Technische Hochschule Wildau
Technical University of Applied Sciences

EMERGENCY ENERGY PLAN

TO REDUCE ENERGY CONSUMPTION DURING THE ENERGY CRISIS

TH Wildau

Emergency Energy Plan of the Technical University of Applied Sciences Wildau to reduce energy consumption during the energy crisis

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Introduction

Against the backdrop of the Russian war of aggression in Ukraine, the EU countries agreed on a contingency plan amid fear of a complete supply stop of Russian gas. The plan provides for a voluntary reduction of national consumption by 15 percent in the period from 1 August 2022 to 31 March 2023 - compared to the average consumption in the same period in the past five years.
The security of gas supply is currently guaranteed. Russia has already significantly cut supplies via Nord Stream 1, leading to procurement elsewhere on the market at very high prices. Companies, public institutions and private consumers must prepare themselves for significantly rising gas prices. Further price increases cannot be ruled out.
The alert level of the national emergency plan has also been in effect since 23 June 2022. The alert level sends a clear signal to all parts of society, including the public universities, to make savings and in particular to further reduce gas consumption for precautionary reasons.
The Ministry of Science, Research and Culture of the State of Brandenburg (MWFK) has requested that each university draw up an institutional emergency plan.
The concrete measures of the step-by-step plan described below are intended to ensure the achievement of the goal of the respective savings required and an orderly procedure. In view of the current situation, the university management will determine how service operations at the Technical University of Applied Sciences Wildau will continue, unless other binding specifications are made by the Ministry of Science, Research and Culture or at a higher state or federal level. The Technical University of Applied Sciences Wildau would like to maintain face-to-face teaching as the standard and agrees with the Conference of Ministers of Education and Cultural Affairs that "after the experiences of the semesters under pandemic conditions and their consequences, especially for the students, it is important to safeguard face-to-face teaching even in the event of a possible worsening of the energy crisis"[1] .
However, the need for energy saving in the public sector should not lead to a shift of costs to the private sector, so an arrangement of home office (alternating teleworking) for energy saving will not take place.
The triggering of the following phases is preceded in each case by a corresponding decision by the university management, advised by the crisis team that has been set up. In the meetings of the crisis team, the benefits and necessity of saving energy are regularly weighed up against the resulting restrictions and disadvantages for teaching and research. The respective situation and the resulting measures will be communicated with the greatest possible transparency within the university.

[1] Extract from the resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of 1 September 2022.

A. Immediate measures

I. Formation of a crisis team

The already existing crisis team, which has so far focused on the Corona pandemic and the Ukraine crisis, will be expanded to include the topic of the energy crisis. This will also be followed by an expansion of personnel to include people from the areas of construction and technology, organisation and sustainability.

II. Determination of the target heat in buildings

The Federal Short-Term Energy Conservation Ordinance[2] specifies both a maximum room temperature of 19 degrees Celsius during the heating period and a minimum temperature of 19 degrees Celsius for workrooms in public buildings. Due to this, a central temperature control to 19 degrees Celsius is carried out via the heating system at the beginning of the heating period.

III. Throttling the heat output

TH Wildau aims to maintain the temperature of 19 degrees Celsius between 8 a.m. and 4:30 p.m. (weekdays) within the scope of technical possibilities.

At the beginning of the heating season, the heating output for heating the buildings is corrected so that the minimum temperature of approximately 19 degrees Celsius is reached at 8:00 a.m. on weekdays and is maintained until approximately 4:30 p.m. As a result, the heat output is adjusted accordingly.

IV. Setting the savings target and monitoring

The savings target with regard to thermal energy is set at 30 per cent based on the specifications by the supreme service authority.

The cabinet decision on "Measures to save energy in the Brandenburg state administration"[3] states:

"... Lowering the room temperature in the common areas and offices of the managed properties is an immediate measure to save energy. It can be set up for the upcoming heating period. It is assumed that savings of 15-20 % per property can be achieved. If the system running times are limited (reduction of the daily heating period) by 2-3 hours, an additional savings effect of 8-10 % can be expected. ..."

The forecast will be compared with the actual data through monitoring starting in September 2022. The monitoring will serve as a basis for further measures to be taken if the savings target is not met.

To form a reference value for the savings, an average value is formed based on the consumption of the last four years.

If the savings target is adjusted due to corresponding legal or regulatory requirements, the measures are also adjusted.

[2] Ordinance on Securing the Energy Supply through Measures Effective at Short Notice (Short-Term Energy Security Ordinance - EnSikuV). It shall enter into force on 1 September 2022 and shall expire on 28 February 2023.
[3] Decision of the State Government of 16 August 2022

In addition, after the end of the heating period, the upper limit of the room temperature in air-conditioned workrooms is adjusted to a maximum of 26 degrees Celsius.

To save electricity, outdoor lighting on campus is limited to what is necessary for safety.

Further measures to save electricity are being examined.

V. Participation of employees

a. Ownership

The employees of TH Wildau may not change the setting of the thermostats on the radiators from level 5. The temperature target of 19 degrees Celsius is controlled centrally by Construction Facility Management via the supply temperature. Therefore, the individual radiators should be turned up fully to reach the maximum temperature. For the central regulation, a complete flow is necessary, therefore the heaters in the corridors should not be turned off either. This is necessary until further notice in order to set the temperature in the heating system to approximately 19 degrees Celsius.

Further measures to be implemented on your own responsibility can be found in the Energy Code of Conduct.

b. Office workplace

Hall 21 is currently not affected by the reduction in temperature, as it is not a public building. Employees are provided with appropriate workstations for agile working.

c. Prohibition of mobile heating and air conditioning systems

It is expressly prohibited to use mobile heating systems (e.g. oil radiators, fan heaters or similar) and mobile air-conditioning systems in the buildings of the TH Wildau.

The staff of Construction Facility Management are authorised to carry out appropriate checks. The Chancellor and the General Staff Council shall be notified in advance of these checks.

VI. Organisation of the courses

Teaching, as the core task of the university, is a particular focus in the context of balancing energy savings and the maintenance of orderly university operations. The planning for the winter semester 2022/2023 envisages teaching in attendance of around 90 percent. It should be ensured as far as possible that this high rate of face-to-face teaching can be maintained after the last pandemic years. Therefore, the scheduling department is required to plan core face-to-face courses between 8:00 a.m. and 4:30 p.m. from Monday to Friday.

If the timetable requires teaching beyond the time frame of 8:00 to 16:30, Halls 16 and 17 should be used for the time frame after 16:30, as these can be heated via geothermal energy and a later night setback can take place.

If, in addition, teaching capacities still need to be expanded, then the Crisis Team must discuss whether it is reasonable for courses to be held in Houses 14, 15 and 100 in the marginal time frame after 4:30 p.m. at 16 degrees Celsius.

B. Decommissioning for a building (in addition to A)

If the energy savings of 30 percent cannot be achieved through the measures under A., it may be necessary to take individual buildings out of operation. After analysing the current circumstances (heating costs, building condition and use), this concerns House 100.

The same applies if the availability of natural gas (e.g. gas emergency plan alert level 3) is significantly reduced or if required by legal regulations.

The decommissioning is flanked by the following measures:

- Conducting classroom teaching outside of House 100
- Examining the possibilities of using online teaching
- Using the IT labs may continue to be possible (building-maintaining temperature of 16 degrees Celsius will continue to be guaranteed)
- Workplaces for users of House 100 are provided in addition to the agile workplace capacities in Hall 21 and House 13 (agile in Rooms 13-121 and 13-125 and, if necessary, in seminar rooms) as well as in all offices of House 13 through office sharing (with the exception of Human Resources).

In individual cases, the use of mobile heating devices for official purposes, in particular for the use of the computer labs in House 100 for conducting examinations (e-assessments), may be approved by the university management.

C. Decommissioning for further buildings/ parts of buildings (In addition to A and B)

After analysing the current conditions (heating costs, building condition and use), a further decommissioning concerns Hall 10 (part of the library building).

The decommissioning is flanked by the following measures:

- Due to the building maintenance measures, the use of the library is still possible. 24/7 operation, including lending, is still possible.
- For the counter operation, it is determined that the maximum length of stay is two hours. A shift plan is to be worked out.
- Workplaces for users of Hall 10 will be provided in addition to the agile workplace capacities in Hall 21 and in House 13 (agile in rooms 13-121 and 13-125 and, if necessary, seminar rooms) as well as in all offices in House 13 through office sharing (with the exception of Human Resources).
- Study rooms for students are available:
    - in the Students' Club (StuK),
    - Group study rooms in Hall 16,
    - Seminar rooms for agile working in House 13,
    - Room 13-029 (meeting point) in House 13.
- In this context, reference is also made to the "Room Information" function in the Unidos app, which students can use to search for free rooms.

In individual cases, the official use of mobile heating devices in workrooms whose temperature is below 19 degrees Celsius due to decommissioning may be approved by the university management.

D. Disaster case - measures in case of official closure of a service, avoidance of building damage (ensuring the functionality of the service buildings in case of later resumption of service operations (in addition to A, B and C))

Organisational measures have yet to be determined.

E. Return to regular service

If the need for drastic savings in heating and cooling energy, as defined by law and the legal authorities, comes to an end, the buildings will be returned to normal service operations on the basis of the then applicable regulations regarding minimum and maximum temperature values.

In addition, TH Wildau strives to continue to use the knowledge gained about energy saving potentials and to return to regular operation with an anchored energy awareness, to continue to pursue sustainable goals.

F. Reporting

The following reports will be communicated transparently:

- Monthly reporting by the Chancellor to the crisis team on monthly energy consumption, cumulative energy consumption from 1.9.2022 and savings compared to previous years
- Reporting on individual measures