Action in 2020-2030 is critical to fully capture the mitigation potential of existing and new buildings. In developing countries, the largest potential is in new buildings, while in developed countries the highest potential is within the retrofit of existing buildings.
**Building energy codes** (e.g. for insulation) are especially effective if compulsory and combined with other regulatory instruments such as minimum energy performance standards for appliances and equipment.

**Limiting the use of land**, property taxes to limit urban sprawl, and prioritising multi-family buildings over single-family homes.

**Reduce demand** for cooling, heating, ventilation, and artificial lighting through sufficiency measures such as bioclimatic design (considering the expected future climate), nature based solutions (e.g. green roofs), and white walls.

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**ENABLERS**

Building technical and institutional capacity, developing skills, setting appropriate governance structures, and ensuring the flow of finance can help achieve mitigation potential.

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**BARRIERS**

- Global investment in the decarbonisation of buildings was estimated at USD164 billion in 2020, which is not enough to close the investment gap. Between 2026-2030 annual investment needs are estimated at USD711 billion.
- Increasing size of dwellings despite smaller households, especially in developed countries.
- Low renovation rates and low ambition for renovation work in developed countries.
- Reliance on fossil fuels for electricity and heating.
- Increase in use and size of appliances, especially ICT and cooling, driven by higher incomes.
- Inefficiency of new buildings, especially in developing countries.
- Lack of appropriate governance structures and institutional capacity.

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**CLIMATE IMPACTS AND ADAPTATION**

Global warming will lead to changes in temperature and humidity, and sea level rise. This will impact the need for cooling and heating, as well as the performance, durability, and safety of buildings.

Measures to cope with climate change (e.g. air conditioning) may increase the demand for energy and materials from buildings leading to an increase in GHG emissions if not mitigated.

Shared cooled spaces with highly efficient cooling solutions can limit the effect of expected heatwaves on people’s health.

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**SUSTAINABLE DEVELOPMENT**

Beyond SDG 13, actions in the building sector contribute to meeting fifteen other SDGs. These include health gains through improved indoor air quality and thermal comfort, job creation, reduced poverty (especially energy poverty), and improved energy security.