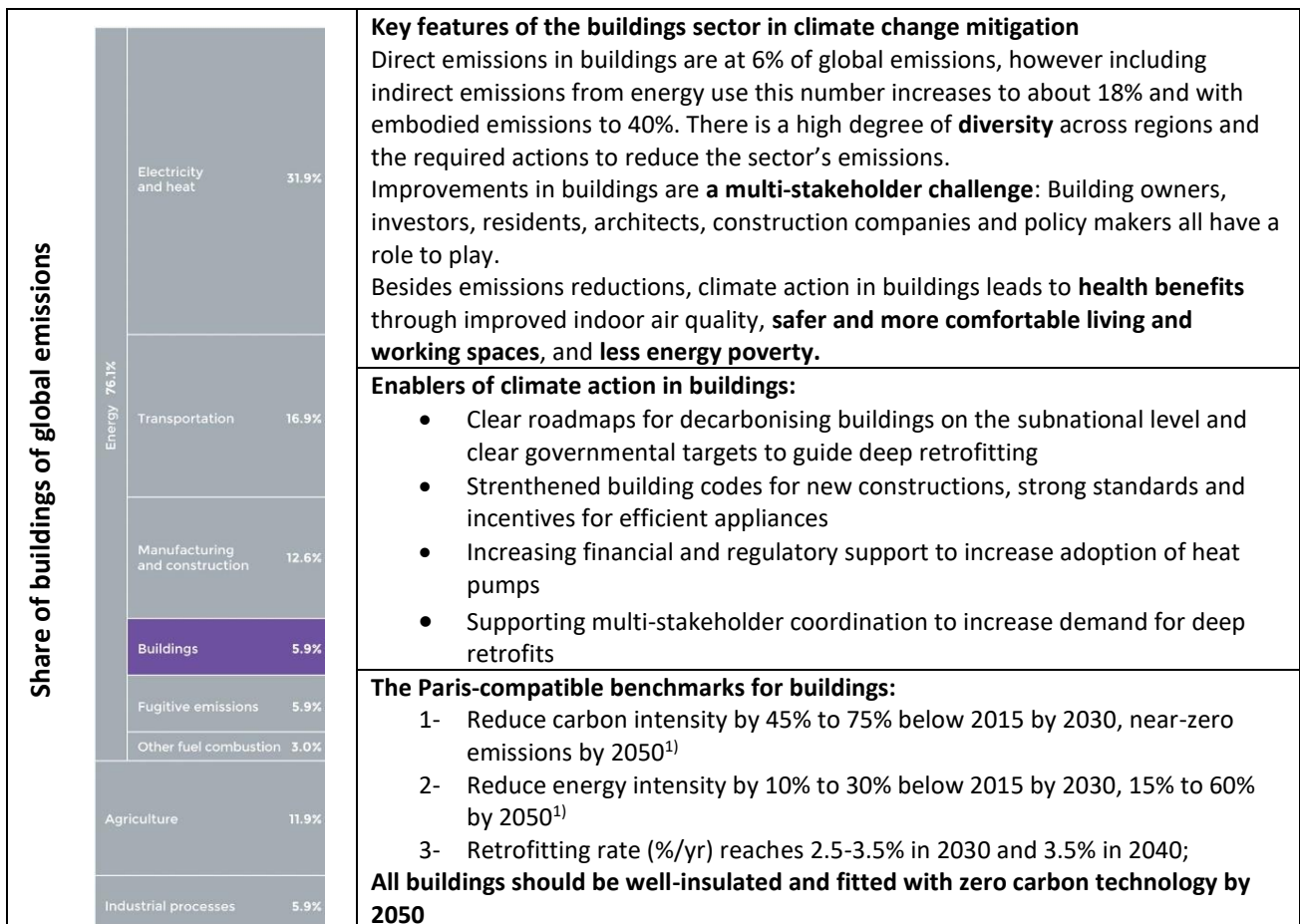


# State of Climate Action 2021

Summary of the assessment of climate action in the buildings sector - This factsheet is an excerpt from State of Climate Action 2021. All references, data sources, authors and methods can be found in the [full report](#).



## Key features of the buildings sector in climate change mitigation

Direct emissions in buildings are at 6% of global emissions, however including indirect emissions from energy use this number increases to about 18% and with embodied emissions to 40%. There is a high degree of **diversity** across regions and the required actions to reduce the sector's emissions.

Improvements in buildings are a **multi-stakeholder challenge**: Building owners, investors, residents, architects, construction companies and policy makers all have a role to play.

Besides emissions reductions, climate action in buildings leads to **health benefits** through improved indoor air quality, **safer and more comfortable living and working spaces**, and **less energy poverty**.

## Enablers of climate action in buildings:

- Clear roadmaps for decarbonising buildings on the subnational level and clear governmental targets to guide deep retrofitting
- Strengthened building codes for new constructions, strong standards and incentives for efficient appliances
- Increasing financial and regulatory support to increase adoption of heat pumps
- Supporting multi-stakeholder coordination to increase demand for deep retrofits

## The Paris-compatible benchmarks for buildings:

- 1- Reduce carbon intensity by 45% to 75% below 2015 by 2030, near-zero emissions by 2050<sup>1)</sup>
- 2- Reduce energy intensity by 10% to 30% below 2015 by 2030, 15% to 60% by 2050<sup>1)</sup>
- 3- Retrofitting rate (%/yr) reaches 2.5-3.5% in 2030 and 3.5% in 2040;

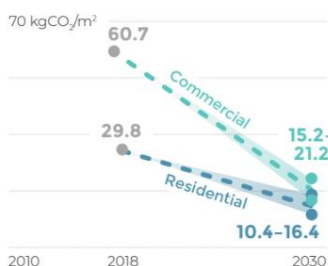
**All buildings should be well-insulated and fitted with zero carbon technology by 2050**

## The state of climate action in the buildings sector

Although global **emissions intensities** of buildings have decreased, the pace of this improvement is insufficient to counteract increases in floor area and, therefore, reduce total emissions to reach the targets for this indicator.

**BUILDINGS** Ins. data

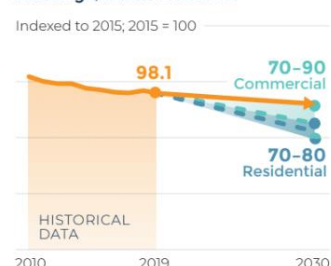
Reduce the carbon intensity of operations in select regions by 45–65% in residential buildings and by 65–75% in commercial buildings, relative to 2015 (kgCO<sub>2</sub>/m<sup>2</sup>)



Globally, **energy intensity** of buildings decreased by 19% from 2000 to 2015 and another 2 percent by 2019 (IEA, 2020). But declines in energy intensity have slowed in recent years and need to accelerate again to fully meet the targets. Recent rates of decline need to increase by a factor of three in the next decade.

**BUILDINGS** 2.7x<sup>d</sup>

Decrease the energy intensity of operations in key countries and regions by 20–30% in residential buildings and by 10–30% in commercial buildings, relative to 2015



The global average retrofitting rate needs to increase from about 1 to 2% today to 2.5 to 3.5% per year in 2030, and 3.5% in 2040. Retrofitting is more important where most of the building stock that will exist in 2050 has already been built.

**BUILDINGS** Ins. data

Increase buildings' retrofitting rate to 2.5–3.5% annually

