



WORLD
CONFERENCE

RHINE-RUHR 2025

FISU WORLD CONFERENCE

17-19 JULY 2025
JAHRHUNDERTHALLE
BOCHUM

ECOLOGICAL SUSTAINABILITY ON CAMPUS

KEY TOPICS

- | | |
|------------|--|
| 01 – TOPIC | What is sustainability? |
| 02 – TOPIC | Universities and Sustainability |
| 03 – TOPIC | Sustainability at Ruhr University Bochum |
| 04 – TOPIC | Sustainable Research |

01 – WHAT IS SUSTAINABILITY?

SUSTAINABILITY – DEFINITION

United Nations Brundtland Commission Definition of Sustainability:

“meeting the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland 1987)



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Source: De Neve / Sachs (2020)

02 – UNIVERSITIES AND SUSTAINABILITY

UNIVERSITIES AND SUSTAINABILITY

How universities facilitate social, environmental and economic development

The SDGs can be grouped into three broad areas: well-being, the environment and the economy. Universities play a central role in all three.

WELL-BEING



Access to quality education is crucial for sustainable development and a pre-requisite for the achievement of the other goals. Higher education facilitates social mobility, empowers people through critical thinking and provides them with the skills needed in a rapidly changing labour market.

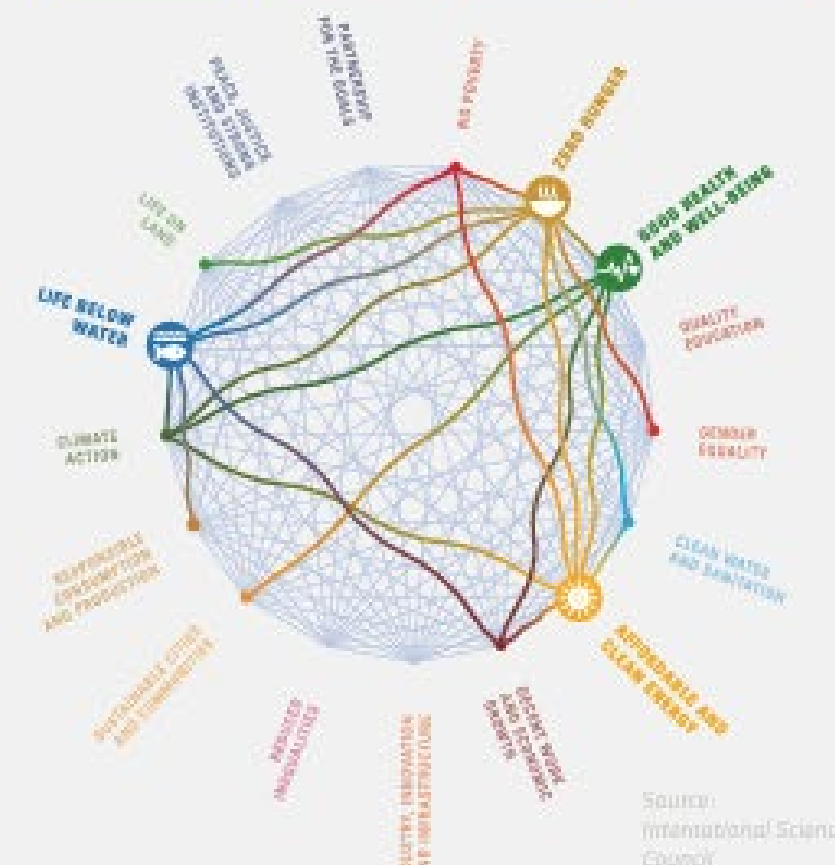
Higher education contributes in various ways to making people more resilient and able to face various challenges. Recent OECD statistics confirm that people with a higher education degree are less likely to be unemployed and earn on average 54% more than those who only completed upper secondary education. A university education, thus, better protects against poverty. Furthermore, the

data reveals that higher education graduates are less likely to suffer from depression, which is an important factor for health and well-being.

University hospitals play a key role in the public healthcare system. They train new generations of medical professionals, provide care to millions of patients and conduct research that helps find innovative solutions to cure or even prevent disease.

Universities are closely connected to their regions, playing a crucial role in the education, innovation, culture and civic life of their local communities. They are also major employers, making considerable economic contributions to their regions.

ENVIRONMENT



ECONOMY



Digitalisation, automation and globalisation are changing labour markets in a rapid and radical way. The demand for highly skilled people is increasing, making re-training and up-skilling ever more important. Today in Europe, about 40% of young people have a higher education degree and this is likely to increase, as will the role of universities in providing lifelong learning.

Universities conduct fundamental research that is crucial to understanding how nature and the earth's ecosystems function. They gather people from various disciplines, with different approaches and talents to find innovative solutions to the world's challenges.

Research produces evidence that is indispensable in identifying developments in climate change and global warming, as well as their impact.

Research is also crucial in understanding the interactions of various SDGs, identifying trade-offs and mutual reinforcements and developing a balanced approach in pursuing them. Interdisciplinarity is a key factor in this process.

Sustainable development is only possible if we radically change the way we produce and consume. Innovative solutions must be developed in a collaborative effort. Universities work with companies, other education providers and local stakeholders in this regard, often supporting business creation through start-ups. This makes higher education a key facilitator in open innovation. Universities also provide the international links and pipelines needed to nourish local innovation ecosystems and achieve sustainable growth.

Universities as role models for sustainability:

- With thousands of institutions worldwide, the collective potential impact is substantial.
- A defined governance structure and campus boundaries make implementation more feasible than in many sectors.
- By setting standards and showcasing success, universities can accelerate the sustainable transformation of cities, companies, and society.

SUSTAINABLE UNIVERSITIES

THREE MAIN DIMENSIONS OF SUSTAINABLE UNIVERSITIES

Sustainable Universities

Teaching and Research

*Train the next generation of
decision-makers and create
knowledge and solutions for
real-world problems*

Operations

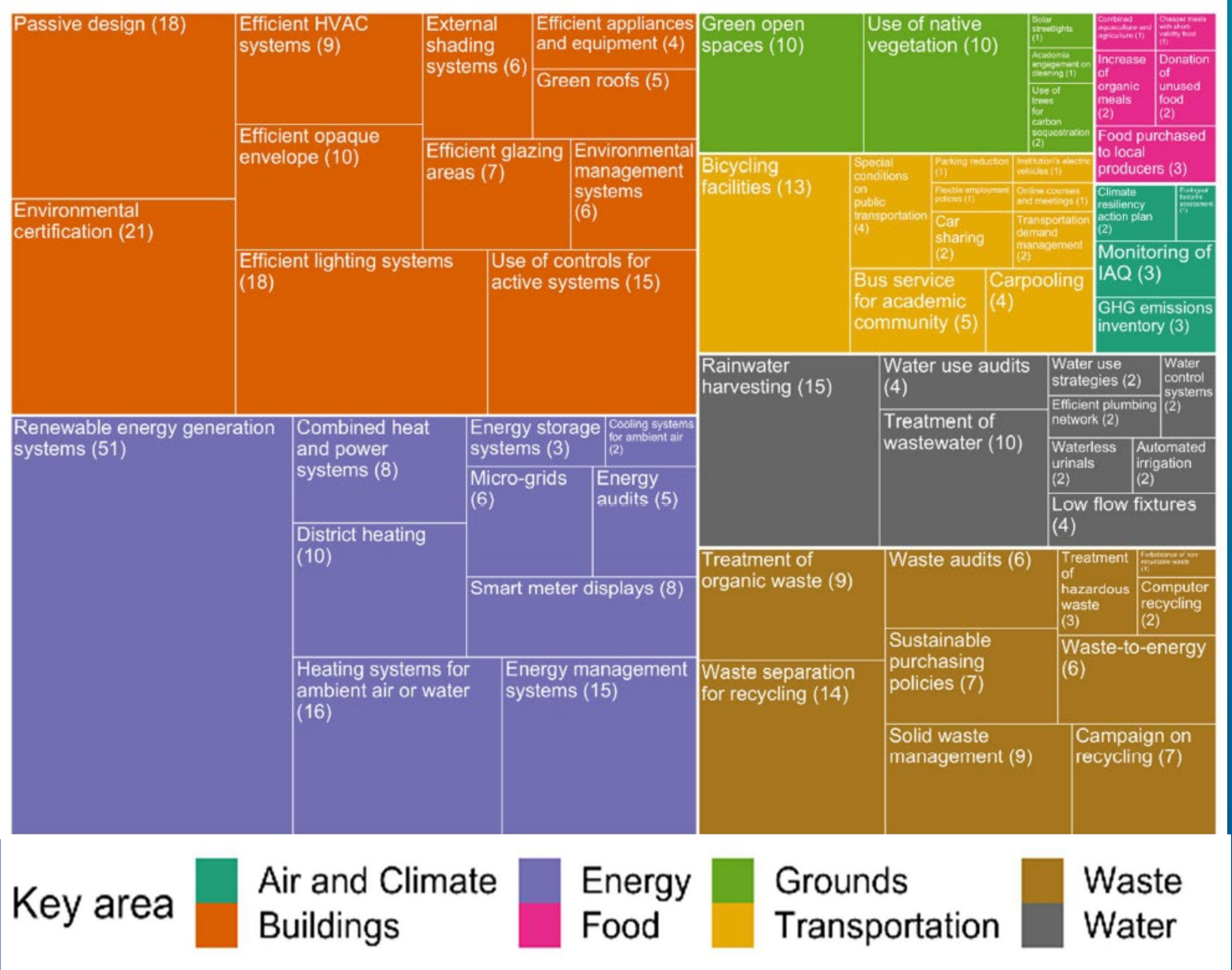
*Address challenges with the
physical built environment*
Food and Procurement
Mobility and Transportation
Energy and Climate

Governance

*Engage with politics,
business, and civil society*
Transparency

SUSTAINABILITY INITIATIVES IN UNIVERSITY CAMPUS OPERATIONS

IMPACT ACCORDING TO EIGHT KEY OPERATIONS SUBAREAS (PUBLICATIONS)



SOURCE: AMARAL, RODRIGUES, GASPAR, GOMES, A REVIEW OF EMPIRICAL DATA OF SUSTAINABILITY INITIATIVES IN UNIVERSITY CAMPUS OPERATIONS, *JOURNAL OF CLEANER PRODUCTION* (2020), [HTTPS://DOI.ORG/10.1016/J.JCLEP RO.2019.119558](https://doi.org/10.1016/j.jclepro.2019.119558)

RESEARCH IN SUSTAINABILITY: ENERGY

CREATE KNOWLEDGE AND SOLUTIONS FOR REAL-WORLD PROBLEMS

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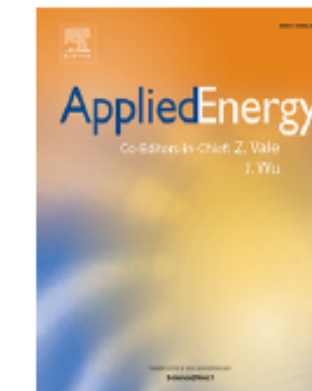
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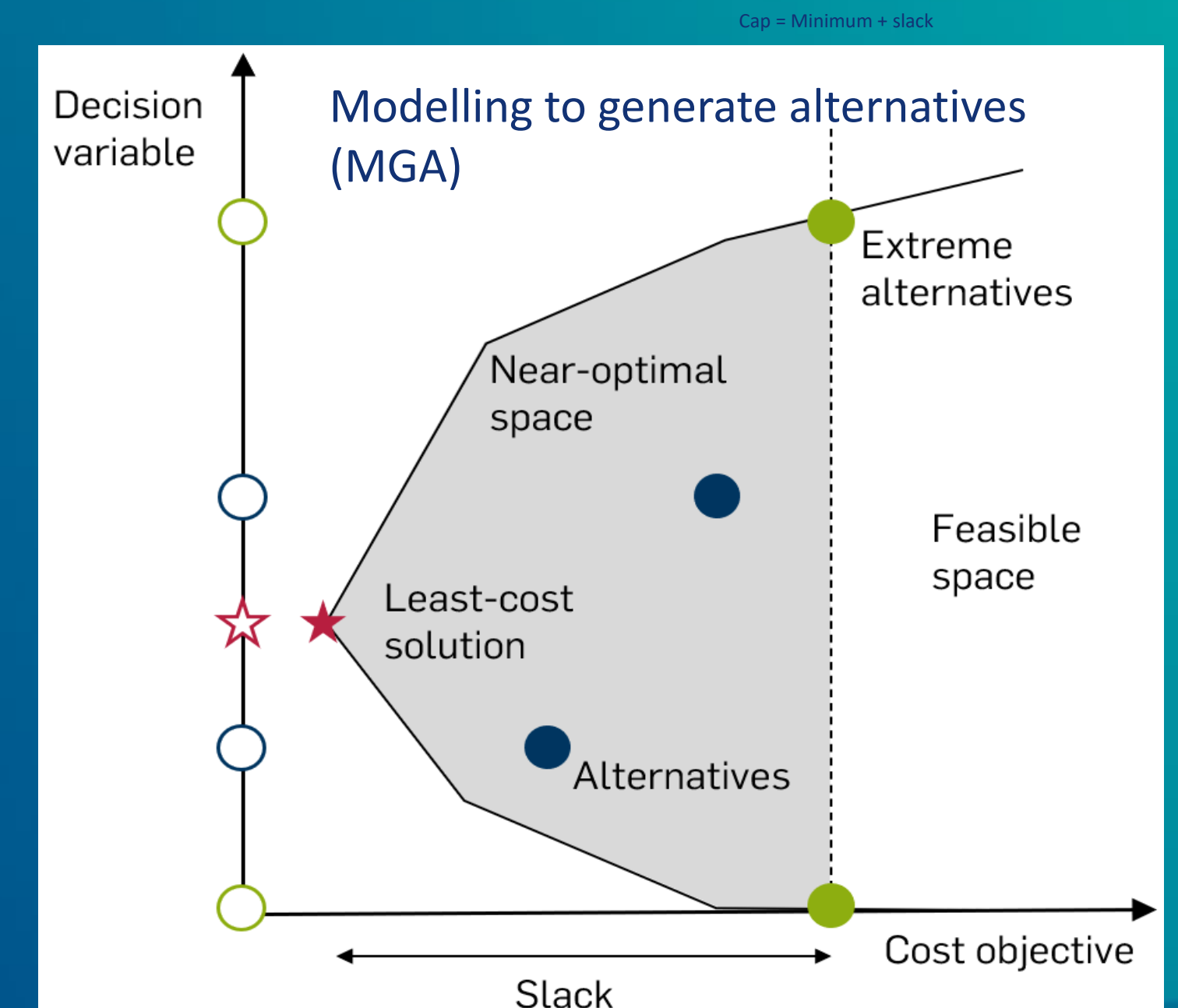


Participatory modelling to generate alternatives to support decision-makers with near-optimal decarbonisation options

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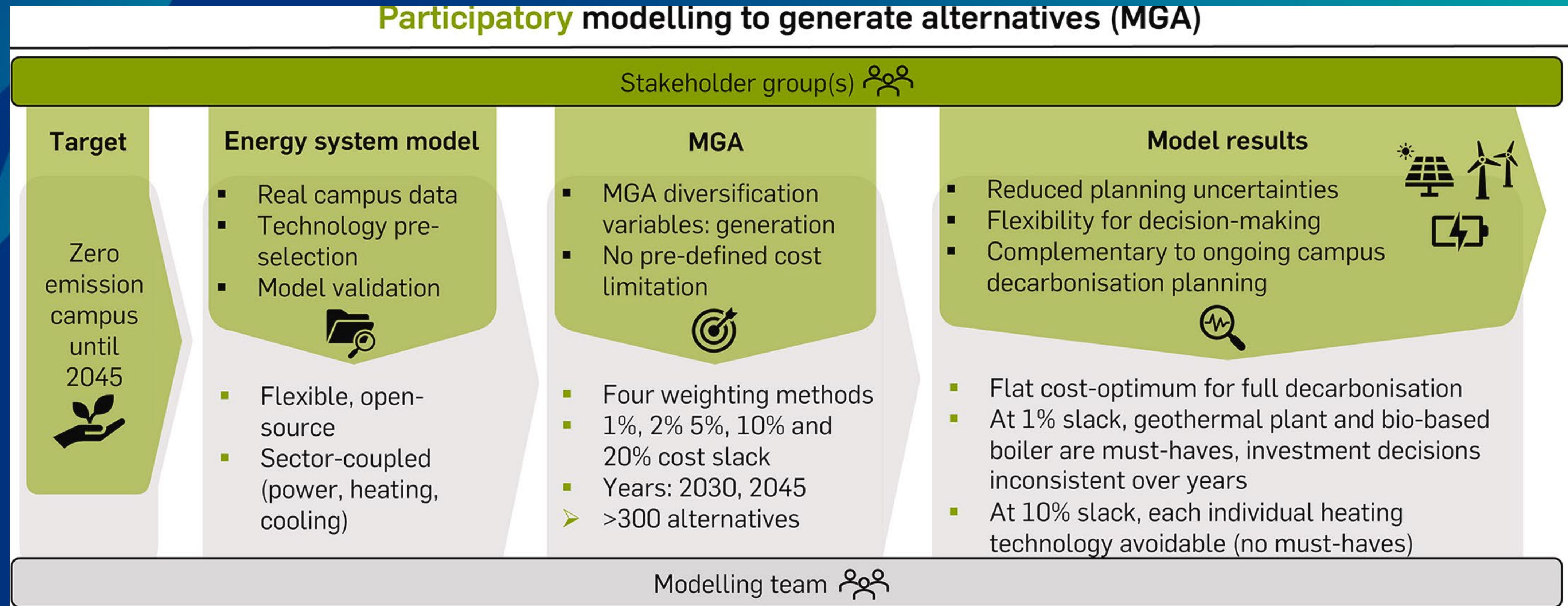
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RESEARCH IN SUSTAINABILITY: ENERGY

PARTICIPATORY MODELLING TO GENERATE ALTERNATIVES TO SUPPORT DECISION-MAKERS WITH NEAR-OPTIMAL DECARBONISATION OPTIONS

Participatory modelling to generate alternatives (MGA)



RESEARCH IN SUSTAINABILITY: DIETS

PROMOTING SUSTAINABLE FOOD CHOICES



Case Study: Sustainable Food Choices at the FISU Games

Research Question: What happens when we introduce and subsequently remove financial incentives for sustainable food choices?

Setting: FISU World University Games

Goals:
understanding short-term behavioral shifts;
understanding long-term effects of financial incentives: what happens after removal of it?

Source; Cinzia Franchini, Beatrice Biasini, Alice Rosi, Francesca Scazzina, Best practices for making the university campus a supportive environment for healthy and sustainable diets, Current Opinion in Environmental Science & Health, Volume 32, 2023, 100436

03 – SUSTAINABILITY AT RUHR UNIVERSITY BOCHUM

MOTIVATION

„NO SUSTAINABILITY WITHOUT UNIVERSITIES - NO UNIVERSITIES WITHOUT SUSTAINABLE DEVELOPMENT.“ (HOCHN, 2020)

social role model function

- Universities as drivers of sustainability transformation
- Universities as a factory of future in the decade of action

legal role model function

- Goal of climate-neutral state administration
- (Universities fulfill the role model function on their own responsibility)

German Rectors' Conference (Hochschulrektorenkonferenz)

- Establishment of a culture of sustainability on campus
- Consideration of sustainable development as key objective

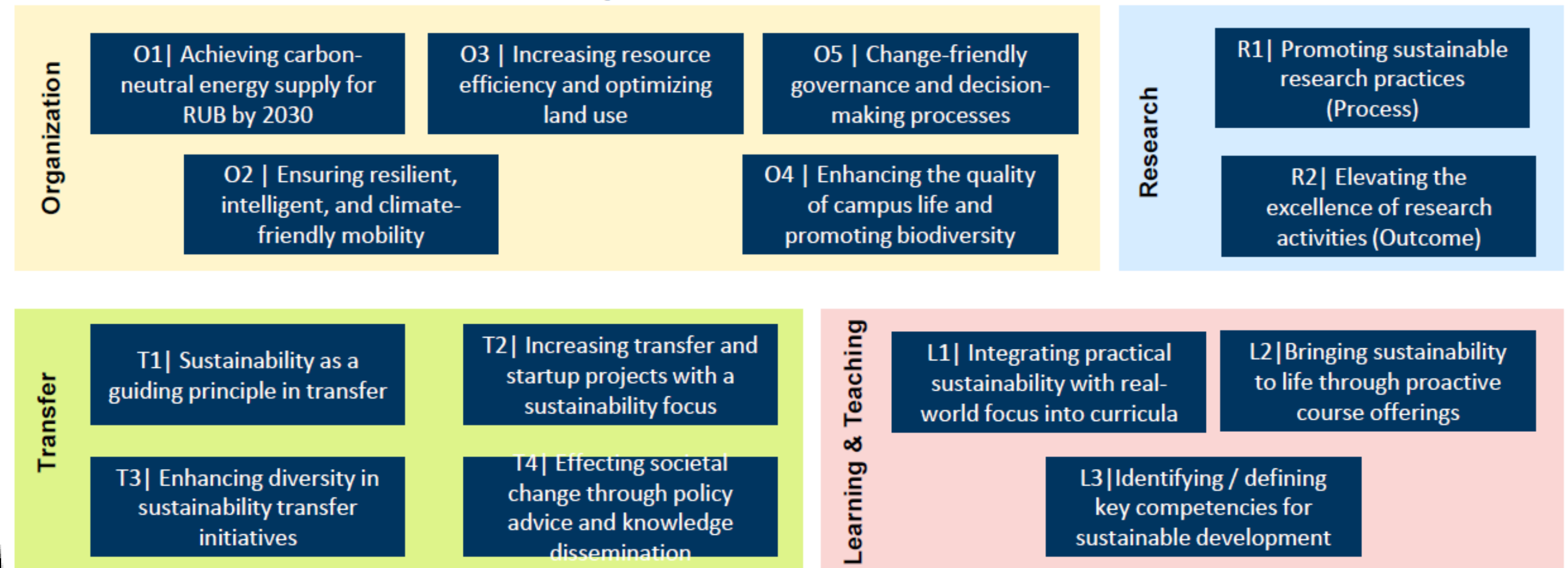
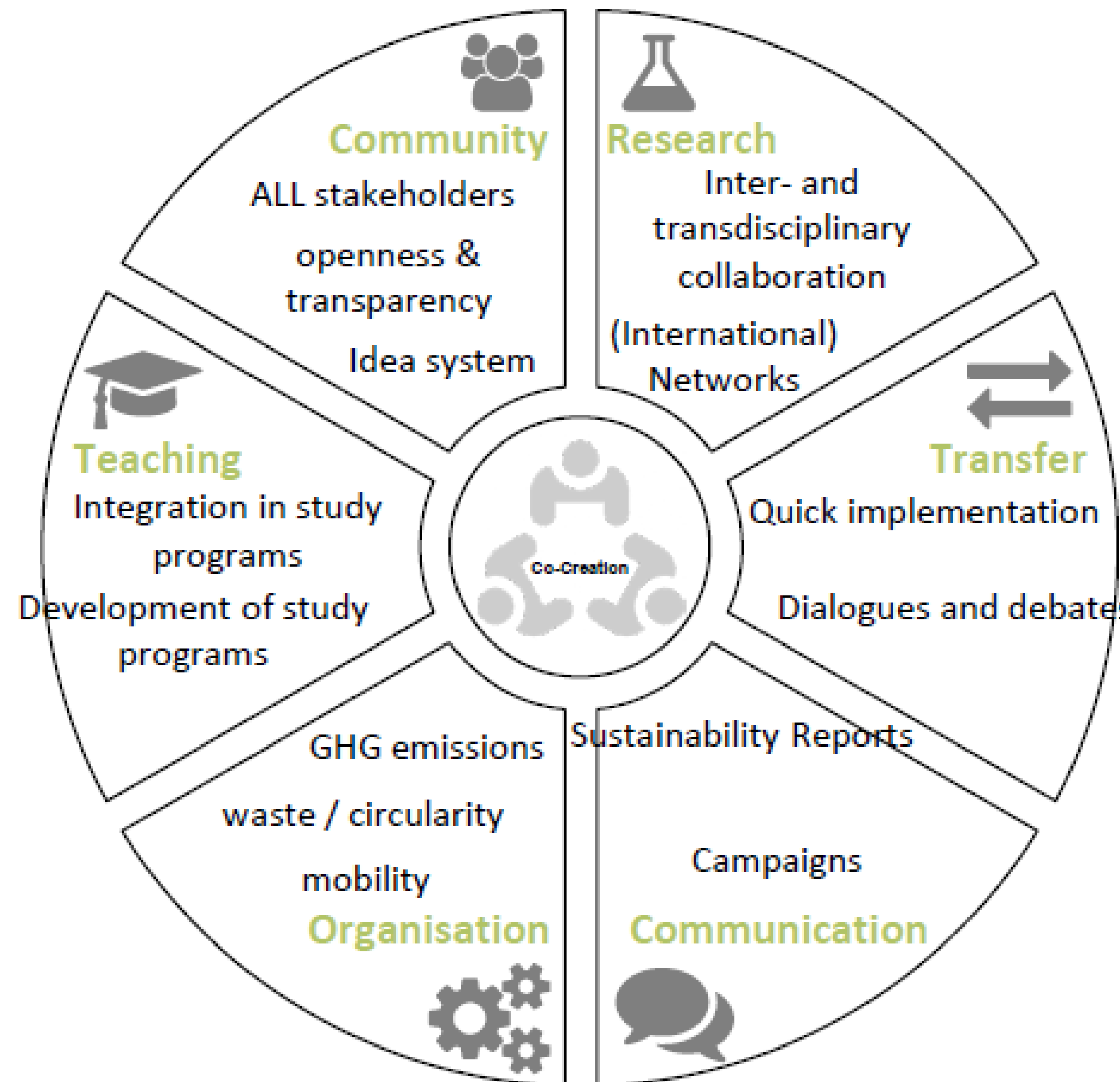
University Commitments

- Constitution of the RUB: Art. 2, para. 2 & 5
- Part of „university strategy plan 2020-2025“
- Mission Statement

SUSTAINABLE RUB 2030

MISSION STATEMENT, FIELDS OF ACTION, OBJECTIVES

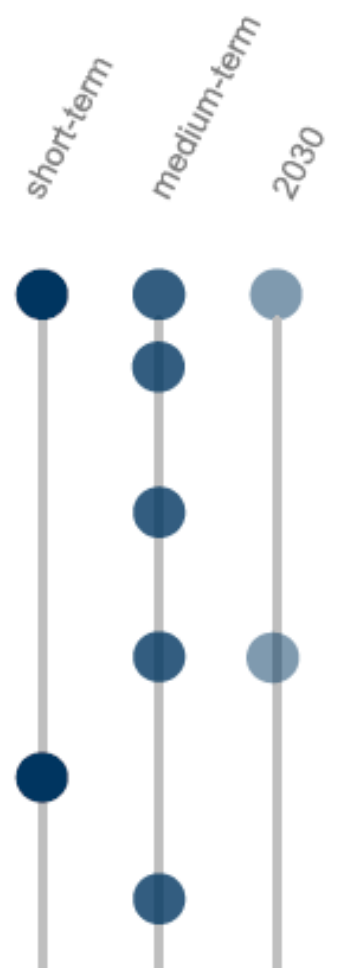
Fields of Action



O1 ACHIEVING CARBON-NEUTRAL ENERGY SUPPLY FOR RUB BY 2030

Impulses

O1.1	Establishment of an energy management system based on DIN EN ISO 50001
O1.2	Development of an energy strategy to increase the share of renewable energies in the supply mix, taking particular account of land and research potential (e.g. geothermal energy, wind power or power purchase agreements) and in cooperation with Bochum University of Applied Sciences
O1.3	Virtual mapping of the electricity system on campus and the establishment of a real laboratory on campus
O1.4	Preparation of a credible greenhouse gas balance in accordance with the Greenhouse Gas Protocol for Scope 1 and Scope 2 of the Greenhouse Gas Protocol
O1.5	Substantiated estimate of the greenhouse gas emissions of the main upstream and downstream emission categories in Scope 3 of the Greenhouse Gas Protocol



04 – SUSTAINABLE RESEARCH

RESEARCH SUSTAINABLE

10 SIMPLE RULES FOR DOING RESEARCH IN A SUSTAINABLE WAY

Rule 1 | Cherry-picking is allowed

Rome wasn't built in a day, and every little thing helps

Rule 2 | Be informed

training on environmental issues

Rule 3 | Prefer train over plane

main source of global CO2 equivalent emissions in several research institutes is travel

Rule 4 | Take advantage of remote particip.

Remote participation in conferences and webinars can be encouraged and facilitated

Rule 5 | Work collectively and reproducibly

sharing research material and results avoids waste in the form of duplicate efforts

Rule 6 | Encourage bottom-up initiatives

Researchers are creative. Let them implement ideas towards more sustainable practice

Rule 7 | Evaluate impact of your practices

environmental and social impacts of your research

Rule 8 | Sustainability research questions

Research aims to create new knowledge on sustainability issues

Rule 9 | Ecofriendly gestures

ecofriendly gestures contribute towards achieving up to 45% of the carbon footprint

Rule 10 | Raise awareness

raise awareness to convince and gain the support of others



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