



Hochschule für Angewandte  
Wissenschaften Hamburg  
*Hamburg University of Applied Sciences*



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***Transatlantic Symposium on Sustainable Development: North American and European Perspectives on Sustainability in Higher Education***

**The Integration of Sustainability into Teaching - Findings and Best Practice from a Study on the Implementation of Sustainability at Universities in Rhineland-Palatinate**

**Prof. Dr. Klaus Helling**

***Massachusetts Institute of Technology, Cambridge, MA, United States, 02.10.2023 – 04.10.2023***



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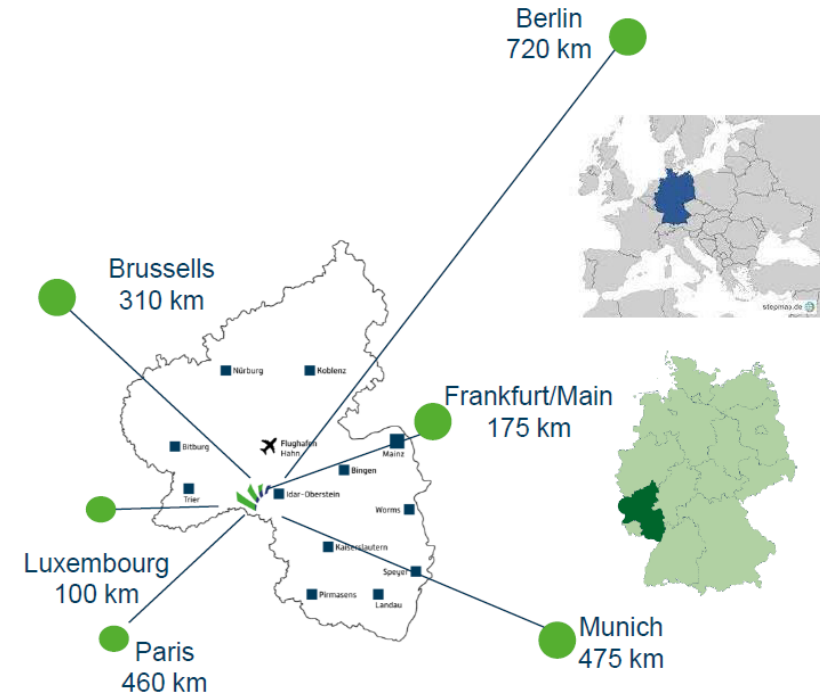
## ABOUT Klaus Helling

- Professor for Environmental Management
- Dean Environmental Business and Law
- Director Institute of applied Material Flow Management (IfaS)
- Sustainability Officer ECB
- Vice President “Future Council for Sustainable Development Rhineland-Palatinate”



Umwelt-Campus  
Birkenfeld

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T R I E R



ECB is located in a rural region in the heart of Europe



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## OUTLINE

1. Introduction
2. Purpose of the paper
3. Empirical Approach of the study in RLP
4. Results of the study in RLP and Best Practices
5. Conclusions and Recommendations



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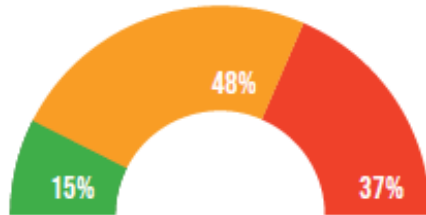
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# 1. INTRODUCTION

## A CONCERNING PICTURE OF SDG PROGRESS AT THE MIDPOINT:



- ON TRACK
- MODERATELY OR SEVERELY OFF TRACK
- STAGNATION OR REGRESSION

BASED ON AN ASSESSMENT OF SDG TARGETS WITH TREND DATA.

Source: UN (2023)

“Unless we act now, the 2030  
Agenda will become an epitaph for  
a world that might have been.”

— ANTONIO GUTERRES  
SECRETARY-GENERAL OF THE UNITED NATIONS

## Higher Education Act (HochSchG) RLP

§ 2 Tasks, para [7]:

The universities are committed to the principles of **sustainable development in the** performance of their tasks.

They promote the **sustainable treatment of** nature, the environment and people and work towards the conscious use of resources.

They participate in the implementation of the country's **sustainability strategy.**

Source: HochSchG (2020)



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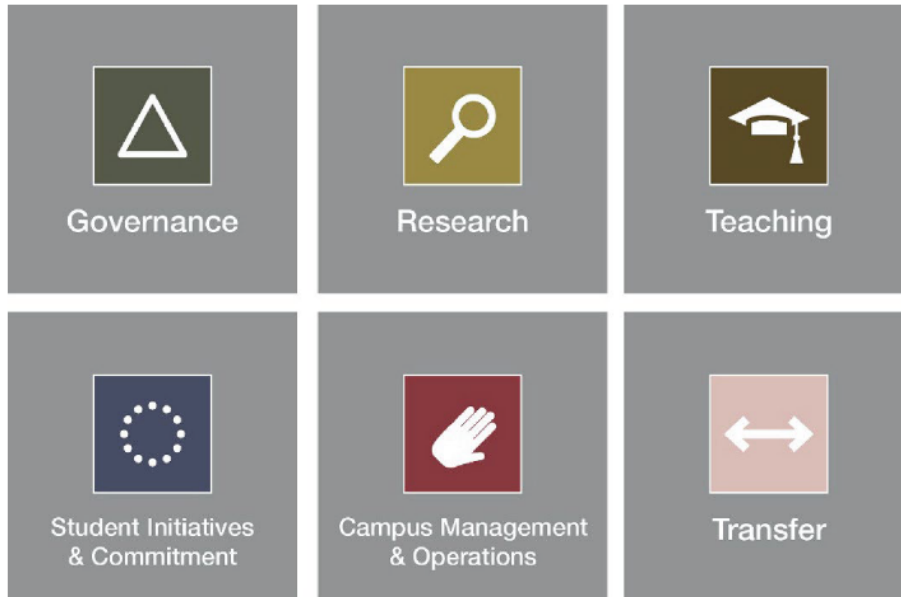


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# Whole-Institution Approach - "Living What We Teach!"



Source: Hemmer I., Lindau AK. (2021) Sustainability Concept (Whole-Institution Approach) of the Catholic University of Eichstätt-Ingolstadt (Germany).

## Overall institutional approach

- Governance
- Research
- Teaching
- Transfer
- Student engagement
- Operation

Source: German Association for Sustainability at Universities (2021)





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## 2. PURPOSE OF THE PAPER

- Summarize the results of a study in RLP that explored the implementation of sustainability at 11 public universities of this German State
- Provide Best Practice Examples of sustainability in teaching with a specific focus on the Environmental Campus Birkenfeld
- Discuss the lessons learned and the developed recommendations



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### 3. EMPIRICAL APPROACH OF THE STUDY IN RLP

1. **Basic research on** sustainability at universities
2. Development and coordination of an **interview guideline** for the inventory in RLP
3. **Desktop research** on the basis of the interview guide for the universities in RLP
4. Conducting standardized **surveys** based on developed interview guidelines at all universities with the following stakeholder groups: Presidium, teaching and research staff, facility management and students.
5. Preparation of a **status quo report** per university
6. Development of an **overall picture of sustainability** at universities in RLP (including a workshop)
7. Derivation of **recommendations** (incl. preparation of the overall report)





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## 4. RESULTS OF THE STUDY IN RLP AND BEST PRACTICES

SUSTAINABILITY AT UNIVERSITIES  
IN RHINELAND-PALATINATE:  
STAU QUO AND PERSPECTIVES

-

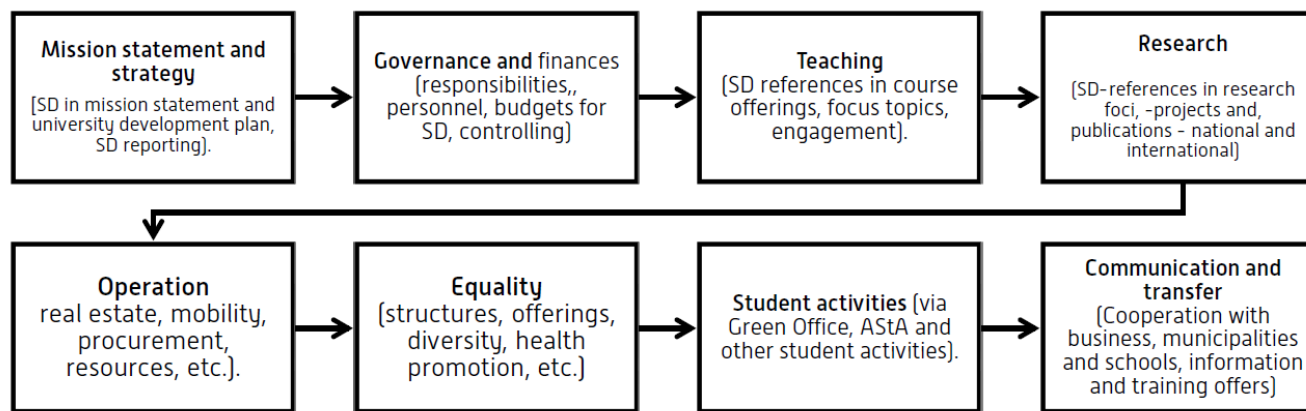
GENERAL REPORT

Birkenfeld, August 2023

Umwelt-Campus Birkenfeld | HOCHSCHULE TRIER | IfaS Institut für angewandtes Stoffstrommanagement



### Topics of the university reports



➔ *Whole Institution Approach*





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# Results: Mission Statement & Strategy

- Sustainability in the **mission statement** is considered in parts in 9 of 11 HEIs, but only in 5 of 11 HEIs explicitly as a concept
- Sustainability in **university strategy** included comprehensively & explicitly in 3 of 11 HEIs, included in 5 other HEIs in partial aspects ("indirectly").
- 4 out of 11 HEIs have established a **sustainability strategy**, all remaining HEIs plan to implement this for the most part in the short or medium term
- Student organized Green Office is available at 6 of 14 locations
- **Presidiums generally see themselves as having overall responsibility for sustainability**, but sometimes feel "trapped" in rules and structures and therefore wish for structural support for changes in all areas.



# First Results: Teaching

- In RLP, there are currently **1,136 degree programs**<sup>1</sup> at the eleven universities studied with **approx. 112,000**<sup>2</sup> students
- **How many of these courses are sustainability-focused and how can they be filtered out?**
- Search in "Studieren in RLP"<sup>1</sup> via the **program name**:
  - **Sustainable 13 hits Sustain 7 hits**
  - **Environment 51 hits Environ 5 hits**
  - **Ecolog 13 hits Ecolo 1 hit**
- References to sustainability can usually not be identified through the name of a study program, but through the content (modules, etc.)
- High expectations exist among students regarding sustainability as part of teaching

<sup>1</sup> <https://www.studieren-in-rlp.de/hochschulen/studienangebote-a-z/>

<sup>2</sup> [https://www.statistik.rlp.de/no\\_cache/de/gesellschaft-staat/bildung/pressemitteilungen/einzelansicht/news/detail/News/3683/](https://www.statistik.rlp.de/no_cache/de/gesellschaft-staat/bildung/pressemitteilungen/einzelansicht/news/detail/News/3683/)



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# Further Results: Teaching

- High awareness among all interviewees that sustainability must be the subject of teaching - and that (necessary) changes may need to be initiated.
- Sustainability-related degree programs are offered at all of the locations studied, with a focus on the "**environment**" area
- **In addition, there are sustainability-related modules in many degree programs**, some in the compulsory area and others in the elective or optional area, as well as extracurricular offerings
- Most Universities do not have a systematic internal overviews of their sustainability-related degree programs or lists of sustainability-related modules, projects, or degree theses





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# ENVIRONMENTAL CAMPUS BIRKENFELD



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## GREENMETRIC RANKING – Results of ECB 2022 and related projects

Category	Point	Maximum Point	Percentage
Setting and Infrastructure (SI)	1,175	1500	78.33 %
Energy and Climate Change (EC)	1,975	2100	94.05 %
Waste (WS)	1,575	1800	87.50 %
Water (WR)	950	1000	95.00 %
Transportation (TR)	1,700	1800	94.44 %
Education (ED)	1,750	1800	97.22 %
<b>Total Score</b>	<b>9,125</b>	<b>10000</b>	<b>91.25 %</b>

- => Green Buildings
- => Biodiversity on Campus
- => Solar Energy
- => Renewable Heat and Electricity
- => Repair Café
- => Integrated Water Concept
- => Solar Carports and Hydrogen
- => Sustainability in Research
- => Green Office
- => and many more ....

## BEST PRACTICE in teaching at ECB – embedded in a holistic approach

### Zero Emission Buildings and Infrastructure:

- Zero Emission energy and heat supply and innovative technologies in all buildings
- Students live and learn on this zero emission campus

### Research, development and education in one:

- Our professors are experts in their fields, with extensive careers in business, research and industry
- Students have direct contact with teaching and research staff – **our campus is our lab**

### Unique teaching philosophy:

- Interdisciplinary projects with external partners (e.g. companies, communities, NGOs)
- Sustainability first: environmental and social issues determine the curricula
- Living research: students participate right from the start
- **Traveling university** – worldwide projects for sustainable development





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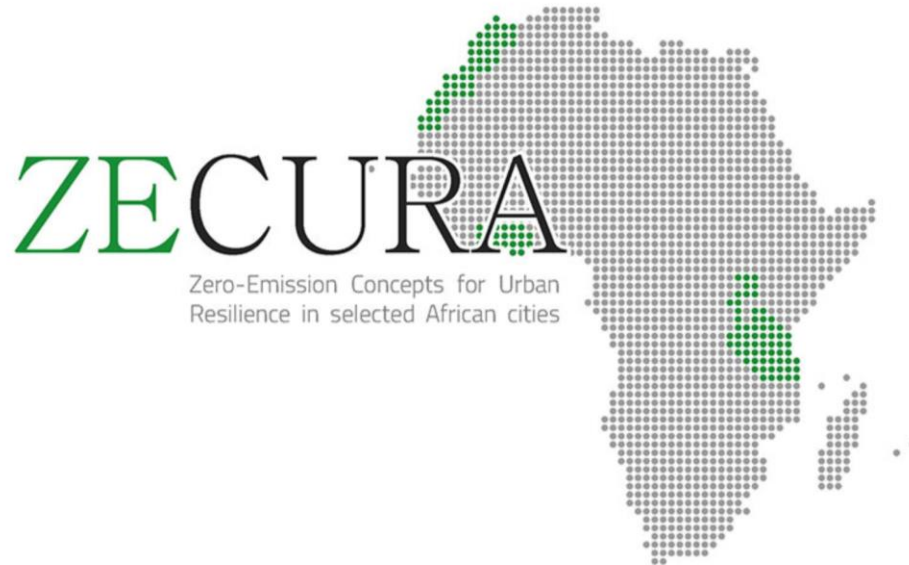


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## Travelling Universities in 5 Countries in Africa within ZECURA



ZECURA uses tools from the fields of Material Flow Management and Circular Economy to develop the resilience strategies.

The work is organized through [Travelling University](#) – an academic tool pioneered by IfaS.

It is a cost-effective research concept that brings together the expertise of academics, creativity of students, expectations of industrial key actors, and interests of regional stakeholders. Travelling University is a seminar designed specifically for Material Flow Management Analysis.

Find more: <https://zecura.info/>



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## 5. CONCLUSIONS AND RECOMMENDATIONS

Vision: All universities, (not only) in RLP, anchor sustainability individually and holistically

- **Governance** - each university implements sustainability in a whole-institution approach with **participation of** all groups
- **Teaching** - all students acquire competencies for shaping a sustainable transformation in their courses of study
- **Research** - the research strategy and all research projects set out how they can contribute to sustainable development
- **Transfer** - universities act as transformation engines in their region and beyond
- **Operation** - universities meet the goal of climate-neutral state administration by 2030 and establish a regular exchange of experience on best practices
- **Student engagement** - students are and will remain important drivers of sustainability at universities



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# Recommendations on teaching and research

- **Sustainability and ESD** are to be anchored in the **mission statement for teaching and in the curricula of all degree programs** in subject-related and/or interdisciplinary courses. A prerequisite for this is the implementation of an **internal inventory in the** universities of sustainability modules, continuing education courses and study programs.
- **ESD** should be integrated into **teacher education on a mandatory basis**.
- University didactic training **and continuing education programs for teachers** on the topics of sustainability and ESD must be established.
- **Sustainability and ESD** become a component or criterion of the **accreditation processes** of study programs.
- Sustainability should be anchored as a principle in the **research strategy**, the **research priorities**, and in all departments and institutes. The **sustainability relevance of third-party funded projects and publications** should be recorded.
- Universities support sustainability-oriented disciplinary, **inter- and transdisciplinary research** structurally, conceptually as well as methodologically and also promote cross-university **networking among researchers**.



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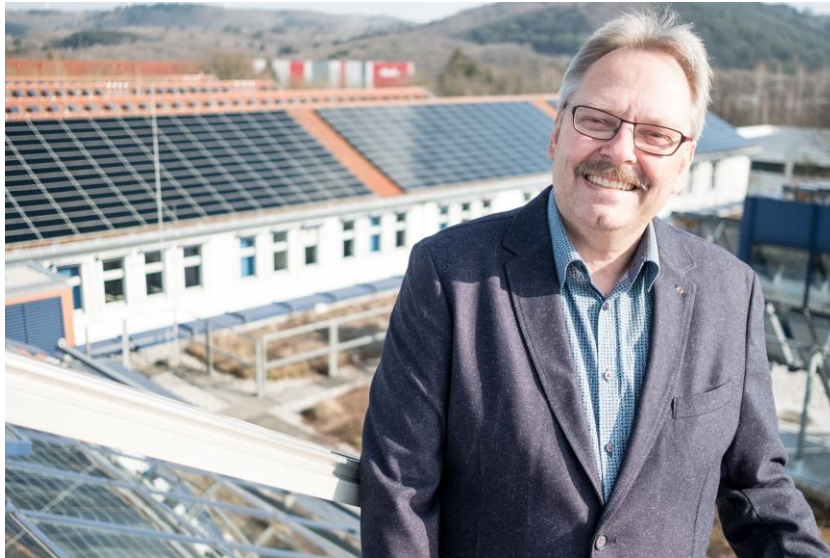


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# THANK YOU FOR YOUR ATTENTION!



Prof. Dr. Klaus Helling  
Trier University of Applied Sciences  
Environmental Campus Birkenfeld  
Germany

[k.helling@umwelt-campus.de](mailto:k.helling@umwelt-campus.de)

[www.umwelt-campus.de](http://www.umwelt-campus.de)