



Saving Energy and the Energy Crisis

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**TU was:
Spare Energie!**



Energy at TU Braunschweig – basic facts

Consumption

- Annual electricity consumption 30 million kWh
- Annual teleheating consumption 35 million kWh
- Annual gas consumption 1.7 million kWh
- Costs in 2021 approx. €10 million

Total consumption of a city with 20,000 inhabitants

Gas for thermal power station and special scientific applications

How efficient are we already?

- In 2021, approx. 14% of heating energy and 20% of electricity saved (compared to 2013)
- Own photovoltaic systems generate 1,000 kWp

Solar energy for approx. 220 single-family homes

Savings targets of 20% heating energy and electricity

- Orientation on the model calculation of the Federal Network Agency
- We continue to offer classroom teaching
- Restrictions on the usual service and a lower level of comfort are unfortunately to be expected

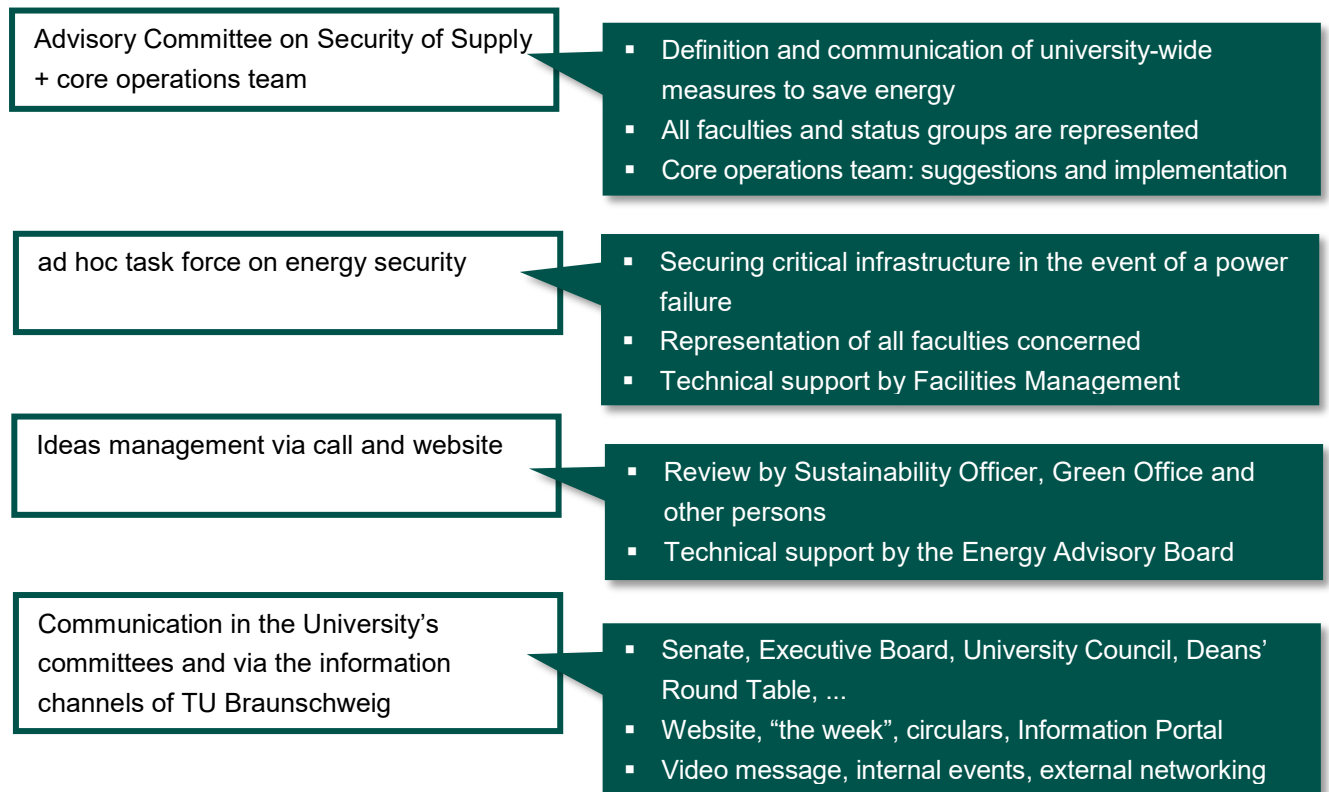
Measures to save energy at TU Braunschweig

Statutory requirements

“Ordinance on Securing the Energy Supply through Medium-term Impact Measures”

- Maximum values for the air temperature in workplaces in public non-residential buildings
 - Offices: 19 degrees Celsius (light physical activities and predominantly sedentary work)
 - Laboratories: 18 degrees Celsius (light physical activities, mainly standing or walking)
 - Depending on the degree of physical exertion associated with the activity this may be 16 degrees Celsius or less (moderately heavy activities, mainly standing or walking, and physically heavy activities)
- Heating of common areas is prohibited (especially circulation areas, storage rooms)
- Decentralised drinking water heating systems, in particular instantaneous water heaters or decentralised hot water storage tanks, must be switched off unless necessary for operational reasons
- Outdoor illumination of public non-residential buildings and monuments is prohibited, with the exception of security and emergency lighting

How is the topic dealt with at the TU?



Central regulations of TU Braunschweig

Extending the period during which the University is closed for the turn of the year until 6 January 2023

- Harmonisation of operations in administration and research in period when no lectures take place
- Remote work possible on two days in agreement with supervisor
- Corresponds to 3–5 days of vacation/flexitime used

Restricting the heating times of static heating systems

- Daytime operation of the heating systems is reduced by one hour at the beginning and end of a day from Monday to Thursday
- Lowered temperature at night from 17:00–7:00
- Lowered temperature at weekends from Friday 12:00 to Monday 7:00
- Lowered supply temperatures with the aim of achieving a maximum room temperature of 19 degrees Celsius (offices) Lowered temperature at night and at weekends by up to an additional 3 degrees Celsius
- Temperatures stable during lecture period

Similar regulations for non-static systems (ventilation-controlled heating)

- Consideration of times for laboratory work and practical courses
- Ensuring that teaching is also possible during off-peak hours
- Grouping of block courses in order to minimise the need for additional heating

Studies and teaching

- Weekend courses and block seminars during off-peak times will be taken into account in the planning
- Relocation of courses necessary to heat only a few buildings
- Capacity of student learning spaces is maintained (e.g. QR codes in central rooms)
- Restrictions on some services (e.g. opening hours of the University Library, heating of sports facilities)

Monitoring

- Energy web portal provides an overview of consumption by building and cost centre
- Comparison with previous months adjusted to weather conditions in the middle of each following month
- Aggregated percentage values for the entire TU are published internally at the University
- Energy Coordinators in the facilities have access to specific data

Information and Ideas management

- Central contact point for suggestions and feedback: energiesparen@tu-braunschweig.de
- Publication of all information on website www.tu-braunschweig.de/en/energy-saving
- Results of the call for ideas are also presented there, with reasons if suggestions are not pursued further

How can you contribute to the goals?

Setting thermostats correctly

- 19 degrees Celsius, corresponds to one bar below 3, should be reduced further at the end of the working day
- Dress appropriately if 19 degrees Celsius is too cool in the office
- Adjust working hours to heating times

Reducing electricity consumption

- Reduce standby mode power consumption: pick up a switch socket from the Electrical Workshop (for administrative staff)
- Switch off PCs at the end of the working day and use only one monitor
- Consciously switch off room lighting, use a desk lamp instead of ceiling light
- Optimise the use of rooms with ventilation-controlled heating

Remote work

- Make full use of possibilities in consultation with superiors
- Can lead to synergy effects, for example in the case of long commutes

Stay informed!

