



# Graz Declaration for Climate Protection in the Built Environment

## Outcome of SBE19

An intact natural environment is not only vital for humankind but also provides the basis for further social and economic development. For more than 30 years, the international scientific community has provided a strong body of evidence on the increasingly high atmospheric concentrations of man-made greenhouse gases (GHG) and the need to reduce these in order to limit the damages and risks caused by global warming. The UNFCCC has endorsed this and has started international processes for collectively reducing these harmful GHG-emissions. However, the most recent IPCC report<sup>1</sup> conclusively shows that much more action is urgently needed if global warming is to be kept within 1.5°C increase. These actions must occur in a much shorter time-span.

The operation of buildings is responsible for approximately 40% of Europe's energy consumption and 36% of CO<sub>2</sub> emissions, making them the single largest cause of energy consumption and GHG-emissions. In addition, there are energy consumption and emissions caused by the manufacturing of construction products for creation and refurbishment of buildings and constructed assets.<sup>2</sup> Urgent actions are needed to cut energy consumption and GHG-emissions caused in construction product industry as well as in the construction, facilities management and real estate sectors. Therefore, the reduction of life cycle related carbon footprint of construction works shall become an imperative.

Good examples already show that it is feasible to create a net-zero GHG-emission built environment. In addition to addressing climatic and environmental concerns, these projects also engage with wider societal concerns expressed in the UN Sustainable Development Goals (SDGs).<sup>3</sup> These positive examples are proof of technical, social and economic feasibility. There is an imperative to adopt these practices widely.

The objectives of limiting global warming require translation into actions for the specific sectors and actors.

The signatories assembled in Graz (SBE19) therefore declare:

(1) Governments have a vital leadership role in establishing and enforcing long-term principles, values and priorities and therefore must create effective policies and frameworks for enabling the transition towards net-zero GHG-emission built environments. This includes the protection of the natural basis for life – e.g. reducing the concentration of atmospheric GHGs and the harmful impacts on society and the environment. Legally binding international, national and local requirements shall be put in place and respect and include scientifically-based GHG-emission targets to stay within a 1.5°C increase.

(2) Specific GHG-emission targets and budgets are needed for the construction and property sectors - these need to be scalable (both top-down and bottom-up for construction products, buildings, cities, building stocks) and have clearly defined timeframes in order to deliver net-zero GHG-emission levels by or before the middle of this century. To be effective, targets and budgets must be enshrined in legislation and standards. Requirements need to be framed in terms of performance and ensure that no preference should be given to certain technologies. As a matter of urgency and to avoid lock-in effects, binding requirements must be introduced by 2025 due to the built environment's long lifespan and impacts.

<sup>1</sup> IPCC (2018) Global Warming of 1.5 C (Special Report). <https://www.ipcc.ch/sr15/>

<sup>2</sup> In addition to the operational part, 11% of the global building related GHG-emissions are caused by the construction industry.

<sup>3</sup> e.g. reduced environmental impacts, resilience, innovation, health and wellbeing, reduced inequalities, responsible consumption and production, and affordable housing.

(3) Operational energy on its own is not a sufficient metric. It is necessary to limit both resource use and GHG-emissions over the full life cycle. The regulation of life-cycle related GHG-emissions must therefore cover the production, construction, operation, maintenance, replacement, refurbishment and end of life of buildings.<sup>4</sup>

(4) Public buildings or those given public resources must be exemplary in delivering ambitious reductions in GHG-emissions. They have a significant role in facilitating the transformation of present practices, creating new capacities and driving innovation. Their performance must be monitored and publicly reported on a regular basis, including their GHG-emissions over their entire lifecycle.

(5) Public support programs should be created for projects and interventions (i.e. individual or mass retrofits) with an above-average contribution to meet the carbon budget. The amount of financial support should be linked to the amount of avoided GHG-emissions.

(6) Research with a clear focus on reducing GHG-emissions in the built environment should be prioritized and provided with sufficient human, material and financial resources. Funding should be geared to the level of potential savings in energy and GHG-emissions compared to other sectors.

(7) We, the signatories, commit ourselves to advance the development of fundamental principles and tools for determining, assessing and influencing resource utilization and environmental pollution caused by buildings and their supporting infrastructures. The same applies to the development and testing of products, technologies and construction methods.

(8) A core task for the built environment research community is to advise policy makers, practitioners and civil society on strategies to decarbonise the built environment. We also have a responsibility to engage with international and local climate change initiatives.

(9) We call upon all those involved with the governance and provision of higher education and training to change the curriculum before 2025 to ensure that decarbonization and the SDGs are central components. This includes the teaching of fundamental principles, systems-thinking orientation, practice-oriented skills and solutions for net-zero GHG-emission buildings.

(10) As a matter of urgency, all those organisations responsible for built environment professions and vocations are called on to provide mandatory training to their existing members for ensuring they have the knowledge and skills to create, operate and maintain a net-zero GHG-emission built environment.

(11) We call upon the building products, construction, infrastructure (i.e. civil engineering), housing and real estate industries to make their own contribution to radically reduce GHG-emissions in their respective areas of work and responsibility, including their supply chains.

(12) We call upon the finance and insurance industries to grant favourable conditions to buildings and interventions to buildings with an above-average contribution to sustainable development and climate protection. We welcome the approach of “green finance” with a taxonomy to assess construction and infrastructure projects in the EU.

(13) We invite the organizers and participants of the WSBE20 to transfer this initiative to the global community. We will report to this world conference on the results and progress in our research and other activities.

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<sup>4</sup> This can be expressed as the carbon footprint of a building based on a life cycle assessment (LCA)