



KEY MESSAGES – KEY FACTS & FIGURES

Key Messages

- Looking ahead, the challenges to reaching a net zero, energy-efficient and resilient buildings and construction sector are considerable but achievable:
 - According to the IEA, to be on track to achieving a goal of net-zero emissions by 2050, 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 by 2030.
- The buildings and construction sector, as a major source of greenhouse gas emissions, must urgently be decarbonized through a triple strategy: Reducing energy demand, decarbonizing the power supply, and addressing embodied carbon stored in building materials, if we are to have any chance of meeting the Paris Agreement goal of limiting global warming to 1.5C

COVID-19

- Pandemic causes temporary dip in building emissions, but long-term outlook bleak. The lack of real transformation in the sector means that emissions will keep rising and contribute to dangerous climate change.
- The COVID-19 pandemic had major impacts on the global buildings and construction sector. Its impacts resulted in global CO₂ emissions from buildings operations falling by 10% between 2019 and 2020. But emissions and energy use are expected to pick up again with increasing economic activity.
- The buildings and construction sector played a critical role in pandemic recovery plans: Around 14 percent of total recovery funds are focused on buildings improvements and elements of these initiatives will have a beneficial impact on decarbonizing the sector, but again these efforts are insufficient for a sectoral transformation.

NDCs

- Visible progress over the past five years: 18 more countries have adopted building energy codes and the number of countries with buildings actions included in their NDCs has risen from 90 to 136. Energy efficiency and energy codes in buildings are the second most frequently cited actions within all Nationally Determined Contributions, alongside resilience, renovation and retrofitting measures.

BCT

- Yet, the GlobalABC's Global Buildings Climate Tracker demonstrates that despite improvements in energy investment and power decarbonization, these efforts are insufficient, both in terms of speed

and scale to achieve the deep sectoral transformation that is needed: Two thirds of countries where most of the new construction will take place still lack mandatory buildings codes. Too small a share of finance goes into deep energy retrofits. Building materials are under-addressed and there is a lack of ambitious decarbonization targets in NDCs.

Energy Efficiency

- Global investment in the energy efficiency of buildings increased an unprecedented 11 per cent, yet limited to few countries and dominated by EU investments. The flow of finance to this area continues to accelerate but is still too small a fraction for transformational change.

Cooling

- Energy use for space cooling is skyrocketing. This is a particular concern - both from energy-related and refrigerant emissions, but also its crippling effect on vulnerable power systems during ever more frequent extreme heat waves.
- A resilient and sustainable built environment will rely on policymakers and industry delivering integrated approaches to cooling that avoid demand through building design and urban planning, improve equipment efficiency, shift to renewables and district cooling and protect vulnerable populations.

Facts and figures

The *Global Status Report for Buildings and Construction* continued to evolve over the past five years, bringing forward insights and pointing to information to help understand efforts that support the transition to a net-zero carbon, energy-efficient and resilient buildings and construction sector.

Emissions and Energy Use

- The building and construction sector in 2020 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.

Building Energy Codes and Building Certification

- From 2015 to 2020, countries that adopted building energy codes grew from 62 to 80.
- As of September 2021, 80 countries had building energy codes on the national or sub-national level, 43 countries of these mandatory. 18 of these countries have adopted their codes since 2015.
- 82% of the population that is to be added by 2030 live in countries without mandatory building energy codes, 44% in countries without any building energy codes and 38% with only voluntary codes.
- Between 2019 and 2020, green building certification increased 13.9%.

NDCs

- From 2015 to 2020, countries included building actions in NDCs grew from 90 to 136. Energy efficiency and energy codes in buildings are the second most frequently cited actions.
- In 2020, the average annual growth rate in buildings and construction across the world fell an estimated 4% from 2019 levels.

Energy Efficiency

- In 2020, energy efficiency investment in buildings increased 11%, reaching more than US\$180 billion up from \$129 billion (in 2020 dollars) in 2015. Most of this increase comes from European countries.
- For the first time since 2015, in 2020 the annual rate of growth in energy efficiency investment in the sector has exceeded 3 per cent.
- The value of the global buildings and construction sector declined an estimated 2% to \$6.1 trillion in 2020 due to the pandemic.
- Positive trends can be seen in the sector. In 2020, energy efficiency investment in buildings increased by 11%, green building certification increased by 13.9%, 10 more countries adopted building energy codes.
- Global investment in the energy efficiency of buildings increased an unprecedented 11% to around \$184 billion, dominated by EU investments. The flow of finance to this area continues to accelerate.
- As of October 2021, improvement in the energy efficiency of buildings is the second most frequently referred to policy in NDCs. By 2030, 65% of the global population will be living in countries that have NDCs covering building energy improvements.

Cooling

- The demand for cooling is the fastest growing energy demand and contributes around 1 gigaton of CO₂ per year and nearly 5 per cent of total energy consumption worldwide in 2020. In the last 20 years, energy use for space cooling has doubled. It will double again over the next twenty years unless stronger policy action is taken.
- Through deep retrofits, the construction of highly efficient new buildings and sustainable cooling technologies, energy use for cooling could be reduced 25 per cent by 2030 and almost 50 per cent by 2050.
- The cooling-dominant regions are currently home to around 4.7 billion people. They include 26 low-income countries (17.8 per cent of the population), 50 low-middle income countries (34.4 per cent), 41 middle-upper income countries (28 per cent) and 29 upper-income countries (19.8 per cent).

- By 2050, an estimated 54.5 per cent of the global air-conditioner stock will be located in three regions: China (491 million, 25.3 per cent), India (406 million, 21 per cent) and North America (158 million, 8.2 per cent).

Commitments and Campaigns

- Several commitments and pledges that include buildings and construction have been launched. More than 200 companies from the sector have committed to the Science Based Targets initiative (SBTi) to reduce their emissions in line with climate science. This makes the construction sector one of the larger sectors committed to the SBTi.
- The Race to Zero, a global campaign to rally leadership and support from businesses, cities, regions and investors for a healthy, resilient, zero-carbon recovery so far counts more than 695 companies (66 from the construction sector).

Key Recommendations from the 2021 Buildings GSR

Policy

- Governments need to set enabling frameworks and lead by example through public procurement to harness the sector's potential for achieving the energy transition while future-proofing assets – our homes and workplaces - and related investments as well as promoting buildings that are conducive to well-being and productivity.
- Governments need to commit to further decarbonise the power as well as heating and cooling energy supply, and address so-called embodied carbon. This includes stepping up ambition in NDCs to include building decarbonization targets and the so-far largely overlooked carbon emitted in the production of building materials.
- Scope and coverage of building energy codes need to increase. All jurisdictions need to have in place mandatory building energy codes covering all buildings, with performance standards for building envelopes, design, heating, cooling, ventilation systems and appliances, and ensuring links with integrated in urban planning.
- All countries should undergo a national Roadmap process, if not yet done so, to engage with sector stakeholders in the setting of targets and milestones. The GlobalABC global and regional roadmaps provide a framework and a process to do so.

Financial Insitutions

- The rate of growth of investment in building efficiency needs to double to over 3 per cent per year and must expand beyond direct government investment to private investors.

Private Sector

- Private sector actors should embark on setting decarbonization targets aligned with the Paris Agreement, for instance by joining the [Race to Zero](#) and/or the [Science-based targets Initiative](#).
- 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.