



Universität Hamburg

DER FORSCHUNG | DER LEHRE | DER BILDUNG



DEVELOPMENT OF A MOBILITY STRATEGY AND CO₂ COMPENSATION AT THE UNIVERSITÄT HAMBURG

**1ST EUROPEAN CONFERENCE ON SUSTAINABLE MOBILITY AT UNIVERSITIES,
MARCH 8-10, 2017, UNIVERSITAT AUTÒNOMA DE BARCELONA
DR. HILMAR WESTHOLM, UNIVERSITÄT HAMBURG**



Topics:

- (1) University of Hamburg and the Center for a Sustainable University (KNU) in brief
- (2) Aspects of a Mobility Management Concept
- (3) CO₂-Compensation of Flights
- (4) Outlook and Summary

1. University of Hamburg in brief (I)

Some facts and figures:

The Universität Hamburg is a **public-owned university**

Appr. **42,000** enrolled students

- Appr. **56%** are **female**
- Appr. 5,110 or **12%** are **international students**
- **Applications** in the academic year 2015: **54,528**

Total number of staff:

- **12,106** incl. 6,859 in the Faculty of Medicine (MED) / University Medical Center Hamburg-Eppendorf (UKE), **incl. 7,517 females (=62%)**
- appr. **700 professors (29% female)**

Budget:

- 2015: **€456 million state funding** (incl. investments) incl. medicine: €118 million

External Funding:

- 2015: **€207** million (incl. medicine: €76 million)



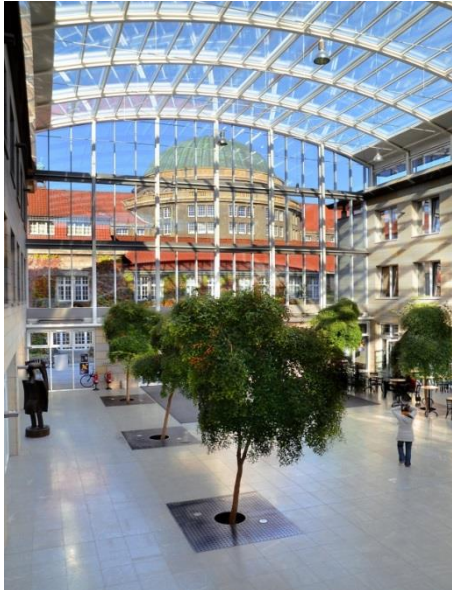
1. University of Hamburg in brief (II)

KNU = Center for a Sustainable University = network platform:



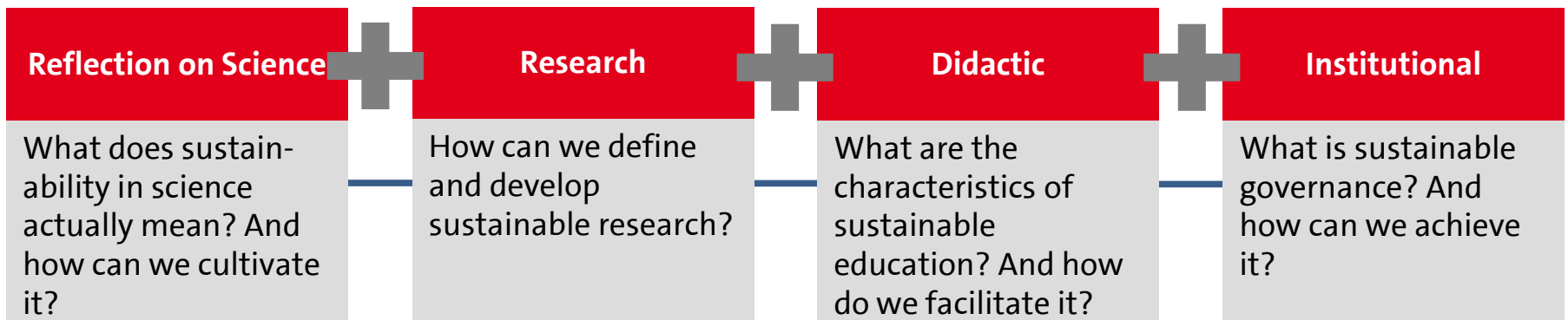
- The **Center for a Sustainable University (KNU)** at the Universität Hamburg (UHH) was established in 2011
- It is an **interdisciplinary workforce** dedicated to the advancement of sustainability, at the UHH and beyond
- acts as a **research network**, a **think-tank for innovation** and an **incubator for new approaches**, concepts, procedures and methods in the context of sustainability
- offers **consultancy** for the UHH Presidium on issues of sustainability

1. University of Hamburg in brief (III)



The KNU operates using a **whole-institution approach**:

- it seeks to include all parts of the UHH, i.e. students, faculty, administration
- it aims at implementing transformational processes at an organization-wide, integrated level
- it systematically refers to four fields of action at the UHH:



What We Do:



- Fund and support **scientific projects** on sustainability
- Develop and implement **sustainable practices in education**
- Strengthen the university's internal and external **networks for sustainability**
- Apply **new approaches** for an environmentally and socially friendly university
- **Integrate** knowledge and practices

2. Aspects of a mobility management concept (I)

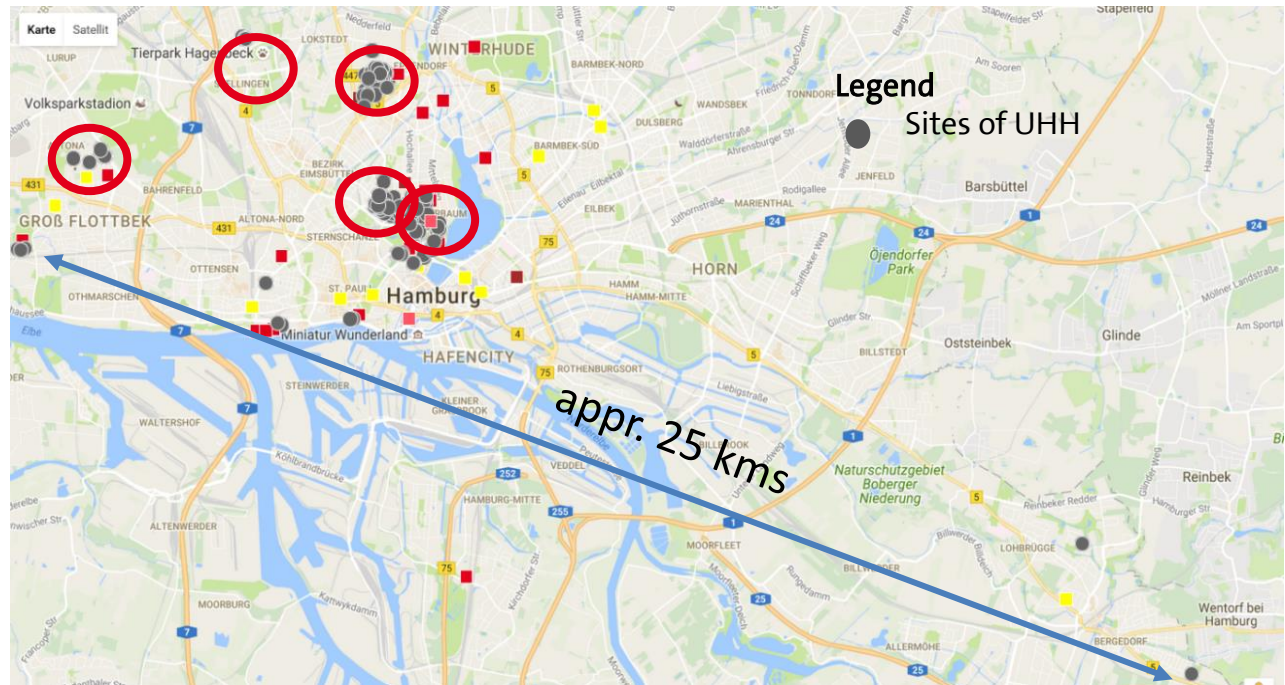
Relevant fields of activity in the mobility sector of the university

- **Avoidance:**
 - **necessity (sufficiency):** Is it really necessary to do the trip (visit the conference e.g.)?
 - **substitution:** virtual instead of physical mobility by using Green IT (Skype, video-conference, e-learning...)
- **Reduction:**
 - **change of transportation mode** to reduce emissions: bus/train/bike instead of car, train instead of plane, etc. (impact also on issues such as urban space, health) – **sticks and carrots:**
 - **incentives for change:** cheap and obliged student-ticket, mandatory job-ticket for employees, job-bikes, bike storages, awards, tax reductions
 - **limitation of parking space** for cars
 - request for **justifications** if a carbon-intensive travel mode should be used
 - **increase efficiency:** Cars with less emissions (3-litre-cars, hybrids, e-cars, ...)
- **Compensation:**
 - Pay for CO₂-emissions and reduction elsewhere where cheaper

2. Aspects of a mobility management concept (II)

Influence factors, features of mobility in Hamburg affecting the university

- 5 campus sites
- 190 sites (buildings) within the city (!)



- 3 of the 5 campus sites have excellent **access to public transport (underground, speed trains, busses)** and few parking space for cars, 2 are isolated and have only bus access (and parking space...)

2. Aspects of a mobility management concept (III)

Influence factors, features of mobility in Hamburg

- Cheap “semester-ticket” for **students** to **use public transport for free** included in administrative study fees (obligatory)
- **Optional** “profi card” (**job ticket**) **for employees** to use public transport for free
- Some sites with covered (but open) **bicycle racks** (1 bicycle station (storage with maintenance-facilities) at the core campus)



2. Aspects of a mobility management concept (IV)

Influence factors, features of mobility in Hamburg

- Several campus sites are linked to “**veloroutes**” (special bicycle-routes as part of a wider network of cycling routes established by the state’s administration)
- Small number of “**job bicycles**” free of charge for job rides during the day
- **Yearly action “with bike to work”** in cooperation with a health insurance and the national cycling association
- ...



How Hamburg's compensation model works (I)

- For every official flight booked by an employee of the Universität Hamburg, she or he has to pay an extra **CO₂ compensation fee**.
- The money is transferred to the environmental department of the City State of Hamburg.
- The City of **Hamburg** has a **partnership with** the Municipality Kinondoni in **Dar es Salaam** (Tanzania).
- The plan is to build a **composting plant** in Tanzania for vegetable waste of several market sites.
- This **new plant would save the CO₂-equivalents** (here mainly methane) that currently are leaking when the organic waste is dumped on a landfill site.



3. CO₂-Compensation of Flights (II)

Details

Compensation fees:

- **Within Germany**, a flat rate of 6 EUR is charged for a single flight and **9 EUR for a round-trip flight**.
- **For flights abroad** the amount to be paid is easily calculated on the website of the climate protection NGO „atmosfair“.
- E.g. **16 EUR** have to be donated for a **direct return flight from Hamburg to Barcelona**, or e.g. **132 EUR for a direct return flight from Hamburg to San Francisco**.

The money is transferred by the financial department of the university to the environmental department of the City State of Hamburg.

Emission Calculation Results

1 round-trip flight for 1 person

from	- to	Flight class	Flight type
Hamburg - Fuhlsbuettel (HAM)	- Barcelona (BCN)		

Your CO₂-emissions ^①

Climate impact	668 kg CO ₂
Compensation amount	€ 16

[Show detailed emission data](#) ▼

Your CO₂-Emissions in comparison

Your flight (per person)

kg 668

Emissions per capita (in India)

kg 1,600

Emissions for one car (12,000 km; middle class model)

kg 2,000

Climate compatible annual emissions budget for one person ^①

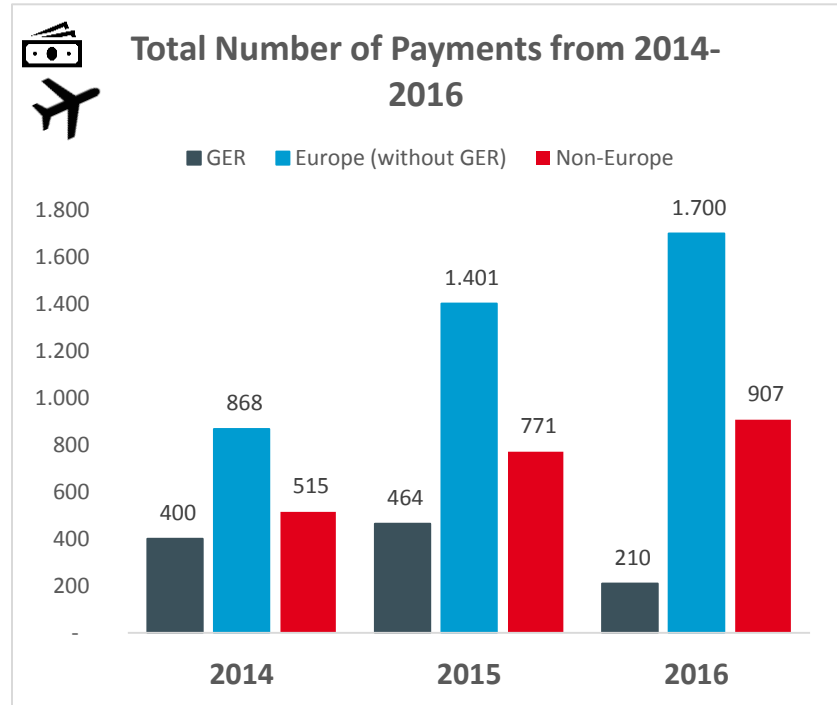
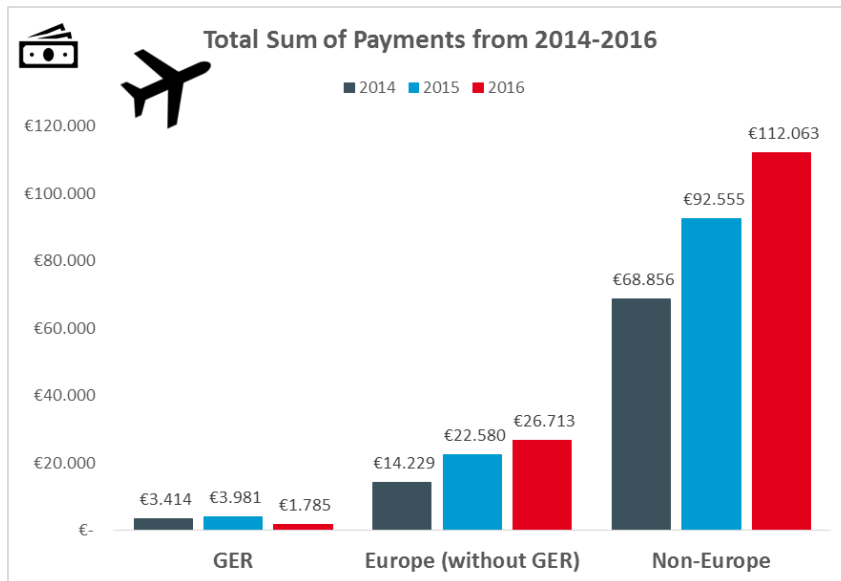
kg 2,300

3. CO₂-Compensation of Flights (III)

Details

Number of flights and total compensation fees:

- In 2016, appr. **2,800 flights of university-employees** have been compensated (appr. 5,600t CO₂-equivilents)
- Appr. one third has been conducted outside Europe



- In 2016, appr. **140,000 EUR of compensation fees** have been donated by the university

How Hamburg's compensation model works (II)

- Through the savings of CO₂-equivalents by the new composting plant in Tanzania, for a ten-year-period all historic and future flight-induced CO₂-emissions conducted by the public authorities should be compensated (**8,000t/a reduction of CO₂-equivalents** is expected – two third of this by employees of the university!)
- The savings of CO₂-equivalents are calculated through the **Clean-Development-(CDM) Mechanism** with the „Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site“,
- Hamburg calculated with **appr. 1 mio. EUR for the plant**, additional funding comes from the German federal government.



Obstacles

By now, construction of the composting plant has not yet started. Main challenges reported are e.g.

- language,
- not clarified responsibilities between different local authorities in Dar Es Salaam (such a metropolitan, municipal and local level),
- different cultures of administration in both countries,
- wave of purges in the local administration,
- relationship towards time and reliability.

Currently Hamburg's strategy is that **Tanzanian partners should start with an initial investment** before they invest money themselves.

Simultaneously, they are looking for further CDM-projects.

Next steps

- Learning from and exchange of experiences with other universities (e.g. U-Mob)
- Monitoring:
 - what happens?
 - data recording
 - activities planned (including site management)
 - analysis of relevance and influence
- Looking for actors, opportunities and potential associates
 - appointments with city-owned metro and bus company and transportation dpt. of the city
- PR
 - presentations, campaign,
 - future workshop with bike riders within the university during a “health week”

Summary

- Students and the scientific boards need to exchange views, knowledge and opinions across borders and thus require mobility.
- Thus, at universities, **“internationalization” is an important driver to enlarge mobility requirements and enhances climate change.** This is a **dilemma of sustainability** which only partly can be solved by sophisticated green IT solutions.
- In a **hierarchy of mobility management, “compensation” of CO₂-emissions is at the lowest step** (below avoidance and reduction) – compensation within the clean development mechanism of the intergovernmental climate regime seems being very complicated in practice.
- The universities themselves are not the **most important and relevant stakeholders** regarding mobility management at universities – these are the **municipalities** with their democratic rights regarding urban planning, attractive public transit, cycling facilities, car parking regime, etc..



Many thanks for your attention!

Further queries to:

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