



Education for resource efficiency and resource conservation in Higher Education

European Resources Forum, Session 12

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Universities in Germany – key points

- **394 universities** in Germany
 - 121 universities,
 - 216 universities of applied sciences, and
 - 52 art and music colleges (2019)
- **260,611 full-time employees**
 - there of 48,547 professors, 3,177 C4 professors (2019)
- **2.9 million students** (2019)
- About **19,839 study programs** (2019)

Source: Detatis (2018)

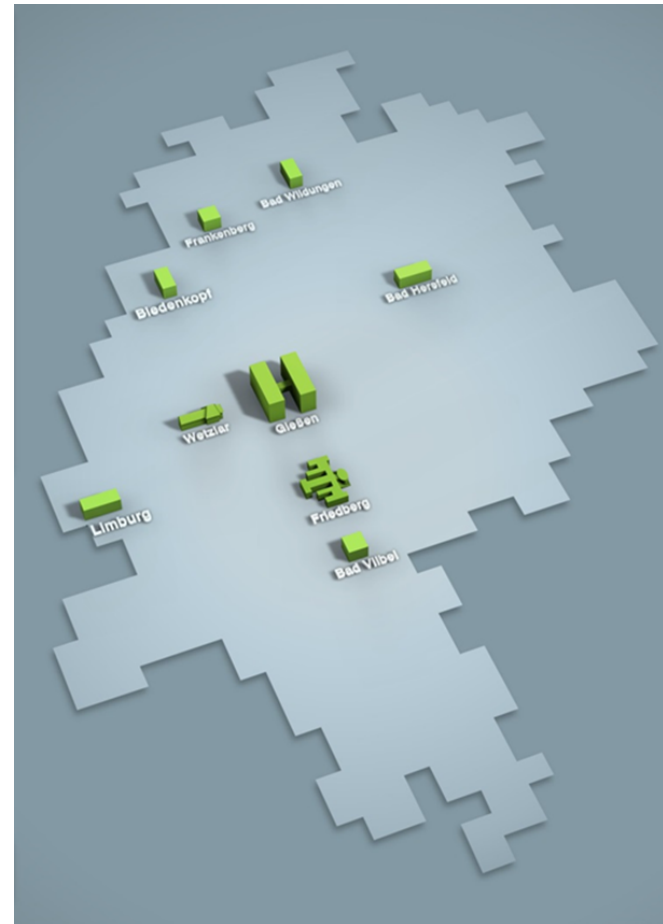
TH Mittelhessen – University of Applied Sciences

- 18.610 Students
- Gießen 11.100, Friedberg 5666, Wetzlar 1844
- 12 Faculties
- 81 degree courses
- 41 Bachelor's, 40 Master's Degree

Faculty Industrial Engineering and Management:

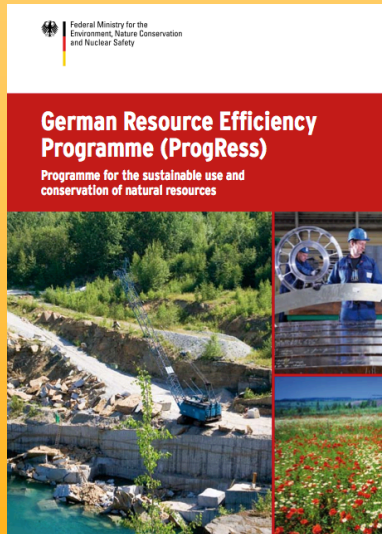
- Ca. 2.000 Students
- 4 degree courses (2 B.Sc., 2 M.Sc.)
- Life Cycle Management (B.Sc., M.Sc.)

Source: www.thm.de



Starting point for the research project BilRess 2012

ProgRess asks for educational changes which affect all areas in the educational system.



BilRess
education for
resource conservation and
resource efficiency

aims to contribute to the goals of resource policy through an educational strategy.



General Education



Apprenticeship



University



Vocational Training

*Bil in the akronym BilRess stands for Bildung (education)

BilRess Roadmap: Key results overarching perspective

Information and sensitization

- Establish BilRess-Competence Centre in existing structures
- Launch BilRess-Campaign
- Promote networking
- Interface management

Project development and incentives

- Conduct and promote resource projects
- Competition and awards



Support of teaching / learning

- Creating BilRess-Platform 2.0
- Developing teaching-/learning-materials
- Qualification offers

Formal anchoring

- Integrating R&R into formal educational regulations



BilRess Network: Activities and participation

BilRessNetwork
Education for **Resource** Conservation
and **Resource** Efficiency



A framework for the exchange of ideas concerning education for resource conservation and resource efficiency.
The BilRess-Network ist growing: already **577 members** (10/2020)

Events:

- Network Conference:
Twice a year, Berlin
and Frankfurt am Main
- BilRess-Local WS
- BilRess-Webseminar

The network offers:

- Information
- Newsletter
- WIKI
- Presentations
- Learning/Teaching
materials

Participation:

- Attend events
- Supply materials
- Contribute to
discussion
- Co-operation in
Events

BilRess-Research

- Jugend forscht
- Travelling exhibition
- Roadmap R&R
- Places of resource
education

BilRess inventory university – key points

- **394 universities** in Germany (121 universities, 216 universities of applied sciences, and 52 art and music colleges) (2019)
- About **19,839 study programs** (2019)
- Of these, only about **100 study programs** in which resource conservation and resource efficiency are explicitly dealt with, with a slight upward trend (initial survey 2012/13, subsequent surveys 2016, 2019)
- **Teaching-learning materials** and media on resource conservation and resource efficiency are only available to a very limited extent (freely available)

Quelle: Detatis (2018); hrk (2015), Rohn et al. (2013), (2019)

Conclusion

- Resource conservation and resource efficiency are not yet systematically and comprehensively anchored in German universities and study programs (Whole Institution Approach)
- The Bilress roadmap shows essential paths of action - across and within educational sectors
- The German resource efficiency program ProgRess has included education as an important approach
- Existing approaches to resource formation must be significantly expanded and extended to develop resource competence
- The large number of universities, study programs, training through the Bologna Process and densely packed curricula make implementation difficult
- The Bilress network offers a platform in Germany for resource formation - take part! (www.bilress.de)

Save-the-Date

16/03/2021 - 14th BilRess network conference

Resource-light information and communication technology. What kind of resource formation is needed?

You can find further information at www.bilress.de

Follow us on Twitter: @IZT_Future #BilRess

RessKoRo – Resource Competence for Raw Material Use in Global Value Chains:

An Exemplary Analysis Based on the Example of Study Programmes in Design and Engineering Sciences

- **Client/sponsor:** German Environment Agency (Umweltbundesamt – UBA), Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), FKZ 3701 6102 0
- **Project Partner:** Technische Hochschule Mittelhessen University of Applied Sciences; IZT – Institute for Futures Studies and Technology Assessment
- **Duration:** 09/2020 - 02/2023
- **Goal:** The project focuses on the global perspective of product development and production and combines the use of raw materials in value chains with the education of resource competence. The aim is to strengthen the resource competence in the study courses design and engineering sciences.
- **Budget:** 327.260 €
- **Online:** <https://wupperinst.org/en/p/wi/p/s/pd/930/>



Giljum et al. (2009).



Fanke, A. (2014)



Thank you very much for your attention!



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BilRessNetwork
Education for **Resource** Conservation
and **Resource** Efficiency

Further Information:
www.bilress.de

Das BilRess-Netzwerk wird im Rahmen des „Kompetenzzentrum für Ressourceneffizienz“ betrieben,
der bei der VDI Zentrum Ressourceneffizienz GmbH (VDI ZRE) angesiedelt ist.

Im Auftrag des:

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Ressourceneffizienz**

izt Institut für
Zukunftsstudien und
Technologiebewertung

 Bundesministerium
für Umwelt, Naturschutz
und nukleare Sicherheit