Feedback from Passivhaus Institute

On the EU Strategy to boost global climate and energy transition

The Passive House Insitute (PHI) welcomes the opportunity to provide feedback on the EU´s climate and energy strategy for the upcoming UN Climate Change Conference (COP30) in Brazil.

As Europe's largest energy consumer - buildings have a critical role to play in achieving the EU's ambition of becoming the world's first climate-neutral continent by 2050, yet beeing underrepresented in current strategy efforts towards COP30. PHI sees itself as a research institute that has been providing innovative, tried and tested solutions for maximum energy efficiency in the building sector for over 30 years. That is why, with our expertise, we are particularly aware of the special role this sector plays in decarbonisation. The EU itself repeatedly highlights the importance of this sector in various sources and has demonstrated, not least through initiatives such as the amendment of the EPBD, what progress still needs to be made in this area.

Increased building energy efficiency plays a key role in many areas. It has a positive impact on the resilience of the building sector to energy crises in several ways. Buildings are among the largest energy consumers in Germany and Europe, especially outdated or inefficient buildings. This is due to their high demand for especially heating, and also cooling and electricity. Buildings that are designed to be more efficient – whether through better insulation, appropriate windows, higher airtightness or ventilation systems with heat recovery– significantly reduce their energy consumption, as the passive house principles have been demonstrating for decades. This reduces dependence on external energy sources, making them more resilient to price fluctuations or supply bottlenecks. In energy crises, this means that households are less affected by rising costs or supply uncertainties because they need less energy to maintain the same standard of living.

Moreover, energy efficiency in the building sector is a key component of the energy transition in Germany and Europe. The transition of the energy system to renewable sources requires not only a move away from fossil fuels, but also a significant reduction in overall consumption. At the same time, greater efficiency reduces the pressure to expand renewable energies and grid infrastructures, as less energy needs to be provided overall. Furthermore, this reduces the need for backup infrastructure. Smaller heating systems are required, which are more affordable for the end user and can be smaller in size. This not only saves costs, but also accelerates the transformation process.

Another key aspect is independence from fossil fuels. Oil and gas heating systems are still widely used, particularly in the building sector. Improving efficiency means that less fossil fuel is needed or that it can be replaced entirely by renewable heat sources. This reduces dependence on imports from uncertain international supply chains, strengthening Europe's energy sovereignty. This advantage proves to be crucial, especially in times of crisis when fossil fuels are used as a means of geopolitical pressure. Here, too, the Passive House Standard represents a suitable path to achieving the necessary efficiency. Without clear guidelines and ambitious minimum standards, renovations or new buildings will not achieve the level of efficiency required to meet climate targets. High standards, such as the Passive House Standard, create planning security, promote innovation in construction and building services engineering, and contribute to reducing energy costs in the long term. They also prevent inefficient buildings from artificially keeping energy consumption high for decades and slowing down the energy transition.

PHI considers the introduction of higher minimum standards, such as those set out in the EPBD in the form of zero-emission buildings (ZEB), to be an important step towards achieving the goals for the building sector. The Passive House standard for new buildings and the EnerPHit standard for

renovations already largely meet the primary energy demands set by the European Commission in the revised Energy Performance of Buildings Directive (EPBD) with the introduction of zero-emission buildings (ZEB). Both standards consistently aim to reduce the energy requirements of buildings as much as possible and to cover remaining energy requirements with renewable sources. In practice, they thus correspond to the core of the ZEB requirements: very low primary energy demand, high energy efficiency and a consistent focus on climate-neutral supply. A key advantage of Passive House and EnerPHit is their long-standing practical application. Numerous buildings worldwide have been demonstrating for decades that the approaches work – both technically and economically. This experience means not only that the standards are tried and tested and reliable, but also that planning and construction processes have been established to enable their implementation on a large scale. While the EU is setting out a future target path with ZEB definitions, Passive House and EnerPHit already offer proven, realistic and tested tools that actually meet the requirements.

These standards thus make a special contribution to achieving climate targets in the building sector. They show that ambitious efficiency targets are not only theoretically feasible, but also practical and economically viable. Precisely because they drastically reduce energy consumption, they facilitate the complete switch to renewable energies and thus strengthen independence from fossil fuels. Against this backdrop, the Passive House and EnerPHit standards not only represent a practical way of implementing ZEB requirements, but are also a key component for meeting the climate targets of the Paris Agreement.

All in all the building sector plays a key role in achieving the climate targets of the Paris Agreement. The European strategy for COP30 must therefore not overlook this aspect when it comes to strategic and future-proof strategy considerations. Improved energy efficiency can drastically reduce energy consumption and emissions, reduce dependence on fossil fuels and strengthen security of supply. Increasing building energy efficiency is therefore not only a question of climate policy, but also of social justice, economic stability and geopolitical resilience. Without significant progress in this area, Germany and Europe will not be able to embark on the path to climate neutrality even after COP30.