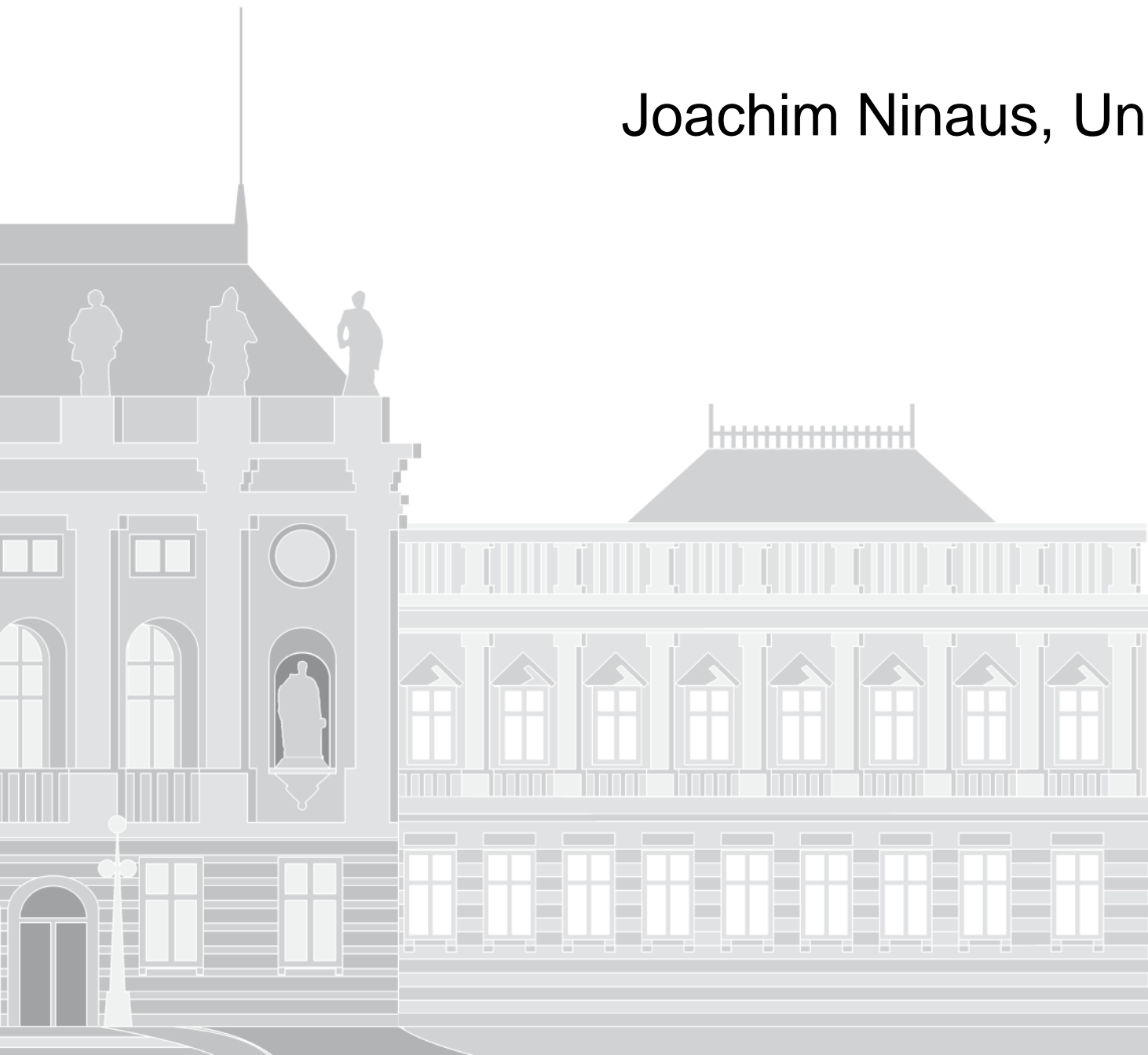


# Institutional leadership and sustainable development goals

Joachim Ninaus, University of Graz



13. May 2019

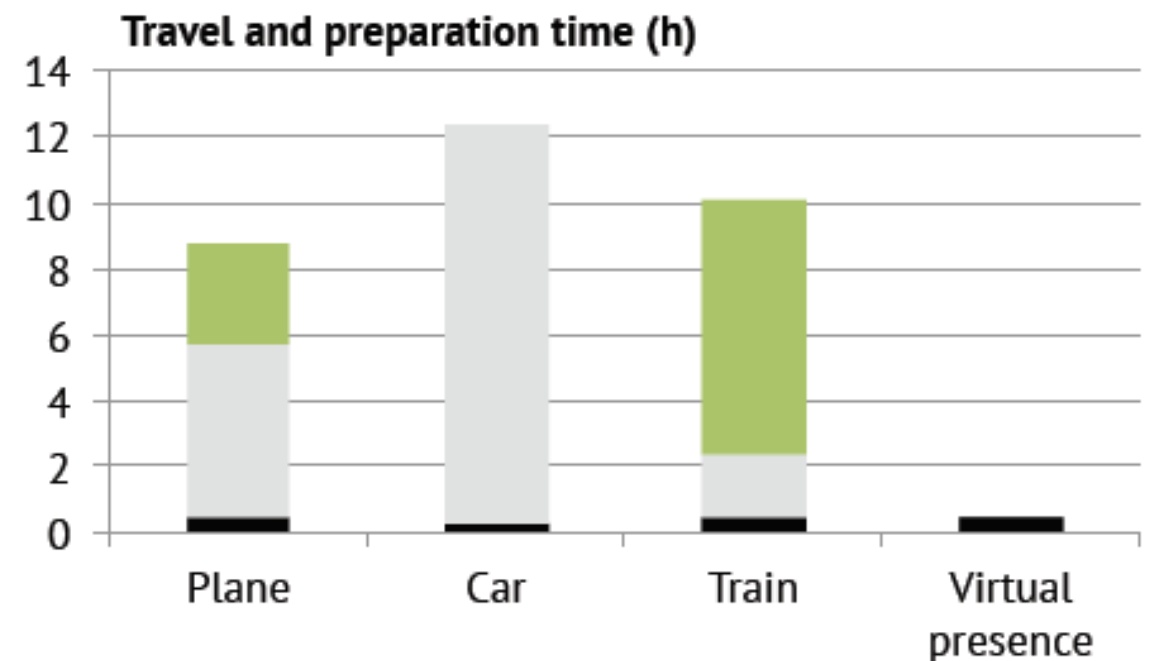
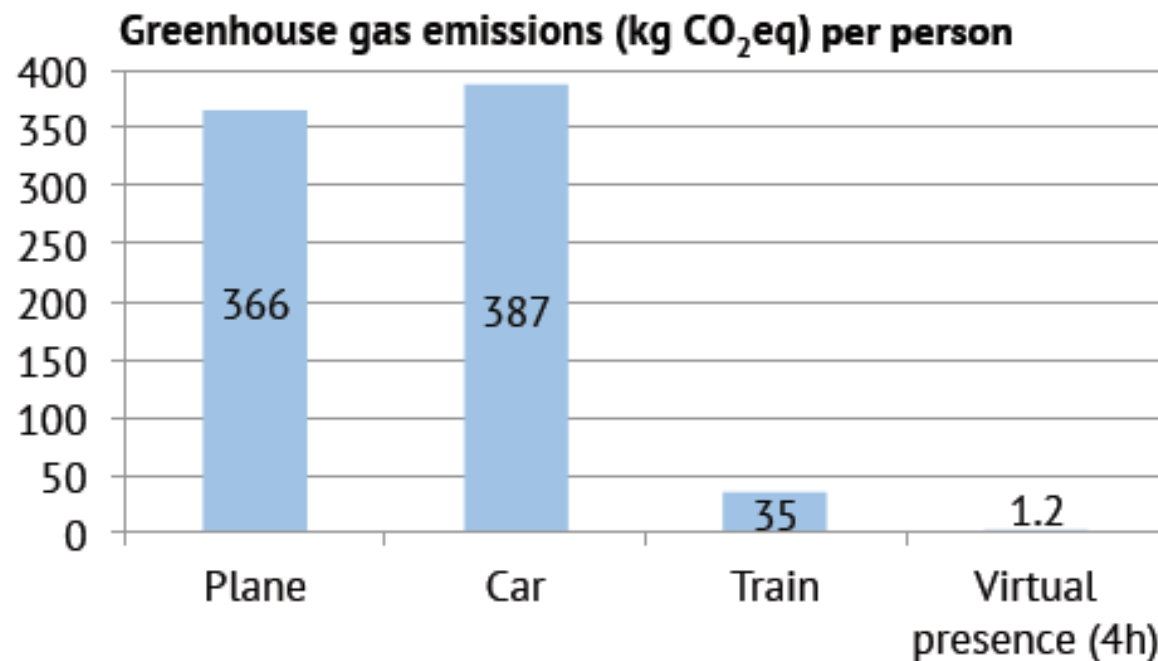
Humane, Utrecht University

The Sustainability Summit

# Journey Graz-Utrecht-Graz

## Example: Business trip from Zurich to Paris and back

Greenhouse gas emissions in CO<sub>2</sub> equivalents and time requirement for a journey from UZH Zentrum to Paris Gare du Nord and back (2x600 km). Figures are based on a full life cycle assessment.<sup>3</sup> Medium occupancy rates are assumed for airplane and train, single-person occupancy is assumed for car. Further assumptions and sources: plane<sup>4</sup>, car<sup>5</sup>, train<sup>6</sup>, virtual presence<sup>7</sup>.



Source: Sustainability Factsheet 2018,  
University of Zurich





Source: Thomas Blass (Utrecht, 2015/16)





Social Justice





**81 % fossil energy sources (IEA 2018)**  
**Environment Protection = No Oil, Gas, Coal, Uran**

# The Sustainable Development Goals



<http://www.un.org/sustainabledevelopment/>



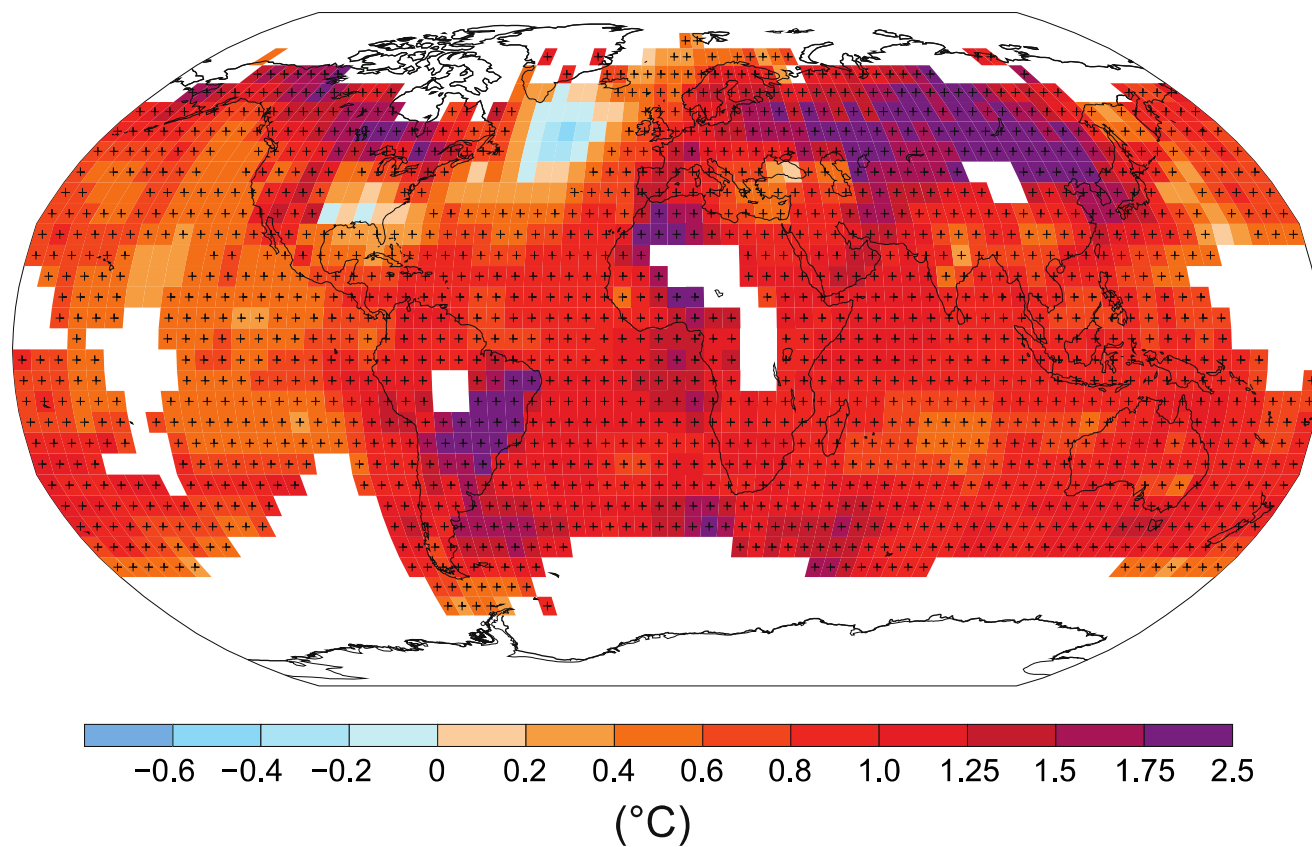
# 2030 Agenda for Sustainable Development

... mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind.



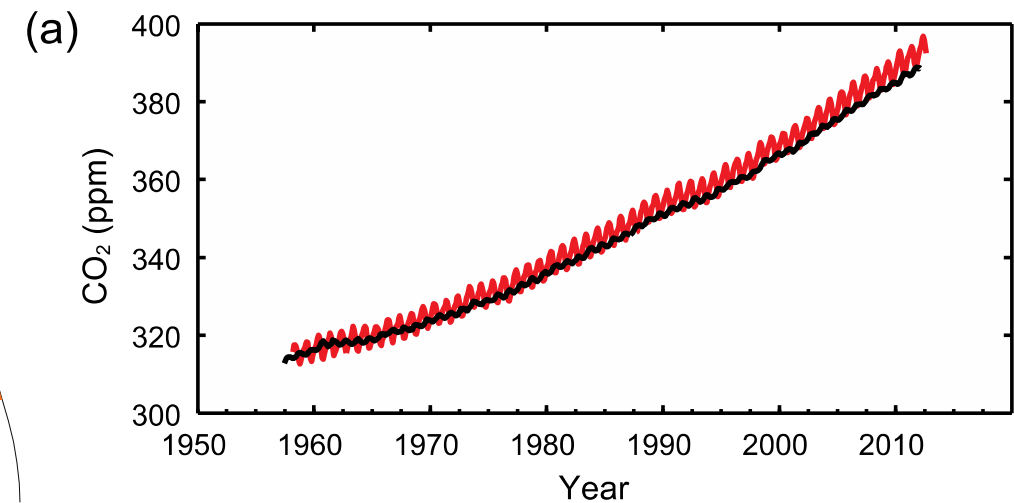
# Climate Change as a problem of the present age

Observed change in surface temperature 1901–2012

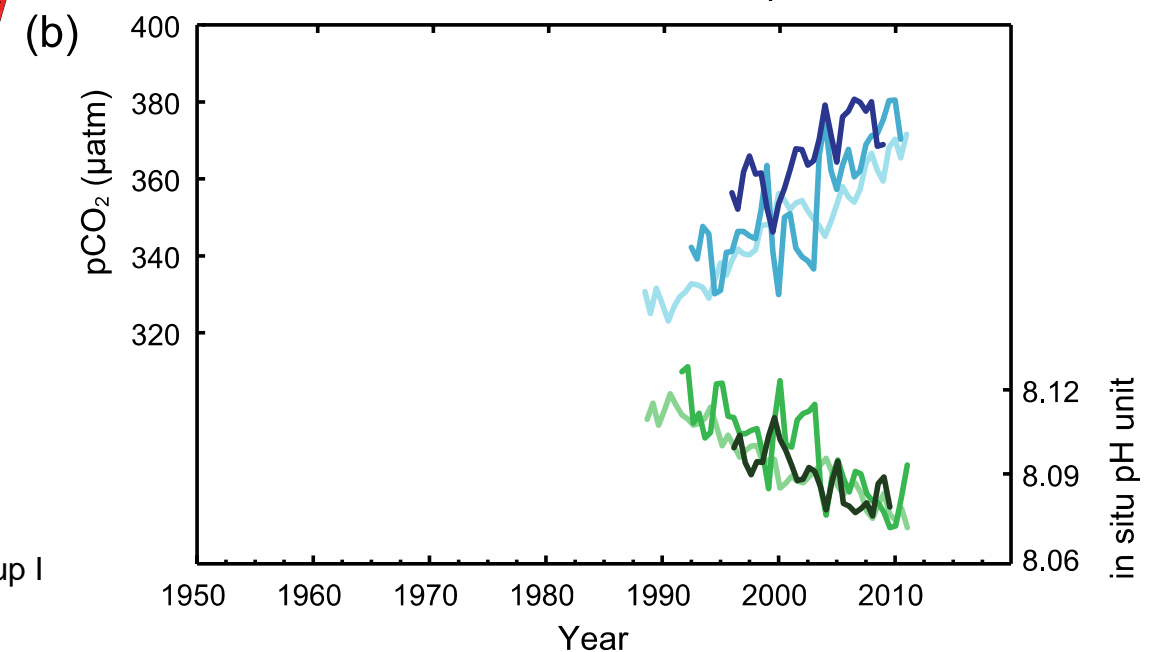


IPCC, 2013: Climate Change: The Physical Science Basis. Contribution of Working Group I

Atmospheric CO<sub>2</sub>

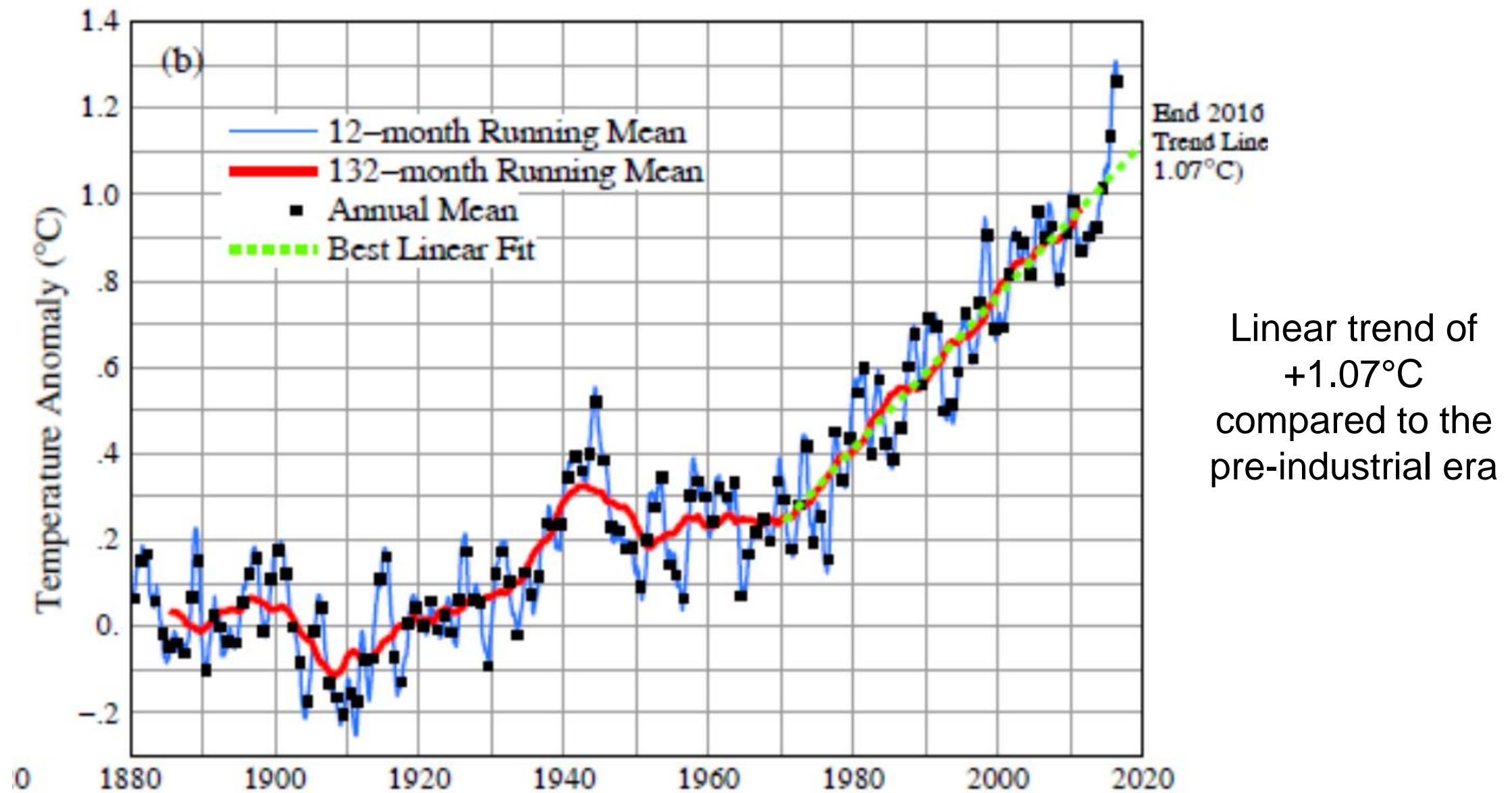


Surface ocean CO<sub>2</sub> and pH





# Change on temperature (1880-2016)



IPCC, 2013

# Effects: Rising Sea level



sea level rise  
by 2100:  
0.75 to 1.9 m

IPCC, 2013



# Effects: Migration (example Syria)

Drought 2006 – 2011: 60 % of the country was affected, poor harvests, herds decimated in the amount of 85 %

1.3 million people went to cities → without any outlook  
→ explosive situation

Short-sighted agricultural policy; repressive system

Climate change never the sole cause, but triggers or aggravates ...

[Source: Gleick, 2014, President of the Pacific Institute; <http://www.rawscience.tv/water-drought-climate-change-understanding-the-war-in-syria/>]



# Parts of the solution

**Rethinking values:** which ones can we still afford?

Quantitative economic growth?

Compound interest?

GDP as a benchmark?

Shareholder instead of stakeholder value?

...

→ CULTURAL  
CHANGE!

## Thinking long-term

Evaluations that go beyond legislative periods

Long-term development instead of quarterly reports

Global justice and/or for future generations



# Parts of the solution

Moving away from a **standard of life** – measured according to one's income, car, holiday-trips, TV screen, mobile phone, watch, ...

→ based on material wealth that uses up resources and energy

→ **CULTURAL  
CHANGE!**

Towards **quality of life** – measured on the basis of satisfaction and happiness ...



<http://www.gotgreencountertops.com/sustainable-living-way-future/>

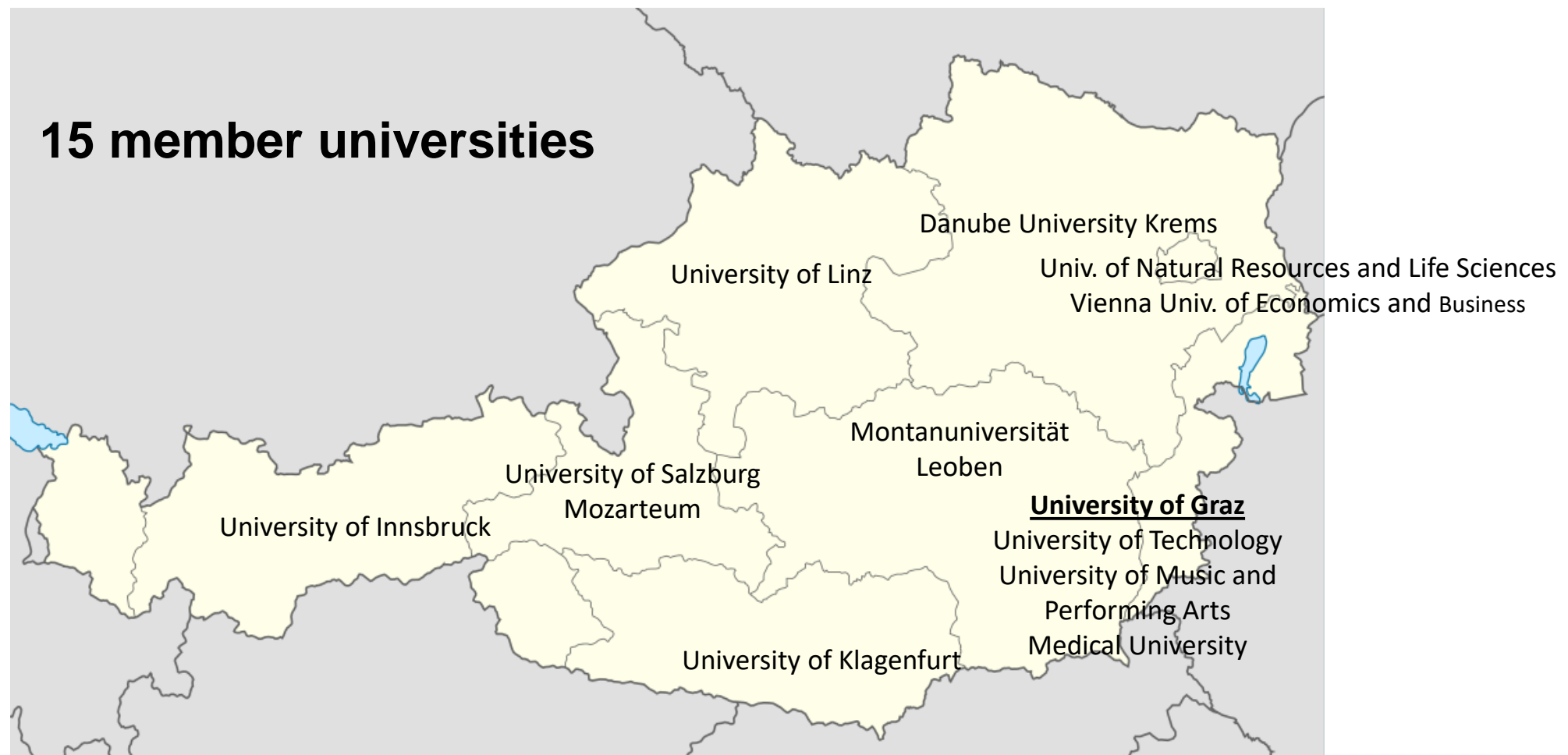


*Alliance of*  
**SUSTAINABLE  
UNIVERSITIES**

*in Austria*

*funded 2012*

**15 member universities**



<http://www.sustainableuniversities.at/>



# Objectives

Anchoring sustainability issues at universities and thus to contribute to a sustainable society

Exchange good practice-experiences and to start joint activities in the fields of

- research
- operations
- society/knowledge transfer
- education
- identity

# Committment

All member universities are obliged to develop a **sustainability concept** at their universities

**Part of the performance agreements** between universities and the Federal Ministry of Education, Science and Research



*Alliance of*  
**SUSTAINABLE  
UNIVERSITIES**  
*in Austria*

<http://www.sustainableuniversities.at/>

UNIVERSITY OF GRAZ

# Handbook Sustainability Concepts at Universities

## Quality criteria:

- All three dimensions
- SMART goals
- Defined objectives and indicators
- Timetable for implementation
- Institutionalised monitoring process



## Participatory process

## Exemplary objectives and measures for 7 thematic areas

- Research, - Education, - Operations, - Strategic development, - Financial management, - Organisational culture / social responsibility, - Public relations



<http://www.sustainableuniversities.at/>

UNIVERSITY OF GRAZ



# Development Plan for Austria

„d) Integration of the principle of sustainability into the development plan of the University“

- Empower students with skills to find solutions to the „Grand Challenges“ (climate change, nutrition safety, energy supply, biodiversity, demographic change, social justice, migration, ...)
- Integrate the principles of sustainability in contents of teaching and research
- Prefer interdisziplinäre research



Alliance of  
**SUSTAINABLE  
UNIVERSITIES**  
in Austria

<http://www.sustainableuniversities.at/>

UNIVERSITY OF GRAZ

# Model of the „performance agreement“

Universities have to implement „Concepts of Sustainability“ and „Concepts of Education for Sustainable Development“ in the performance agreement application.

The transformation of the 17 SDGs of the Agenda 2030 is a central mission of the Universities.



Alliance of  
**SUSTAINABLE  
UNIVERSITIES**  
in Austria

<http://www.sustainableuniversities.at/>

UNIVERSITY OF GRAZ



# Topics of Working Groups

- CO<sub>2</sub>-neutral Universities  
(Climate Friendly Climate Research)
- EMAS (European Eco-Management and Audit Scheme)
- Sustainability Entrepreneurship
- Sustainable Mobility
- Sustainable Procurement
- Education for Sustainable Development (ESD)
- Financial Management



<http://www.sustainableuniversities.at/>

UNIVERSITY OF GRAZ

# Objectives and measures

Exemplary objectives	Exemplary measures
Thematic area: <b>Education</b>	
More students dealing with sustainability issues	Establishing general sustainability courses
Thematic area: <b>Research</b>	
More sustainability in the implementation of research projects	Lobbying activities in funding agencies for sustainability research (national and European)
Thematic area: <b>Operations</b>	
Reduced energy and resource consumption on campus	Establishing Sustainability coordinator / Green office / Compensate model



<http://www.sustainableuniversities.at/>

UNIVERSITY OF GRAZ



# Objectives and measures

Further examples:

- Participatory development of a sustainability vision (**strategic development**)
- Check opportunities to collaborate with eco-banks (**financial management**)
- Reflection on implicit or explicit core values within the university and its deptm/institutes/facilities (**organisational culture / social responsibility**)
- Stakeholder analysis / networking (**public relations**)



Alliance of  
**SUSTAINABLE  
UNIVERSITIES**  
*in Austria*

<http://www.sustainableuniversities.at/>

UNIVERSITY OF GRAZ

# Options paper for the achievement of the SDGs in Austria („UniNETz“):

→ listing of consistent options for actions **for  
the Austrian government until 2020**

Beteiligung	SDG																
Universität	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
AAU				Green			Yellow					Yellow	Yellow			Yellow	
BOKU	Yellow	Green		Yellow		Green	Yellow				Yellow	Yellow	Yellow		Green		
DUK				Yellow						Yellow	Yellow	Yellow	Yellow		Yellow		
JKU	Yellow			Yellow		Yellow	Green	Yellow	Green	Yellow	Yellow	Green				Yellow	Green
KFU				Yellow							Green		Yellow				
KUG				Yellow	Yellow												
MDW			Yellow		Yellow						Yellow						
MUL				Yellow			Blue					Blue	Yellow				
MOZ				Yellow	Yellow												
MUI			Green														
PLUS	Green			Yellow						Green							
TUG				Yellow		Yellow	Yellow		Yellow		Green	Yellow	Yellow				
UAK	Yellow			Yellow	Yellow			Green			Yellow					Yellow	
UIBK				Green							Yellow		Green		Yellow	Green	
VETMED																	



Alliance of  
**SUSTAINABLE  
UNIVERSITIES**  
in Austria

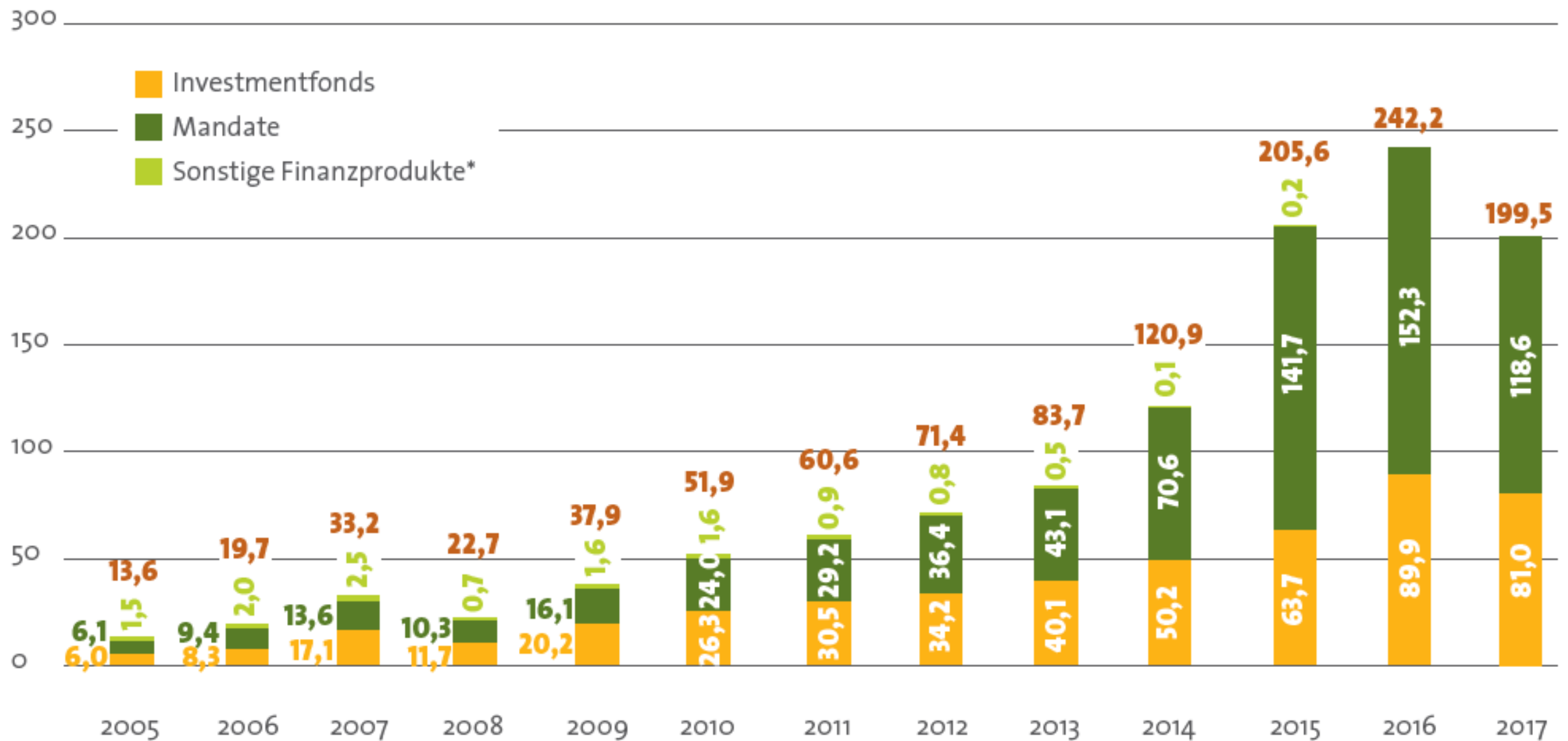
<http://www.sustainableuniversities.at/>

UNIVERSITY OF GRAZ



# Sustainable Investments

(AUT, GER and SUI; in billion Euro)



Source: Forum Nachhaltige Geldanlagen 2018, [www.forum-ng.org](http://www.forum-ng.org)



## Facts

- Founded 1585
- 32,500 students
- 120 study programmes
- 76 Institutes
- 11,500 courses
- 5,100 beginners
- 3,500 graduates
- 4,200 employees (3,100 of which are researchers)
- Turnover EUR 222 millions per year



## Facts

- 222.000 m<sup>2</sup>
  - 20.900 MWh electricity/year
  - 64 to paper
  - 147.000 toilet paper
  - 206 MWh natural gas
  - 20.400 MWh long-distance heating
  - 101 MWh fuel (incl. heating oil)
  - Water 107.000 m<sup>3</sup>
  - Waste > 1.000 to
    - + 179 MWh solar heat
- 11,200 to CO<sub>2</sub>-equ.





## 5 Fields of Excellence

- Climate Change Graz
- BioHealth
- Complexity of Life in Basic Research and Innovation (COLIBRI)
- Smart Regulation
- Dimensions of Europeanisation





# Institutes/Networks

**Institute of Systems Sciences, Innovation and Sustainability Research**

<https://sis.uni-graz.at/en/>

**Wegener Center for Climate and Global Change**

<https://wegcenter.uni-graz.at/en/>

**Department of Geography and Regional Science**

<https://geographie.uni-graz.at/en/>

**Climate Change Centre Austria**

<https://www.ccca.ac.at/en/homepage/>



# Institutes/Networks

Since 2008: „**Regional Centre of Expertise on Education for Sustainable Development**“ (RCE Graz-Styria)

<http://www.rcenetwork.org/portal/rces-worldwide>

RCEs are committed to further generating, accelerating and mainstreaming Education for Sustainable Development (ESD) by implementing

- the Global Action Programme (GAP) on ESD and
- contributing to the realization of the Sustainable Development Goals (SDGs).

168 RCEs have officially been acknowledged by the United Nations University worldwide (Dec. 2018).





# Teaching

- Bachelor Environmental System Sciences
- Master Environmental System Sciences
- Master Global Studies
- Joint International Master's Programme in Sustainable Development
- Erasmus Mundus Master's Programme in Industrial Ecology
- PhD-Programms

(Environmental System Sciences; Climate Change-Uncertainties, Thresholds and Coping Strategies)

# Sustainability4U

Cooperation and lectures between 4 universities of Graz



[www.sustainability4u.at](http://www.sustainability4u.at)

UNIVERSITY OF GRAZ

# Participate in networks



<http://www.iau-hesd.net/> (UNESCO-based association of higher education institutions; over 600 members from some 130 countries)



<http://www.climate-kic.org/> (EIT Climate-KIC is a European knowledge and innovation community, working to accelerate the transition to a zero-carbon economy)



<https://www.international-sustainable-campus-network.org/> (exchange ideas about sustainable campus development and the integration of sustainability aspects in teaching and research; 80 member institutions in appr. 30 countries)



<http://www.eauc.org.uk/home> (British Environmental Association for Universities & Colleges with over 2 million students; 400,000 staff; spending budget £ 25 billion)



# Participate in networks



<http://www.sd-network.eu/>

The European Sustainable Development Network is an informal network of public administrators and other experts dealing with SD-strategies



<https://www.hoch-n.org>

How can Higher Education Institutions contribute to a sustainable development in the field of governance, sustainability reporting, teaching, research, operations and transfer? Which joint understanding of sustainability and transformation might be developed?



<https://www.copernicus-alliance.org/>

This „European Network on Higher Education for Sustainable Development” organizes annual conferences, initiates joint projects, and promotes its members’ workshops and publications. It is the governing body of the COPERNICUS Charta, one of the first of the international university charters to explicitly promote sustainability in higher education.

# Links



<http://www.un.org/sustainabledevelopment>

United Nations



**Economic and Social Council**

[https://www.unece.org/fileadmin/DAM/env/esd/12\\_MeetSC/Documents/1701855E.pdf](https://www.unece.org/fileadmin/DAM/env/esd/12_MeetSC/Documents/1701855E.pdf) (Draft workplan for 2017-2019 for the UNECE Strategy for ESD)



<https://en.unesco.org/gap>  
(Global Action Programme on Education for Sustainable Development)



<http://www.openscience4sustainability.at/>  
platform for providing information relating to the issue of sustainability research.

# Links



<https://www.esdw.eu/>

Yearly initiative to stimulate and make visible activities, projects and events that promote sustainable development and the SDGs.



<http://www.sdgaccord.org/>

The University and College Sector's Collective Response to the Sustainable Development Goals



<http://sustainicum.at/en/home>

Platform with >100 sustainability teaching materials for higher education; available in English and German language



# Leverage points for sustainability transformation in universities

## Quality Assurance & Management

*What quality criteria do we orient on?*

*How do we assess quality?*

## Professional development for educators and researchers

*Building competences for ESD*

## Building capabilities for sustainability science and ESD

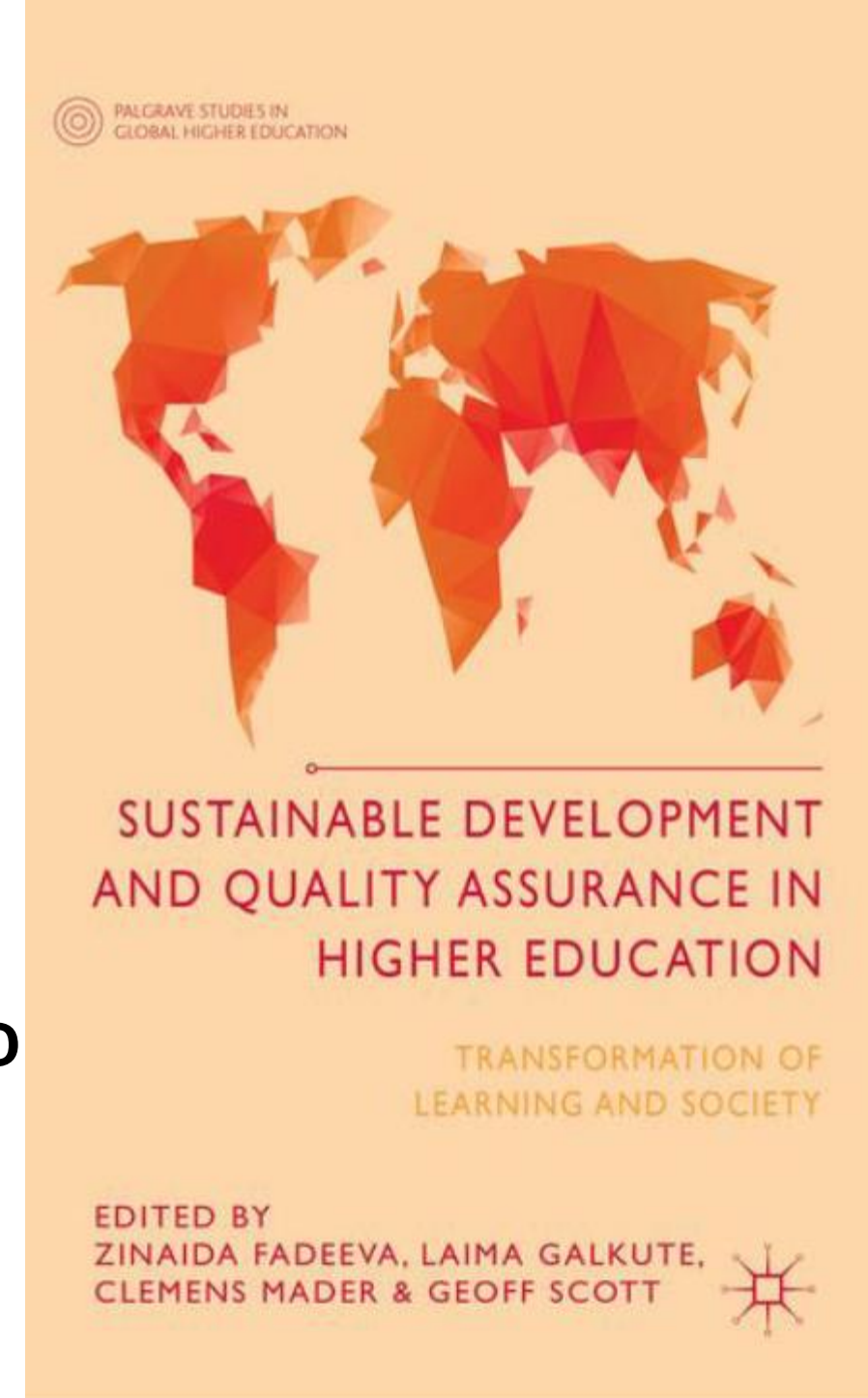
*Creating frame works for inter- and transdisciplinary research and education*

## The University as a role model – whole of institution approach

*Transformation at the education/research/policy& practice interface*

*Sustainable resource management, research and education oriented*

*Active student involvement*



(Mader, 2018)

# Summary

→ Don't wait, **act now** (politics, consumers, companies)

Implement and promote projects in Teaching, Research and Business operations (energy, mobility, food, procurement), that help **raise awareness** for sustainable development and that foster a **sustainable use of resources**.

[https://www.youtube.com/watch?v=FWsM9-\\_zrKo](https://www.youtube.com/watch?v=FWsM9-_zrKo)

→ **Cooperate**

(together stronger / networks / sustainability teams)

→ **Professional marketing (positive placement)**