board will be delegated with the task to track the progress of the Erasmus Sustainability Platform and give advice on how to remove encountered roadblocks. The advisory board can also function as a sustainability platform within the Erasmus Initiatives, where especially the Erasmus Initiative Dynamics on Inclusive Prosperity has a strong research focus on sustainability, which can be strengthened further through connections with the Erasmus Sustainability Platform and Hub.

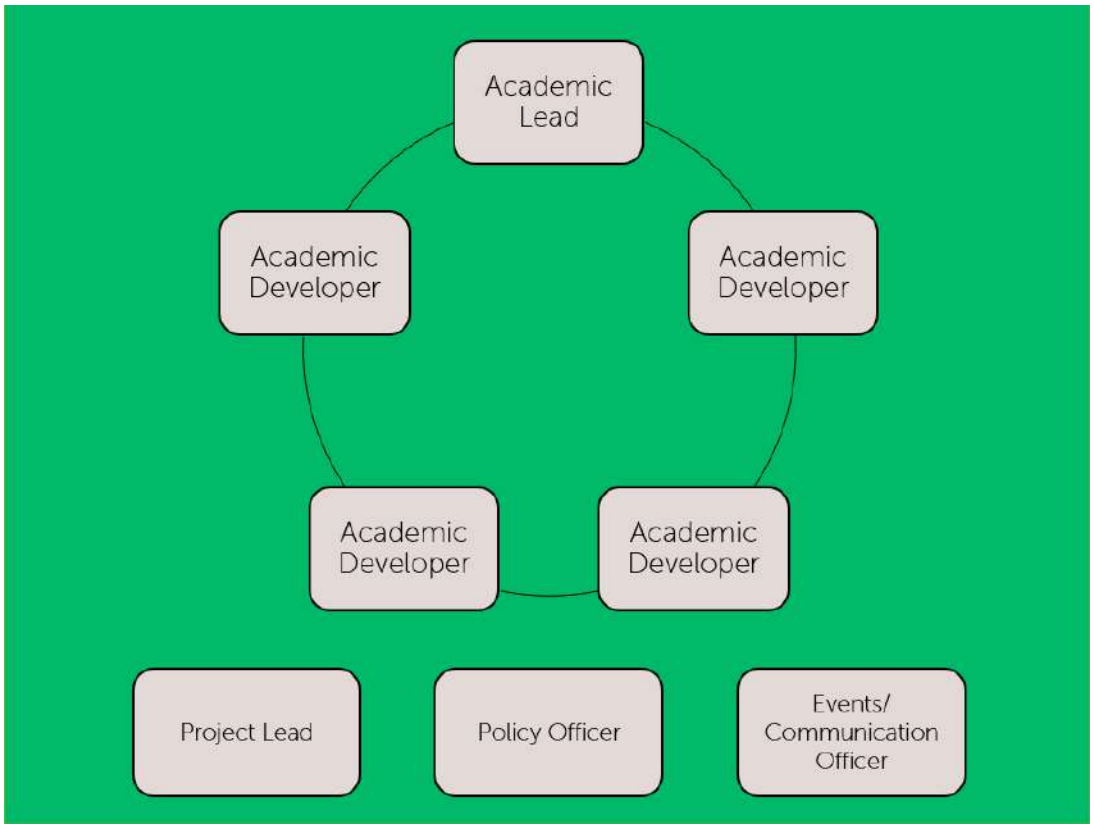
[40] The Roadmap Sustainable Campus can be found here: https://www.eur.nl/media/2020-02-roadmapsustcampuseur211119web.

3. Conditions and means

This chapter identifies the necessary means and conditions to achieve the goals as formulated in chapters 1 and 2.

3.1 Staff and support

Given the activities identified in section 2.3.2, we propose the following organizational structure of the Erasmus Sustainability Platform education program:

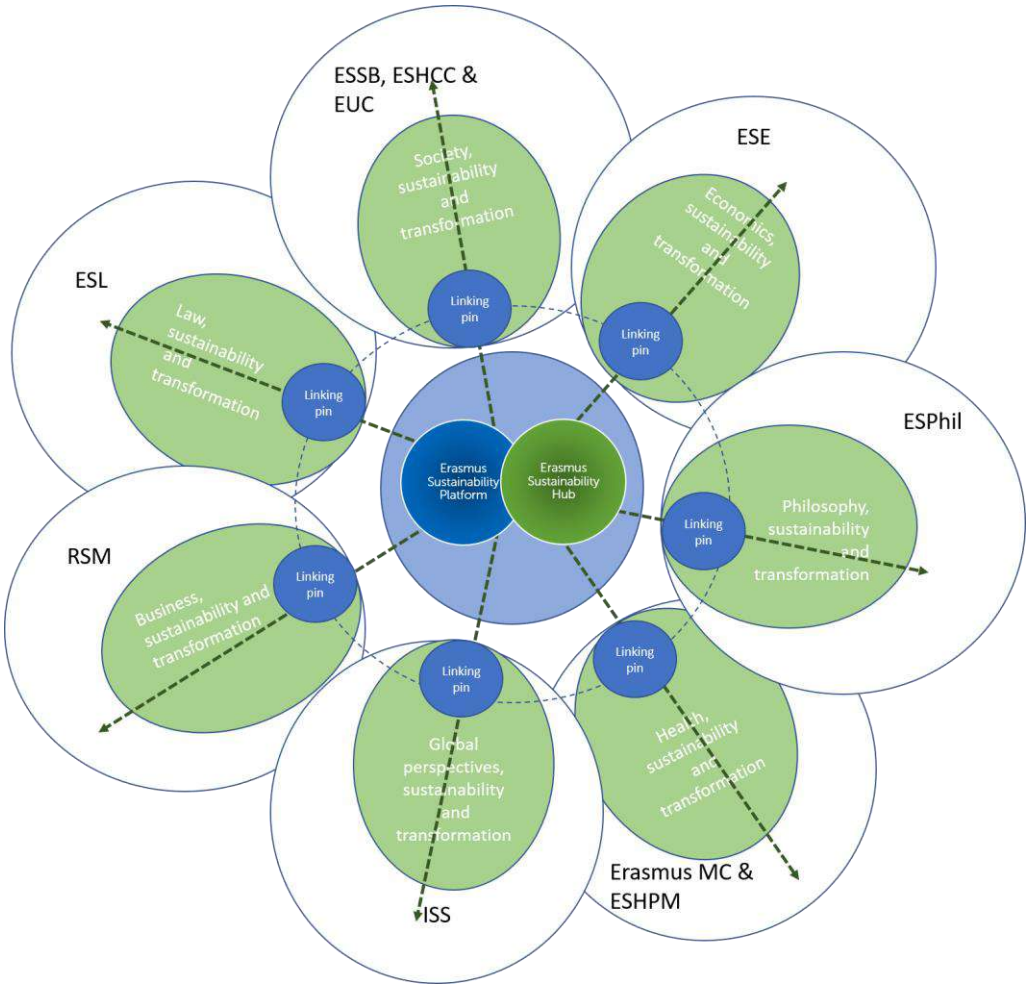


Given the fact that sustainability is one of the strategic priorities, an Academic Lead needs to be appointed to safeguard the sustainability vision, monitor the progress and be involved in the internal debates regarding sustainability in education. We envisage this to be a full-time position, including the responsibility for the development and coordination of the new master programme. Furthermore, four academic developers (at least 0.4 FTE each) will be appointed from the faculties, where their basis will thus still be within the faculties. These developers will lead different themes (e.g. innovation in education, new sustainability profile EUR, practice- based learning and collaboration, campus as living lab). All other schools participate in the Platform through a coordinator or linking pin (0.2 FTE) who will be responsible for the implementation of sustainability in education in their own faculties. In total this means that at the start, the platform will have at least 4 FTE.

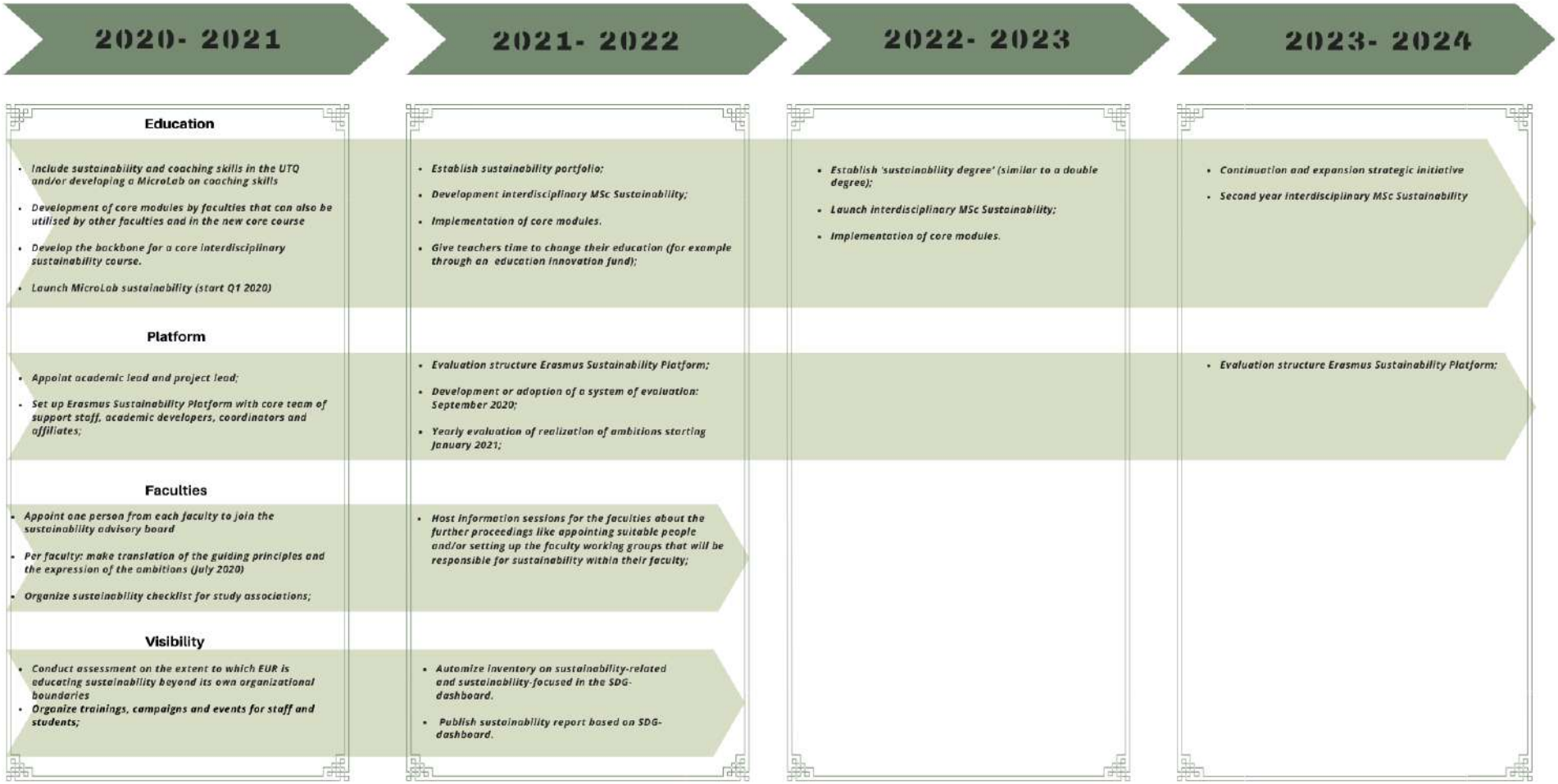
Beyond this initial core staff, we want to introduce the possibility for academic staff to be formally recognized for their efforts and actions they have already taken to embed sustainability in education. Staff that is giving or developing education with a focus on sustainability and/or doing research on

sustainability-focused themes will be able to become affiliated with the Erasmus Sustainability Platform. This will make ongoing efforts more visible, create a community across campus and is the first step to contributing to developing more and collaborative education. Once successful, such new programs or projects could lead to (partial) positions with the platform. To support the academic staff members in the Erasmus Sustainability Platform, three full-time support staff functions are necessary: a project lead, a communication officer and a policy officer.

With this basis we can achieve synergies with the existing initiatives, as well as connect existing education into a sustainability profile and support the development of new education. We consider this an investment as we will add value to existing initiatives, attract new funding and attract new and more students. It is however our mission that our vision will diffuse into regular education and schools and thus not develop new initiatives or structures that are separate or add-ons. This will require dedicated, vision-led and competent support from outside the current institutional structures. The figure below tries to visualise our organisational vision.

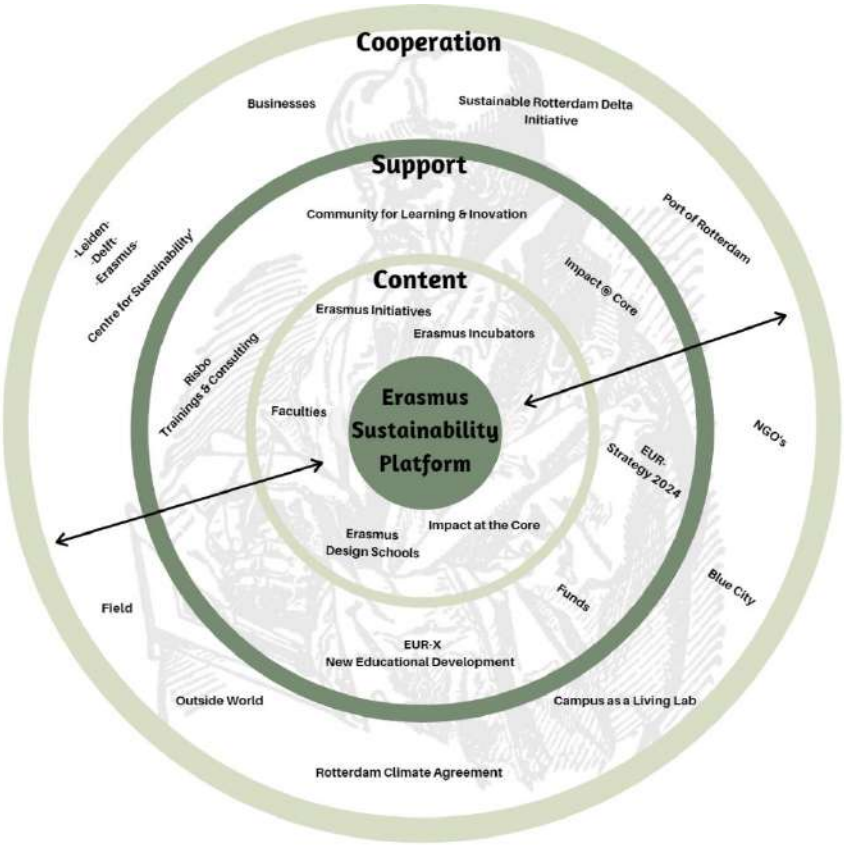


3.2 Timeline


2020- 2021
2021- 2022
2022- 2023
2023- 2024
Education
Include sustainability and coaching skills in the UTQ and/or developing a MicroLab on coaching skills
Development of core modules by faculties that can also be utilised by other faculties and in the new core course
Develop the backbone for a core interdisciplinary sustainability course.
Launch MicroLab sustainability (start Q1 2020)
Establish sustainability portfolio;
Development interdisciplinary MSc Sustainability;
Implementation of core modules.
Give teachers time to change their education (for example through an education innovation fund);
Establish 'sustainability degree' (similar to a double degree);
Launch interdisciplinary MSc Sustainability;
Implementation of core modules.
Continuation and expansion strategic initiative
Second year interdisciplinary MSc Sustainability
Platform
Appoint academic lead and project lead;
Set up Erasmus Sustainability Platform with core team of support staff, academic developers, coordinators and affiliates;
Evaluation structure Erasmus Sustainability Platform;
Development or adoption of a system of evaluation: September 2020;
Yearly evaluation of realization of ambitions starting January 2021;
Evaluation structure Erasmus Sustainability Platform;
Faculties
Appoint one person from each faculty to join the sustainability advisory board
Per faculty: make translation of the guiding principles and the expression of the ambitions (July 2020)
Organize sustainability checklist for study associations;
Host information sessions for the faculties about the further proceedings like appointing suitable people and/or setting up the faculty working groups that will be responsible for sustainability within their faculty;
Visibility
Conduct assessment on the extent to which EUR is educating sustainability beyond its own organizational boundaries
Organize trainings, campaigns and events for staff and students;
Automize inventory on sustainability-related and sustainability-focused in the SDG-dashboard.
Publish sustainability report based on SDG-dashboard.

3.4 Strategic positioning

The Erasmus Sustainability Platform will simultaneously support mainstreaming sustainability in education, but also provide the support to bring relevant research and education on sustainability into existing initiatives and programs at EUR. In our vision, we create a community of sustainability academics, professionals and students that can bring substance, state-of-the-art knowledge, relevant practices and intellectual inspiration to strategic initiatives such as ErasmusX, Impact at the Core and the Erasmus Design School. The nature of this connection with these strategic initiatives is further elaborated below. The figure below tries to visualize how we envisage the role of the Platform to contribute to the wider EUR community. Vice versa, the Platform will draw upon these initiatives to develop experimental educational material, collaborate with outside partners and include real-world problems in the core of our education. Furthermore, the establishment of the Erasmus Sustainability Platform will develop possibilities on program and course development and innovation provided by Risbo and the CLI and ensure that these are available and known to teachers and students from every faculty. Next to that, collaborations with external partners and other universities with sets of different disciplines are required, in order to make a greater positive societal impact. The new Sustainable Rotterdam Delta initiative, consisting of an intensified partnership between Erasmus University, Erasmus Medical Centre and TU Delft, is a good example, as is the Leiden – Delft – Erasmus Centre for Sustainability.[41][42]



[41] See https://www.eur.nl/nieuws/erasmus-universiteit-tu-delft-en-erasmus-mc-intensiveren-samenwerking.
[42] https://www.centre-for-sustainability.nl/home

Impact at the Core

In Strategy2024, the Erasmus University Rotterdam has put creating impact central to its mission. One of the projects to create impact through education, as initiated by the Higher Educational Quality Agreements, is Impact at the Core. Impact at the Core aims to embed solving complex societal issues into the existing curricula. In consultation with faculties and faculty councils, projects should be developed that focus on social issues or 'wicked' problems. Achieving sustainability or sustainable development are pre-eminently 'wicked' problems and should thus be one of the requirements in the to-be-developed guidelines for Impact at the Core.

ErasmusX

ErasmusX is a new innovation space at EUR, where student and staff can work on projects together that initially would not fit under the current institutionary boundaries. An example of such a project is an action-research project that comes up with innovative solutions for organic waste separation in high-rise buildings in the city of Rotterdam, led by a student. Currently these types of projects are unable to be credited for by the educational system, while the impact they have on and by students and the new ways of learning they evoke could be revolutionary. Like Impact at the Core, the ErasmusX innovative space is funded by the Quality Agreements. In the educational ecosystem of the EUR, ErasmusX can best be seen as a breeding pond for truly educational innovations. The aforementioned example is already an example of such an innovation. Students are encouraged to experiment and fail, to move beyond their comfort zone and truly make an effort to make a positive societal impact. As a topic that is fairly new, uncertain, and is in need for a great demand of new expertise by experimentation, sustainability definitely needs a place in the innovation space. However, an explicit link is still to be made.

Erasmus Design School and Erasmus Incubator

Another initiative currently being constructed, is the Erasmus Design School. The core purpose of the Erasmus Design school is to increase EUR's capacity to make a positive impact on society. This positive impact will be created either through design research or design education.

The Erasmus Design School will simultaneously invest in three forms of design research: research-led design, design science and design-led research. Research-led design is design informed by research, design science is research whereby the practice of design is researched, and design-led research is research whereby researchers experiment with research using design principles. The latter is the form of applied research that is needed to solve sustainability issues.

In general, design education can create positive societal impact by matching design faculty and students to projects centring on the real-world issues and challenges facing external societal stakeholder groups. The Erasmus Design School will develop a modular master's program where students can work on such projects. However, the Erasmus Design School might start with developing design minors and integrating design into honours courses, since these courses are easiest to implement. Given its complex and social nature, sustainability projects should be part of the to-be-developed design education. Furthermore, all design courses should include seminar time for cognitive development, lab time for skills development, and studio time for experimentation. This lets students experience doing applied research.

Closely linked to the Erasmus Design School, the Erasmus Incubator is under development. The Erasmus Incubator will function as a development platform where staff and students will be supported in setting up start-ups. These two initiatives will be highly synergetic, since the Erasmus Design School is reliant on bringing designed products and services to the market. The Erasmus Incubator thus functions simultaneously as a testing site for the economic feasibility of academically fed designs. In this light, the

Erasmus Sustainability Platform can function as a feeding ground here for both the Erasmus Design School and the Erasmus Incubator in the entire range of product design, service design and system transformation design. From this point of view, a strategic partnership with BlueCity, a circular city for sustainable entrepreneurs in the direct vicinity of campus Woudestein, would make sense.[43]

3.5 Governance

The execution of the actions identified in chapter 2 should be closely monitored to identify the progress and gaps in achieving our vision. This monitoring can happen through the SDG-dashboard explained below and the analysis should be discussed in the bi-annual evaluation between faculties and the Executive Board and with participatory bodies.

SDG-dashboard

The EUR's Business Intelligence Competence Centre (BICC) is developing a dashboard that monitors the Erasmus University's impact on the SDG's. This impact is measured in three different domains: research, education and operations. The dashboard will function as an internal reporting and steering device, helping the EUR and its faculties to further profile itself on the SDG's. A bibliometric analysis of the EUR research profile has already been made by the VU and the AURORA network.[44] The used queries will be published by the AURORA network in April 2020. A similar exercise will be done by BICC and finalized before the summer of 2020 on the EUR's educational content. However, since this bibliometric analysis offers a narrow and limited view of the impact made by the Erasmian researchers, other methods are necessary in order to offer a broader impact perspective. That is why the EUR SDG dashboard will move beyond the bibliometric analysis on research publications and incorporate other relevant parameters and more domains.

Participatory bodies

The University Council is one of the main initiators behind putting sustainability on the strategic agenda. Currently sustainability still is one of the council's core values, resulting in a working group 'Campus Climate' consisting of two employees and two student members who are extremely involved in sustainability. The University Council can critically assess the progress on a yearly base, staying involved with the strategic program informally, and advise the academic and support staff and the Executive Board on sustainability-related issues. Also, the coordination with the other Faculty and School Councils and Program Committees, organized by the University Council through the chair meeting, can serve as a platform to exchange plans, information and ideas with regards to sustainability in education.

[43] For an inspirational example of a perspectives this would bring for educational purposes, see https://rotterdammakeithappen.nl/en/showcases/the-world-of-fungi/.
[44] See http://bit.ly/2YNIfuh.

3.6 Risks and mitigation strategies

Through a system-mapping exercise, the working group has identified the following risks to the proposed changes in this working plan. For these risks we have also identified possible mitigation solutions.

Risks	Possible mitigation solutions
Tenure requirements disincentivize large changes to taught courses	This is a broad problem that touches upon several issues and should be discussed on different levels.
Professors/teachers are unwilling to change their teaching practices	This largely coincides with the previous risk: when courses receive good feedback, there is no incentive to change them. This incentive must come from pressure by students and fellow peers, or through other evaluation methods.
Teacher's/theory detachment from societal problems	Many teachers have never had to deal with societal problems in their courses or research. They can be incentivized through inspiration from their peers, students or through projects such as ErasmusX, Impact at the Core and the Erasmus Design School. Of course, not everyone has to teach sustainability. Another solution would be to stimulate exchange between research intensive faculties with a large focus on sustainability such as ISS with faculties with a large educational task such as ESE.
Restricted ECTS within programmes	Several courses can be revised and innovated through several pathways, such as CLI funds and Risbo training modules, and by making use of existing materials provided in the Toolbox and this working plan.
Monodisciplinary incentive system focused on publications instead of tackling societal challenges	This incentive system is already under scrutiny by projects such as Evaluating Societal Impact and *Erkennen & Waarderen* (acknowledge & reward).
Work pressure	Give teachers time by buying them out through funds, instead of letting them develop new courses on top of their appointment solely through intrinsic motivation.
Greenwashing	Greenwashing is not necessarily a problem, since it elucidates the intention of being sustainable, while becoming vulnerable for criticism. Even so, the Sustainability Platform provides several mechanisms for countering Greenwashing, such as facilitating critical debates between and within faculties, by making a division between sustainability-related and sustainability-focused courses, and by providing clear guidelines.
Large size programs (800+ students) makes cases / assignments / projects extremely time consuming	Overall, faculties invest in small-scale education by appointing tutors through the HEQA funds and/or by making use of Problem Based Learning.
Siloed faculty logic and structures	Use the Erasmus Sustainability Platform, the Erasmus Initiatives, and other strategic programs as a vehicle for transcending the boundaries of faculty structures.

Appendices

Appendix 1: Sustainability frameworks

There are various frameworks, guidelines and principles formulated to promote sustainable development in education. This section provides a short overview of the most relevant frameworks, guidelines and principles.

According to UNESCO, "Education for Sustainable Development (ESD) empowers people to change the way they think and work towards a sustainable future".[45] The Australian Research Institute for Environment and Sustainability identifies the following components of ESD:[46]

1. Envisioning
2. Systems thinking
3. Critical thinking
4. Participation
5. Partnerships

Principles	
UNESCO guidelines[47]	
Mission element	Identify Sustainability Science as a core element of their Third Mission and using it to enhance their respective academic profile.
Sustainability in education	Integrate sustainability, and environmental literacy more broadly, into all programs, curricula and syllabi, from freshmen to PhD students, regardless of discipline, and strengthening adequate career paths.
Institutional capacity	Improve the institutional capacity for Sustainability Science education, either through dedicated new chairs, departments, or alternative structures for inter-departmental and program collaboration.
Partnerships	Strengthen local, national, and international education partnerships, also drawing upon the opportunities of digitization and in particular Open Educational Resources.
Equal importance research and teaching	Recognize the equal importance of research and teaching, namely by promoting project-based education and applied research projects, and by recognizing public service.
Incentives	Provide incentives for Sustainability Science which, inter alia, reward collaborative work with academics in other disciplines as well as with non-academic stakeholders.

[45] https://en.unesco.org/themes/education-sustainable-development
[46] http://aries.mq.edu.au/about/education_for_sustainability_processes/
[47] https://www.iau-hesd.net/sites/default/files/documents/guidelines_sus_f_0.pdf

Holistic approach	Introduce concepts such as "Sustainable Campus", setting long and short-term goals, publishing annual university sustainability reports, and introducing university-wide entrance courses on themes such as sustainability and academic responsibility.
Student-driven initiatives	Encourage and support student-driven initiatives for sustainability, such as student driven academic courses or non-formal training as well as cooperation of students across different universities.
Institutional participation of students	Enable the institutional participation of students in the sustainability governance of a university, for instance through service-learning courses.
Networking	Share good practice, in particular through international collaborations, networks and partnerships.
UN Principles for Responsible Management Education (PRME)[48]	
Principle 1 – Purpose	We will develop the capabilities of students to be future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy.
Principle 2 – Values	We will incorporate into our academic activities, curricula, and organizational practices the values of global social responsibility as portrayed in international initiatives such as the United Nations Global Compact.
Principle 3 – Method	We will create educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership.
Principle 4 – Research	We will engage in conceptual and empirical research that advances our understanding about the role, dynamics, and impact of corporations in the creation of sustainable social, environmental and economic value.
Principle 5 – Partnership	We will interact with managers of business corporations to extend our knowledge of their challenges in meeting social and environmental responsibilities and to explore jointly effective approaches to meeting these challenges.
Principle 6 – Dialogue	We will facilitate and support dialog and debate among educators, students, business, government, consumers, media, civil society organisations and other interested groups and

[48] https://www.unprme.org/about-prme/the-six-principles.php

	stakeholders on critical issues related to global social responsibility and sustainability.
Principles of Action - University Charter for Sustainable Development	
Principle 1 – Institutional commitment	Universities shall demonstrate real commitment to the principle and practice of environmental protection and sustainable development within the academic milieu.
Principle 2 – Environmental ethics	Universities shall promote among teaching staff, students and the public at large sustainable consumption patterns and an ecological lifestyle, while fostering programmes to develop the capacities of the academic staff to teach environmental literacy.
Principle 3 – Education of university employees	Universities shall provide education, training and encouragement to their employees on environmental issues, so that they can pursue their work in an environmentally responsible manner.
Principle 4 – Programmes in environmental education	Universities shall incorporate an environmental perspective in all their work and set up environmental education programmes involving both teachers and researchers as well as students - all of whom should be exposed to the global challenges of environment and development, irrespective of their field of study.
Principle 5 – Interdisciplinarity	Universities shall encourage interdisciplinary and collaborative education and research programmes related to sustainable development as part of the institution's central mission. Universities shall also seek to overcome competitive instincts between disciplines and departments.
Principle 6 – Dissemination of knowledge	Universities shall support efforts to fill in the gaps in the present literature available for students, professionals, decision-makers and the general public by preparing information didactic material, organizing public lectures, and establishing training programmes. They should also be prepared to participate in environmental audits.
Principle 7 – Networking	Universities shall promote interdisciplinary networks of environmental experts at the local, national, regional and international levels, with the aim of collaborating on common environmental projects in both research and education. For this, the mobility of students and scholars should be encouraged.

Principle 8 – Partnerships	Universities shall take the initiative in forging partnerships with other concerned sectors of society, in order to design and implement coordinated approaches, strategies and action plans.
Principle 9 – Continuing education programmes	Universities shall devise environmental educational programmes on these issues for different target groups: e.g. business, governmental agencies, non-governmental organizations, the media.
Principle 10 – Technology transfer	Universities shall contribute to educational programmes designed to transfer educationally sound and innovative technologies and advanced management methods.

Furthermore, both the Sustainable Education Panel and the Learning for a Sustainable Future organization in Canada formulated learning outcomes for sustainable development.

Learning outcomes		
Learning for a Sustainable Future, Canada[49]		
Knowledge	Skills	Values
- The planet earth as a finite system and the elements that constitute the planetary environment. - The resources of the earth, especially soil, water, minerals, etc., and their distribution and role in supporting living organisms. - The nature of ecosystems and biomes; their health, interdependence within the biosphere. - The dependence of humans on the resources of the environment for life and sustenance. - The sustainable relationship of native societies to the environment. - The implications of the distributions of resources in determining the nature of societies and the rate and character of economic development. - Characteristics of the development of human societies including nomadic, hunter gatherer, agricultural, industrial and post industrial and the impact	- Frame appropriate questions to guide relevant study and research. - Apply definitions of fundamental concepts, such as environment, community, development and technology, to local, national and global experiences. - Use a range of resources and technologies in addressing questions. - Assess the nature of bias and evaluate different points of view. - Develop hypotheses based on balanced information, critical analysis and careful synthesis, and test them against new information and personal experience and beliefs. - Communicate information and viewpoints effectively. - Develop cooperative strategies for appropriate action to change present relationships between ecological preservation and economic development. - Work towards negotiated consensus and cooperative resolution of conflict.	- An appreciation of the resilience, fragility and beauty of nature and the interdependence and equal importance of all life forms. - An appreciation of the dependence of human life on the resources of a finite planet. - An appreciation of the role of human ingenuity and the individual creativity in ensuring survival and the search for appropriate and sustainable progress. - An appreciation of the power of humans to modify the environment. - A sense of self-worth and rootedness in one's own culture and community. A respect for other cultures and recognition of the interdependence of the human community. - A global perspective and loyalty to the world community. A concern for disparities and injustices, a commitment to human rights and to the peaceful resolution of conflict.

[49] www.lsf-lst.ca/en/what-is-esd/esd-learning-outcomes

of each on the natural environment. - The role of science and technology in the development of societies and the impact of these technologies on the environment. - Philosophies and patterns of economic activity and their different impacts on the environment, societies and cultures. - The process of urbanization and implications of de-ruralization. - The interconnectedness of present world political, economic, environmental and social issues. - Aspects of perspectives and philosophies concerning the ecological and human environments; for example, the interconnectedness of matter, energy and human awareness. - Cooperative international and national efforts to find solutions to common global issues, and to implement strategies for a more sustainable future. - The implications for the global community of the political, economic and socio-cultural changes needed for a more sustainable future. - Processes of planning, policymaking and action for sustainability by governments, businesses, non-governmental organizations and public.		- An appreciation of the challenges faced by the human community in defining the processes needed for sustainability and in implementing the changes needed. - A sense of balance in deciding among conflicting priorities. Personal acceptance of a sustainable lifestyle and a commitment to participation in change. - A realistic appreciation of the urgency of the challenges facing the global community and the complexities that demand long-term planning for building a sustainable future. - A sense of hope and a positive personal and social perspective on the future. - An appreciation of the importance and worth of individual responsibility and action.
Sustainable Development Education Panel (1999)		
Values and dispositions	Skills and aptitudes	Knowledge and understanding
Interdependence		
- Compassion for all humanity and concern for social justice globally, now and for the future. - Concern for and appreciation of all living things, their needs and interrelationships. - Appreciation of the earth and universe as a source of inspiration and challenge to human creativity.	- Reflect critically on one's lifestyle and choices in the light of interdependence. - Discern patterns of interrelationship between environment and development topics and between actions and consequences.	- The environment and the human condition are inextricably interrelated. - Personal understanding of the environment derives from direct experiences which may be spiritual, aesthetic or practical, as well secondary sources. - How people continually impact on the environment and others, as individuals and as part of wider society, from local to global levels. - How biological systems operate and support life on earth and are affected by human activity.

		- How major issues such as poverty, consumption, development, health, and loss of species are interrelated. - How changes in science and technology have changed the nature and extent of people's effect on the environment. - How the economy, society, and the environment are mutually affecting and interdependent.
Citizenship, stewardship		
- Willingness to act as a responsible citizen, learning from and working with others to improve situations, with respect to sustainability. - A sense of responsibility for personal and group actions, and an awareness of their likely impact on natural and human communities, both locally and globally.	- Engage in and manage change at individual and social levels. - Find information, weigh evidence, and present reasoned argument on sustainable development issues. - Express and communicate personal responses to social and environmental issues in a variety of ways.	- Community action and partnership is necessary to the achievement of more sustainable lifestyles. - The connection between personal values and beliefs and behaviour. - How the school, community and household can be managed more sustainably. - The roles and responsibilities of government and business in achieving sustainable development.
Future generations		
- Appreciation that the quality of life of future generations is endangered or enhanced by actions we take now.	- Consider the future direction of society and the environment, and personal role and contribution to the future.	- Conservation, efficiency and restraint in use of resources is necessary to ensure quality of life in the future. - How the current quality of the environment is a result of human and natural history.
Diversity		
- Respect and value both human diversity - cultural, social, and economic - and biodiversity.	- Weigh impact on diversity of personal and group decisions.	- The maintenance of diversity is necessary to the health and sustainability of natural and human systems.
Quality of life and equity		
- Appreciate why equity and justice is necessary to a sustainable society.	- Distinguish between wants and needs. - Express quality of life in personal terms beyond consumption.	- There are basic human needs and these are universal. - Inequality, exclusion and injustice persist within and between societies. - Quality of life is a broader concept than standard of living.
Development, carrying capacity and change		
- Appreciation of the need to develop lifestyles which respect resource and carrying capacity limits.	- Envision and distinguish between probable and possible futures. Question decisions, practices and processes which affect sustainable development issues and critically explore alternatives.	- The earth's resources are finite, precious and access to them is unequal. - A variety of economic and political forces determine how resources are used and managed. - A variety of cultural and social values influence how resources are viewed. - The carrying capacity of any environment, and of the earth as a whole, is limited by natural systems and resources.

		- How increasing efforts by people around the world are working towards more sustainable development - How business and industry is responding to the challenge of sustainable development.
Uncertainty and precaution		
- Appreciation that there are a range of possible approaches to sustainable development issues. - Appreciation that the limits of knowledge about the environment and sustainable development requires critical thinking about its validity and caution in use. - Appreciation of the need for lifelong learning in relation to Sustainable development and change.	- Listen to, critically evaluate, and learn from a range of voices and opinions on sustainable development issues. - Explore the urgency, need for and nature of sustainable development in the local and global community. - Think critically and systemically about sustainable development issues. - Respond positively to uncertainty and change in working towards a more sustainable future.	- Knowledge about the environment and our relation to it is growing, changing and uncertain.

Appendix 2: EUR Sustainability Education Inventory

Academic Affairs performed a sustainability education inventory, which can be found below. This section, however, provides an overview of how the inventory was compiled and how other Dutch universities have defined sustainability in education.

Education inventory

On the EUR website you can find the following text: 'sustainability in education at Erasmus University Rotterdam means paying attention to economic, social and ecological development.'[50] The sustainability education thus provides an overview of all sustainability-related education: i.e. all bachelor and master courses that focus on economic, social and/or ecological development. The courses that focus on economic development are identified by the colour blue, the courses that focus on social development by yellow and the courses that focus on ecological development by green.

This overview was composed by reviewing the course guides of all courses at the EUR and for every course a consideration was made if it concerned economic, social and/or ecological development. This overview was then shared with the educational directors for their feedback.

Other Dutch universities

The University Utrecht has also compiled an overview in cooperation with the educational directors.[51] In this overview there are courses that focus on sustainability and sustainable development, whereby they focus on climate change, biodiversity, risk mitigation of disasters, water, cultural diversity, sustainable urbanization and sustainable lifestyles.

The Green Office of the University of Amsterdam has also performed a sustainability education inventory.[52] The Green Office has hereby distinguished between 'sustainability focused' and 'sustainability related' courses. The 'sustainability focused' courses include one (or more) of the following words in the course title or description: 'sustainable', 'sustainability' or 'UN development goals'. The 'sustainability related' courses are courses that do not directly refer to sustainability, but do address themes that are relevant to understand sustainability issues. The following keywords were used to identify the 'sustainability related' courses: 'recycling', 'circular economy', 'human impact', 'environment(al)', 'poverty', 'hunger', 'disease', 'health', 'climate change' or 'clean/green energy'.

The VU Amsterdam discusses sustainability, climate change, water scarcity and other crucial topics that relate to the survival of humans, animals and ecosystems on earth.[53]

Most universities do not provide a definition of sustainability or sustainable development, but seem to use an environmental definition.

[50] https://www.eur.nl/en/about-eur/vision/sustainability/education
[51] https://www.uu.nl/en/organisation/sustainable-uu/research-and-education/education
[52] https://www.uvagreenoffice.nl/curriculum
[53] https://www.vu.nl/nl/over-de-vu/profiel-en-missie/profileringsthemas/s4s/onderwijs-onderzoek/index.aspx

Course	Faculty	Level	Coursecode	Contact person
Economics of the Welfare State	ESE	Bachelor	FEB12017X	dr. MP Garcia Gomez
Environmental Economics	ESE	Bachelor	FEB13027	prof.dr. E Dijkgraaf
Seminar Economics of the Public Sector	ESE	Bachelor	FEB13065	dr. BSY Crutzen
Introduction to Urban & Regional Economics	ESE	Bachelor	FEB13028	prof.dr. FG van Oort
Seminar Urban, Port and Transport Economics	ESE	Bachelor	FEB13030	dr. MJA Gerritse
Health Economics	ESE	Bachelor	FEB13053	R van Gestel
Diversity Marketing	ESE	Bachelor	FEB13091	Edgar Keehnen
Advanced Public Economics	ESE	Master	FEM11121	prof.dr. B Jacobs
Poverty and Inequality	ESE	Master	FEM11025	dr. JL de Kruijk
Advanced Development Economics	ESE	Master	FEM11048	dr. LDS Hering
Seminar Empirics of Trade and Development	ESE	Master	FEM11124	prof.dr. EM Bosker
Seminar Cases in Policy Evaluation	ESE	Master	FEM11130	prof.dr. HD Webbink
The Practice of Economic Policy Making	ESE	Master	FEM11049	prof.dr. J van Sinderen
Policy Issues in Public Spending on Education, Health and Labor	ESE	Master	FEM11127	prof.dr. HD Webbink
Seminar Economic Policy	ESE	Master	FEM11128	prof.dr. B Jacobs
Urban Economics and Policy	ESE	Master	FEM11147	dr. MJA Gerritse
Seminar Regional and Transport Economics	ESE	Master	FEM11045	G Mingardo
Sustainability and Innovation	ESE	Master	FEM11156	Brigitte Hoogendoorn
Marketing Strategy in the Healthcare Industry	ESE	Master	FEM11158	Sonja Wendel
Sustainable Logistics	ESE	Master	FEM11159	Rommert Dekker
Ecophilosophy: Beyond Sustainability and Environment	ESPhil	Bachelor	FW-FMC1007	AWM Griffioen
Technology and Social Change	ESPhil	Bachelor	FW-WB3931	dr. M Wehrle
Essential Contemporary Challenges: Philosophy and Practice	ESPhil	Bachelor	FW-WB3925	dr. GH van Oenen
The Theory of Practice and Distributive Justice	ESPhil	Master	FW-REMA015	AE Voorhoeve
Special Topics in Environmental Philosophy	ESPhil	Master	FW-EL011	dr. YH Hendlin
Leadership, Sustainability & Governance	RSM	Bachelor	BAB29	prof.dr. MH van Dijke
Communicating Sustainability	RSM	Master	BMME107	dr. SM Laasonen
Sustainability and Behavorial Ethics	RSM	Master	BM03GBS	dr. MJJ Wubben
Sustainability Grand Challenges	RSM	Master	BM05GBS	C Frey - Heger
Sustainability Leadership and Planetary Boundaries	RSM	Master	BM01GBS	dr. SP Kennedy
CSR & Sustainability	RSM	Master	BMCC2012	S Marco
Sustainable Finance	RSM	Master	BMME113	prof.dr. D Schoenmaker
Managing NGO's	RSM	Master	BMME037	PSM van Overbeeke
Climate Change Strategy Roleplay	RSM	Master	BM-IM10FE	dr. SP Kennedy
Sustainable Business Models	RSM	Master	BMME040	R Reshef
Cross-sector Partnerships for Sustainable Development	RSM	Master	BMME121	dr. AM Schouten
Social Entrepreneurship	RSM	Master	BMME080	dr. P Versari
Circular Economy	RSM	Master	BMME050	DMPE den Held
Sustainable Strategies	RSM	Master	BMME085	dr. FH Wijen

Course	Faculty	Level	Coursecode	Contact person
The Climate Crisis: Ecology, Economy & Politics in the Anthropocene	EUC	Bachelor	EUC-INT210	dr. CDC van der Veeke
Plant Biology & Diversity	EUC	Bachelor	EUC-LSC201	dr. S Mugnai
Principles of Ecology	EUC	Bachelor	EUC-LSC220	dr. AR Vasques
Governing Healthy Cities	EUC	Bachelor	EUC-SBS313	dr. G Noordzij
Conflict Resolution	EUC	Bachelor	EUC-SBS304	PK Livaha
Food & Nutrition	EUC	Bachelor	EUC-LSC211	dr. S Mugnai
Gender Equality in the Global Arena	EUC	Bachelor	EUC-SBS223	R Kemmers
Epidemiology & Global Health	EUC	Bachelor	EUC-LSC312	dr. MA Hartman
Plant Physiology and Sustainable Agriculture	EUC	Bachelor	EUC-LSC311	dr. S Mugnai
Political Institutions & Public Governance	EUC	Bachelor	EUC-SBS207	dr. WP Vloeberghs
Health Psychology	EUC	Bachelor	EUC-INT312	dr. MA Hartman
Foundations of Political Economy	EUC	Bachelor	EUC-INT203	dr. VFC Servant - Miklos
Critical Theory	EUC	Bachelor	EUC-HUM210	dr. JF van Houdt
Contemporary Political Philosophy	EUC	Bachelor	EUC-HUM308	dr. CDC van der Veeke
Feminist Philosophy: Bodies, Boundaries & Beyond	EUC	Bachelor	EUC-HUM307	dr. JF van Houdt
Post-Colonial Theory: Critical Perspectives from the Global South	EUC	Bachelor	EUC-HUM309	dr. JF van Houdt
Multiple Modernities: Historical Perspectives from the Global South	EUC	Bachelor	EUC-HUM303	B Hesseling
A Global View on Migration	EUC	Bachelor	EUC-SBS320	R Kemmers
Impact Evaluation	EUC	Bachelor	EUC-ECB304	AA Petruchenya
Behavioural Economics	EUC	Bachelor	EUC-ECB208	AA Petruchenya
European Integration: An Interdisciplinary Perspective	EUC	Bachelor	EUC-INT311	PK Livaha
Understanding Politics	EUC	Bachelor	EUC-SBS208	dr. WP Vloeberghs
Literature & Politics	EUC	Bachelor	EUC-HUM208	prof.dr. FWA Korsten
Aesthetics & Politics: A Genealogy of Social Order	EUC	Bachelor	EUC-HUM302	dr. GH van Oenen
European Union Law	EUC	Bachelor	EUC-SBS220	dr. T Ertuna Lagrand
Criminaliteit en samenleving	ESL	Bachelor	RC108	dr. GNG Vanderveen
Aard, omvang en schade	ESL	Bachelor	RC215	dr. GNG Vanderveen
European Law: Justice and Home Affairs	ESL	Bachelor	RC305	mr. SSJ van Kooij
Philosophy of Human Rights	ESL	Master	RL26	dr. MJ Luth - Morgan
Anthropology of Law	ESL	Master	RM83	dr. JW Hiah
Law of the Sea	ESL	Master	RB31	dr. F Violi
Rechten van de mens en grondrechten	ESL	Master	RM42	prof.mr. R de Lange
Migratie en participatie	ESL	Master	RB70	prof.mr. R de Lange
International Health Law	ESL	Master	RL15	M.A.J.M. Buijsen
From Market Citizen to Union Citizen	ESL	Master	RM72	dr. F Coman Kund
Human Rights in International Law	ESL	Master	RM66	prof.mr.dr.drs. JD Temperman
Stedelijkheid, cultuur en criminaliteit	ESL	Master	RQ88	prof.dr. RHJM Staring
Globalization, digitalization and crime	ESL	Master	RQ42	dr. W. van der Wagen
Veiligheid, terrorisme en mensenrechten	ESL	Master	RQ92	dr. JVAG Piret

Course	Faculty	Level	Coursecode	Contact person
Jeugdcriminaliteit, de straat en het internet	ESL	Master	RQ95	prof.dr. FM Weerman
Organised Crime	ESL	Master	RQ96	dr. L.C.J. Bisschop
Jeugdstrafrecht in theorie en praktijk	ESL	Master	RM33	mr.dr. J uit Beijerse
Globalization and Multidimensional Legal Orders	ESL	Master	RB52	dr. M van der Sluis
International Law and Global Governance	ESL	Master	RB54	prof.dr. KAM Henrard
International Economic Law	ESL	Master	RM68	prof.dr. A Arcuri
Corporate & White-collar Crime	ESL	Master	RIMC05	dr. CG van Wingerde
Values of Culture	ESHCC	Bachelor	CC2008	V Morea
Sociology, Culture and Modernity	ESHCC	Bachelor	CC2015	dr. PPL Berkers
Cultural Studies	ESHCC	Bachelor	CC2051	SR Driessen
Economic Geography of Creativity and Urban Development	ESHCC	Bachelor	CC3203	V Morea
Cultural Lifestyles and Participation	ESHCC	Bachelor	CC3072	dr. J Michael
Economics of Cultural Heritage	ESHCC	Bachelor	CC3107	dr. A Mignosa
Corporate Social Responsibility Communication	ESHCC	Master	CM4120	dr. V Chaudhri
Economics, Welfare and Distribution	ESSB	Bachelor	FSWSB-1070	dr. PK Marks
Stadssociologie van Onderwijs en Opvoeding	ESSB	Bachelor	FSWE1-072-A	I El Hadioui
Multicultureel Ontwikkeling en Onderwijs	ESSB	Bachelor	FSWE1-082-A	KHR Ouwehand
Deviantie en Criminaliteit in de Stad	ESSB	Bachelor	FSWE2-052-A	dr. RA Roks
Bestuurskunde: Maatschappelijke Problemen en Bestuurlijke Oplossingen	ESSB	Bachelor	FSWB-1010	prof.dr. HJM Fenger
International Migration	ESSB	Bachelor	FSWC2-030	dr. FG Snel
Globalization & Society I	ESSB	Bachelor	FSWC-1010	dr. M Onderco
Globalization & Society II	ESSB	Bachelor	FSWC-1020	dr. M Onderco
Global Development Issues	ESSB	Bachelor	FSWC2-050	prof.dr. AG Dijkstra
Governance of Migration and Diversity	ESSB	Master	FSWGMD0008	prof.dr. PWA Scholten
Sociology of Migration and Diversity	ESSB	Master	FSWGMD0015	dr. AS Leerkes
Politics of Migration and Diversity	ESSB	Master	FSWGMD0025	prof.dr. PWA Scholten
Comparative Public Policy	ESSB	Master	FSWBM-4190	prof.dr. PWA Scholten
International Public Management	ESSB	Master	FSWBM-4220	dr. BRJ George
Public Issues: Introduction	ESSB	Master	FSWS-510	prof.dr. W Schinkel
Public Knowledge	ESSB	Master	FSWS-530	dr. R van Reekum
Social Science Research in Practice	ESSB	Master	FSWS-810	dr. JA Holland
An Overview of Modern Economic Thought	ISS	Master	ISS-1103	dr. VBH Nicholas
Politics, Power and Development	ISS	Master	ISS-1104	dr. MKA Kniou
Introduction to Economic Theories	ISS	Master	ISS-1106	prof.dr. IP van Staveren
Development Economics	ISS	Master	ISS-1107	dr. L Pellegrini
Contemporary Social Theory	ISS	Master	ISS-1110	dr. NYT Shehada
Structure and Social Action	ISS	Master	ISS-1112	dr. GM Gomez
Politics of Modern Development	ISS	Master	ISS-1114	dr. RA Icaza Garza
The Making of Development: Histories, Theories and Practices	ISS	Master	ISS-2101	prof.dr. W Harcourt

Course	Faculty	Level	Coursecode	Contact person
The Making of Development	ISS	Master	ISS-2102	prof.dr. W Harcourt
Encounters in Development Studies	ISS	Master	ISS-2201	prof.dr. W Harcourt
Political Economy of Agriculture and Environment	ISS	Master	ISS-4150	dr. JF Gerber
Principles of Economic Development	ISS	Master	ISS-4151	dr. BA Demena
Development Policies and Practice: Interests, Conflicts and Cooperation	ISS	Master	ISS-4152	dr. F Mukhtarov
Contemporary Perspectives on Social Justice	ISS	Master	ISS-4153	dr. HM Hintjens
Critical Social Policy for Transformative Development	ISS	Master	ISS-4154	dr. AM Fischer
Development Economics and Public Policy	ISS	Master	ISS-4181	dr. MKA Kniou
Poverty, Gender and Social Protection: Debates, Policies and Transformative Interventions	ISS	Master	ISS-4202	dr. A Chhachhi
Promotion of Local Developments	ISS	Master	ISS-4201	dr. GM Gomez
Contemporary Capitalism and Governance: Neo Liberalism and Beyond	ISS	Master	ISS-4212	dr. MKA Kniou
Human Rights, Law and Society	ISS	Master	ISS-4216	prof.mr.dr. CJM Arts
Conflict Analysis and Transformation: A Governance Perspective	ISS	Master	ISS-4217	dr. SMS Jayasundara - Smits
Children and Youth Studies in Development Context	ISS	Master	ISS-4218	KE Cheney
Feminist Perspectives on Gender and Development	ISS	Master	ISS-4226	dr. NYT Shehada
Securitisation of Development: Violence, Humanitarianism, Social Transformation	ISS	Master	ISS-4227	dr. HM Hintjens
Global Political Ecology	ISS	Master	ISS-4229	prof.dr. M Arsel
Growth, Inequality and Poverty	ISS	Master	ISS-4231	E Papyrakis
Global Economy	ISS	Master	ISS-4233	dr. VBH Nicholas
Population, Generations and Social Policies	ISS	Master	ISS-4239	dr. M Meskoub
Politics of Agrarian Transformation	ISS	Master	ISS-4240	prof.dr. SM Borras
Migration and Development: Globalisation, Livelihoods and Conflicts	ISS	Master	ISS-4270	dr. M Meskoub
Politics of Global Development: Debating Liberal Internationalism	ISS	Master	ISS-4307	prof.dr. W Hout
Children, Youth and Development: Policy and Practice	ISS	Master	ISS-4311	dr. LA Okwany
Gender and Sexuality as 'Lenses' to Engage with Development Policy and Practice	ISS	Master	ISS-4338	dr. S Heumann
Development Management and Reforms	ISS	Master	ISS-4339	dr. S Tankha
Evaluation of Development Policy, Programmes and Projects	ISS	Master	ISS-4341	dr. N van Stapele
Human Behavior and Experiments in Development	ISS	Master	ISS-4348	M Rieger
Mobilizing Rights and Social Justice	ISS	Master	ISS-4352	dr. JD Handmaker
Global Food Politics	ISS	Master	ISS-4353	dr. ML Schneider
Earth Economics: Macroeconomics and Growth in the Closed Economy	ISS	Remedial	ISS-9150	prof.dr. PAG van Bergeijk
Ziekte en Gezondheid	ESHPM	Bachelor	GW112K	dr. M Vollmann
Gezondheidsrecht	ESHPM	Bachelor	GW5615PM	mr. EH Hulst
Verdelingsvraagstukken en Gezondheidszorgbeleid	ESHPM	Bachelor	GW5632PM	dr. KJ Grit
Financial Management	ESHPM	Master	GW4006MD	S Sülz
Quality and Safety	ESHPM	Master	GW4007MD	dr. MB de Graaff
Governance and Strategy	ESHPM	Master	GW4008MV	J Weenink
Healthcare Procurement & Value Chain Management	ESHPM	Master	GW4009MD	prof.dr.ir. EM van Raaij
International Health Law	ESHPM	Master	GW4544M	prof.mr.dr. MAJM Buijsen

Course	Faculty	Level	Coursecode	Contact person
Health Technology Assessment	ESHPM	Master	GW4546M	dr. MA Koopmanschap
Healthcare Ethics	ESHPM	Master	GW4564M	prof.mr.dr. MAJM Buijsen
Governing Healthy Cities	ESHPM	Master	GW4565M	DV Ivanova
Public Health Economics	ESHPM	Master	GW4566M	dr. B Wouterse
Economics and Financing of Health Care Systems	ESHPM	Master	GW4567M	dr. F Eijkenaar
Economics of Health and Health Care	ESHPM	Master	GW4568M	dr. PLH Bakx
Global Health Economics	ESHPM	Master	GW4582M	dr. IEJ Bonfrer
Health Economic Development & Policy	ESHPM	Master	GW4584M	M Rieger
Health Services Innovation	ESHPM	Master	GW4586M	dr. JWM Weggelaar - Jansen
Milieu en gezondheid	Erasmus MC	Bachelor	GENBA3C1-V01	Prof.dr. A. Burdorf
Werkcultuur en burnout bij hoogopgeleiden	Erasmus MC	Bachelor	GENBA3C1-V01	Drs. J.W.W. Witjes
Determinanten van gezondheid	Erasmus MC	Bachelor	GENBA1A2-V01	Prof.dr. A. Burdorf
Preventie	Erasmus MC	Bachelor	GENBA1A2-V01	Prof.dr. A. Burdorf
Leefstijlverandering	Erasmus MC	Bachelor	GENBA1B2-V01	A.H.E. van Beeck, Msc
Gezondheidsvoorlichting	Erasmus MC	Bachelor	GENBA2A1-V01	Dr. M. Beenackers
Leefstijl en motiverende gespreksvoering	Erasmus MC	Bachelor	GENBA3C1-V01	Dr. V. Erasmus
De preventieparadox	Erasmus MC	Bachelor	GENBA3C1-V01	Prof.dr. A. Burdorf
Ethiek van preventie	Erasmus MC	Bachelor	GENBA3C1-V01	Dr. H. Ismail M'handi
Community projecten	Erasmus MC	Bachelor	GENBA3C1-V01	Dr. S.J.Otto
Milieu en gezondheid	Erasmus MC	Master	GENMA06HS-T	Dr. A.F. van Leeuwen
De coassistent als werknemer	Erasmus MC	Master	GENMA01IG-T	Drs. H.J. de Jager
Vitale dokters en patienten	Erasmus MC	Master	GENMA06HS-T	Dr. E.F. van Beeck
Bevordering werkvermogen en preventie	Erasmus MC	Master	GENMA06HS-T	Dr. S.Robroek
Voorlichting gezond zwanger	Erasmus MC	Master	GENMASOZP-L	Dr. E.F. van Beeck
Preventie in de zorg	Erasmus MC	Master	GENMA06HS-T	Dr. J. Been
Preventie: gezond Rotterdam	Erasmus MC	Master	GENMA06HS-T	Prof.dr. A. Burdorf
Coschap Sociale Geneeskunde	Erasmus MC	Master	EMC_COSG2020	Dr. E.F. van Beeck
Voeding, leefstijl en gezondheid	Erasmus MC	Master	GENMA06HS-T	Dr. K.C. Berk
Sociale autopsie en wijkanalyse	Erasmus MC	Master	GENMA06HS-T	Prof.dr. A. van der Heide

Minor	Faculty	Level	Coursecode	Contact person
LDE-minor: Frugal Innovation for Sustainable Global Development	LDE	Bachelor	TBA	Dr. André Leliveld
LDE-minor: Responsible Innovation	LDE	Bachelor	MINRSM038	Prof.dr.ing. Rob Zwijnenberg
LDE-minor: Geo-resources for the Future	LDE	Bachelor	MINLDE-02	Dr. Sandra Verhagen
LDE-minor: African Dynamics	LDE	Bachelor	TBA	
Global Health	Erasmus MC	Bachelor	GEN3M38	Dr. J.L. Nouwen
Global Poverty, Local Solutions	ISS	Bachelor	ISS-MI-8102	Dr. G.E. Berner
Public Health: De Gezonde Grote Stad	ESHPM	Bachelor	GWMINOR119	Dr. M.P.B. van den Broek
Quality of Life and Happiness Economics	ESE	Bachelor	FEB53113M	Dr. M. Hendriks

Learning by doing: Consulting to Social Entrepreneurs	RSM	Bachelor	MINRSM020	P.S.M. van Overbeeke
Think Green: Ecological and Economics Perspectives for a Sustainable Environment	EUC	Bachelor	UC-MINUC-03	Dr. S. Mugnai
New economic thinking & social entrepreneurship	ESE	Bachelor	FEB53115(X)	Prof.dr. KEH Maas
Fashion Industry	ESHCC	Bachelor	MINESHCC-4	Dr. Mariangela Lavanga

Programme	**Faculty**	**Level**	**Coursecode**	**Contact person**
Global Business and Sustainability	RSM	Master	-	Dr. Steve Kennedy
Erasmus Honours Programme: Grand Challenges	EUR	Bachelor	-	Dr. Christian van der Veeke
Erasmus Honours Programme: Communicating sustainability in an intercultural context	EUR	Bachelor	-	Dr. Yijing Wang
Erasmus Honours Programme: Tackling Inequalities	EUR	Master	-	Dr. Jiska Engelbert
Erasmus Honours Programme: An Interdisciplinary Approach	EUR	Bachelor	-	
Development Studies	ISS	Master	-	Darren Baradhan
Mundus Masters Program in Public Policy	ISS	Master	-	Karim Knio
Management of International Social Challenges	ESSB	Bachelor	-	Dr. Jolien Grandia
Engaging Public Issues	ESSB	Master	-	Prof.dr. Willem Schinkel

Appendix 3: Standpoint Erasmus Sustainability Hub on Erasmus Sustainability Platform

07-02-2020

As the Erasmus Sustainability Hub, we aim to achieve our goals and grow through hosting educational events for the campus community, launch projects and initiatives to engage this community, and further our impact by connecting and networking with external parties. Hereby, the focus of our activities is on raising awareness within the student community and educate the students of the EUR on how to incorporate sustainability, or sustainable values, in their daily lives. In order to accomplish this, we function as a Hub, as an over coupling organisation, as a place for all (student-led) sustainability initiatives on campus.

With the presence of the Erasmus Sustainability Platform, a new academic dimension can be added to the sustainability initiatives and efforts currently present on campus. The Erasmus Sustainability Hub fully supports this initiative and through a productive relationship, we can strengthen and complement each other. This collaboration bears the goal of not only making this campus more sustainable, but also to make education at Erasmus University Rotterdam more future proof and sustainability centred. However, we do not believe that merging the association the Erasmus Sustainability Hub with the "new" Erasmus Sustainability Platform (i.o.w. institutionalise the ESHub) is the appropriate measure, since it could take away from the core activities and vision of the Hub. It removes the freedom to do (or not to do) what it pleases, whether it is for activist, radical, educative, informational, or for amusement purposes. This would mean that the Hub would stay an independent entity, or at least independent enough to enable the student-led board to make its own decisions regarding its activities. As long as this described quality of Erasmus Sustainability Hub is maintained, we think it is of value for both entities to create close collaboration together.

We envision the Hub to function as the student entity or representative, to be an extension to the Erasmus Sustainability Platform, a part of the operational FTE's (through the Board), the assembly point for all sustainability initiatives (individual- or collective-, academic- or operational). We view the Erasmus Sustainability Platform to achieve the goals of integrating sustainability as a core into education, with academic leads and professional guidance from the institution of Erasmus University Rotterdam and provide support financially.

Sincerely,
The Board of Erasmus Sustainability Hub