

# The "ETH Net Zero" programme: Pioneering, collaborative, experimental

ETH Zurich has formulated its climate targets and outlined its approach to reach climate neutrality. The "ETH Net Zero" programme defines milestones on the reduction path to be achieved in the years up to 2030 and sets the course for the challenges after 2030 with foresight. Climate neutrality of university operations is a shared responsibility of all ETH members and an opportunity to help shape, experience and position ETH Zurich as a pioneer and role model for decarbonisation and sustainability.

Roadmap 2024 – 2030, March 2024

# Joint responsibility for an ETH-wide programme

ETH Zurich has been implementing climate protection and energy efficiency measures since the early 2000s and has driven forward the reduction of greenhouse gases in its own academic operations with projects and initiatives. Since 2019, the process has been in an intensified exploration phase due to rapidly changing framework conditions at the political and legal level and an internal consultation process within the ETH community. With the "ETH Net Zero" programme, ETH Zurich is now specifying its path towards climate neutrality. The message: "All for zero 2030".

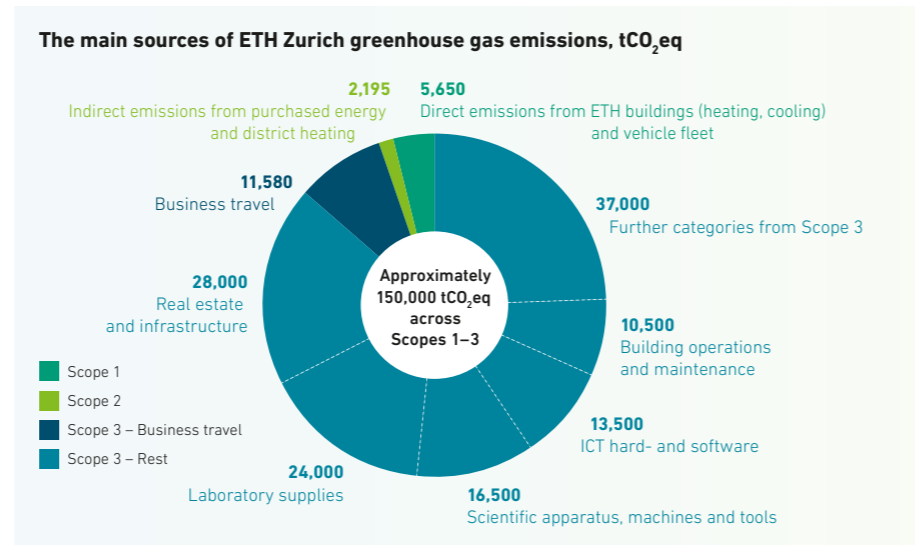


Figure 1 shows the current greenhouse gas balance for 2023. The indirect emissions from Scope 3 (except for business travel) were last calculated in 2019 based on financial data from 2017 and are rounded.

In line with the Paris Climate Agreement and as part of the Swiss Federal Administration, ETH Zurich is obliged by the "Climate Package" (2019) to reduce its greenhouse gas emissions by at least 50 percent by 2030 compared to 2006. Together with the other institutions of the ETH Domain, ETH Zurich has set the system boundary for achieving this requirement to include its direct emissions (Scope 1), indirect emissions from the purchase of electricity and district heating (Scope 2) and emissions from business travel (a commodity group of Scope 3).

ETH Zurich's commitment to climate protection and greenhouse gas reduction will be strengthened by the Climate Protection

and Innovation Act adopted by the Swiss electorate in June 2023. The previously largely unknown indirect emissions in the supply chains (Scope 3) will also be included in the reduction targets. As a pioneer and role model for decarbonisation and sustainability, ETH Zurich is committed to the most comprehensive and accurate greenhouse gas balance possible and to transparent reporting.

The "ETH Net Zero" programme marks a transition from voluntary action to greater commitment. The realisation of net zero is a joint responsibility shared by all members of ETH Zurich. ■

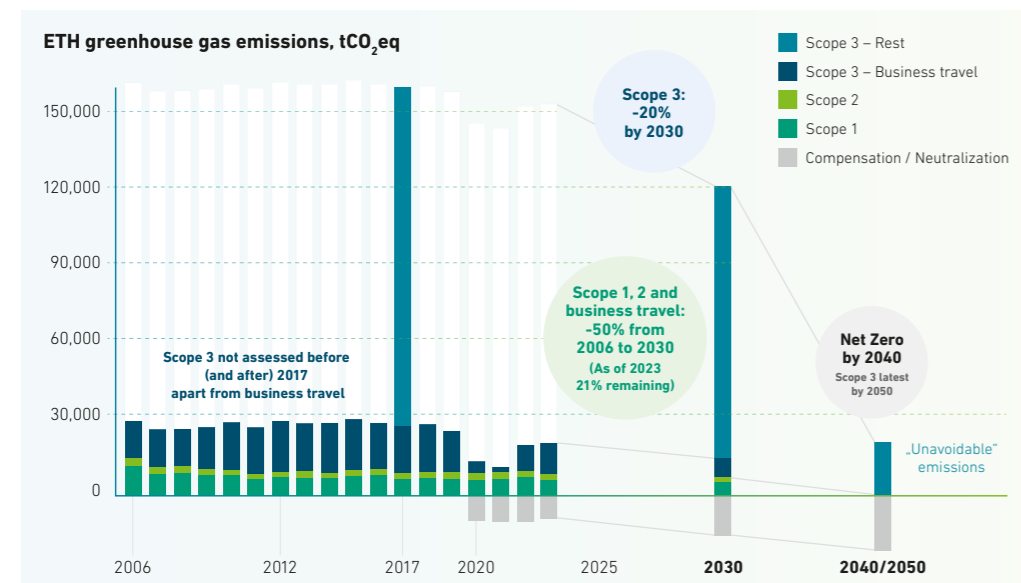
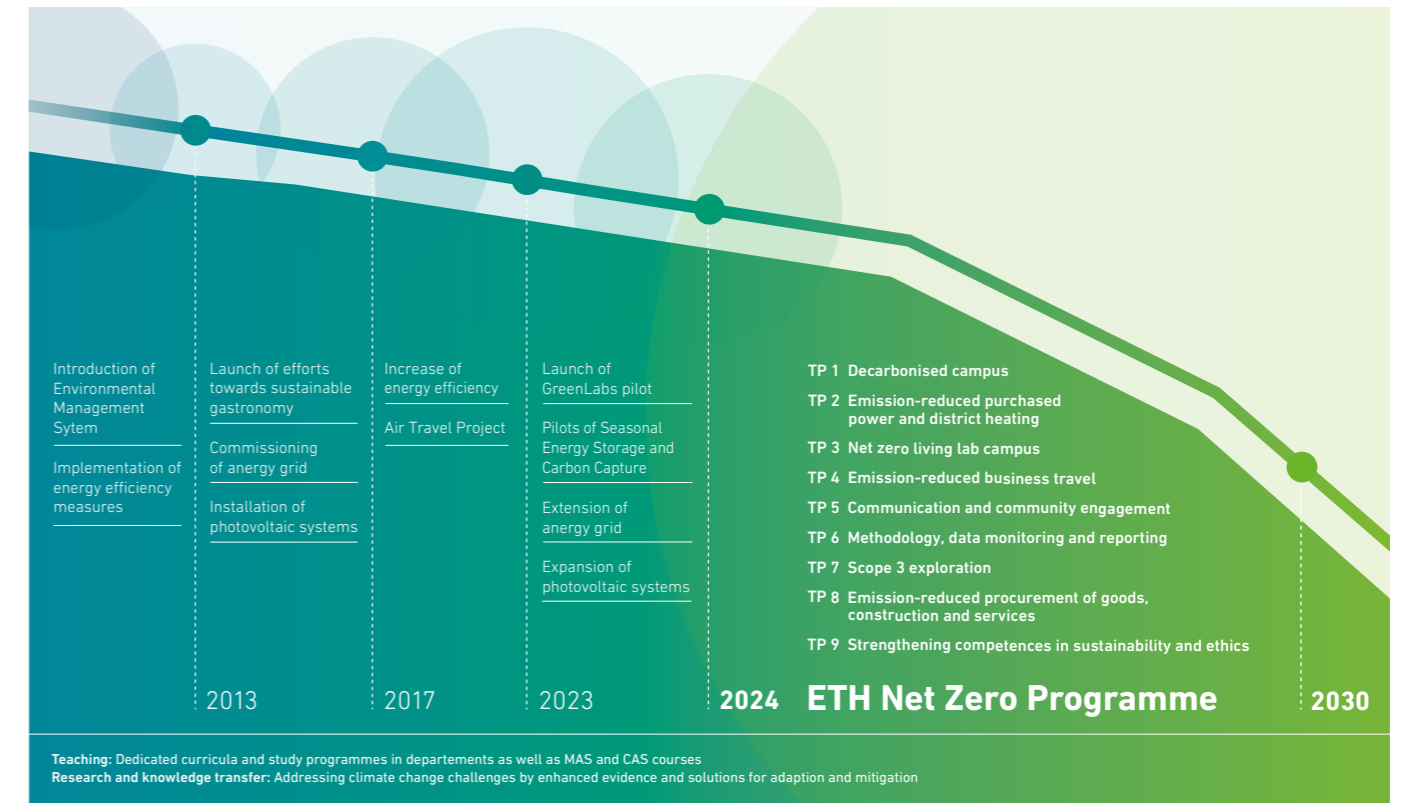


Figure 2 illustrates the emission reductions required to achieve the targets for 2030, 2040, and 2050. Emissions must be consistently avoided and reduced. To achieve net zero, "unavoidable" emissions will have to be offset or neutralized.

# Expedition to net zero

The "ETH Net Zero" programme aims to bundle the activities for the years 2024 to 2030 in an impact-oriented manner to reduce all climate-relevant emissions, expressed in tCO<sub>2</sub>eq, on campus as well as in teaching and research at ETH Zurich as much as possible, taking into account the current legal basis and framework conditions.

Figure 3 provides an overview of previous initiatives and projects as well as the sub-projects of the "ETH Net Zero" programme along the planned reduction path, building on research and knowledge transfer as well as teaching activities that have been ongoing for long.



With the launch of the "ETH Net Zero" programme, all Executive Board domains and departments are mandated to participate. At the annual Net Zero Day, we will report on the progress made on the reduction path and discuss successes and challenges in the ETH community.

In striving for net zero, the premise is to avoid and reduce emissions to such an extent that only absolutely "unavoidable emissions" remain. To achieve net zero in the current system boundary (Scope 1, Scope 2, business travel), offsetting certificates may still be purchased until 2030. From 2030, the "unavoidable emissions" will have to be neutralised, i.e., permanently removed from the atmosphere and stored in an appropriate site using CO<sub>2</sub> removal technologies co-developed by ETH, among others. The system boundary will be continuously extended as of 2030 for an "all-scope" decarbonisation by 2040 and 2050.

Nine sub-projects (SP) are currently being pursued as part of the programme to avoid and reduce greenhouse gas emissions (see Figure 3). SP 1 – 3 focus on emissions from operations in Scopes

1 and 2, while SP 4, 7 and 8 target Scope 3 emissions. SP 5, 6 and 9 support knowledge and competence development as well as the participation of ETH members. The currently estimated investment requirement of CHF 50 million by 2030 will pay off in the medium and long term, as climate-friendly and resource-saving university operations will keep expensive offsetting and neutralisation efforts to a minimum.

Nobody knows yet what it will feel like to do research, to teach, and to study at a climate-neutral university. The path to net zero is akin to an expedition on which there is much to explore, learn and tackle. Success is not guaranteed. But by joining forces, the "ETH Net Zero" programme can achieve significant results: ETH Zurich will be able to present itself even more strongly as an innovative and future-oriented institution. With the consistent and binding implementation of its own reduction path, the university assumes responsibility by pointing the way to a climate-friendly future and transferring relevant knowledge, technology, and experience to society – entirely in line with its traditional role. ■

Be better informed  
about the "ETH Net Zero"  
programme, experience its  
impact and help shape it:

Register now for the next  
ETH Net Zero Day, happening each May.



2030

"ETH Net Zero programme: Pioneering, collaborative, experimental." Roadmap 2024-2030, March 2024.

Cover picture: The solar mini-refinery on an ETH building produces CO<sub>2</sub>-neutral fuels from sunlight and air.

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