

Pandemic caused dip in building emissions, but long-term outlook bleak – UN report

Nairobi, 14 October 2021 – The economic consequences of the COVID-19 pandemic caused CO₂ emissions from buildings and construction to fall significantly in 2020, but a lack of real transformation in the sector means that emissions will keep rising and contribute to dangerous climate change, according to the 2021 Global Status Report for Buildings and Construction.

The report, published by the UN Environment Programme (UNEP)-hosted [Global Alliance for Buildings and Construction](#) (GlobalABC), finds that in 2020, the sector accounted for 36 per cent of global final energy consumption and 37 per cent of energy related CO₂ emissions, as compared to other end use sectors.

While the level of emissions within the sector are 10 per cent lower than in 2015, reaching lows not seen since 2007, this was largely due to lockdowns, slowing of economies, difficulties households and businesses faced in maintaining and affording energy access and a fall in construction activity. Efforts to decarbonize the sector played only a small role.

With large growth projected in the buildings sector, emissions are set to rise if there is no effort to decarbonize buildings and improve their energy efficiency. In Asia and Africa, building stock is expected to double by 2050. Global material use is expected to more than double by 2060, with one-third of this rise attributable to construction materials.

“This year showed that climate change is an immediate, direct threat to every community on this planet, and it is only going to intensify,” said Inger Andersen, Executive Director of UNEP. “The buildings and construction sector, as a major source of greenhouse gas emissions, must urgently be decarbonized through a triple strategy of reducing energy demand, decarbonizing the power supply and addressing building materials’ carbon footprint, if we are to have any chance of meeting the Paris Agreement goal of limiting global warming to 1.5C.”

Some progress, but not enough

The GlobalABC’s Global Buildings Climate Tracker found that there have been some incremental improvements in action to decarbonize and improve the energy efficiency of the sector.

In 2015, 90 countries included actions for addressing buildings emissions or improving energy efficiency in their Nationally Determined Contributions (NDCs) under the Paris Agreement. This number has now hit 136, although ambition varies.

Since 2015, an additional 18 countries have put in place building energy codes – a move that is crucial to shift emissions downwards – bringing the total to 80. Local cities and governments have also developed codes. Investment in energy efficiency rose to over 180 billion USD in 2020, up from 129 billion in 2015. Green building certification has increased by 13.9 per cent compared to 2019.

Overall, however, the report finds that these efforts are insufficient, both in terms of speed and scale.

Other key findings of the report include: two-thirds of countries still lack mandatory buildings codes; most of the increase in energy efficiency spending came from a small number of European countries; too small a share of finance goes into deep energy retrofits, and there is a lack of ambitious decarbonization targets in NDCs.

What comes next?

Energy demand in the buildings and construction sector is likely to rebound as economic recovery efforts take hold and as pent-up demands for new construction are realized. By 2030, to be on track to

achieving a goal of net-zero emissions by 2050, the [International Energy Agency](#) says that direct building CO₂ emissions would need to decrease by 50 per cent. Indirect building sector emissions will have to drop through a reduction of 60 per cent in power generation emissions. To achieve these goals, the report finds, the sector must take advantage of every lever.

While pandemic recovery spending has not sufficiently prioritized climate friendly approaches to the level required, there is still an opportunity to invest in decarbonizing our buildings while increasing their resilience:

- Countries need to harness the sector's transformative potential for achieving the energy transition.
- Governments need to commit to further decarbonising the power, as well as heating and cooling energy supply. This includes stepping up ambition in NDCs to include building decarbonization targets that contain the so-far largely overlooked embodied carbon, emissions from the production of building materials.
- The rate of growth of investment in building efficiency need to double to over 3 per cent per year and must expand beyond direct government investment to private investors.
- Scope and coverage of building energy codes need to increase. All countries need to have in place mandatory building energy codes, and these would ideally address performance standards for building envelopes, design, heating, cooling, ventilation systems and appliances, and ensuring links with integrated in urban planning.
- Buildings' resilience needs to increase to future proof our homes and workspaces. A typical building constructed today will still be in use in 2070, but the climate it encounters will have changed significantly. The necessary interventions to reduce the climate impact of existing buildings should be combined with investing in adaptation and resilience measures.
- In addition, both public and private sector need to seize the tremendous investment opportunities this sector offers, e.g., through green bonds or through banks increasing green building construction and mortgage finance.

NOTES TO EDITORS

About the Global Alliance for Buildings and Construction (GlobalABC)

The GlobalABC is the leading global platform for governments, the private sector, civil society and intergovernmental and international organizations to increase action towards a zero-emission, efficient and resilient buildings and construction sector. The Global Alliance for Buildings and Construction (GlobalABC) was a key outcome of the 2015 UN climate conference.

About the UN Environment Programme (UNEP)

UNEP is the leading global voice on the environment. It provides leadership and encourages partnership in caring for the environment by inspiring, informing and enabling nations and peoples to improve their quality of life without compromising that of future generations.

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