

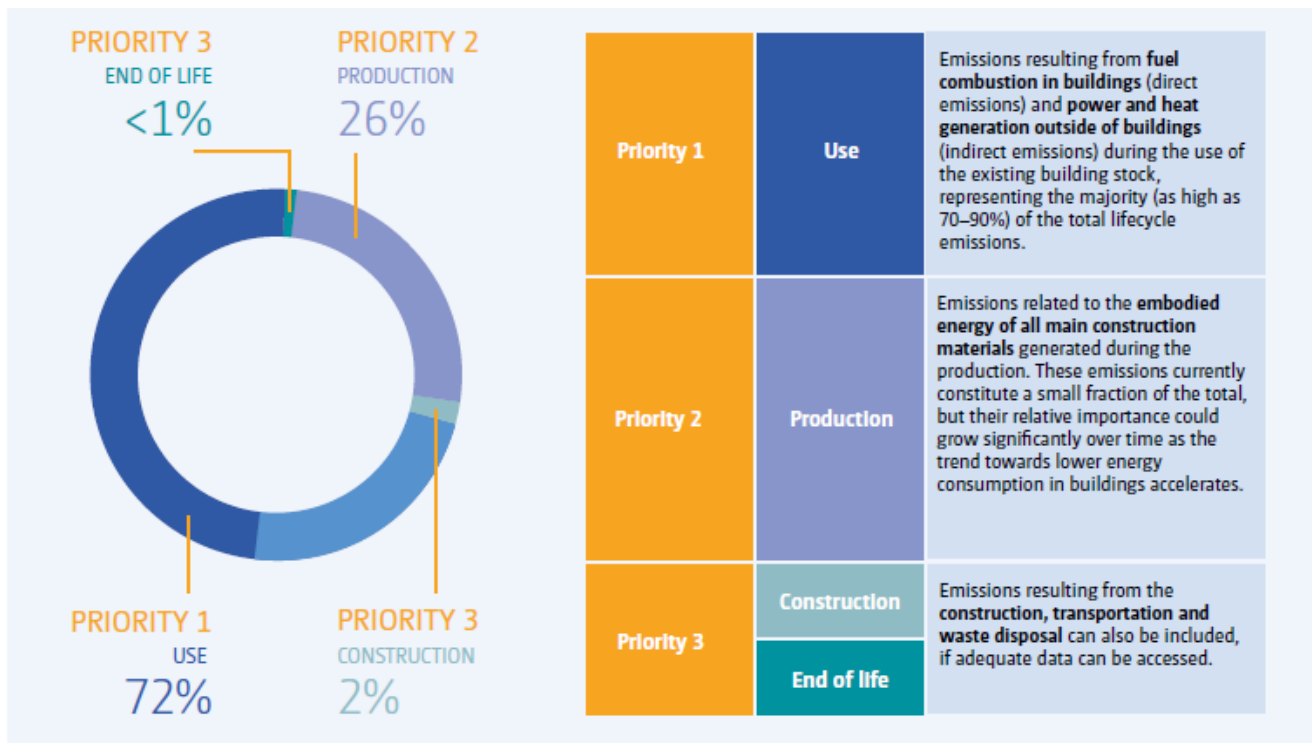


HOW TO MONITOR MITIGATION IN THE BUILDING SECTOR ALIGNED WITH CLIMATE FINANCE REQUIREMENTS

Enhancing Transparency on Mitigation Action Impacts

COP Event - Getting the building sector to Net Zero: brick by brick

Majority of emission are typically released in the use and production stage of a building



Source: UNFCCC, 2021: Compendium on greenhouse gas baselines and monitoring - Building and construction sector

To maximise the impact, mitigation actions in the building and construction sector should address the use and production stage holistically

Strategies	Mitigation options	GHG mitigation potentials
Carbon efficiency	Solar domestic hot water system	20%
	Solar electricity generation through roof-top PV installations	15–58%
	Biomass use for stoves	30–60%
	Reduction of embodied carbon of construction materials	5–40+*
Technology efficiency	High-performance thermal envelope with efficient heating, ventilation and air conditioning	10–68%
	Efficient appliances	45–75%
	Efficient lighting	<50%
System efficiency	District heating/cooling	30–70%
	Building automation and control systems for space heating, water heating and cooling/ventilation or for lighting	25–37%
	Passive House standard	30–70%
	High-efficiency energy distribution systems, co-generation, trigeneration	30–70%
Energy service demand reduction	Behaviour and lifestyle changes of users	20–40%
	Smart metering	

Source: Elaboration based on IPCC (2014), tables 9.1, 9.4 and 9.6, and GlobalABC (2018).

Note: *The vision of the World Green Building Council (2019) is that, by 2030, all new buildings, infrastructure and renovations will have at least 40% less embodied carbon and be net zero embodied carbon by 2050.

Source: UNFCCC, 2021: Compendium on greenhouse gas baselines and monitoring - Building and construction sector

PRIORITY 1 – use stage

- Design and construct **new buildings to be net zero carbon**
- Improve the **thermal performance in buildings**
- Improve the **technical systems in buildings**
- Switch to **renewables**

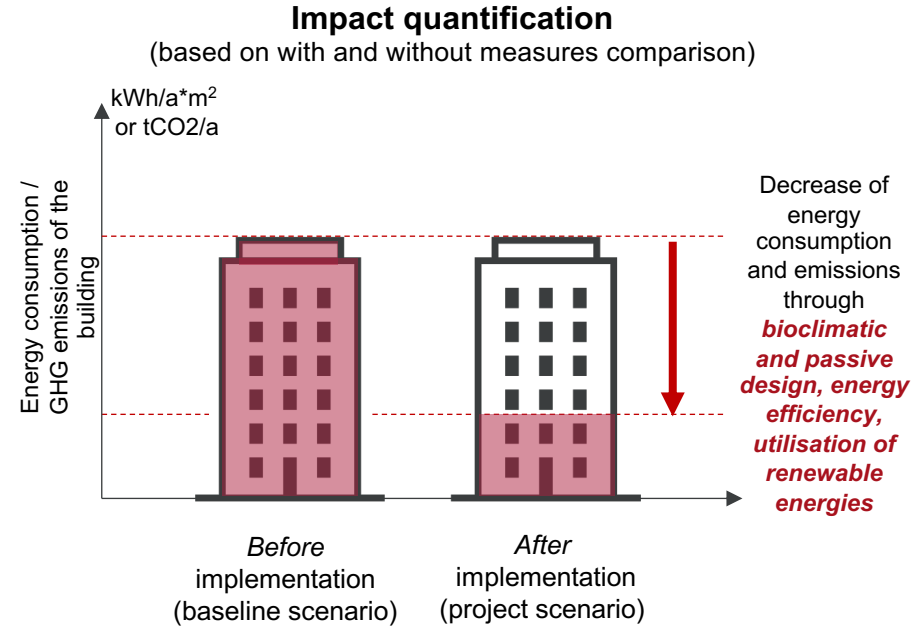
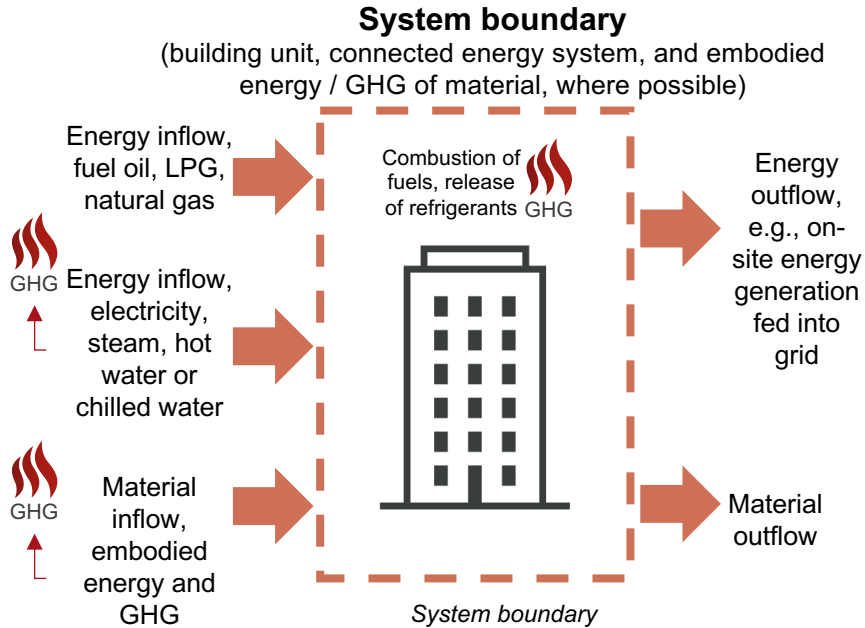
PRIORITY 2 – production

- Use **low-carbon, renewable, reused and recycled materials** in construction and renovation processes.

PRIORITY 3 – construction and end-of-life stages

- Ensure **low-emission processes** in construction and demolition

Hence, also the monitoring of mitigation action impacts should holistically cover the improving energy and thermal performance by design of buildings



Further information on measuring and mitigating the climate impact of buildings and construction is available in the UNFCCC Compendium

1) The UNFCCC Compendium on Greenhouse Gas Baselines and Monitoring for the Building & Construction Sector

- Support the development and implementation of NDCs
- Support the implementation of the Enhanced Transparency Framework
- Support the Global Stocktake process

2) Upcoming PEEB Briefing Note on **MEASURING MITIGATION ACTIONS IMPACTS IN THE BUILDING SECTOR** (to be published soon)

- Further guidance on how to estimate and monitor direct and indirect emission reductions in buildings to
 - help users present credible ex-ante estimates of the GHG mitigation potential in a pragmatic and robust way accepted by donors and climate finance facilities;
 - enable users to implement ex-post calculations and monitoring of mitigation results in the building sector with a reduced amount of effort





climate advisory network

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