

Electricity Saving Challenge: ESC @ Dept. of Physics

All research groups are invited to join the *Electricity Saving Challenge (ESC)*. The challenge is a collective effort to make a positive impact on electricity use, while maintaining the high-level research that drives you forward.

During the month of November, research groups will be able to implement changes in their daily routines, particularly in the laboratories, and monitor the impact of changes on electricity consumption in real-time, through a dedicated app. The overall current electricity use will be monitored and compared with baseline data to assess if measures are effective. The most active and creative group will be rewarded with a Prize.

This is an opportunity to show how research and sustainability can go hand in hand, ensuring that our research remains at the forefront of scientific advancement while taking responsibility for the environment.

« Get live feedback on your electricity usage and discover saving potentials »

Background

In its Climate Strategy, the University of Basel committed to reduce greenhouse gas emissions by 35% until 2030. For electricity, greenhouse gas emissions should be reduced by 25% until 2030. Furthermore, given its high energy needs, the University of Basel is required by local and national authorities, to implement measures to continuously analyze and optimize their energy consumption (Grossverbrauchermodell)¹.

The Department of Physics is a large energy consumer at the University of Basel (in 2023 the buildings KLB80 & KLB82 used 4.4 GWh, ca. 13% of the University's electricity), and it is

therefore imperative that the potential for savings are continuously assessed and changes are implemented.

During the *ESC @ Dept. of Physics*, we invite all research groups to explore their electricity consumption, to learn about potentials for energy savings and better energy efficiency and to engage in an exchange with other labs.



Source: AI-generated image

Key Idea

The *Electricity Saving Challenge* can help you in discovering the potential of behavioral change in order to create a more efficient and sustainable work environment. We will provide you with real-time feedback data on the electricity consumption in your floor/research group.

What changes in your daily research routines can you implement – such as turning off unused equipment – that can lead to electricity savings and reduce the carbon footprint?

The BTO-Team (Building Technology & Operations) will accompany your efforts and will contribute with additional inputs regarding building technology measures².

¹ Grossverbrauchermodell: The federal government requires large energy consumers to analyze their energy consumption and optimize it to contribute to the energy saving targets <https://www.zv-energie.admin.ch/zve/de/home.html>

² energetische Betriebsoptimierung eBO: measures regarding building technology e.g. central ventilation, lighting and compressed air

The Challenge

The *ESC* will take place in November, engaging all research groups. During that month, groups compete against each other to determine who can achieve the most sustainable and comprehensible electricity savings. This is also a great opportunity for teams to showcase their creativity and teamwork to promote sustainable practices in their research.

Step 1: Select *Challenge Champion*

Each research group will appoint a *Challenge Champion* to lead their team throughout the contest. The *Champion* will be contact person for the challenge, and will receive training for the electricity monitoring app as well as learn more about the *ESC*. Deadline for appointment: 21.10.24.

Step 2: Commit to a Saving Target

During November, the research groups are encouraged to implement various electricity-saving measures (a list with suggestions will be provided), and to document their efforts in a logbook, helping to identify which actions have the greatest impact and can be maintained permanently. Using the Aliunid monitoring app, the *Challenge Champions* can track their lab's electricity consumption in real time. Their first task is to set a voluntary reduction target as a percentage of the floor electricity consumption (organizers are available for guidance). Please submit your electricity reduction target by 28.10.24.

Step 3: Track your savings and see how you compare to other floors/research groups

Throughout November, each floor's daily percentage savings against the baseline (July – October '24) will be calculated and the results sent to the respective *Champions*.

The Award

Based on the Logbooks entries floors/research groups which showed greatest creativity and involvement in this initiative will be rewarded with a prize (team event).

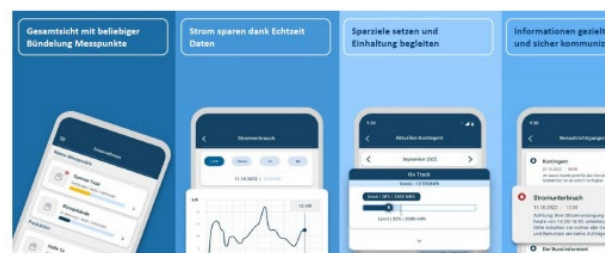
The Award will celebrate the floor/research group that showed exceptional initiative and creativity in actively seeking out solutions to reduce electricity use based on documented sustainable and comprehensible measures, ideally transferrable to other groups.

Aliunid – the real time monitoring App

Documenting, monitoring and evaluating the measures are the core tasks of this challenge. The central tool, besides the logbook, will be Aliunid mobile app, which shows the electricity use in real time. Its handling will be clearly explained at the kick-off meeting.

aliunid POWER Kit

aliunid MONITOR – Echtzeit Features für den smarten Alltag



Timeline

Friday, 11 th Oct	Email to research group leaders by A. Lang <ul style="list-style-type: none"> - General information (project factsheet) - Request for nominating a group Challenge <i>Champion</i> until 21.10.24 - Request for setting a group reduction target until 28.10.24
Monday, 21 st Oct	Each Research Group nominates an Electricity Champion .
Tuesday, 22 nd Oct 15:30 – 16:30, room 3.21	Challenge Champions kick-off meeting <ul style="list-style-type: none"> - General information about the Challenge - Detailed information about Aliunid monitoring App
Thursday, 24 th Oct 11:00 – 12:00, room 3.21	<ul style="list-style-type: none"> - Logbook for recording energy saving measures - Factsheet with potential savings measures and other materials - Baseline electricity consumption for each floor
Mon 28. October	Deadline for voluntary reduction targets for each research group to be sent to christopher.weiss@unibas.ch
1 st – 30 th November	Electricity Saving Challenge: ESC @ Dept. of Physics <ul style="list-style-type: none"> - Each floor/group develops, implements and documents its own measures - Physics screens: weekly leader results
December 2024	<ul style="list-style-type: none"> - Review with Champions: Champions, Physics Infrastructure & Management team and challenge organizers will evaluate the results and their effectiveness and sustainability. - Announcement of Winners & Award.
Spring 2025	<ul style="list-style-type: none"> - University communication: Intranet, UniNews. - Definition the sustainability path of Physics and Physics Chemistry together with Building Technology & Operations. - Transfer of measures to other University departments.
Autumn 2025	The electricity monitoring equipment installed in the laboratories is permanent. In autumn 2025, an evaluation of the electricity consumption of all groups over the year is planned (percentage, relative to the baseline July – October 2024), with a special prize for the floor/groups that achieves permanent electricity savings .

Contact

The initiative is led by the University's Building Technology & Operations team, in partnership with the Department of Physics Infrastructure & Management team. Furthermore, the Challenge was developed and will be implemented incorporating a "campus as a living-lab approach"³, with the support of Prof. Ulf Hahnel⁴ and Zahra Rahmani (psychology of sustainability and behavioral change), as well as the Sustainability Office.

For questions or concerns related to the Challenge, please contact Christopher Weiss (christopher.weiss@unibas.ch)

Thanks for participating. Every contribution counts!

This initiative is a joint effort from the following groups:

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Dr. Laurent Marot

Psychology of Sustainability and Behavior Change
Prof. Dr. Ulf Hahnel
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³ Campus as a living lab projects aim to bring together faculty members, students, staff, and, where appropriate, external partners to collaborate on developing sustainability projects that combine operational and academic activities.

⁴ <https://psychologie.unibas.ch/de/fakultaet/abteilungen/sustainability-and-behavior-change/>