

Certification according to ISO 14001

Strengths, Weaknesses and Factors of Success



Andreas Wanke

Coordinator for Sustainability Management

Freie Universität Berlin

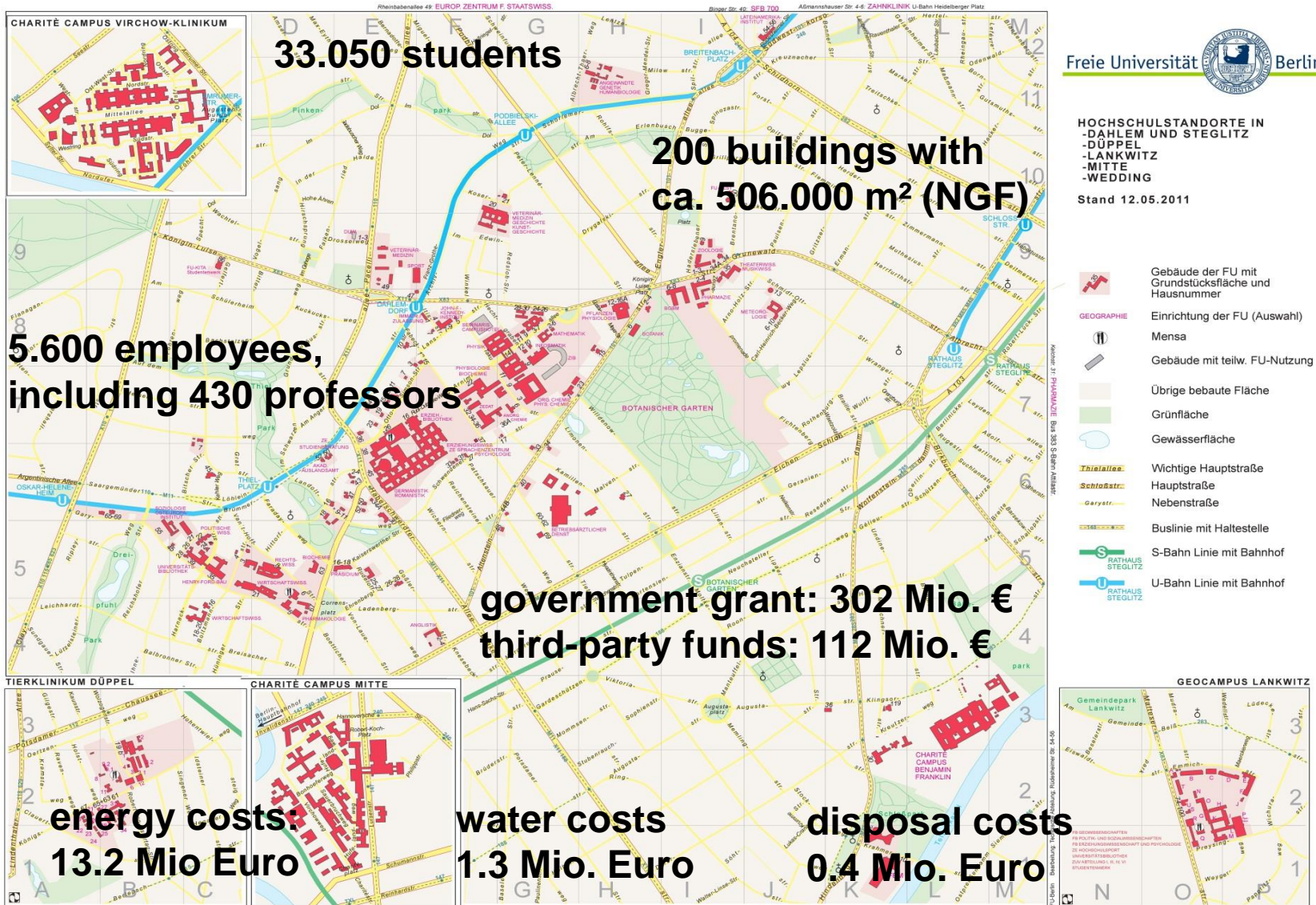
Energy and Environmental Unit

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Status quo & Brief Chronology





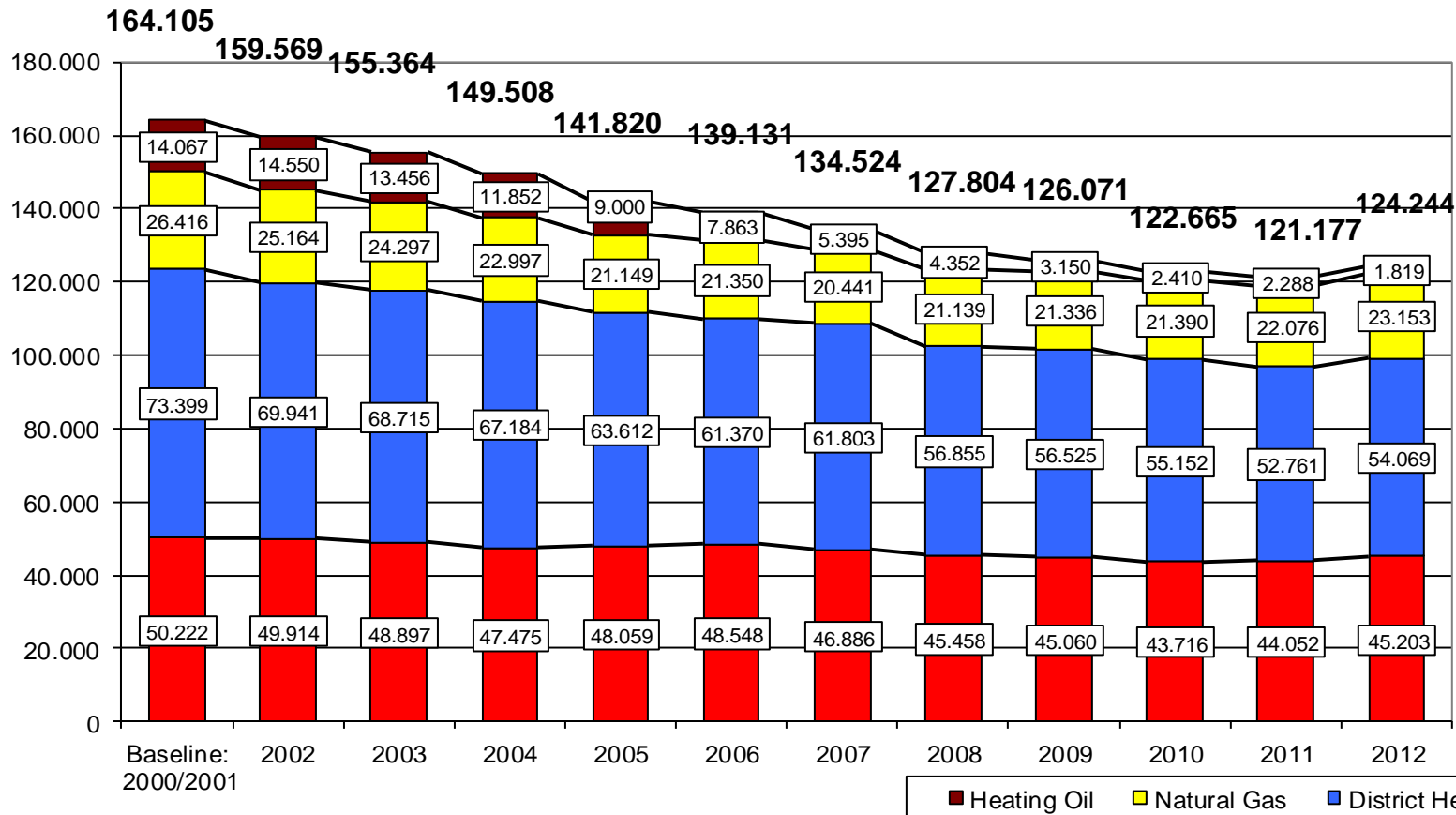
Data from 2012

Energy Consumption 2000-2012

in MWh

Cost reduction 2012 (compared to Baseline 2000/01): 3.5 Mio. Euro

in MWh



**Change
(2012 compared to
Baseline)**

- 24,4% (total)
- 87,1% (heating oil)
- 16,4% (natural gas)
- 26,3% (district heating)
- 10,0% (electricity)

Brief Chronology

- Energy controlling (since 2001)
 - Annual energy efficiency programmes (2003-2010)
 - **Certification according to EMAS (2004–2007) and ISO 14001 (2004–2013)**
 - Bonus scheme for energy savings (since 2007)
 - Use of renewable energy (photovoltaics) (since 2008)
 - Green IT programme (since 2010)
 - Climate protection agreement with the state of Berlin (2011)
 - Establishing the FU Initiative SUSTAIN IT! (2011)
 - **Building up a sustainability management system (working group, guidelines, report) and certification according to EMAS (planned)**
- 
- 2001
- 2004
- 2014

Reasons and Arguments for choosing ISO 14001



Reasons for choosing ISO 14001

- 1. Systematization, participation and improving the management process (PDCA-Cycle)**
- 2. Reduction of environmental impacts and costs**
- 3. Better communication and networking**
- 4. Strengthening legal compliance**
- 5. Push & pull: enhancing own competences**

Motives und Experiences – Expectations met?

- Motives & Goals



Participation and PDCA cycle

- 😊 Building up environmental teams in all scientific departments with more than 120 team members
- 😊 High relevance and acceptance of internal audits, building up mixed audit teams
- 😊 Good outcomes for the in-house training system, the inspection of technical facilities and the system for authorized persons
- 😞 Written documentation needs are in general reasonable but in some parts not helpful
- 😞 Largely poor acceptance of the environmental manual

Sustainable reduction of environmental impacts and costs

- 😊 **Generating new, mostly smaller optimization ideas and projects in the environmental teams and audits**
- 😊 **Differentiated and feasible controlling system**
- 😞 **Compiling a to-do list with a large number of non environmentally related measures**
- 😞 **The most important optimization instruments were not the result of the EMS (energy efficiency programmes, bonus scheme etc.)**

Better communication and networking

- 😊 Improved awareness by executive board and external stakeholders
- 😊 Strengthening internal acceptance
- 😊 Certification makes communication easier with internal and external stakeholders

Strengthening legal compliance

- 😊 **Goal fully accomplished**
- 😊 **Upgrading the health & safety system**
- 😞 **Legal compliance became too dominant in the certification process (substantially and temporally)**
- 😞 **Internal and sustainability related goals became less important**

Conclusions

- **Strengths & Weaknesses**



Strengths

- **Approved method for managing a continuous improvement process (PDCA-Circle)**
- **Easier involvement and participation of university's members**
- **Improved awareness from the executive board**
- **Strengthening legal compliance (i.e. the system for authorized persons)**
- **Common language with other certified universities**

Weaknesses

- **No performance requirements**
- **Essential measures and outcomes (i.e. the reduction of energy consumption) were not supported by the management system**
- **Too strong focus on health and safety aspects as well as on legal compliance**
- **Some dispensable obligations for documenting**

Conclusion

- **ISO 14001 is a reliable tool for the flexible use of different instruments and for a continuous improvement process**
- **Good outcomes in the fields of communication, participation, in-house training and in the system for authorized persons**
- **Too strong focus on legal compliance and health and safety aspects**
- **The effectiveness of an EMS depends on several aspects and institutional preconditions such as the assistance of the top management or the structure of the internal environmental organization**

Thank You!



Contact:

Andreas Wanke

Coordinator for Sustainability Management

Freie Universität Berlin

Energy and Environmental Unit

Andreas.Wanke@fu-berlin.de

www.fu-berlin.de/energieundumwelt

Bonus Scheme

Financial Results 2007 - 2011

Department	Bonus 2007	Bonus 2008	Bonus 2009	Bonus 2010	Bonus 2011	Bonus 2012	Share of Bonus in Energy Costs
FB BioChemPharm	-47.464 €	101.583 €	211.961 €	220.983 €	270.162 €	212.288 €	5,7%
FB Physik	5.670 €	20.199 €	13.333 €	25.049 €	59.206 €	31.602 €	3,9%
FB PolSoz	13.620 €	8.837 €	12.191 €	9.945 €	4.461 €	4.882 €	3,1%
FB GeschKult	5.740 €	8.700 €	12.427 €	13.877 €	14.806 €	15.278 €	3,9%
FB WiWiss	4.058 €	7.070 €	8.144 €	8.736 €	11.765 €	11.575 €	6,3%
FB Recht	1.412 €	6.597 €	14.138 €	13.505 €	6.602 €	7.940 €	5,1%
FB PhilGeist	4.345 €	5.522 €	4.513 €	7.079 €	16.328 €	11.410 €	2,6%
FB ErzPsych	-5.918 €	2.601 €	5.837 €	5.452 €	8.218 €	2.496 €	0,7%
FB MathelInfor	-2.553 €	2.591 €	5.419 €	4.609 €	4.107 €	3.187 €	1,5%
FB Geowiss	5.909 €	1.537 €	4.451 €	4.307 €	4.573 €	k.A.	0,6%
ZI Osteuropa	1.994 €	3.141 €	4.498 €	3.498 €	1.684 €	2.234 €	6,0%
ZI LAI	361 €	1.179 €	971 €	764 €	1.365 €	1.482 €	8,1%
ZI JFK	486 €	0 €	0 €	684 €	247 €	883 €	1,4%

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