



Drivers for change

Tomas Refslund Poulsen,
Teamleader Green Campus



 **GRØN
GREEN
CAMPUS**

Four campuses in Central Copenhagen

City Campus

Faculty of Law
Faculty of Science
Faculty of Social Sciences
Faculty of Theology
Central Administration

North Campus

Faculty of Science
Faculty of Health Sciences



Frederiksberg Campus

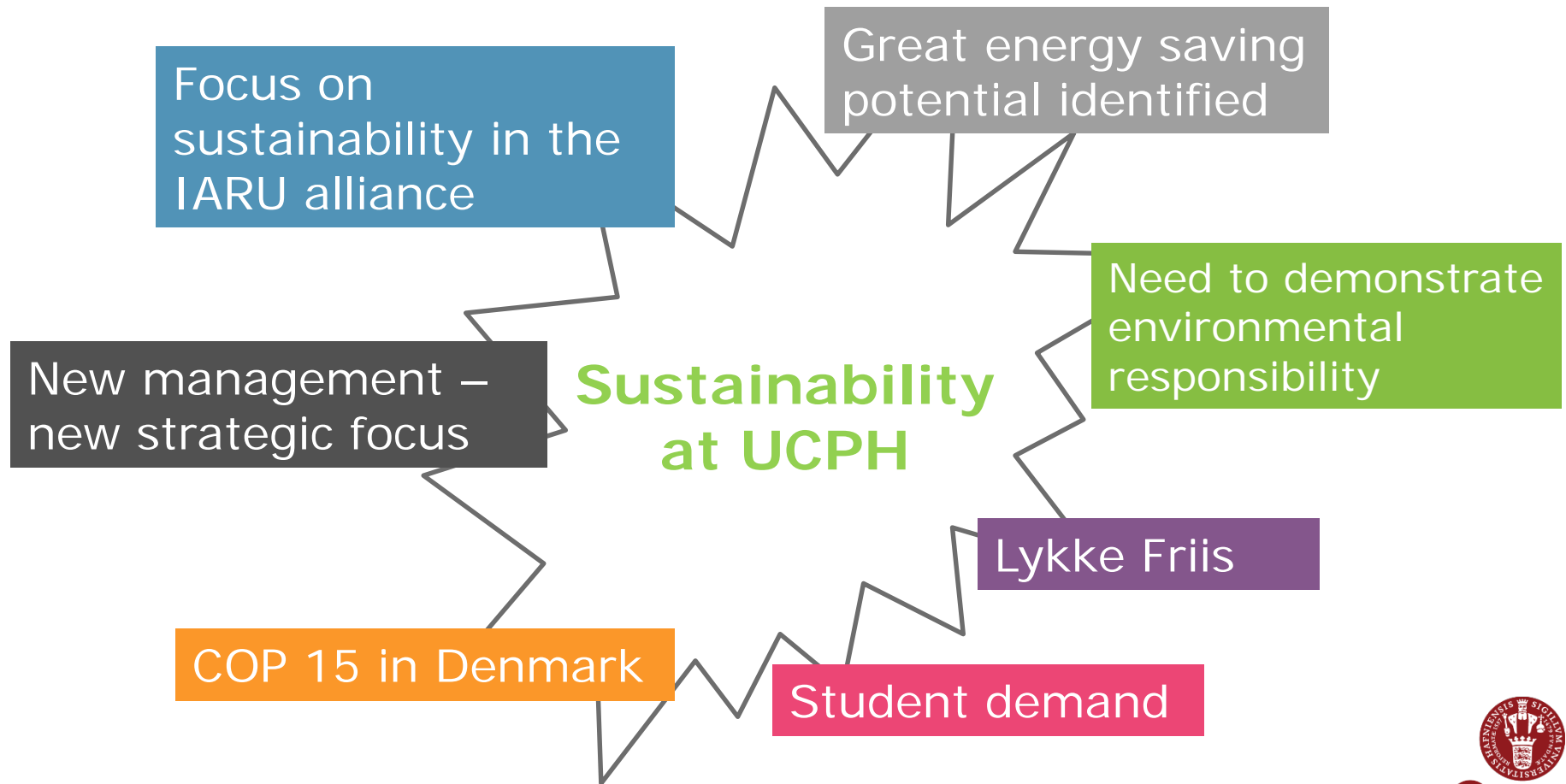
Faculty of Science
Faculty of Health Sciences

South Campus

Faculty of Humanities

- 1 million m² buildings,
- >40,000 students, 9,000 employees, including 5,000 scientists

Sustainability focus at UCPH - what made it happen in 2008?



Key issues

- Top management focus and commitment
- Short term ambitious reduction targets
- Keep focus on where environmental improvements are achieved
- Addressing more drivers

Priorities in Green Campus 1.0

Reduction in energy consumption, CO2 and expenses

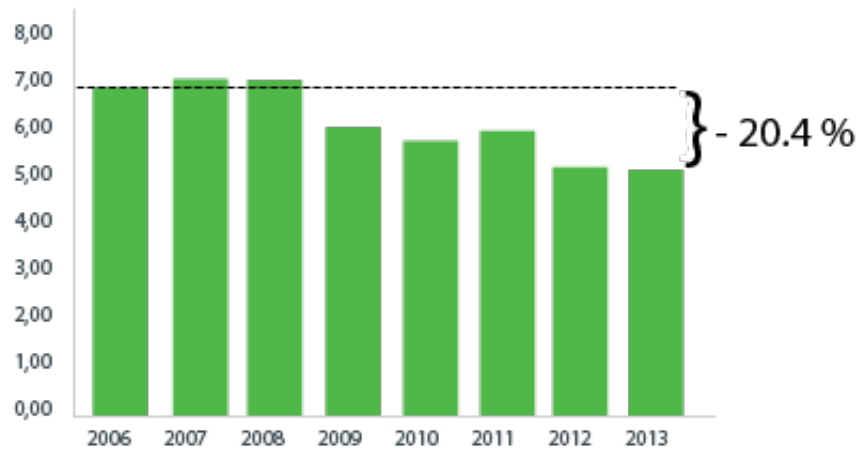
- The most important direct environmental impact
- Demonstrating an green and responsible university.
- Saving money for core activities: research and education

Green Campus 1.0 targets

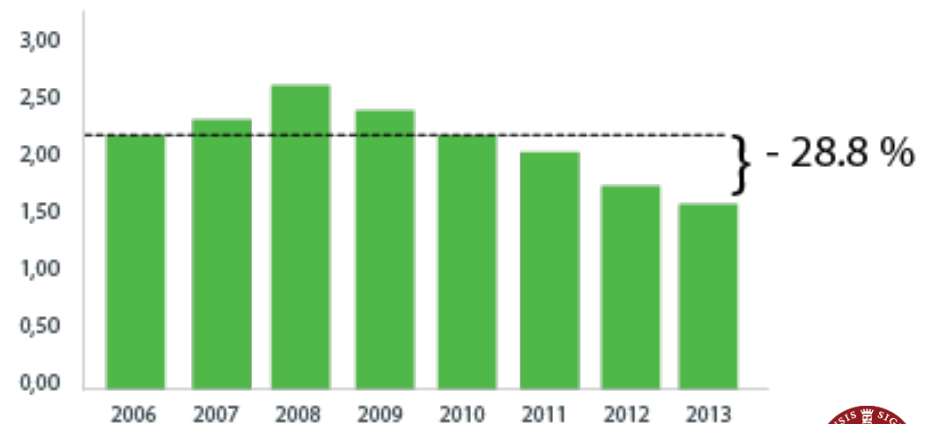
- Energy efficiency: 20% reduction per FE compared to 2006
- CO2 emissions: 20% reduction per FE compared to 2006

Goals were approved by the university's board in October 2008

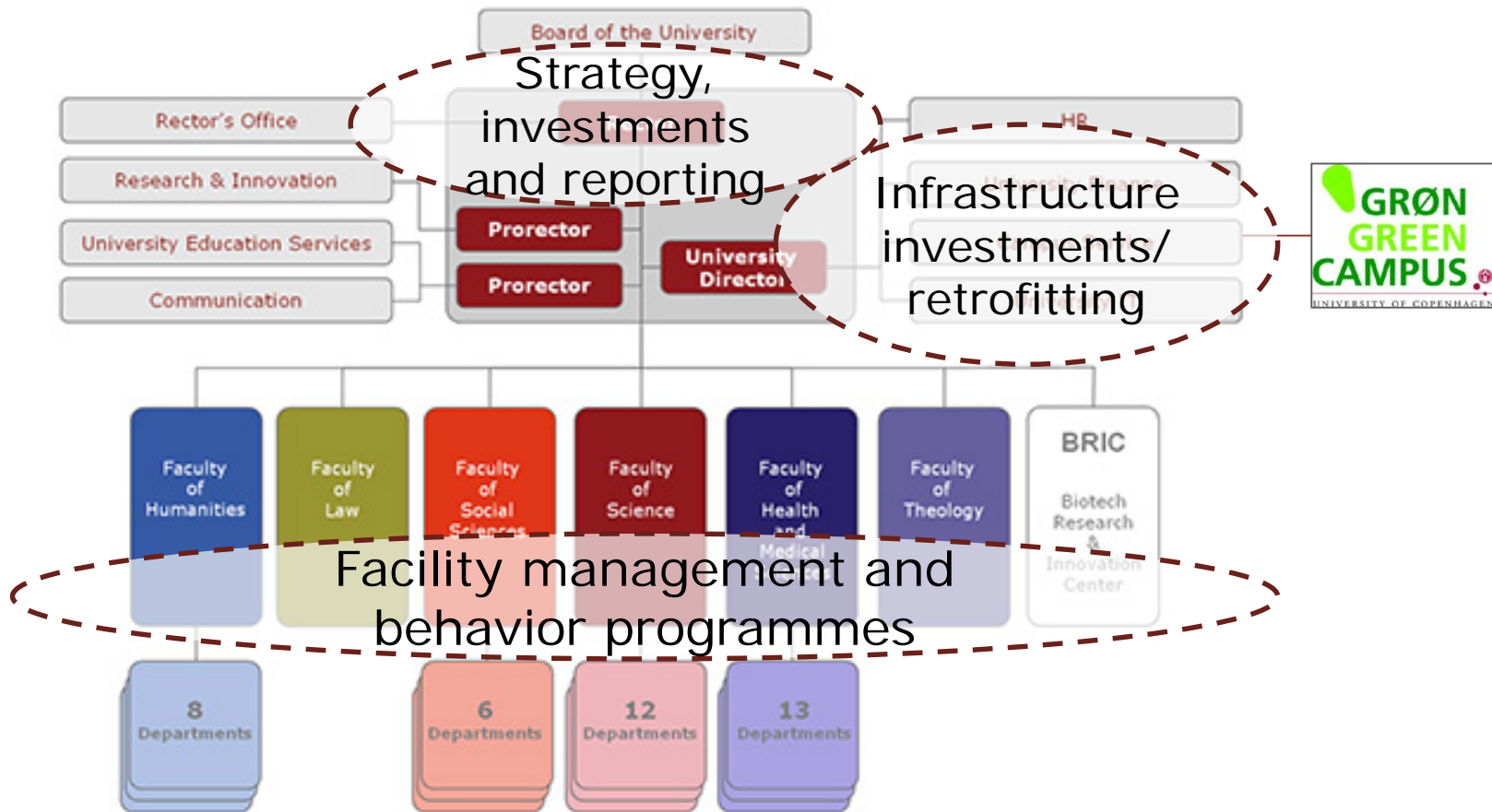
Energy consumption (MWh) per full time equivalent



CO2 emissions (metric tonnes) per full time equivalent



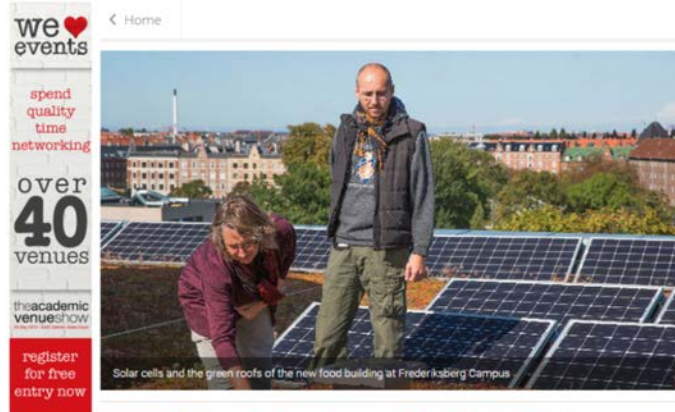
The organizational setup must shape your priorities



Who is your sustainability champion(s) in the university top management?



University management priorities and drivers



[Share](#) **Green strategy puts UCPH in top league**
The University of Copenhagen plans ambitious targets for sustainability to make it one of the greenest universities in the world

Posted by Hannah Oakman | February 17, 2015 | Sustainability
Sustainability, University of Copenhagen, green campus

With 'Green Campus 2020: a strategy for resource efficiency and sustainability', the University has taken a big step towards meeting new environmental goals, including specific targets for energy and CO2 reductions.

experienced staff

[Read more >](#)

aal
Aalborg University

Aalborg

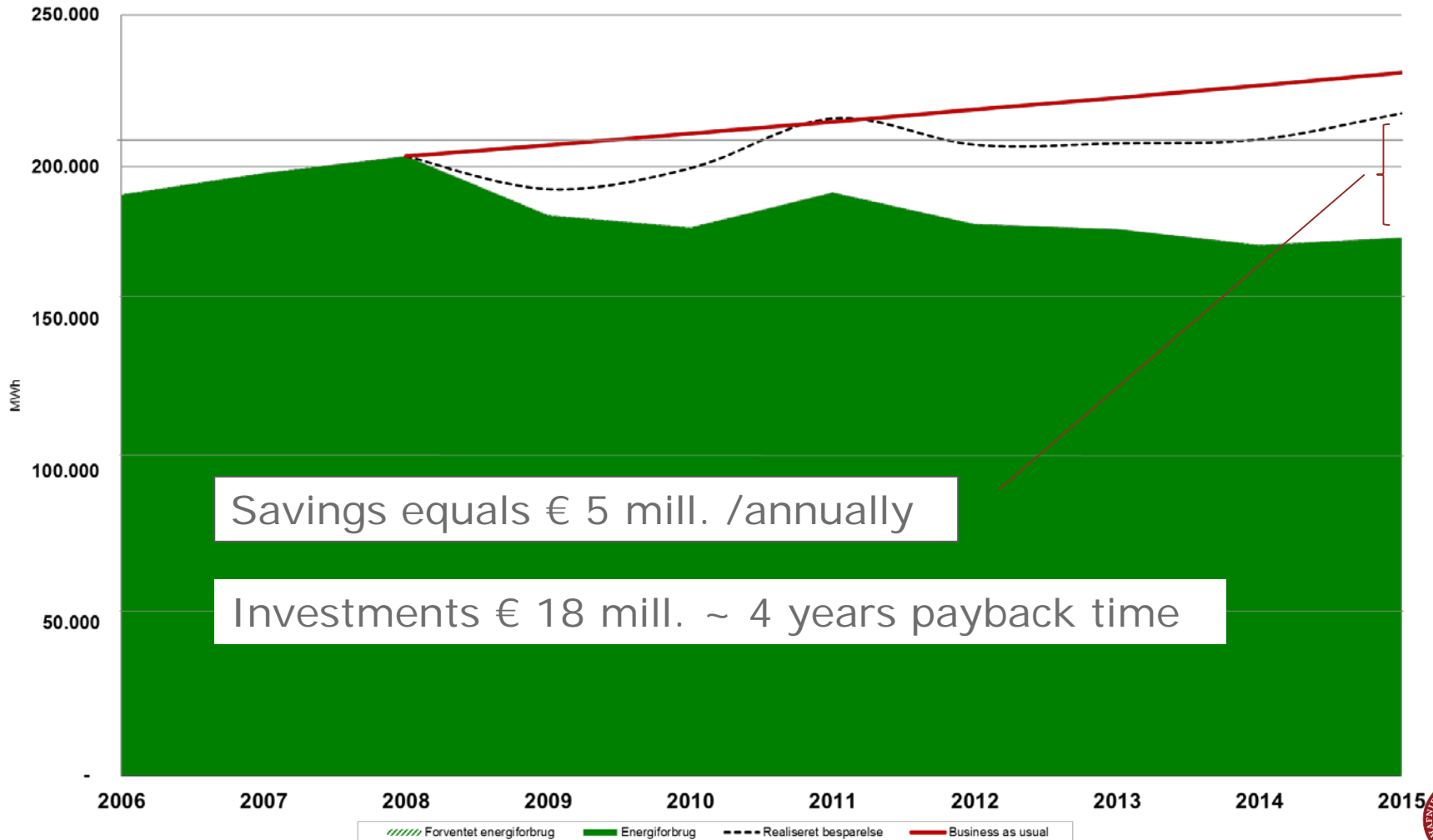
The Aalborg range versatile portable !
Chair, Desk, Sa...

[Read more >](#)

ALLE



Energyconsumption and - efficiency 2006 - 2015
University of Copenhagen



Savings equals € 5 mill. /annually

Investments € 18 mill. ~ 4 years payback time

What have we done

+ 100 technical projects, eg .:

- Ventilation and heat recovery
- LED and lighting control
- PVC (solar panels)
- fume hood controls
- Central server facilities
- Pipe insulation

Sustainability focus in new buildings

Better management of buildings and installations

- Monitoring and troubleshooting
- Responsive management

More energy efficient behavior

- Green Action campaigns in 2009, 2010, 2011
- Approximately 100 voluntary Green Ambassadors
- More energy efficient behavior in laboratories and offices



Tell the successes



GRØN CAMPUS NYHEDER

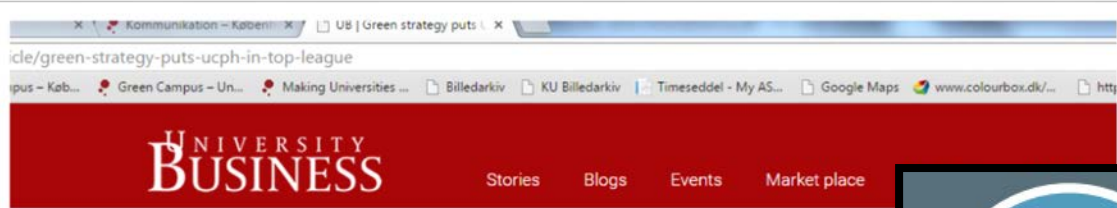
New Release: Green Guide for Universities | 14-11-2014



Top-universiteter skaber grøn guide til universiteter. Ti af verdens bedste universiteter udgiver nu Green Guide for Universities. Guiden gør det lettere for universiteter rundt om i verden at blive mere bæredygtige. [Læs mere](#)

De nye elektriske bycykler som virksomhedsordning på KU? | 10-11-2014

De københavnske bycykler er blevet opgraderet til SCIENCE Campus



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Solar cells and the green roofs of the new food building at Frederiksberg Campus



AC Leigh is one of Architectural Ironrr experienced staff.



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Green strategy puts UCPH in top league

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Sustainability, University of Copenhagen, green campus

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"Our main task is to carry out world-class research and teaching, but we also have a responsibility to ensure that we do so with ever-decreasing environmental impact."



GRØN GREEN CAMPUS

International collaboration as a driver

GREEN GUIDE FOR UNIVERSITIES

IARU PATHWAYS TOWARDS SUSTAINABILITY



LABORATORIES

Fume hoods, ventilation systems, chemical waste, and equipment make laboratories one of the biggest challenges for universities striving to become more sustainable. The challenge lies in...

ND

How do we combat resource restraints (both financial and human)?

Partner with relevant stakeholders, e.g. local government, to **provide outside funding and link with local initiatives seeking similar goals**.



How do we reduce the amount of campus waste going to landfill?

Conduct audits to understand your waste streams. Minimise waste by maximising resource values and **applying a waste hierarchy across all resource streams**. That is, waste avoidance, reduction, re-use, recycling, and disposal - in that order.



How do we protect biodiversity?

Begin by linking with local research conservation groups to **map biodiversity on campus**, and then measure the level of operational/community activity. Once you have this information, develop strategies to minimise environmental impact. Establish sensitive ecosystems, including protection zones.



How do we reduce refrigerant emissions?

Establish a...



How should we handle the disposal of IT waste?

Where possible, **set up cradle-to-grave contracts with vendors**, making them responsible for the sustainable disposal of everything from packaging to equipment at the end of its life. Where that is not an option, see if equipment can be re-used by the community or other groups. Often, charitable organisations will have systems for re-distributing functional equipment, provided it is not too old. Otherwise, ensure companies hired to recycle IT waste do so in a socially and environmentally responsible manner.



Green Ultra Low Temperature Freezer Procurement

- > 500 ULT freezers at UCPH
- Collaboration between Green Campus and the procurement department
- Procurement process involving testing of freezers

Outcomes:

- Price ~ 50% of listed retail price
- 30% less energy consumption compared to other models

Estimated savings: € 2-3 million over 4 years.

Addressing more drivers:

- Save money
(energy/water/waste/resources)
- Image – good news!
- Demonstrate that you succeed
- Improve other aspects of the university:
work and study environment, save time
etc.
- Link to other management priorities that
supports sustainability:
 - more efficient use of space
 - travel policies
 - procurement initiatives
 - etc.



Prioritize !

Green Lighthouse:
Denmarks first CO2-neutral public building

Thank you!

www.greencampus.ku.dk



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