HOCH N

Sustainability Governance at Higher Education Institutions

EDITION 2020

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Federal Ministry of Education and Research

FONA Research for Sustainable Development BMBF

Sustainability Governance at Higher Education Institutions


Governance

The contents of the "Sustainability Governance at Higher Education Institutions" guide were developed as part of the 'Governance' working package of the "Sustainability at Higher Education Institutions: develop – network – report" (HOCH^{N}) project implemented jointly by the Free University of Berlin and the University of Vechta.
The project is funded by the Federal Ministry of Education and Research (BMBF) under Ref. FKZ13NKE007 within the overall "Research for Sustainable Development" (FONA) programme.

Freie Universität Berlin

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Sustainability Governance at Higher Education Institutions

Inhalt

Welcoming address

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Dear Reader,

Perhaps you are reading this guide because you are a member of a higher education institution and would like to support your institution in implementing sustainability in various fields of action. Are you a student, research assistant or professor? Do you work in the administration, technical operations or the management of a higher education institution? Perhaps your institution has already succeeded in appointing a sustainability officer or coordinator, and it is precisely this function in which you deal with the structures and processes through which sustainability can be anchored there?

Whatever your specific interest in this brochure is, we are pleased and very much hope that this guide will provide you with some structured information on the subject of "Governance of sustainability at higher education institutions". You will find that the guide – always keeping in mind the diversity of higher education institutions – is intended to address you and your institution at the specific point you have currently reached in the sustainability process, and to provide you with options for further activities.

Sustainability affects all areas of higher education: research, teaching, operations and knowledge transfer. On each of these subjects we recommend that you read the specific guides of our colleagues from the HOCH^N network. However, the many different projects and initiatives undertaken at higher education institutions must also be considered in their respective contexts. This is accomplished by means of cross-sectional perspectives such as those adopted in sustainability reporting, or by means of the present guide on higher education institution governance. Such a perspective always involves looking at the institution as a whole and highlighting the connections between the individual areas of higher education. Communication, participation and the nature of higher education institution sustainability as a process therefore play an important role in this guide on governance. It draws on the findings of an extensive survey that we conducted as part of the HOCH^N network. Representatives from the student body, administration, higher education institution management, research, teaching and sustainability coordination were interviewed at all eleven institutions in the network.

Our guide is divided into four sections:

1. Governance
2. Prerequisites for success
3. Measures
4. Self-assessment

Governance
Here we explain why considering and observing higher education institution governance in the sustainability process represents an important step and how we understand the complex term of 'governance' in this context in the first place. At the end of the chapter we present five dimensions of higher education sustainability: the so-called governance equalizer consisting of the dimensions politics, profession, organisation, knowledge and the public.

Prerequisites for success
The requirements and characteristics of the higher education institution as an organisation are the subject of the second chapter. Here the factors that promote and those that impede the development of sustainability at higher education institutions are discussed. The focus in particular is on the role of the various stakeholders who influence the process both inside and outside the higher education institution.

Measures
In the chapter on measures to be taken we devote ourselves in concrete terms to the structures and instruments that have proven to be useful to the sustainability process at various higher education institutions. The common thread running through this chapter is the involvement and coordination of all conceivable actors or stakeholders in the activities. Each of the packages of measures discussed is assigned to the governance equalizer dimensions presented in the chapter on governance.

Self-assessment
Finally, we offer you a self-assessment tool to help you evaluate the sustainability governance at your higher education institution. The tool is based on the governance equalizer which provides you with a guideline for assessing the sustainability activities of your institution. You will also find the previously described

measures and identify the areas in which your institution is already well positioned, together with those areas which could be enhanced by further measures.

In this revised edition of the guide, which was first published in 2018, the self-assessment tool – the governance equalizer – has been made more specific and supplemented. The revised version of the guide is accordingly based on experience gained at workshops with a wide variety of higher education institutions in applying the guide. The workshops were attended by higher education institutions of all sizes, sometimes exclusively by students, sometimes by representatives of all stakeholder groups, by institutions that were at the beginning of their sustainability activities and by those that specifically wanted to further develop individual areas of sustainability. The experience gained from these diverse workshops has now been incorporated into this revised guide. The workshops focused on the self-assessment of sustainability activities with the help of the governance equalizer by members of the respective higher education institution, on the basis of which specific needs for action were identified. We hope that the feedback of the participants and our own observations have further enhanced the practical suitability of the governance dimensions for the self-assessment of sustainability activities. Further aspects that have been updated in this version relate to the common understanding of sustainability within the project network, and individual practical examples in the chapter on 'Measures'.

The team of the HOCH^{N} work package governance wishes success and satisfaction on your voyage of discovery through your own higher education institution and in designing your own sustainability process.

With our best wishes,

Inka Bormann, Marco Rieckmann, Benjamin Kummer, Sebastian Niedlich, Margarita Doneliene, Larissa Jaeger, Mara Bauer, Denise Rietzke


Hochschule

Introduction

Introduction

Sustainability as a task for higher education institutions

Sustainability is an urgent developmental task for our society, and is attracting increasing attention. Like all other organisations within our society, higher education institutions are called upon to deal with the associated challenges. How can complex organisations such as higher education institutions succeed in initiating and maintaining the process of sustainable development within their own institutions and making it a permanent part of their operations? How can it be ensured that as many stakeholders as possible get involved in sustainable development? For these questions there is no ready-made formula, no instruction manual, no checklist that would be equally helpful for all higher education institutions or could be used by all in the same way – higher education institutions are too different, for example with regard to their legal form (private or public), their type (university, university of applied sciences), their location (rural area or metropolitan region) or size (small and specialised or large and comprehensive). In addition, higher education institutions are influenced by external framework conditions that promote aspects of sustainability to varying degrees, depending on the federal state in which they are located.

An approach to the understanding of sustainability in terms of terminology within the HOCH^{N} network can be found on Page 18.

The HOCH^{N} network looked at these questions in an initial two-year research phase (11.2016 – 10.2018). This guide is one of a total of six HOCH^{N} guides which were first available as beta versions and represented the initial results of the work which has been undertaken. In the subsequent second phase of the project, the guidelines were tested by the eleven partners in the network at various higher education institutions. Some findings from the trial phase have been incorporated in this second and final edition of the guides. In addition to the research work carried out by the eleven German higher education institutions in the network, the HOCH^{N} project consists of a growing sustainability network of German higher education institutions, in which so far partners from around 140 higher education institutions have been exchanging information.

The four-year cooperation and the close nationwide dialogue involving a range of event formats such as practical research sessions, collaborative meetings and network hubs have revealed the actual value provided by HOCH^{N}: the exchange of ideas among students, (young) academics, practitioners and experienced actors in the field of sustainability. This makes it possible to adopt new points of view, develop mutual appreciation independent of hierarchical levels and create a forum for constructive discussions.

HOCH^{N} – the research project

The objectives of HOCH^{N}

The overriding goal of the joint project "Sustainability at higher education institutions: develop – network – report" (HOCH^{N}) funded by the Federal Ministry of Education and Research (BMBF) is to promote the sustainable development of the German higher education landscape. Four sub-goals are derived from this:

1. Establishment and consolidation of a network for the exchange of experiences
2. Development and analysis of a common concept of sustainability
3. Promotion of the sustainable development of higher education institutions through the implementation of appropriate activities and methods
4. Drafting of guidelines for sustainable development at higher education institutions in order to create an integrated overall guide

By the end of October 2020 the objective of HOCH^{N} is to create a **roadmap for the sustainable higher education institution of 2030** as a vision for the future of sustainable development in higher education.

The HOCH^{N} project structure

Eleven funded higher education institutions are networked in the working constellations shown in Figure 1.

The teams at the eleven HOCH^{N} universities have a high proportion of young academics from a broad range of disciplines. The following higher education institutions

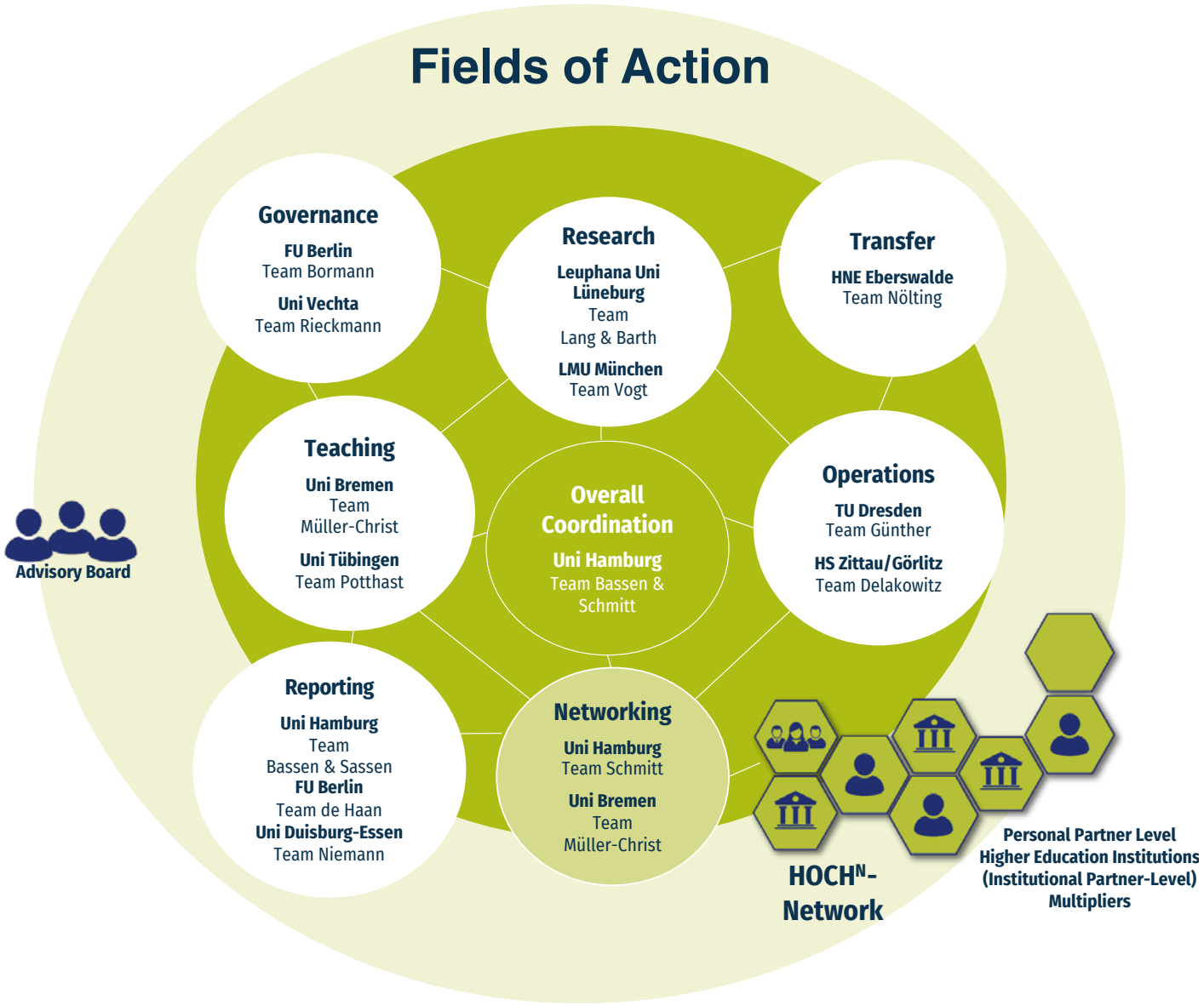

Fig. 1: Overall structure of HOCH^N (University of Hamburg)

are members of the network:

- The Free University of Berlin
- University of Bremen
- Dresden Technical University
- University of Duisburg-Essen
- Eberswalde University of Sustainable Development
- University of Hamburg
- Leuphana University Lüneburg
- Ludwig Maximilians University Munich
- Eberhard Karls University Tübingen
- University of Vechta
- Zittau/Görlitz University of Applied Sciences

▶ HOCH^N advisory board: https://www.hochn.uni-hamburg.de/1-projekt/fachbeirat.html

The HOCH^N project is supported by an international advisory board. In addition the Institute for Higher Educational Development (Institut für Hochschulentwicklung – HIS-HE) is a cooperation partner in the operational field.

Fields of action

In the sense of a whole institution approach encompassing the entire higher education institution, the focus is not only on the core areas of teaching and research, but also on the operational management of higher education institutions. In addition the project focuses on fields of action in sustainability reporting and governance as cross-disciplinary themes, as well as on knowledge transfer.

Guides

In the course of the project each of the work packages has dealt with a specific aspect of sustainability at higher education institutions: research, teaching, operation and knowledge transfer, supplemented by the cross-disciplinary topics of sustainability reporting and governance. The six HOCH^N guides were initially available as beta versions. They were prepared in parallel with the start-up, research and networking activities of the first two funding years, and then piloted and revised in the two years following publication. They do not claim to cover the various fields of action in full, but instead focus on specific topics and summarise the findings which have been collected and developed in a structured manner. They accordingly represent a starting point for follow-up discussions in the growing HOCH^N network. They are practical documents in which the process of shared creation and dialogue generates the real added value. They also make it clear that higher education institutions progress by taking many small, often unspectacular steps.

The target groups of the individual HOCH^N guides are all those who wish to promote sustainable development at their own higher education institution and require a low-threshold entry into the various fields of action. At the same time the varying basic conditions of Germany's highly diverse higher education landscape need to be taken into account, so that all institutions can find useful ideas and suggestions for their own situation. The HOCH^N network aims to promote this important dialogue as a nationwide platform for the sustainable development of higher education institutions. In addition, since they create an overview of the framework conditions and actions which a sustainable higher education institution requires, the guides are aimed at all stakeholders in higher education institutions.

HOCH^N – the higher education institution network

Under the auspices of the universities of Hamburg and Bremen a constantly growing network of higher education institutions is being established. At the time this definitive edition of the individual guides went to press, members of around 140 German higher education institutions were already part of this network. In this way, existing experiences and expertise can be made available to the individual higher education institutions, stimulating a shared dialogue and enabling them to learn from one another. The HOCH^N sustainability map provides information on the individuals involved, partner higher education institutions and sustainability initiatives throughout the field of higher education in Germany.

Future prospects – what are the next steps?

An individual consideration of the various fields of action represents a pragmatic starting point. However, there are strong interdependencies between the various fields of action, and a whole institution approach also and especially involves addressing and orchestrating the interfaces between the individual fields of action and themes of sustainable development. The second project phase (11.2018 – 10.2020) therefore focused on taking these interfaces into account, enriching them with empirical knowledge and presenting them on the basis of concrete practical examples. In addition to piloting and revising the individual guides, the aim is to offer an integrated, digital overall format that invites their application and further shared development. As a result, from the autumn of 2020 a HOCH^N wiki will be available as a common online platform open for use by all interested parties.

Photo: Markus Scholz/scholzfoto.de

In HOCH^N I experience an inspiring collaboration making incredibly rapid progress: really exemplary, not only in terms of content, but also in terms of organisation and working methods.

Dipl.-Ing. Cornelia Reimoser
Headquarters of the Fraunhofer Society / Member of the Advisory Board of HOCH^N

Become part of HOCH^N!

We are looking forward to further university partners who would like to join the HOCH^N network. Participating in our events will provide you with the opportunity to get actively involved in important processes. Further information at:

▶ https://www.hochn.uni-hamburg.de/en/5-mitmachen.html
netzwerk@hoch-n.org

In addition to the guides and other materials, the HOCH^N wiki also contains the "Sustainable Higher Education Landscape 2030" roadmap. The roadmap identifies perspectives, potentials and concrete implementation paths on how to strengthen and achieve a sustainability transformation of German higher education institutions by 2030. In order to maintain and expand the activities and networks begun within HOCH^N beyond the immediate project period, DG Hoch^N, the Deutsche Gesellschaft für Nachhaltigkeit an Hochschulen e. V. (German Association for Sustainability at Higher Education Institutions) was founded in April 2020. DG Hoch^N provides the arena for further implementation and anchoring of the UNESCO programme "Education for Sustainable Development 2030" in Germany's higher education system on the basis of previous results.

Acknowledgements

A project for the sustainable development of higher education institutions in this form would not have been feasible without the BMBF and its nationwide start-up financing. As a learning higher education institution network, the task of establishing permanent structures still lies ahead of us until attitudes in the higher education landscape have changed in such a way that sustainability processes are regarded as permanent functional tasks for which personnel resources need to be made available. We would like to thank in particular Dr. Karl Eugen Huthmacher, Eckart Lilienthal, Florian Frank, Cornelia Möller and Dr. Martin Schulte from the BMBF's Department 7: Providing for the Future – Research for Fundamentals and Sustainability. Thanks to their valuable support so far and the possibility of first consolidating the wide range of findings and results and then – in a second funding phase – testing them for their practical application, they have made a major contribution to sustainable development at higher education institutions.

We would also like to take this opportunity to express our special thanks to our project sponsor, the VDI Technology Centre, and in particular Svetlana Thaller-Honold, Christiane Ploetz and Helene Leneschmidt. As reliable partners they are contributing significantly to a change of perspective in the world of higher education.

Special thanks are also due to the members of the HOCH^N Advisory Board (https://www.hochn.uni-hamburg.de/1-projekt/fachbeirat.html), who have contributed to the HOCH^N network in a variety of ways, both in an advisory capacity and in helping to shape it.

We look forward to continuing our cooperation with the many stakeholders who are dedicated to the development of sustainable higher education in Germany and beyond.

If the programme didn't exist somebody would have to invent something like HOCH^N.

Prof. Dr. (mult.) Dr. h.c. (mult.) Walter Leal
HAW Hamburg / Member of the Advisory Board of HOCH^N

Photo: H. Thämlitz

The underlying understanding of sustainability

The underlying understanding of sustainability

Background

Many stakeholders of higher education institutions in Germany deal with the topic of sustainability in research, teaching and practical operations. To date, however, there has been insufficient consensus on how the demands for sustainability arising from social responsibility should be understood, shaped and implemented in the context of higher education institutions. This can be seen, for example, in the current debate on the relationship between freedom and sustainability-related responsibility of science.

Within the framework of the joint project, the HOCH^N collaboration has set itself the goal of developing a shared, university-specific concept of sustainability which was conceived in a participatory process by the eleven collaborating higher education institutions. It is based on the interim results of the HOCH^N collaboration, the understanding of sustainability of the individual partner higher education institutions within the joint project, the basic concept of sustainability anchored in many international resolutions, and an evaluation of the relevant literature.

The understanding of sustainability is based on conceptual coherence and attempts to work out the normative implications of sustainability in the context of higher education institutions. It offers an orientation framework for the overall institutional integration and implementation of sustainability as an ethical principle in the theory and practice of research, teaching, operations, governance and transfer at higher education institutions in Germany. It by no means precludes individual higher education institutions with their own individual focal points from setting their own priorities and practices. Rather the diversity provided by different understandings of sustainability can be regarded as a positive factor, since sustainability should ideally take into account the respective contexts, framework conditions and protagonists of the individual higher education institutions. However, precisely because there are different approaches, conceptual clarification fulfils the important function of contextually clarifying the scope for interpretation, commonalities and open questions, and making them more concrete for implementation.

The understanding of sustainability provides the basis for the effective implementation of actions at higher education institutions which are regarded as indispensable for any major societal transformation and for the execution of the Federal Government's national action plan 'Education for Sustainable Development' (ESD). The extended version of the understanding of sustainability with explanations on the fields of action of research, teaching, operations, governance and transfer as well as on the literature used can be found here: http://www.hoch-n.org/2-handlungsfelder/04-forschung.html (in German)

▶ The long version of the understanding of sustainability with explanations on the fields of action of research, teaching, operation, governance and transfer as well as on the literature used can be found at: http://www.hoch-n.org/2-handlungsfelder/04-forschung.html (in German)

The target group

This understanding of sustainability is primarily aimed at members of higher education institutions, especially those wishing to deal with the subject of sustainability and to shape change processes. Internal stakeholder groups include, for example, representatives of university management, academics, teachers, students, administrative staff and sustainability officers. The following are considered to be stakeholders external to the university: representatives of state and federal ministries, the German Rectors' Conference and the Conference of Ministers of Culture, politics and civil society.

The basic understanding of sustainability in the context of higher education institutions

Sustainability is a normative principle that can be described as a scale for global and intergenerational justice in the face of the challenges posed by current changes in the earth's system. In ethical-political terms, sustainable development is not an externally defined and prescribed goal, but an open search process with heterogeneous target components, which is therefore pluralistic and culturally variable. Its object is long-term responsibility for ensuring environmental viability, social justice and economic performance. It aims

to strengthen the cultural competencies for shaping societal life. Its systemically integrated implementation is regarded as the need for comprehensive societal transformation. The core of which is a change in the relationship between human beings and nature.

The task of higher education institutions is to deal theoretically, conceptually, methodically, critically and reflectively with the processes and conditions of societal transformation. Furthermore, it is also a matter of how the ethical dimension of science (in the fields of action research, teaching and operations) can be respected and implemented.

Postmodern science requires methodical and critical reflection on the significance of normative perspectives. Therefore, ethics analyses the manifold reasons, goals, motivations and resistances of good and just action. In doing so, it is not limited to prescribing ready-made solutions. Rather, it first wants to stimulate reflection and thereby enable freedom. The freedom of science is therefore always to be interpreted as a mandate to independently reflect on its goals in the service of a sustainable society.

The need for ethical reflection and orientation arises above all in situations of radical change. This is the case today in view of the profound change in values and the global, national and regional challenges for sustainable development (e.g. climate change). Therefore, the principle of sustainability sees itself both as an socio-ecological and economic challenge, as well as a cultural task in order to preserve the natural foundations of life for all people, including future generations (cf. Brundtland Commission; Art. 20a GG; SDGs), and the appreciation and protection of the intrinsic value of nature with its biological diversity (cf. Federal Nature Conservation Act § 1).

Higher education institutions, as central actors in societal discourse, dedicate themselves to this topic in a central position. Within this context and following the joint HRK/DUK declaration (2010) “Higher Education Institutions for Sustainable Development” (orig. Hochschulen für nachhaltige Entwicklung) and the HRK recommendation (2018) “For a Culture of Sustainability at Higher Education Institutions” (orig. Für eine Kultur von Nachhaltigkeit an Hochschulen), the collaborators of the joint project HOCH^{N} take sustainability as a profile-forming and connecting central idea. With this common goal higher education institutions can contribute to the transformation for a sustainable society and the responsible use of planetary resources.

Due to their ethical and socio-political position, Higher Education Institutions have an inherent responsibility to engage with a societal transformation towards greater sustainability. As special strengths they can contribute with empirical and theoretical knowledge, methodological expertise and the ability to analyse. To do justice to the normative content of sustainability means to think methodically about problems in societies, to pose relevant questions regarding the relationship between humans and nature, and to learn to think and act in interdisciplinary contexts. It is a matter of determining how sustainable solutions for dealing with the great challenges of our time can be found globally, nationally and regionally, and then be implemented on a long-term basis at the institutional level. Thereby it is constitutive for ethics to also take a systemic view of obstacles on the way to sustainability. In doing so, it can not only generate target knowledge, but also impart knowledge of design and transformation.

Those involved in the joint project HOCH^{N} are striving to implement sustainability in the fields of action of research, teaching, operations, governance and transfer at their own institutions. Therefore, contributing to the practical implementation of aforementioned goals, as well as inducing a continues improvement process and representing a reliable pioneering role.

Stakeholders of the joint project HOCH^{N} oblige to foster the understanding and implementation of sustainability at their own higher education institutions. Thus higher education institutions contribute to the world wide action plan ‘Education for Sustainable Development’ of the UN (2015-2019) to which Germany is committed with a national action plan. Additionally, the higher education institutions contribute to the perception, further development and enhancement of both the United Nations ‘Sustainable Development Goals’ and Germany’s sustainability strategy. This is reasonable, since the SDGs do not adequately address central global challenges (such as increasing resource consumption and population growth, externalisation of socio-ecological costs or conflicts of objectives between economic growth and ecological limits).

The higher education institutions are willing to ensure adequate in- and external transparency, to promote continuous, open and reflective improvement processes, to support dialogue with various stakeholders from higher education institutions and to facilitate exchange with society. Therefore, it may prove expedient to analyse the status quo, provide transparent and regular information on their sustainability activities and to communicate these. Sustainability reporting designed in this way helps to reflect the higher education institutions understanding of sustainability, its specific goals and measures, as well as to enter into an exchange with stakeholders.

The significance of governance for higher education institution sustainability

The significance of governance for higher education institution sustainability

Governance: the coordination of those involved, their activities and decisions

Precisely because higher education institutions differ so greatly from one another, the question of the institutionalisation of sustainable development must be answered individually at each higher education institution. Nevertheless, there are requirements that affect all higher education institutions in common. Ultimately, the aim is to implement concrete activities that, for example, enable sustainable campus management or anchor sustainable development issues as broadly as possible in research and teaching. In addition, with such a complex issue as sustainable development a clear framework is also essential. For example, different activities need to be coordinated and binding decisions made, e.g. on objectives, responsibilities or the support to be provided by different stakeholders. The task of coordinating these processes in an orderly manner is also referred to as "governance".

▶ The following working paper gives a more detailed insight into the underlying understanding of governance: http://www.hoch-n.org/-downloads/governance-verstaendnis1.pdf (in German)

Complex governance at higher education institutions

When we talk about governance, we mean both organisational structures and the administrative apparatus and the management of complex processes. Governance is therefore diverse and demanding. This applies in particular to the governance of complex organisations such as higher education institutions: the tasks of a higher education institution range from research and education to quality management, innovation transfer and the provision of academic expertise for important social challenges.

Higher education institutions are on the one hand organised on a decentralised basis with division in terms of specialisations. Although hierarchical structures exist within the administration, research and teaching staff in particular can rely on legally guaranteed academic freedoms and a high degree of autonomy in decision-making and action. On the other hand, a strengthening of the role of the higher education institution management can currently be observed. This is being implemented by establishing central organisational units such as executive sections, by strengthening processes, mission statements and guidelines throughout the higher education institution, and by reinforcing the central decision-making authority of the management board in relation to self-regulating academic bodies. Higher education institutions are also based on a large number of clearly defined areas for action (membership and affiliation, competencies and authorisations, administrative procedures etc.), as well as on a number of implicit rules and norms (self-concepts of various academic disciplines, administrative practices etc.).

Many groups and stakeholders with very different competencies, perspectives and interests play a role in the governance of sustainability processes at higher education institution. These include above all the institutional management (in the person of the (vice-) president or chancellor as head of the administration), students in the various departments, research and teaching staff as well as employees in administration and technology. The coordination of these various positions is one of the central governance tasks on a higher education institution's path to sustainable development, because the individual protagonists often have very different points of view, for example on how urgent the challenge of sustainable development is, what individual goals can or should be pursued and implemented at their own institution, and in whose area of responsibility sustainability should be anchored.

Transparent involvement of different stakeholders

Regardless of the starting point from which a higher education institution embarks on its course: as with any change process, in connection with the central idea of sustainable development too, it can be assumed that there will be proponents and supporters as well as sceptics and opponents. It is also true that examples of good practice that have worked at a different higher education institution cannot simply be trans-

ferred in unchanged form to a different institution. On the contrary, it is always the particular situation of a higher education institution, its internal structure and its relationships with institutions outside the higher education institution that determine what is perceived as 'exemplary' or 'worth transferring' in the first place.

In order for an impulse for change such as the idea of sustainable development to unfold, it must therefore be discussed and its significance for the individual higher education institution examined. It is important to involve as many different groups of people as possible in order to implement mutually supported activities. Just as student initiatives, for example, will not succeed in developing a mission statement for the entire higher education institution without the support of the higher education institution management, it will also not be effective if a higher education institution management 'prescribes' a mission statement for sustainable development without consultation and participation with decisive bodies such as the academic senate, faculty committees etc.. Instead it makes sense to listen to and include the views, interests, wishes, but also fears and resistance of those who are not yet involved. Otherwise it can easily happen that sustainable development fails to gain general acceptance. These processes of exploration, communication and consideration represent an important component of governance.

Structures for long-term commitment

Equally important for the governance processes relating to higher education institution sustainability are the structures and responsibilities that support the higher education institution members actively involved in committing themselves to the process in the long term. The experience of a large number of higher education institutions shows that these structures can look very different. For example, offices with volunteer students or green offices with employed students can drive the sustainability process forward. At the same time, sustainability units appointed by the higher education institution management and staffed by permanent employees can play an important role, in that they form contact points and initiate, collate and/or communicate activities in individual fields of action such as teaching, administration and research, or even throughout the higher education institution. Supporting structures such as dedicated units or sustainability officers are increasingly being set up to develop sustainability strategies and initiate, implement or support operational activities on selected topics. Alternatively or additionally, there are decision-making or preparatory bodies such as steering committees, round tables or working groups which deal with the selection of issues and identifying and involving other stakeholders.

"Well intentioned" doesn't necessarily mean "well done"

Even if higher education institution sustainability processes develop highly independently in individual cases, it is possible to identify overarching characteristics which are of great importance for the development of the relevant processes. For example, the way the higher education institution regards its role in the social environment, its understanding of sustainability and structural approach to achieving sustainability are all influential in determining how responsibility for the sustainability process is distributed within the higher education institution. If a higher education institution is firmly anchored in the region and beyond through social contacts, and if sustainability is regarded as a task that needs to be tackled in an interdisciplinary and transdisciplinary manner, it will be easier to initiate comprehensive sustainability processes, then maintain them and finally to anchor them permanently. Last but not least, the commitment of the higher education institutions management is decisive in determining how quickly, intensively and comprehensively the sustainability process can be driven forward. If resources are available to coordinate activities, for example, or if the institution's management initiates a mission statement process, this can have a very positive effect on the commitment of the higher education institution members.

In view of these challenges and others, emphasis is often placed on the fundamental principles of "good governance" which need to be observed in connection with efforts to achieve sustainable development at higher education institutions. For example, an institution's governance activities are measured in terms of whether the interests of the various stakeholders are taken into account and whether transparency and participation are made possible. On questions of sustainable development in particular, such ideas of "good governance" play an important role.

However, good intentions and the consideration of these principles alone do not guarantee that higher

education institution sustainability processes will actually be successful. Governance must also be implemented well. It is possible to identify five dimensions which are of decisive importance for a successful implementation process within higher education institutions. These are discussed here as governance equalizer dimensions. The overall concept of the governance equalizer is further introduced in the context of the self-appraisal tool in the last chapter.

Governance equalizer dimensions

Five dimensions have a decisive influence on the chances of success on the part of Governance equalizer dimensions sustainability: politics, profession, organisation, knowledge and the public. The analysis of their characteristics can therefore play a decisive role in the understanding and success of higher education institution sustainability processes. The five governance equalizer dimensions presented here are based on a theoretical examination of the research literature on higher education institution governance. In addition, they have been enriched and further developed with own empirical findings.

The following table, which poses a guiding question for each area and is followed by a brief characterisation, can be used to understand these factors.

▶ The exact procedure and the findings derived from it can be found in the following article: Bauer, M. et al. (2018): Sustainability Governance at Universities: using a Governance Equalizer as a Research Heuristic. In: Higher Education Policy 31 (4), 491-511. DOI: 10.1057/s41307-018-0104-x. https://link.springer.com/article/10.1057/s41307-018-0104-x

Politics

How is sustainability entrenched and legitimised in the higher education institution?
This dimension deals with the question of how sustainability can move beyond individual support points and be embedded long-term on the higher education institution's agenda.

Profession

How are different professional perspectives and competencies being connected?
The dimension 'profession' focuses on the development of an interdisciplinary and transversal understanding of sustainable development in the higher education institution.

Organisation

How are cooperative work and task performance made possible?
Moving higher education institutions towards sustainability requires breaking down sustainability-related goals so that concrete actions can be taken. This includes the provision of adequate resources and creating structures and procedures that ensure continuous and reliable work.

Knowledge

How is the necessary knowledge generated and used competently?
Sustainable development calls for complex knowledge management. For joint action, actors in higher education institutions must develop a common understanding of the problems to be addressed and their causes (systems knowledge), they must agree on a judgment of the current situation and set goals for the future (target knowledge), and they must identify ways to solve the problems at hand (transformation knowledge).

The Public

How is awareness of the need for sustainable development achieved in higher education institutions?

Making sustainability initiatives visible in public is an important part of sustainability governance in HEIs, because doing so creates the opportunity for stakeholders to observe issues, positions, activities, and their results, and to react to them.

The governance of a higher education institution affects all five equalizer dimensions which have been identified. Although in everyday higher education institution life these are interwoven, a consideration of sustainability governance at higher education institution can benefit from analysing their respective areas of reference: for example, the institution's commitment to sustainability and the public impact of the relevant activities (the public) are of decisive importance in strengthening the overall process. However, this alone does not lead to binding decisions (politics) or to the establishment of concrete working formats within the institution as a whole (organisation).
The interdisciplinary dialogue (profession) and the establishment of organisational forms of knowledge transfer (knowledge) are also decisive. The consideration of these five dimensions enables an expanded view of the analysis of sustainability governance at the individual higher education institution.

▶ The theoretical basis of the governance equalizer is outlined in the following working paper: http://www.hoch-n.org/-downloads/ap2-governance-regler.pdf (in German)

Prerequisites for successful higher education institution sustainability

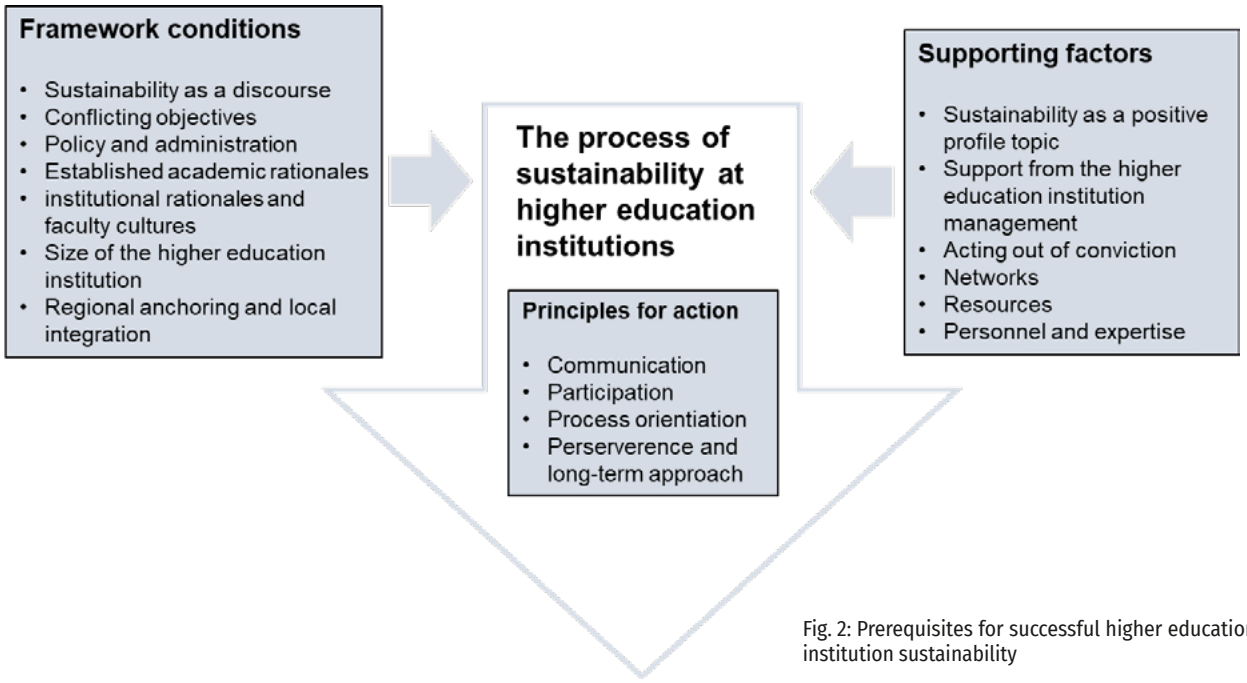

Fig. 2: Prerequisites for successful higher education institution sustainability

What influences higher education institution sustainability? Where can a higher education institution influence events, where does it have to deal with external conditions, and what principles support sustainability processes at higher education institutions? These were the central questions of empirical research on which this guide is based. Building on these considerations, this chapter discusses framework conditions and supporting factors relating to higher education institution sustainability, and outlines the necessary principles for action. The quotations listed in some of the boxes offer concise insights into the extensive empiric material provided by 61 interviews.

On the road to sustainability, higher education institutions have to deal with regulations and specifications as framework conditions. The academic policies operated by the federal states provide decisive impetus; established academic approaches can lead to conflicting goals. The size of the higher education institution and its regional integration influence the development potential of higher education institution sustainability. Some of these variables are fixed. Others are in the process of being developed – promoted especially by the individual commitment and activities of the higher education institutions. Supporting factors, on the other hand, can be actively shaped by the higher education institution itself. This concerns the question of the importance and prioritisation attached to sustainability within the individual institution, as well as the resulting resources and incentive systems which are provided. Finally, it is necessary to take into account organisational principles of action that are consistent with the sustainability concept.

Framework conditions

Sustainability as a socio-political discourse

Sustainability with all its facets has developed into an important socio-political debate in recent years and is becoming increasingly important for higher education institutions at the institutional level as a whole. Higher education institutions are increasingly being regarded as responsible social protagonists, and have the corresponding demands imposed on them. The sustainability discourse offers higher education institutions a decisive frame of reference, the goals and normative references of which can provide a high degree of orientation for their own profile and development – both in terms of organisational structure and with regard to the setting of priorities for the content of individual disciplines.

The UN Decade of "Education for Sustainable Development" (2005-2014), the subsequent Global Action Programme (GAP) "Education for Sustainable Development"

(2014-2019), the Sustainable Development Goals (SDGs) and projects such as LeNa on sustainability management in non-higher education institution research organisations are important drivers for the development of higher education institution sustainability.

In this respect the UN Decade has achieved far more than just addressing a sustainability perspective within the educational debate. In fact the discourses within the framework of the UN Decade have led to an expansion of the concept of education itself. LeNa project website: https://nachhaltig-forschen.de BNE Portal: www.bne-portal.de/en (in German)

Conflicting sustainability objectives

In many cases, dealing with sustainability means addressing the various – and sometimes contradictory – interests and perspectives at a higher education institution. For example, how does the academic policy requirement of the greater internationalisation of higher education institutions fit in with the model of a sustainable higher education institution that minimises its ecological footprint? What is the relationship between the goal of an overall higher education institution sustainability process and autonomy in teaching and research? What incentives, for example, can make it attractive for professors to become actively involved in their higher education institution's development process? Such issues bring together the positions and interests of different groups of people, which need to be balanced and taken into account.

Should a sustainability report be printed or 'only' published online?

A conflict of goals arises when a sustainability report is drawn up (as with the present publication of this guide). Should the report be printed or only appear as an online version? There are good arguments for online publication only. For example, it consumes fewer resources, there are no transport-related costs and emissions, and the document is potentially accessible online for everyone via the Internet. At the same time, however, the report is appreciated more and receives more attention if it is also available in printed form and can be handed directly to interested parties.

▶ www.greenpeace-magazin.ch/2015/11/13/online-vs-papier-zahlen-und-fakten/ (in German)

The fields of policy and administration as relevant partners

Example: property management

The building stock of higher education institutions is subject to very different ownership conditions. This has a fundamental impact on the influence which can be exerted by the higher education institutions. While some higher education institutions, as owners, can largely decide for themselves how to deal with their buildings, many are centrally dependent on cooperation and the "good will" of (mostly) state-owned organisations when it comes to renovation, new construction or energy issues.

▶ Operational guidelines

Examples: Germany's Conference of Rectors and UNESCO Commission

In 2007 the discussion of sustainability issues at higher education institutions led to a joint declaration by Germany's Conference of Rectors (HRK) and UNESCO Commission (DUK) on sustainability as a guiding concept for higher education institutions. Within many higher education institutions, this declaration was of great importance for the initiation and development of sustainability activities. However, it cannot be taken for granted that any declarations which were made will have lasting validity. Instead they are subject to continuous discussion processes. The HRK has published a more detailed declaration "For a culture of sustainability at German higher education institutions" in 2018.

▶ https://www.hrk.de/resolutions-publications/resolutions/beschluss/detail/towards-a-culture-of-sustainability/

As the bodies centrally responsible for higher education institution development, the science ministries of the individual federal states have a strong influence on higher education institutions and their potential for sustainable development. At the formal level, laws and ordinances can be used to establish sustainability-relevant criteria such as environmental and social standards (e.g. procurement guidelines). In direct negotiations between the universities and the state govern-

ments, such criteria are also included in the higher education institution contracts or target agreements which are concluded between the state governments and the higher education institutions in order to define basic development goals. Tenders at the level of the federal states, the federal government and the EU offer funding opportunities for sustainability-related research and development projects (e.g. FONA, SISI, HOCH[N]).

"This was also the reason, for example, why the students' union decided to promote reusable cups, because last year the authorities published a binding guideline in which every municipality is urged to keep waste as low as possible, especially in the food sector. This is not a law, but it is a binding directive and the higher education institution and, accordingly, the students' union, too, must adhere to it." **A student who is committed to a reusable cup system in higher education institution cafeterias**

Established academic rationales and new mission statements

The established academic rationale, its success criteria and reward systems are aimed primarily at top-level disciplinary research. In most academic fields, a departmental rationale still dominates. The guiding concept of sustainable development calls into question an academic understanding often based on mono-disciplinary research and focuses on the interfaces between disciplines. Furthermore, sustainability research makes scholarship itself an object of research when it critically discusses the causal relationships of established scholarship and reflects on the social significance of research against the background of sustainable development.

▶ Research guidelines

In addition to the consideration of the content of individual subjects, knowledge of the objective and transformation needs to be taken into consideration. This means that on the one hand researchers should clearly define the desired state through targeted questions (target knowledge) and on the other hand describe and initiate a possible way to achieve it through the necessary changes in behaviour and action (transformation knowledge).

"It's an obstacle that there are other recognition mechanisms in the academic system than those that would be useful for enforcing sustainability. For example, if we now think of anchoring it in teaching operations: "How can there be at least a possibility of dealing with the topic in all subjects? That very quickly fails because of the framework examination regulations. If you try – and I have been doing this for three years – to develop framework examination regulations in which this is structurally possible, it fails, for example, because the relevant specialist association only recognises a certain number of credit points." **A student who advocates the institutionalisation of sustainability via higher education institution bodies**

Higher education institution rationales and faculty cultures

Higher education institutions are complex organisations: the larger the higher education institution, the more diverse the processes, structures and inherent rationales of the various disciplines and sub-areas are. This applies to the individual subjects and their organisational units as well as to the higher education institution's fields of action such as research and teaching or campus management. Within the organisation, each area has developed in its own way and built up its own specific organisational and disciplinary rationale. These must be taken into account when developing and designing an overall sustainability process for higher education institutions. This concerns both the process of understanding the contents of a sustainability concept and its objectives, and the mediation between the different organisational cultures and the protagonists involved (e.g. in joint work between administrative staff and researchers).

"If you see the higher education institution as a business, then sustainability quickly concerns everyone, in many different contexts. That's why I think it is so important to stress that a real cultural change is taking place here. It has something to do with attitude. It is also always a very long-term process and often it's a matter of making more effort." **Member of the executive committee of a university**

Higher education institution size

The size of a higher education institution has a significant influence on how quickly sustainability can be anchored step by step within the institution. Since at small higher education institutions people often know each other personally, it is generally easier for them to

jointly develop and shape an overall higher education institution sustainability process. Decisive for this are the dialogue among and coordination of all higher education institution members as well as a close connection to the higher education institution management.

Small higher education institutions are often characterised by departmental specialisation, which makes it easier to deal with and agree on an issue. Finally, the contact between the higher education institution fields of action (research and teaching, operations, campus management) is easier to establish if everything is close at hand, and joint projects can be set in motion more easily – for example, the determination of the ecological footprint. On the other hand, it is often the case that small higher education institutions in particular are highly specialised in a narrowly defined subject area.

Large higher education institutions are complex organisations. Thanks to their strong staffing levels, they have a broader range of disciplinary expertise at their disposal. Often, however, the protagonists within the organisation lack any knowledge and overview of the institution's diverse, often decentralised activities. In large organisations in particular, there is therefore a need for suitable instruments to establish a dialogue at the higher education institution level, and working processes in order to network protagonists with one another.

"We're a small higher education institution where a lot of things work on the basis of personal communication. The communication channels are much shorter than in a larger higher education institution. By the way, this is also an important issue with regard to sustainability." **Professor at a small university**

"We have a very large organisation here. It's clear that things don't always move so fast. Inertia is a major factor and I think there is room for improvement here. My fear is that afterwards there will be far too many different groups doing something with sustainability. Sooner or later the right hand no longer knows what the left hand is doing. I hope it's not like that, but I'd prefer everything a little more concentrated." **A student at a large university**

Regional anchoring and local integration

The guiding concept of sustainability relies to a large extent on inter- and transdisciplinary formats and on leaving one's own ivory tower to cooperate with local protagonists such as SMEs and researchers from various disciplines. Working on sustainability in the higher education institution context requires social significance and practical relevance.

In addition to size, the regional integration of higher education institutions therefore also plays an important role. Higher education institutions in rural areas in particular are often involved in local innovation and regional development processes. They have often been in close contact with representatives from business, local society and politics for a long time and are thus closely intertwined with the regional structure. On the other hand, universities in metropolitan regions have the opportunity to collaborate with other scientific and non-scientific partners over short distances.

Transfer guidelines

"I regard the sustainability process here as an interlinking between local stakeholders and higher education institution members. Here in the higher education institution there are so many contacts with local people and organisations that I believe they stimulate each other and it also advances the process here." **Sustainability researcher at a university**

Supporting factors

Sustainability as a topic for creating a positive higher education institution profile

An important supporting factor for the sustainability-related profiling of the higher education institution is the increasing attention which is paid to the contribution a higher education institution makes to sustainable development, and how credible it is in doing so. Many universities in which sustainability processes and structures are well established have a wide range of faculty relationships with the concept of sustainability. Environmental science courses, for example, already have a fundamental proximity to the ecological dimension of sustainability. Such existing focal points make it easier for universities to establish connections with sustainability matters. In addition, questions arising from the social or economic debate, such as those relating to the national economy, tourism or the social science perspective, offer numerous points for linking with sustainability.

Sustainability can also function as a feature of a higher education institution's overall presentation to the public. While at some small universities sustainability has sometimes developed into an identity-forming feature for the entire higher education institution, at large universities it is usually associated with a whole range of profile-related topics. Internally, a profile in terms of sustainability offers all higher education institution members a common orientation. Outwardly, enhancing a profile enables better visibility of the theme of sustainability. This can affect both potential future students and interested researchers or future employees. Furthermore, in contact with other protagonists or funding bodies from politics, society or business, a higher education institution's sustainability profile can improve the perception of the organisation.

In the case of conflicting goals in profile building, higher education institutions sometimes have the opportunity to build on previous experience with such coordination processes. Many institutions in the HOCH^{N} network have gained experience with management procedures, for example in connection with the EMAS environmental management system, and use this as a starting point for dealing with resource protection issues. Others have made a name for themselves as family-friendly and/or health-promoting higher education institutions in connection with the integration of refugee students or cooperation initiatives with countries of the Global South, and have taken up further challenges of ecological, social and economic sustainability on the basis of these activities.

"A clearly defined profile helps you to be successful. You will probably be less successful with a range of offerings that can be found everywhere else, too. The topic of sustainability is firmly anchored in our philosophy and that's why it's right to clearly position the university in this way". **Statement from an administrative employee at a small university**

Support from the higher education institution's management

A decisive precondition for the success of higher education institution's sustainability is the supportive attitude of the institution's management. Support can take very different forms, ranging from public commitment to sustainability via the establishment of funding instruments for sustainability-related projects and initiatives, to the institutionalisation of the relevant competence centres or staff positions. The more concrete such a commitment is, the lower the risk that the support will be limited to lip service at management level. At best, members of the executive committee themselves play an active role in shaping the sustainability process.

"The essential stakeholder is the rectorate, preferably with all its members [...]. For all members of the rectorate sustainability takes top priority, and has done for many years." **Policy statement by the management of a large university**

Acting out of conviction

Sustainability at higher education institutions is not conceivable without the personal commitment of many individual activists. The vast majority of higher education institution sustainability processes have always been initiated by individual key figures from the higher education institution or student groups. These are often people who – from their place in the administration, as students or as higher education institution teachers – see a need for action in matters of sustainability and take action on their own initiative.

Although such commitment cannot be prescribed centrally, it can be encouraged and stimulated – possibilities include invitations to tender, competitions or further training for all members of the higher education institution. In the long run, however, this commitment also needs to be transformed into sustainable structures.

"But it also depends very much on individual personalities, which should not be underestimated. In other words the institution itself can adopt 'mission statements', but nothing will come of these if they aren't supported by individual personalities who are prepared to take on a work load going well beyond the normal 40 hour week." **From an interview with the representative of the management of a large university**

Networks for higher education institution sustainability

Sustainability oriented networks are another relevant influencing factor for sustainability in higher education. They serve the cooperation, networking and exchange of knowledge beyond their own institution. Such networks now exist at various levels, at federal state level (e.g. in Bavaria: www.nachhaltigehochschule.de) as well as within a European framework (e.g. the COPERNICUS Alliance, www.copernicus-alliance.org). Within the HOCH^{N} framework a sustainability network that all interested German-speaking higher education

institutions can join is being established (https://www.hochn.uni-hamburg.de/en/5-mitmachen.html). Especially for student initiatives there is the 'netzwerk n' (netzwerk-n.org) network, which is dedicated to the transformation of the German higher education landscape on the basis of a sustainability model.

"We use the networks to exchange ideas with other universities to look at: What works? What's not working? Where can we work together?' HOCH^N too, in particular, is now regarded by us as such a network, in other words as an important influencer which has now been formed." **Employee in sustainability coordination**

Sustainability requires resources, sustainability conserves resources

The following finding, which has been confirmed by the research within the HOCH^N network, will not be surprising: namely that the resources available for the development of higher education institution sustainability are of decisive importance. Researchers benefit from the higher education institution support structures that accompany them, for example, in the application of interdisciplinary research applications. Lecturers benefit from being able to try out and offer innovative formats (project workshops, real-life laboratories etc.) within their teaching work. Administrative staff may wish to exchange information on environmental management with colleagues in a working group at the higher education institution.

In order to establish sustainability as a permanent task for higher education institutions, it is necessary to secure financial, human and infrastructural resources in the long term – initially in order to establish sustainability as a (university) development task in research, teaching and campus management, but also in order to work on and further develop sustainability within the higher education institution as an ongoing coordination task. This requires permanent staff and, if necessary, the establishment of an institutional staff unit.

It is true that the consideration of sustainability-relevant criteria and activities of the higher education institution initially causes higher costs. These, however, are offset by potential savings that can be achieved on the operational side through the principle of resource conservation.

▶ Operational guidelines

"We have a combined heat and power plant [...], so sustainability has always played a role when it comes to energy savings, for example. A holiday between Christmas and New Year means that a lot of electricity is saved if the university is simply closed for ten days – heating costs, too, of course." **Statement from an administrative employee of a small university**

Personnel and expertise

In addition to its content and technical reference, the functional rationale of our higher education institutions as centres of knowledge is scrutinised in connection with sustainability. This requires individual competencies on the part of all those involved and places new demands on all staff. This is because when sustainability processes at the higher education institution are understood and developed more actively as an overall system, this often leads to the formation of forms of exchange and coordination that rely on the broad participation of as many different status groups as possible.

During personnel planning and development it is therefore essential to attach appropriate importance not only to technical knowledge but also to mediation and communication skills as well as transformation and transfer knowledge.

For the development of higher education institution sustainability, employees with such skills are just as decisive as the establishment of mechanisms for knowledge transfer.

The reason for this is that decisive knowledge often lies with particular individuals, and is lost when they leave the organisation. For this reason, sustainability in higher education institutions is also about developing and establishing forms of knowledge exchange and documentation that minimise the loss of empirical knowledge and secure and document existing knowledge.

"The fact that we are also safeguarding skills for this university is a particular challenge today, in times of full employment. You have to offer people perspectives and development opportunities, because otherwise competitors on the market will take them. And this means the loss of skills that are absolutely necessary for a sustainability process or for sustainable processes." **From an interview with the chancellor of a large university**

Principles for action

In addition to the framework conditions and supporting factors, specific principles for action can be identified. These can be understood as basic attitudes that become important within the framework of all sustainability activities.

Communication

On the way to higher education institution sustainability, cooperation between people from different disciplines and professions is necessary. Low-threshold communication formats and the greatest possible transparency should help to arrive at a common understanding of sustainability and its objectives for the individual organisation.

"I have the feeling that there won't be an imposed sustainability strategy, but that there really are different bodies setting and working on priority topics. Good networking nevertheless enables us to work towards a common goal." **Member of the administration of a large university**

Participation

In the sense of a 'whole institution approach' sustainability cannot be prescribed, but must be shaped and developed by all higher education institution stakeholders. Decisive for this are meetings at a level of equality independent of hierarchical levels, the exchange of knowledge and joint work within the formats established for this purpose for operations, and the exchange of information.

"We should always try to make participation and involvement possible. And of course honest, appreciative participation. The university is not just anybody, we are the university. The university is there for people. You can really benefit if you create possibilities for getting into contact with one another as equals and exchanging experiences in order to then think together about how to transform the know-how gained from experience into expert action". **Statement from a professor at a small university**

Process orientation

The development of sustainability in higher education institutions continues to require a high degree of openness with regard to the course to be taken, readiness to accept uncertainty, and the recognition of complexity and conflict potential. Sustainability is a continuous development process, not a development goal achieved at a particular point in time. This openness requires the courage and motivation to become involved in such a way, to bring the topic as a strategic orientation into areas of the higher education institution, and to make the necessary resources permanently available. This goes hand in hand with the need to make compromises and to enter into fruitful communication with the other participants.

"Sometimes I get the impression that the problem is that sustainability is perceived as a state rather than as a process – that the aim is to achieve something which merely means the stabilisation or maintenance of a specific status. There's less consideration of the way to get there." **Assessment by the manager of a sustainability coordinating body**

Perseverance and long-term approach

Steering higher education institutions towards a sustainability-oriented path of change will not be an easy process. Long-term commitment and great perseverance are therefore required from all those involved. Activities that accompany and promote the long-term development process at a specific higher education institution are particularly important for this – e.g. the establishment of a coordination unit that introduces different stakeholders to one another, provides impulses, encourages joint activities and accompanies them.

"To implement sustainability in such a large institution – on the one hand a public service, on the other hand an organisation – is hard work. Making the change to sustainability doesn't just happen overnight." **Statement by the sustainability coordinator of a large university**

Summary: Framework conditions, supporting factors and principles for action

Higher education institution sustainability processes take place under more or less conducive contexts and framework conditions that are, however, usually difficult to influence directly, e.g:

- social and academic policy discourses
- conflicting objectives at the stakeholder's own higher education institution
- political and administrative protagonists with different possibilities of influencing the agenda setting
- the established functional rationales of the academic system
- parallels between different specialist cultures
- higher education institution size and location
- regional anchoring and local integration

higher education institution sustainability processes are supported by the following aspects:

- sustainability is recognised as a topic for raising the profile of the own higher education institution
- the higher education institution management supports the sustainability process
- there are individual participants who initiate sustainability activities
- the activities of a higher education institution are integrated and promoted through networking and dialogue within sustainability networks at various levels
- resources are available in terms of personnel, finance and/or time
- people with a knowledge of the objectives and transformation are involved

higher education institution sustainability processes are particularly successful if important principles of action are taken into account:

- low-threshold communication in different formats and with many different stakeholders
- participation by different status groups, professions and disciplines
- willingness to engage in processes in which goals can be corrected
- perseverance on the long-term path to more sustainability at the stakeholder's own higher education institution

Measures

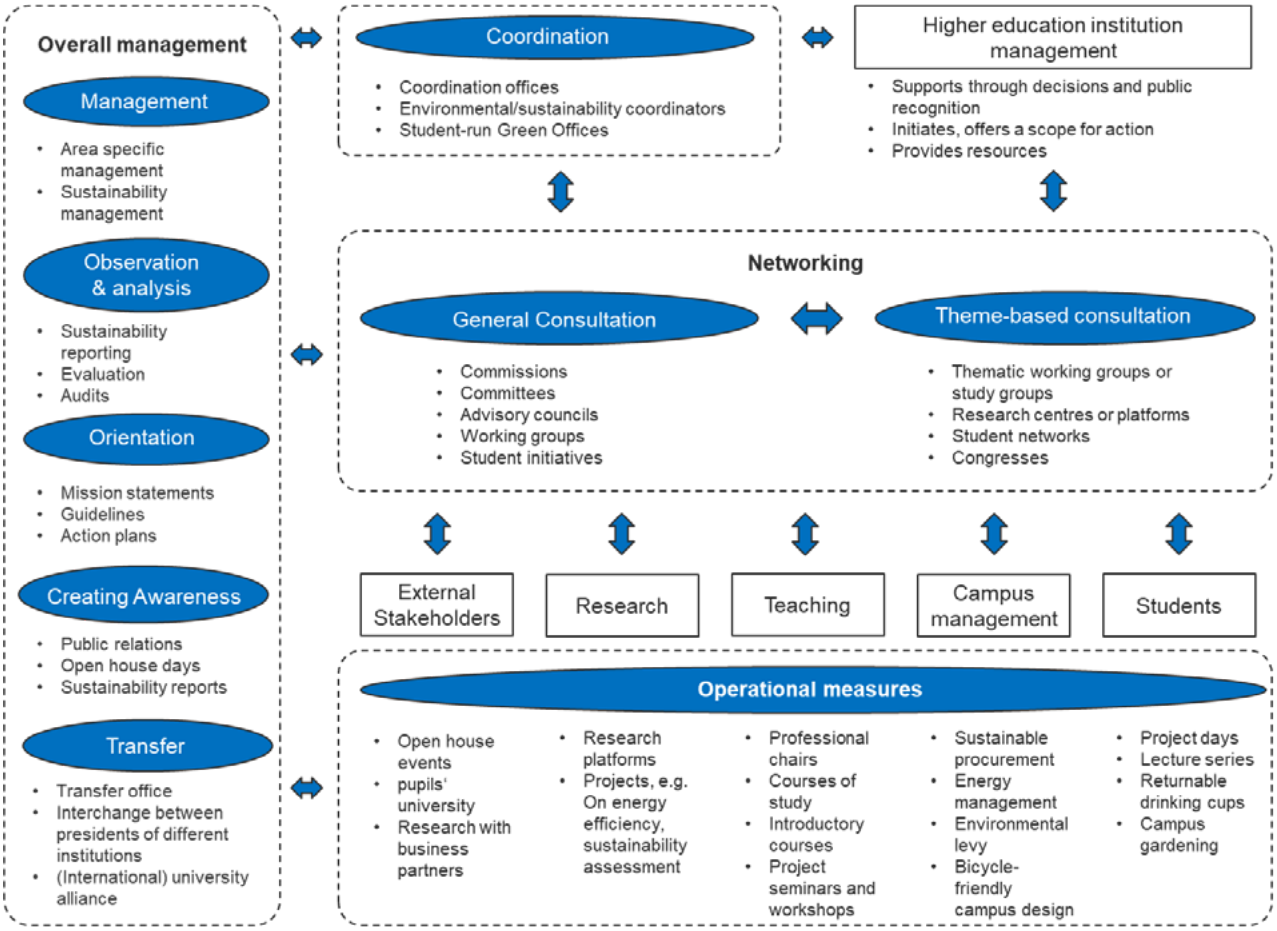

Fig. 3: Measures to shape the sustainability process at higher education institutions

The concrete sustainability strategy of a higher education institution is conceptually developed and operationally shaped on the basis of individual measures. The requirements for success, external influences and internal factors – as discussed in the previous chapter – set the framework for how well the development and implementation of such measures can succeed. Even if there are already reports of successful activities from many higher education institutions – they cannot simply be transferred to every other higher education institution. Instead, each measure must be examined to see to what extent it is not only relevant to a particular higher education institution, but is also compatible with that higher education institution's structures, development goals and principles of action. This is because it can be assumed that higher education institution sustainability processes will be particularly successful if they are adapted to the existing framework conditions. Descriptions of measures that have been successful at other higher education institutions can be helpful in developing one's own projects or provide suggestions on how one's own goals can be achieved.

However, since sustainability governance in higher education institutions is influenced by many factors and is therefore highly demanding, there is no single measure that could ensure "good governance" of the sustainability process on its own. Instead a whole package of measures is needed.

Figure 3 gives an overview of the measures described by the participants in the interviews at the eleven HOCH^{N} partner universities. To provide a better overview, the measures have been grouped and allocated to the individual areas.

The different types of measure are highlighted in blue in the illustration. Examples of the respective type of measure are listed underneath. At the superordinate level four groups of measures (broken-line boxes) can be distinguished:

- Firstly, networking within and outside the higher education institution is fundamental to the governance of the sustainability process. This can relate to the overall coordination of the sustaina-

bility process as well as to individual topics and activities.
- Secondly, the basis for the sustainability process is targeted coordination. This can be implemented by coordinators or a separate organisational unit.
- Thirdly, the sustainability process requires measures aimed at cross-departmental and cross-faculty management. This includes targeted management, observation and analysis of the current situation, development of sustainability activities, measures for orientation and creating awareness as well as transfer.
- Fourthly, operational measures must be taken in order to achieve sustainability effects.

Various protagonists are involved in the governance of the higher education institution sustainability process. Depending on the measure, higher education institution management, coordinators, students, higher education institution employees and stakeholders from outside the higher education institution play different roles. In the following, possible measures for establishing higher education institution sustainability processes and structures are presented and classified in relation to the following five areas:

Networking

At the heart of the governance of sustainability processes in higher education institutions is the task of bringing the various stakeholders at the respective institutions into contact with one another, and facilitating joint development processes. The reason for this is that the comprehensive aim of sustainable development can only be achieved in this way. Two aspects are central to successful networking:

1. The stakeholders at the superordinate level agree on the basic orientation of the sustainability process (goals, fields of action and concepts).
2. The stakeholders exchange information on specific problems and approaches and develop measures.

General consultation

Consultation at this level involves the entire higher education institution or certain sub-areas (e.g. campus management) or aspects of sustainability (e.g. the environment). Existing structures can be linked, for example by setting up a senate commission, or by setting up independent committees. Such committees meet regularly, usually quarterly or every six months, and are composed in such a way that all higher education status groups are taken into account. In addition to the higher education institution management, they usually include representatives from research and teaching, administration and students. Where available, it makes sense to include sustainability coordinators or representatives of corresponding organisational units in this group and to delegate the coordination of committee work to them. If the committees work on topics that are also important beyond the campus, it makes sense to invite external stakeholders such as representatives of the municipalities, the state, society and business to participate regularly. In addition, external experts can offer support on specific issues as required. Student initiatives aimed at developing common positions and coordinating activities are also important for overall coordination. Where such initiatives exist, it has proved successful to integrate their representatives into the superordinate consulting bodies.

These bodies are referred to as committees, advisory councils, working groups or circles. Thus there are overlaps with the names of the committees for topic-related consultation.

A regular dialogue should take place within bodies covering a range of status groups involving

– the higher education institution's management
– researchers
– lecturers
– students
– administration

...and depending on the objective: representatives of

– the municipalities
– society
– business.

Different procedures are conceivable for filling the superordinate committees: selection can be left to the status groups themselves or left completely open (self-selection). Alternatively the higher education institution management (or a representative commissioned by it) can identify specific potential candidates, who are then invited to participate or even appointed.

The committees can fulfil different functions.

- Information: They ensure that the various higher education institution stakeholders take note of each other and begin to exchange information and experiences. They provide an opportunity to regularly inform those involved about the progress and status of the sustainability process. By involving representatives of the various faculties and higher education institution departments in the committees, they can also function as contact persons for sustainability issues.
- Agreement: They enable the participants to agree on the basic orientation of the sustainability process – goals, fields of action and concepts. The work of the committees may focus, for example, on developing a common understanding of sustainability or on guiding principles, guidelines or orientation aids (e.g. handbooks) for sustainability.
- Multiplication: They promote the visibility of the sustainability process at the higher education institution. For example, the establishment of the committees in itself can increase the attention of the higher education institution public. In addition, one of the tasks of the committees may be to regularly inform the public about the sustainability process.
- Coordination and management: It is also conceivable that the committees themselves could take on or contribute to coordination and steering functions, for example by
  – implementing stocktaking or analyses and formulating recommendations,
  – initiating measures, projects or structural changes (e.g. establishment of coordinators or staff units for sustainability) at the higher education institution,
  – supporting existing initiatives at the higher education institution,
  – pointing out common interests in the development and application of inter-disciplinary or transdisciplinary projects, establishing contacts and organising the cooperation process.

Even though the committees may not formally have decision-making powers for overall coordination, they can nevertheless offer far-reaching possibilities for shaping the process if sufficient human and financial resources are made available and the results of the committee work are linked to higher education decision-making processes.

Theme-based consultation

The superordinate coordination can at best form a framework that provides orientation for the sustainability process. However, not much can be achieved with this alone. On the contrary, ideas and approaches of sustainability must be carried into all areas of the higher education institution and taken up by as many stakeholders as possible. To this end, it is necessary to agree on concrete topics and questions so that approaches to solutions can be developed and their implementation coordinated. This can be achieved through:

- Thematic working groups or study groups
- These can be formed as sub-working groups or sub-committees by the superordinate bodies or independently of them. Like the superordinate bodies, they bring together representatives from different fields, with their exact composition depending on the topic in question. Regular meetings of the working groups are used to evaluate the situation at the higher education institution, to develop measures and to coordinate who assumes what tasks during their implementation. In such committees, for example, staff from different administrative departments can work together with students to develop starting points for a sustainable campus, or academics can develop interdisciplinary concepts for sustainability in teaching.

- Research centres or platforms: The aim is to pool and link approaches to sustainability-related research by providing information on existing research at the higher education institution (e.g. through databases and email distribution lists) or by bringing together interested researchers to exchange views at regular interdisciplinary meetings and public events. Research centres can also play an advisory role both within the higher education institution and beyond, providing expert opinions and know-how. For this purpose, as for the development of further research projects, they cooperate with local politicians, ministries, foundations, industrial partners and other stakeholders.
- Student initiatives: Here, too, the focus is on developing concrete sustainability initiatives. In addition to practical measures such as campus design, this may involve raising awareness among students and/or the higher education institution public of sustainable development issues (e.g. by publishing a sustainability guide for students). One way of supporting the commitment of such student initiatives is, for example, to integrate development work into project-oriented courses or to take into account sustainability-related teaching provided by students when evaluating student performance. An important basis for the ongoing work of student initiatives also arises if the higher education institution finances student assistant positions for this purpose.
- Congresses, workshops and the like: In contrast to the measures mentioned above, which take place on an ongoing basis, congresses, workshops and similar events can only provide impetus in specific cases. Nevertheless, they can put sustainability issues on the agenda and develop proposals. In this way they can contribute to concretising abstract demands for sustainable higher education institution development and convincing important protagonists – not least the higher education institution management – of the importance of this issue.

Example: Participation structures at the Free University of Berlin

At the FU Berlin interdisciplinary and topic-related coordination are specifically linked by the involvement of committees at different levels.

- A steering committee with representatives from the executive board, administration, the faculties and university committees takes the lead in the entire sustainability process. Under the coordination of the sustainability unit it sets the priorities, monitors developments and regularly takes stock.
- Interdisciplinary and cross-departmental working groups on teaching, research, campus management and participation/communication initiate and implement programmes and instruments in their respective fields of activity.
- Decentralised sustainability teams work on specific sustainability-related topics, develop projects and implement them. This involves both improvements within individual faculties and cross-departmental activities.

▶ Further information: https://www.fu-berlin.de/en/sites/nachhaltigkeit/index.html

Example: climate emergency at the Free University of Berlin

On 17 December 2019 the Free University of Berlin declares a climate emergency. The purpose is to consider the effects on the climate of all its decisions and planning, and to achieve climate neutrality for the Free University of Berlin by 2025.

▶ https://www.fu-berlin.de/sites/nachhaltigkeit/commitment/klimanotstand/index.html (in German)

Measures in the networking area cover a number of activities.

Coordination units have an extensive range of tasks.

- Acting as the link between the higher education institution management and other status groups or between different areas of the higher education institution
- Raising awareness of sustainability
- Stocktaking
- Identification of fields of action for the sustainability process
- Agenda setting
- Addressing stakeholders and ensuring participation
- Initiating and organising committees
- Coordinating and supporting sustainability initiatives
- Developing, implementing and accompanying measures

Sustainability coordination

The further a higher education institution progresses in the sustainability process, the more extensive and diverse the associated tasks become and the greater the number of participants. To ensure that they all pull together and that the various activities are interlinked, coordination between the participants is an important prerequisite. At the same time, however, it cannot be assumed that such coordination will take place if the participants (can) only incidentally commit themselves to sustainability at their higher education institution and it is not clearly defined who is to assume responsibility for coordination. Experience with sustainability processes at higher education institutions has shown that their coordination requires additional effort, which should be planned on a permanent basis if possible. At the same time coordination needs to be institutionally anchored in order to create clear responsibilities and establish a contact point for sustainable development.

Solutions of varying scope are conceivable for this purpose. For example, the coordination function can relate to individual topics or sub-areas or extend to all fields of sustainability. It may also be linked to individual persons or involve larger teams or organisational units. Finally, coordination may be associated with the aim of organising other participants at the higher education institution, or may instead aim at communication and mediation between the various participants.

A frequently practised variant of coordination involves persons who act as representatives, coordinators or spokespersons for sustainability or for sustainability-relevant topics – e.g. the environment, family friendliness or diversity management. These functions are frequently performed by professors. This has the advantage that they can contribute their own specialist expertise and are more likely to be accepted by other academics. In this case, however, access to the technical and administrative areas of the higher education institution may be more difficult. It has proved to be useful to provide such representatives with assistance in order to be able to cope with day-to-day operations.

Another way of institutionalising the coordination of the sustainability process is to set up staff units or independent organisational units (competence centres). These usually have several employees. Establishing them can highlight the cross-sectional character of sustainability and establish a hub for all sustainability activities at a higher education institution. Sustainability officers and other representatives can also be involved here. In the most far-reaching variant, such

organisational units represent the central body for the implementation of the higher education institution sustainability process. One advantage of staff units or competence centres is their close connection to the higher education institution management. At the same time, however, this means that contact with other areas of the higher education institution is initially relatively low. Close interaction and broad, continuous communication are therefore essential.

The starting point for higher education institution sustainability coordination

Environmental management systems such as EMAS are often the starting point for creating networking structures within the higher education institution. They pave the way for a general exchange of ideas on sustainability aspects at the higher education institution and require coordination by environmental officers. EMAS and the like therefore often form a good starting position for the sustainability process at higher education institutions.

Finally, students at a higher education institution can play an important and active role in coordination. On the one hand, such activities on the part of students aim to coordinate and collate student initiatives; on the other hand, the resources and ideas of students need to be used for the sustainability process of the higher education institution as a whole. These tasks can be fulfilled by elected student representatives (students' union committee, student vice-president etc.). Green offices or sustainability offices, which are run jointly by students and higher education institution staff and for which the higher education institution provides financial resources and premises represent a further option.

Example: The University of Hamburg's Sustainable University Competence Centre (KNU)

The aim of the Sustainable University Competence Centre (KNU) is to contribute to the development and design of the University of Hamburg as a "University for a Sustainable Future" and to help secure its future viability in research, teaching, education and university management. To achieve this, the KNU designs measures for the implementation of sustainable development, supports the university in the implementation of sustainable transformation, initiates and promotes projects for sustainable development, strengthens internal and external university networks in the field of sustainability, and functions as a think tank and experimental laboratory.

▶ Further information: https://www.nachhaltige.uni-hamburg.de/en.html

Measures of this kind affect a number of areas.

Overall management

Sustainability management

Of course, the entire sustainability process can be seen as a management task. When we talk about management, we mean a systematic process for the continuous improvement of sustainability aspects at higher education institutions. Such a procedure is based on the idea of a management cycle: based on an analysis of the current situation at the higher education institution, goals are determined and concrete measures defined. Responsibilities and procedures are then defined, the necessary organisational structures created and the agreed measures

implemented. The success of the measures is monitored and reported on, using key figure-based controlling.

Reporting guidelines

On this basis decisions are made on how to proceed. Such a management process can be created in different ways.

- Environmental management: the "Eco-Management and Audit Scheme" – EMAS for short – has been in place for environmental issues since the 1990s. Its central elements are an environmental review and the development of an environmental programme and manual. In addition to internal controlling, external assessment (audit) and certification play an important role. Higher education institutions have had positive experiences with EMAS. In addition to its guidance effect, EMAS also has an awareness-creating impact because it emphasises the importance of environmental issues.

▶ https://www.emas.de/home

- Sustainability management: Environmental management systems such as EMAS are a good starting point for the sustainability process at higher education institutions but are limited to environmental issues and focus on operations and campus management.

Operational guidelines

Although EMAS was not developed specifically for higher education institutions, it is often used by them as a starting point for the sustainability process. Such sustainability management often involves the fields of teaching and research in particular, and fits into an overall strategy for the sustainability process or works towards the development of such an overall strategy. In addition to environmental management systems, however, sustainability management can also be geared more strongly to economic or social sustainability (e.g. on the basis of the "DIN ISO 26000 Guidelines on the Social Responsibility of Organisations") and set up on this basis. The task of sustainability management is often assumed by sustainability coordinators or an appropriate coordinating body.

Sustainability management...

... requires systematic information about all aspects and developments relevant to sustainability at the higher education institution
... creates awareness of the necessity of sustainability
...constantly expands the circle of participants

Example: Sustainable Campus Modular System (Zittau-Görlitz University of Applied Sciences)

In cooperation with TU Dresden, Zittau-Görlitz University of Applied Sciences has developed a "Sustainable Campus Modular System" (BNC), which is intended to enable university-specific sustainability management. It comprises the modules of university management, education & transfer, real estate and operations as well as external cooperations & partnerships, for each of which objectives are defined and key figures established. The planning and implementation of measures in the four modules is participatory and involves students, employees of the university and external parties. A peer-to-peer review process is used to identify the progress made, in which institutions using the BNC review each other and make suggestions for improvement.

The basis for the modular system is formed by standardised systems such as EMAS and the DIN EN ISO 14001 standard, which are distributed and accepted globally and throughout Europe, but which can't necessarily be transferred in full to the specific situation of higher education institutions. The aim is consequently to generate a universally applicable higher education institution solution for the operation of a sustainability management system in which the members of the institution actively participate in the design and further development of the institution's sustainability performance.

▶ https://www.hszg.de/hochschule/struktur-und-organisation/managementsysteme/umweltmanagement/baukastensystem-nachhaltiger-campus-bnc.html (in German)

Observation and analysis

As indicated in the previous section, data collection and analysis play an important role in sustainability management. For example, key figures on energy and resource consumption are used for monitoring and controlling purposes. The collection and processing of the data is mainly carried out by the relevant technical services, at best with the participation of students and researchers. However, there are other opportunities to support the sustainability process:

- studies on the prerequisites and requirements for the introduction of higher education institution management systems
- criteria-based checks on compliance with legal regulations, e.g. in the area of occupational safety or hazardous substances
- surveying of higher education institution members on their perception of environmental and sustainability aspects

More comprehensive analyses can be carried out as part of environmental or sustainability reporting.

▶ Reporting guidelines

A higher education institution-specific sustainability code, which contains 20 criteria within the areas of strategy, process management, environment and society that can be used as reporting standards, provides a guide in this respect.

▶ https://www.uni-vechta.de/uni/sustainable-university/home/sustainability-guidelines/?L=3

Practical experience shows that it is not always easy to obtain the required data,

- because it must first be clarified whether and where the data is available,
- the preparation and provision of data can be time-consuming,
- not everyone shares data willingly and
- the sense and purpose of the analyses must first be communicated and the willingness to participate must be established.

Questions for reflection on sustainability reporting

- Who should be addressed by the sustainability report?
- What should statements be made about?
- What data is required for this? Does the data exist? Who has it? What data still has to be collected?
- Who should be responsible for the consolidation and evaluation of the data?
- Who should be involved in the interpretation of the data?
- How should the results be prepared?

Collecting and evaluating sustainability data is therefore not a purely "technical" process, but requires a lot of communication and cooperation. If this is taken into account, an important basis for targeted control experiments can be created – and even more: by creating transparency about the situation and the development process, analysis and reporting also promote the debate on sustainability issues at the higher education institution, help to prepare for decisions by the institution's management and therefore provide impetus for new sustainability-related initiatives.

Example: The Sustainability Report of Leuphana University Lüneburg

Leuphana University of Lüneburg records in its regularly published sustainability report how the guiding principle of sustainability is implemented and developed further. The report, prepared by the university's sustainability officer, explains the university's objectives (guidelines) and describes the situation in the fields of activity of research, education, society and campus operations. The sustainability report also contains a magazine supplement that provides information on the main subjects of education and sustainability.

▶ Further information: https://www.leuphana.de/en/university/history/sustainability/sustainability-report.html

Example: Application of the Sustainability Code

Leuphana University Lüneburg has applied Germany's Sustainability Code (DNK) and successfully submitted its declaration of compliance to the German Council for Sustainable Development (RNE) for audit.

▶ https://www.leuphana.de/fileadmin/user_upload/uniprojekte/Nachhaltigkeitsportal/Nachhaltigkeitsbericht/files/DNK_2019_Leuphana_Universita__t_Lu__neburg.pdf (in German)

Orientation

Sustainability requires a coordinated approach in the various areas of the higher education institution. It is important to provide orientation for the sustainability process so that all those involved can pull together and plan and implement targeted measures. This can be achieved in the form of mission statements or guidelines. These describe the overriding values and objectives of the higher education institution with regard to sustainability, and make these ideas concrete by breaking them down into specific fields of action or topics. Mission statements and guidelines can refer to sustainability as a whole or to individual sub-areas such as the environment. They make tangible what is to be achieved with the sustainability process, and show that sustainability plays a major role at the higher education institution. In this way they increase the pressure to ensure that something actually happens – because the specifications set out in the mission statements and guidelines demand implementation.

However, the mere adoption of mission statements and guidelines is not enough. On the contrary, their development is often already designed in such a way that as many higher education institution stakeholders as possible – including students – learn about them and have the opportunity to contribute. In this way, different perspectives and ideas are incorporated and the acceptance of the mission statements and guidelines is promoted. Last but not least, participation can motivate important stakeholders to participate in other activities as well. Mission statements and guidelines are only a first step: Only when they can be translated into concrete goals and measures can they unfold their full effect.

Example: The sustainability guidelines of the University of Vechta

The University of Vechta regards its sustainability process as a continuous development in the sense of a "learning organisation". This understanding was laid down in the university's sustainability guidelines. The guidelines were developed by the "Sustainable university" working group, in which all university stakeholders are represented, in consultation with the university's board and senate. They emphasise the importance of education and research for sustainable development and sustainable campus operations. In addition, the participatory culture at the university as well as networking and cooperation with relevant regional and national protagonists are emphasised. The "Sustainable university" working group is named as a driving force for the sustainability process.

▶ Further information: https://www.uni-vechta.de/uni/sustainable-university/home/sustainability-guidelines/?L=3

Creating awareness

Awareness of the importance of sustainability is an important prerequisite for a successful sustainability process at higher education institutions. At the same time it is an important goal of the sustainability process to create such awareness, to highlight initiatives at the higher education institution and to motivate people to get involved. Among other things, sustainability reporting can contribute to this process.

Public relations measures

- Information on resource consumption and savings achieved
- Days or weeks of action
- Seminars, films, art activities, discussion events
- … and much more

The discussion of sustainability within the framework of courses can turn students into multipliers who can promote the idea of sustainability both at the higher education institution and externally. In order to create the widest possible range of possibilities and to address a broad public, it is advisable to plan and implement awareness-raising measures together with student initiatives and stakeholders from outside the higher education institution (e.g. the municipality, society).

Example: An energy saving campaign at Eberswalde University of Applied Sciences for Sustainable Development (HNEE)

The aim of the campaign is to achieve energy savings by changing the behaviour of office users at the university. With the help of flyers and other materials, various energy-saving tips (switching off all appliances and lighting completely, turning down the heating, ventilation) are conveyed, motivation for environmentally friendly behaviour is encouraged and the feeling of being able to make a difference individually and collectively is strengthened. The savings achieved are reported on the HNEE website.

▶ Further information: http://www.hnee.de/de/Hochschule/Leitung/Nachhaltigkeitsmanagement/Klimafreundliche-Hochschule/ECHO-Projekt/ECHO-Projekt-K6132.htm (in German)

Transfer

In the course of the sustainability process, participants in all areas of the higher education institution again valuable experience and develop concepts, services or technologies to shape sustainability at higher education institutions and in society. The results of the sustainability process must be discussed, communicated and developed further. This is done through a variety of interactions and cooperation between the higher education institutions and stakeholders from outside the institution in the region and beyond.

Transfer, however, does not describe the simple transmission of the higher education institution's sustainability know-how; instead it is about active communication, adoption and joint co-productive work on the knowledge gained. This also leads to the adaptation of ideas, concepts and activities. The acceptance of concepts and measures within an organisation requires the adaptation of those concepts by participants in relation to their own institution.

In addition to the stimulus provided by examples from external third parties, transfer also means ensuring the diffusion and further development of sustainability at the own higher education institution, e.g. in teaching or via a mission statement process. It is therefore a matter of reaching agreement on the required goals, principles and activities and building a shared understanding of sustainability.

Conditions and approaches for transfer

... within the higher education institution, e.g.
- networks within the higher education institution
- further education events, lecture series
- preparation and thematisation of sustainability-relevant contents in teaching

... outside the higher education institution, e.g.
- regional, national, international exchange of experience by higher education institution management
- collaborative research and development projects with partners from society

... through stimulus from the environment of the higher education institution, e.g.
- funding announcements
- entrepreneurship

However, this does not happen automatically – either within the higher education institution or outside it. Targeted transfer measures are therefore needed.

▶ Transfer guidelines

Transfer should not be understood as simply "passing on" knowledge or approaches to action. In order for them to be effective elsewhere – for example in another area of the higher education institution or in another higher education institution – the stakeholders there must actively deal with this issue. There are two things to consider here:

1. Transfer is complex, it does not succeed just by the way or on the basis of convincing arguments.
2. Transfer requires dialogue and understanding. The rule is that those who adopt an idea are not the only ones to learn something new. In addition, those providing the ideas themselves can receive new impulses in the transfer process.

Example: Transfer at Eberswalde University for Sustainable Development (HNEE)

Eberswalde University for Sustainable Development (HNEE) has made its approach to the field of knowledge transfer increasingly professional. After the development of a knowledge transfer strategy with the focus on sustainability in mid-2016, a Transfer Advisory Board was officially established at the university in 2017. In 2018 the second meeting of the Transfer Advisory Board took place.

▶ https://www.hnee.de/de/Forschung/Inno-Support/Transfer/Transferbeirat/Transferbeirat-der-Hochschule-fr-nachhaltige-Entwicklung-Eberswalde-K5956.htm (in German)

Measures in the field of overall management affect a number of areas in particular.

Operational measures

Governance concerns questions of managing and coordinating action at higher education institutions, and forms a framework to facilitate concrete operational measures. These operational measures serve to achieve certain effects in terms of sustainability. As indicated in the previous sections, operational measures can have an impact on the governance process itself, for example by raising awareness of sustainability issues or by taking the planning of operational measures as an opportunity to organise exchanges between different protagonists in higher education.

Operational measures tend to be assigned to individual higher education institution areas. However, this does not mean that these are only provided by protagonists from the respective field. Here, too, it is necessary for actors from different fields to work together.

- Research: On the one hand, projects can be directed inwards, i.e. towards the higher education institution itself, for example when it comes to analysing the position of the higher education institution in terms of energy consumption, establishing an appropriate reporting system and identifying possibilities for a CO_2-neutral university. Central stakeholders in this case are scientists, together with representatives from (technical) operations. On the other hand, sustainability-related research can be directed to the outside world and, for example with the participation of students, municipal representatives and other interested parties, examine possibilities for extensifying urban green spaces.

▶ Research guidelines

- Teaching: Measures in the area of teaching mainly consist of the establishment of sustainability-related professorial chairs (e.g. on sustainability economics) or courses of study (e.g. sustainability sciences). Individual sustainability-related modules are also possible, for example with an introductory character at the beginning of the course or as a project seminar. Sustainability-based teaching formats are often offered on an interdisciplinary basis. A successful approach has been to involve students as well as external partners (environmental departments, companies etc.) in their development and implementation. Participation can be voluntary or compulsory. Incentives for participation can be provided by awarding students a sustainability certificate in addition to credit points after they have successfully completed certain modules.

▶ Teaching guidelines

- Campus management: Measures in the field of campus management can aim to establish sustainable procedures and structures in the field of

procurement or energy management. In addition, various measures are conceivable, including the bicycle-friendly design of the higher education institution, the cultivation of ecological foodstuffs, the design of green areas or the use of returnable drinking cups etc. Such measures offer the possibility of involving external participants (possibly schools). They often emanate from or are supported by students, but also require cooperation and support from the higher education institution management and administration. This includes the possibility for students to apply to the higher education institution for financial support for the implementation of their own ideas.

Operational guidelines

- The environment of the higher education institution: measures aimed at the higher education institution's environment have already been mentioned in part in relation to transfer. In addition to measures aimed at the general public, such as open days, there are offers for specific target groups, such as pupils and teachers. Such measures can be designed and implemented jointly by lecturers and students. They not only serve to impart knowledge relevant to sustainability, but also encourage reflection on existing teaching practice at the higher education institution.

Transfer guidelines

Measures in the operational field cover a number of activities.

Self-appraisal tool for structures and processes: the governance equalizer

In order to promote sustainable development at higher education institutions, the coordination and governance of a wide range of activities in various areas of operation is necessary. Five dimensions as part of a 'governance equalizer' are described on the following pages, and for their evaluation rating scales consisting of five levels are shown. The aim is to support higher education institutions in the governance of sustainable development within their institutions – in conjunction with outside stakeholders and initiatives. For this purpose the dimensions describe a number of operational areas whose design influences sustainability governance. This is based on the assumption that the chances of successful development processes increase if the scope of the governance dimensions (analogous to sliders on a mixing console or equalizer) can successfully be increased.

The dimensions therefore reflect normative concepts relating to the operational areas of sustainability-related higher education governance. At the same time the rating scales can be used to take stock of existing levels of sustainability governance, and to identify starting points for areas which may require additional work. Even though definitions and examples of the scales in the analysis provide guidance for the evaluation of activities in a specific area, the objective measurement and evaluation of the dimensions is not the main priority here. And the rating scales are certainly not intended as a basis for the benchmarking of higher education institutions. On the contrary, the recording and evaluation of the dimensions can make it easier for the stakeholders in higher education to agree on the existing status of sustainability governance at their institution and – if the scales are applied on a regular basis – to identify and analyse any progress which has been made.

In addition to the definition of the scale levels for each dimension, concrete examples are also given in what follows to illustrate the individual levels. The examples are based on findings from the work package governance in the joint project "Sustainability at Higher Education Institutions – develop – network – report" (HOCH^{N}) and from workshops at those higher education institutions at which the rating scales have been applied. In order to assess the extent to which the governance equalizer dimensions are applied at the individual higher education institution, however, the definitions of the scales are more important than the examples given – the latter merely describe possible starting points, but they do not represent the only or even the best way to increase the scope of the dimensions.

For the evaluation of the equalizer dimensions, examples from the individual higher education institution therefore need to be collected and assigned to the rating scale levels. All fields of action at the higher education institution (teaching, research, operations) need to be taken into account and an overall balance drawn. This can make it possible, for example, to indicate examples of progress in individual fields of action, together with other fields of action in which this progress is still lacking. In the sense of a holistic development approach (whole institution approach), both have to be taken into account in the evaluation. It should also be noted that examples of different scale levels may well be found in an individual dimension. Even if this is not necessarily the case, progress at the lower levels of the dimension may well be a prerequisite for the achievement of higher levels. Here too, a shared overall assessment of all the examples should be implemented in order to arrive at an evaluation.

The prerequisites for shaping processes of sustainability governance are not the same at all higher education institutions. The HOCH^{N} findings show in particular that large institutions with high student numbers and a wide range of academic disciplines face particular challenges. In spite of this, the equalizer dimensions depict aspects that are important for the sustainability dimensions of all higher education institutions. In the dialogue between the stakeholders at each individual higher education institution it also needs to be clarified how existing achievements are to be evaluated and what programmes for sustainability governance can be classified as realistic and desirable.

Politics

How is sustainability entrenched and legitimised in the higher education institution?

This dimension deals with the question of how sustainability can move beyond individual support points and be embedded long-term on the higher education institution's agenda. The term 'politics' in this context does not (primarily) refer to political institutions outside the higher education institution, but to actors within the institution who need to take formal and informal decisions regarding internal goals, structures, procedures, and measures, as well as membership of external networks in the context of sustainability. Collectively binding decisions lend justification to and offer guidance for actions toward sustainability, and provide criteria to judge their success.

On the lowest level of progression in this dimension, support from decision-makers for sustainability-related activities is merely granted unofficially (see Table 1). The next level includes public, official commitment to the goal of sustainability. On the following levels, sustainability is subsequently codified as an institutional goal (becoming more and more independent from the support of key individuals), broken down to different higher education institution domains, linked to responsibilities and resources and, finally, operational measures are defined and their implementation and effects assessed.

On the lower levels, the scale emphasises the role of decision-makers. It is important to clarify that this term does not exclusively refer to top-level management in the higher education institution, but encompasses all members of the institution that take part in decisions on goals, priorities, resource allocation, etc. The emphasis on decision-makers echoes the important role that is attributed in parts of the literature to decision-makers in general and of top management in particular. In our view, this role should not be overestimated, however. Managers of course have an important role to play, but while their leadership can be a necessary condition of success, it is hardly sufficient. Instead, successful transformation requires that the goal of sustainability should spread throughout the entire organisation and must be translated into concrete decisions and actions. The upper levels of the scale reflect this imperative. Furthermore, it is important that binding decisions should not be confused with centralised, top-down decision-making. Decisions can be arrived at via both hierarchical as well as participative decision-making processes, and, in many instances, broad stakeholder participation may well be more conducive to the sustainability process.

	Definition	Examples
5	The objectives of the sustainability process are translated into binding, operational measures and their implementation and effects are evaluated.	• Agreements on sustainability-related targets have been set and implemented. • Procurement agreements include concrete sustainability-related provisions and criteria. • Binding decisions to include sustainability in research have been taken. • Administrative sustainability units and steering bodies are mandated to approach and involve other higher education institution staff to pursue sustainability-related goals • Sustainability-related evaluation, accountability, reporting, and control instruments and practices are established • Sustainability-related auditing/certification takes place. • Binding operational measures in different domains have been introduced.
4	The goal of sustainability is broken down to and embedded in different domains.	• Issues of sustainability are included in procurement directives. • (Domain-specific) strategies are available and include sustainability-related objectives. • Sustainability is included in the higher education institution's charter. • Responsibilities for sustainability issues and tasks have been assigned. • Concepts and/or guidelines on sustainability have been developed.
3	Sustainability is codified – in a non-binding form – as a general goal of the higher education institution.	• Sustainability has been included in the higher education institution's mission statement and has thus been established as a task independent from individual agents in the higher education institution. • Sustainability features in the higher education institution's name or in the name of one or more of its organisational units. • Agreements about participation/membership in inter-organisational networks among higher education institutions have been signed by the higher education institutions.
2	Decision-makers in the higher education institution publicly voice their commitment to the goal of sustainability.	• Public declarations stating the commitment of decision-makers in the higher education institution to sustainability exist. • Decision-makers in the higher education institution openly support existing initiatives towards sustainability.
1	Individual decision-makers in the higher education institution recognise and support sustainability-related activities in informal and non-public ways.	• There are informal, non-public declarations of intent and commitment to sustainability.

Table 1: The degree of governance in the area of politics (5 = high, 1 = low)

Profession

How are different professional perspectives and competencies being connected?

The dimension 'profession' focuses on the development of an interdisciplinary and transversal understanding of sustainable development in the higher education institution. The different domains — education, research, campus, and outreach — are marked by different demands, processes, and framework conditions. As a result, they requirespecific competencies and knowledge, and exhibit specific standards and cultures. Similarly, differences among academic disciplines as well as among external actors related to the higher education institution can be observed. Moving towards sustainability necessitates a cross-cutting dialogue about what sustainable development should encompass, what principles and standards should apply, and how sustainable development can be integrated in everyday practices in the different domains and disciplines.

On the lowest level of progression, this involves reflections on issues of sustainability by individuals in specific domains or faculties (see Table 2). A next level is reached when groups of individuals in a domain or in a faculty jointly reflect on sustainability. Higher levels include an exchange of ideas and perspectives across domains and/or disciplines, eventually resulting in a common position on sustainability which, ultimately, is reflected in everyday professional actions and joint (interdisciplinary and transversal) activities.

Examples in the 'profession' scale frequently refer to professional practices such as academic courses or environmental action. This is particularly pertinent for Levels 1, 2, and 5. Finding a few of these or similar examples in a higher education institution, however, can hardly be seen as progression of the higher education institution as a whole. The assessment must therefore also include the institutional spread of such practices.

In this context, it also needs to be stressed that some of the examples, such as courses focusing on sustainability, are important steps toward an education for sustainable development. In the context of the assessment tool, however, this aspect is not of particular interest. By contrast, changed practices are important because they indicate a transformed professional understanding, which can form the basis for joint action and institutional transformation.

Part of this is the process of aligning different ways of understanding of sustainability. Importantly, this does not mean that a single, unified understanding should be achieved. Both case studies and validation workshops repeatedly showed the need to leave room for diverging professional perspectives. Nonetheless, it is important for higher education institution stakeholders to come to an agreement that allows joint action. To this end, it might be helpful to settle on a set of normative boundaries within which all stakeholders can pursue their different professional rationales.

	Definition	Examples
5	A common understanding of sustainability is reflected in inter-/transdisciplinary and transversal practices within the higher education institution and beyond, and such practices are a defining trait of the higher education institution.	• Inter- and transdisciplinary courses and research projects are continuously developed and refined. • Sustainability is a mandatory course content for all students at the higher education institution. • Transdisciplinary activities (such as project workshops, Real-World Laboratories) within the higher education institution and together with external actors are realised on a continuous basis. • Sustainability serves as a criterion in appointment procedures. • There is a range of trainings on sustainability-related issues that are mandatory for higher education institution staff. • Permanent and temporary academic positions in transdisciplinary research on sustainability have been created.
4	Actors across disciplines and domains have developed a common understanding of sustainability, which they continuously review and revise.	• A common understanding of sustainability for the whole higher education institution (e.g., in the form of a mission statement) has been developed. • A joint transversal position on sustainability has been established. • A sustainability strategy exists.
3	A dialogue on sustainability across different domains and across disciplines takes place.	• Different formats of interdisciplinary exchange (such as a research platform) have been established. • Conferences and symposia on sustainability-related issues are held. • Interdisciplinary lecture series, colloquia, degree courses, and research projects addressing issues of sustainability are carried out.
2	Sustainability issues are addressed collectively within individual faculties or domains.	• Sustainability issues are addressed by environmental management. • Teachers at a faculty collaborate to strengthen/include sustainability in the faculty's courses.
1	Individual actors within separate faculties or domains address issues of sustainability.	• Individual researchers or research projects focus their work on sustainability issues. • Individual teachers address sustainability in their courses. • Individuals from other stakeholder groups work on sustainability-related issues.

Table 2: The degree of governance in the area of profession (5 = high, 1 = low)

Organisation

How are cooperative work and task performance made possible?

Moving higher education institutions towards sustainability requires breaking down sustainability-related goals so that concrete actions can be taken. This includes the provision of adequate resources and creating structures and procedures that ensure continuous and reliable work. What is more, actions must extend beyond existing organisational boundaries, and interdisciplinary and transversal networks and coordination of activities play an important role. Networking involves actors exchanging views and knowledge and cooperating, whereas coordination aims to ensure coherence and synergies between sustainability-related activities. Overarching coordination does not necessarily mean centralised control, however. Rather, it can also aim to support decentralised decentralised initiatives in order to maximise their effectiveness.

At the lowest level of this dimension, individual actors in a higher education institution take actions towards sustainability (see Table 3). On the subsequent levels, such actions are channeled through projects or other initiatives, structures, and procedures are created to facilitate networking, and resources are provided to coordinate sustainability-related activities. While such provisions are often temporary and rely on specific (competent, motivated, well-connected) persons, at the highest level of this dimension, networking and coordination are established as a permanent function in the higher education institution and backed by regulations and long-term allocation of resources.

In total, the examples provided in the scale deal with collective capacity for action and how action can be directed towards sustainability through rules, incentives, etc. Many of the examples refer to structures that need to be in place for this purpose, such as committees, coordination units, or staff positions. The formal existence of such structures by itself, however, does not guarantee effective action. When assessing the 'organisation' dimension, it is therefore necessary to reflect how these structures work in practice and to judge if they actually serve their purpose. This would include, for example, analysing the quality of interaction in a committee or the actual mandate of a coordinating unit and the barriers that it might encounter in its work.

	Definition	Examples
5	Firmly established (yet flexible) institutions and processes for the coordination of sustainability-related activities exist on a permanent basis.	• Permanent functions/staff positions to ensure coordination and networking independent of specific individuals have been created. • Other sustainability-related tasks and objectives have been codified and permanent staff positions have been created to ensure implementation. • Management functions have been expanded to all domains (from environmental to sustainability management). • Procurement throughout the institution is based on binding sustainability-related directives.
4	Resources for coordination of sustainability-related activities are provided on a temporary basis.	• A central coordination unit for sustainability-related issues has been established on a temporary basis. • Institutions such as green offices or similar contact points have been set up. • Temporary posts are in place in the administration for the performance of sustainability-relevant tasks.
3	Structures and procedures exist to facilitate networks among sustainability initiatives in the higher education institution.	• Networking and dialogue across faculties and domains (possibly including external stakeholders) have been institutionalised e.g., in the form of round tables, working groups, commissions, or other authorised bodies. • Networks and communication platforms to ensure dialogue and cooperation with external actors exist.
2	Sustainability-related actions are taken collectively within separate faculties or domains.	• Decentralised procedures to align sustainability-related actions in the higher education institution exist (no overarching coordination). • Projects and initiatives are carried out independently, without coordination across faculties or domains.
1	Actions towards sustainability are taken by individual actors in the higher education institution.	• Individual students or academic or administrative staff members carry out sustainability-related activities.

Table 3: The degree of governance in the area of organisation (5 = high, 1 = low)

Knowledge

How is the necessary knowledge generated and used competently?

Sustainable development calls for complex knowledge management. For joint action, actors in higher education institutions must develop a common understanding of the problems to be addressed and their causes (systems knowledge), they must agree on a judgment of the current situation and set goals for the future (target knowledge), and they must identify ways to solve the problems at hand (transformation knowledge). In addition to technical expertise, this requires knowledge about actors, structures, and processes in the higher education institution in order to determine the preconditions for successful implementation. Furthermore, it is insufficient for effective sustainability processes to draw upon knowledge in the higher education institution on an ad hoc basis. Instead, the higher education institution needs to create ways to continuously identify, generate, disseminate, and utilise knowledge in order to react adequately to emerging problems and facilitate longer-term learning processes. In addition to technical solutions, this calls for participation and networking to support knowledge transfer.

On the first level of progression in this dimension, the relevant knowledge is held by a limited number of individuals (see Table 4). On the next level, the existing knowledge is documented and made available to other actors. While in this case knowledge only flows in one direction, the subsequent levels increasingly include the mutual exchange and joint creation of knowledge. This involves creating opportunities for knowledge transfer, joint problem-solving activities and, ultimately, building the capacity to continuously process and use knowledge to support the sustainability process in the higher education institution in a longer-term perspective.

It was mentioned before that in assessing structures, the actual working processes associated with them need to be taken into account. This is especially relevant for the ‘knowledge’ dimension. The structures and procedures listed above are merely the ‘containers’ that serve to facilitate knowledge work in the higher education institution. Consequently, the existence of such informal and formal structures, while an important prerequisite, is merely the starting point, and the contents and processes of this knowledge work and their quality should be at the centre of the assessment in this dimension.

	Definition	Examples
5	Structures and procedures for continuous joint knowledge work are used to support the sustainability process in the long term.	• Dialogic forms of cooperation (e.g., committees) exist that provide room to work on sustainability-related issues in a long-term perspective (independent of present problems that require short-term solutions). • Comprehensive knowledge (inventory, analysis of problems and causes, analysis of actions and their effects) is generated and used to support the management and coordination of the sustainability process. • Sustainability reporting is linked to concrete sustainability-related measures and goals.
4	Structures and procedures for joint knowledge work aiming at (short-term) solutions to present problems are in place.	• Dialogic forms of cooperation (e.g., committees) exist that provide room to work on concrete actions toward sustainability (e.g., events, guidelines, courses, or projects). • Evaluations of specific activities/measures are carried out. • Sustainability reporting provides an analysis of sustainability-related issues and challenges.
3	Opportunities for knowledge exchange are in place.	• Research platforms that enable the sharing of individual knowledge have been created. • Conferences and colloquia on sustainability-related issues take place. • Transformative, participative, interactive courses focusing on sustainability issues are carried out.
2	Knowledge is documented and made available (unidirectional, without dialogue/exchange).	• A sustainability report is published. • Libraries and databases provide sustainability-related literature and information. • Sustainability-related training for employees and researchers is available. • Individual lectures and seminars on sustainability-related topics are held. • Handouts and guidelines on sustainability are provided, e.g., by the administration. • Formats such as newsletters or websites on sustainability exist.
1	Relevant knowledge is limited to individuals and/or projects and is not taken up by the higher education institution.	• Knowledge on sustainability issues is generated individually, e.g., thesis papers or research projects.

Table 4: The degree of governance in the area of knowledge (5 = high, 1 = low)

The Public

How is awareness of the need for sustainable development achieved in higher education institutions?

Making sustainability initiatives visible in public is an important part of sustainability governance in higher education institutions, because doing so creates the opportunity for stakeholders to observe issues, positions, activities, and their results, and to react to them. For instance, actors in higher education institutions can contribute to increased awareness and participation by demonstrating the need for action, communicating goals and measures, and reporting on progress made. Public attention also helps to reinforce the importance of sustainable development both within and outside the higher education institution, and to communicate sustainability as part of the institution's profile in relation to (potential) students and external partners.

On the lowest level, the public dimension involves active communication about sustainability by a small circle of individuals, mostly in their immediate professional surroundings (see Table 5). The second level is reached when individual faculties or other organisational units pursue a targeted communication approach. On the third level, such an approach addresses the whole institution as well as the external public. Ideally, this leads to sustainability becoming a characteristic part of the higher education institution's identity and, ultimately, the higher education institution's profile.

Making sustainability part of the higher education institution's public image was a particular point of discussion in the validation workshops. While the case studies included higher education institutions that built their entire identity around the issue of sustainability, some workshop participants argued that this was impossible for larger higher education institutions, which cannot focus solely on a single issue and for which it is more difficult to raise awareness of sustainability issues throughout the institution. The revised scale reflects these concerns, but also maintains that incorporating sustainability in a higher education institution's identity, both internally as well as in its public image, is an important functional requirement for the transformation toward sustainability.

	Definition	Examples
5	Sustainability is a central distinguishing feature of the higher education institution, both internally and externally.	• Specific faculties, departments, or the higher education institution as a whole carry the term sustainability in their names. • When new professorships are advertised, they are specified with sustainability in mind. • Local sustainability-related debates are taken up and shaped by members of the higher education institution. • Sustainability research and teaching are attractive for students and teachers.
4	Sustainability is a visible part of the higher education institution's conception.	• Sustainability is included in the higher education institution's mission statement. • The higher education institutions awards sustainability prizes. • Sustainability-related courses, lectures, and other events are open to external interested parties (pupils, senior citizens, etc.). • A sustainability report is published.
3	A coordinated approach exists to communicate sustainability issues within the whole institution and to the general public.	• Research platforms that enable the sharing of information on sustainability-specific issues have been created. • Conferences and colloquia on sustainability-related issues take place. • Transformative, participative, interactive courses focusing on sustainability issues are carried out. • The higher education institution's website provides information on its sustainability-related goals and activities.
2	Targeted measures are carried out by organisational units to communicate sustainability issues.	• Sustainability-related issues are addressed in newsletters by faculties, while administrative departments or projects address sustainability issues in newsletters or at specific events, press conferences, etc.
1	A small circle of individuals actively engages in (informal) communication about sustainability issues.	• Sustainability-related information is passed on to those directly affected (e.g., energy-saving in the administration). • Committed stakeholders share sustainability-related information with their colleagues.

Table 5: The degree of governance in the area of the public (5 = high, 1 = low)

Appendices

Appendices

Thematic overview of the six guides

Sustainability reporting (Work package 2)

Reporting as a cross-sectional task enables development steps and changes in the organisation to be mapped over time, and sustainability-related activities to be collated and discussed. In addition, reports support the higher education institution management as a management tool. The HOCH^N guide on the application of the higher education institution-specific sustainability code for sustainability reporting at higher education institutions presents examples based on the criteria of the German Sustainability Code, adapted for higher education institution concerns (HS-DNK).

Governance (Work package 3)

The cross-sectional area of governance deals with the structural conditions and institutional mechanisms of higher education institution sustainability. The findings presented in this "Sustainability Governance at Higher Education Institutions" guide are based on the evaluation of a comprehensive empirical study conducted at the eleven participating HOCH^N universities. Representatives from all areas of higher education were interviewed: students, researchers, the higher education institution management, administrative staff and sustainability coordinators.
The guide focuses on requirements for success in the implementation of sustainability at higher education institutions. In addition, measures of higher education institution sustainability governance are presented. This concerns in particular the establishment of structures and processes through which actors from all university fields of action are involved in the higher education institution's sustainability process and with which a transformative effect can be achieved in the long term.

Teaching (Work package 4)

In the field of teaching, the focus is not only on creating awareness among students for sustainability issues, but also on how the teaching and learning process can be structured holistically according to the ESD model. The HOCH^N guideline on education for sustainable development in higher education provides access to the core elements of ESD as well as to areas of tension, action and culture.

Research (Work package 5)

The HOCH^N guideline on sustainability in higher education research examines the landscape of sustainability-oriented higher education research with regard to its research priorities and key stakeholders, as well as research modes and essential scientific and practice-relevant findings. In addition, relevant fields of action and a selection of concrete instruments are identified for initiating, expanding and consolidating sustainability-oriented research at the researcher's own higher education institution. The common HOCH^N understanding of sustainability, which is intended to facilitate orientation and reflection both within and outside the network and thus represents an entry to the subject, was developed principally in the field of research.

Operations (Work package 6)

The guideline on sustainability in higher education operations provides a closer look at exemplary operating procedures at a higher education institution. These include procurement, waste management, mobility, buildings and energy management, controlling, research, event management, employment and communication.

Transfer (Work package 7)

Transfer is understood in a broad sense as reciprocal interaction between higher education institution and practical applications in the field. At many higher education institutions transfer takes place as a matter of course. The guide on transfer for sustainable development at higher education institutions shows how transfer can contribute to sustainable development and provide stimulus for the higher education institution. It provides an overview of various forms and formats of sustainability transfer in teaching and research. The guide supports teachers, researchers and students in classifying their transfer activities, and shows starting points for how sustainability transfer can be initiated, developed further and established in concrete implementation.

List of figures

List of abbreviations

BMBF	Bundesministerium für Bildung und Forschung (Federal Ministry of Education and Research)
BNC	Baukastensystem Nachhaltiger Campus (Sustainable Campus Modular System)
BNE	Bildung für Nachhaltige Entwicklung (Education for Sustainable Development)
DNK	Deutscher Nachhaltigkeitskodex (German Sustainability Code)
EMAS	Eco-Management and Audit Scheme
ESD	Education for Sustaibable Development
HS-DNK	Deutscher Nachhaltigkeitskodex für Hochschulen (German Sustainability Code for Universities)
DUK	Deutsche UNESCO-Kommission (Germany's UNESCO Commission)
FONA	Research for Sustainable Development (BMBF framework funding programme)
GAP	Global Action Programme
HIS-HE	Institut für Hochschulentwicklung e.V. (Institute for University Development)
HNEE	Hochschule für nachhaltige Entwicklung Eberswalde (Eberswalde University for Sustainable Development)
HOCH N	Sustainability at Higher Education Institutions, BMBF-funded project
HRK	Hochschulrektorenkonferenz (Conference of University Rectors)
SME	Small and medium-sized enterprise
KNU	Kompetenzzentrum nachhaltige Universität (Sustainable University Competence Centre)
LeNa	(Guideline) Sustainability Management at Non-university Research Institutions
RNE	Council for Sustainable Development
SDG	Sustainable Development Goal
SISI	Sustainability in Science
UHH	University of Hamburg
UNESCO	United Nations Educational, Scientific and Cultural Organization

List of references

Bauer, M., Bormann, I., Kummer, B., Niedlich, S., Rieckmann, M. (2018): Sustainability Governance at Universities: Using a Governance Equalizer as a Research Heuristic. In: Higher Education Policy 31 (4), S. 491–511. https://doi.org/10.1057/s41307-018-0104-x.

Bauer, M., Niedlich, S., Rieckmann, M., Bormann, I., Jaeger, L. (2020): Interdependencies of Culture and Functions of Sustainability Governance at Higher Education Institutions. In: Sustainability 12 (7), S. 2780, https://doi.org/10.3390/su12072780.

Niedlich, S., Bormann, I., Kummer, B., Rieckmann, M., Bauer, M. (2017): Governance-Verständnis des AP Governance. AP Gov. Arbeitspapier No. 1, http://www.hochn.uni-hamburg.de/-downloads/governance-verstaendnis1.pdf [30.06.2020].

Niedlich, S., Kummer, B., Bormann, I., Rieckmann, M., Bauer, M. (2017): Governance-Regler als Heuristik für die Analyse von Nachhaltigkeitsgovernance an Hochschulen. AP Gov. Arbeitspapier No. 2, http://www.hochn.uni-hamburg.de/-downloads/ap2-governance-regler.pdf [30.06.2020].

Niedlich, S., Kummer, B., Bauer, M., Rieckmann, M., Bormann, I. (2019): Cultures of sustainability governance in higher education institutions: A multi-case study of dimensions and implications. In: Higher Education Quarterly, 00, S. 1–18, https://doi.org/10.1111/hequ.12237.

Niedlich, S., Bauer, M., Doneliene, M., Jaeger, L., Rieckmann, M., Bormann, I. (2020): Assessment of Sustainability Governance in Higher Education Institutions – a Systemic Tool using a Governance Equalizer. In: Sustainability 12 (5), S. 1816, https://doi.org/10.3390/su12051816.

List of tables

Internet links

BNC Hochschule Zittau-Görlitz
www.hszg.de/de/hochschule/managementsysteme/umweltmanagement/baukastensystem-nachhaltiger-campus.html

BNE portal
www.bne-portal.de/en

COPERNICUS Alliance
www.copernicus-alliance.org

HNEE energy-saving campaign
www.hnee.de/de/Hochschule/Leitung/Nachhaltigkeitsmanagement/Klimafreundliche-Hochschule/ECHO-Projekt/ECHO-Projekt-K6132.htm

HRK and DUK declaration on sustainability
www.hrk.de/resolutions-publications/resolutions/beschluss/detail/towards-a-culture-of-sustainability/

EMAS
www.emas.de/meta/english-summary/

AP Governance working paper on the derivation of governance-regulating factors
www.hochn.uni-hamburg.de/-downloads/ap2-governance-regler.pdf

AP Governance working paper on the understanding of governance within the network
www.hochn.uni-hamburg.de/-downloads/governance-verstaendnis1.pdf

HOCH^{N}
www.hoch-n.org/en

netzwerk n
www.netzwerk-n.org

LeNa project website
https://nachhaltig-forschen.de

Sustainability at the Free University
www.fu-berlin.de/en/sites/nachhaltigkeit/index.html

Sustainability report of Leuphana University Lüneburg
www.leuphana.de/en/university/history/sustainability/sustainability-report

Sustainability guidelines of the University of Vechta
www.uni-vechta.de/uni/nachhaltige-hochschule/home/nachhaltigkeitsleitlinien/

The University of Hamburg's Sustainable University Competence Centre (KNU)
www.nachhaltige.uni-hamburg.de/en

German Sustainability Code
https://www.deutscher-nachhaltigkeitskodex.de/de-DE/Documents/PDFs/Leitfaden/2018-05-15-hs-dnk.aspx

Sustainability-oriented network in Bavaria
www.nachhaltigehochschule.de

Sustainability network for German higher education institutions
www.hochn.uni-hamburg.de/en/5-mitmachen

Transfer at the HNEE
www.hnee.de/de/Forschung/Transferzentrum/Transfer-Foerderung-K4696.htm

Imprint

Published by: Free University of Berlin, University of Vechta

Works cited:

Chapter – Introduction: Bassen, A.; Schmitt, C.T.; Stecker, C.; Schwart, C. (2020): Sustainability governance at higher education institutions. BMBF project "Sustainability at Higher Education Institutions: develop – network – report (HOCH^{N})", Hamburg.

Chapter – The underlying understanding of sustainability: Vogt, M.; Lütke-Spatz, L.; Weber, C.F. (conception and coordination) with the collaboration of Bassen, A.; Bauer, M.; Bormann, I.; Denzler, W.; Geyer, F.; Günther, E.; Jahn, S.; Kahle, J.; Kummer, B.; Lang, D.; Molitor, H.; Niedlich, S.; Müller-Christ, G.; Nölting, B.; Potthast, T.; Rieckmann, M.; Schwart, C.; Sassen, R.; Schmitt, C.T. und Stecker, C. (2020): Sustainability in university research. BMBF project "Sustainability at Higher Education Institutions: develop – network – report (HOCH^{N})", Munich.

All other chapters – : Bormann, I.; Rieckmann, M.; Bauer, M.; Kummer, B.; Niedlich, S.; Doneliene, M.; Jaeger, L.; Rietzke, D. (2020): Sustainability Governance at Higher Education Institutions. BMBF project "Sustainability at Higher Education Institutions: develop - network - report (HOCH^{N}), Berlin and Vechta.

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Pictograms HOCH^{N} fields of action: University of Hamburg

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Font used: Fira Sans, The Mozilla Corporation/bBox Type GmbH ; SIL Open Font License (OFL)
Layout: Marte Engels/Universität Hamburg & Werner A. Schöffel

Climate-neutral printing on 100 percent recycled paper.

Date: October 2020
www.hoch-n.org/en

The cross-sectoral field of governance deals with the structural conditions and institutional mechanisms of higher education institution sustainability. The findings presented in this guide are based on the evaluation of a comprehensive empirical study conducted at the eleven participating HOCH^{N} universities. Representatives from all areas of higher education were interviewed, including students, researchers, the higher education institution management, administrative staff and sustainability coordinators. The guide looks at the conditions required for the successful implementation of sustainability at universities. In addition, measures relating to sustainability governance at universities are presented. This concerns in particular the establishment of structures and processes which involve protagonists from all higher education institution fields of action in the development of sustainability at higher education institutions, and with which a transformative effect can be achieved in the long term.