

As building floor space increases, time is running out to cut energy use and meet Paris climate goals

Equivalent of Paris is added in new building every 5 days; energy intensity per m2 of buildings needs to improve 30% by 2030 to meet Paris climate goals

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-- Time is running out to reform the buildings and construction sector's energy performance and keep the Paris Agreement on track, with the energy intensity per square meter of buildings needing to improve 30 per cent by 2030, according to new research released today.



The Global Status Report 2017, from the [Global Alliance for Buildings and Construction](#), finds that the sector continues to grow, with floor area reaching an estimated 235 billion square metres in 2016. Over the next 40 years, 230 billion m2 of additional buildings will be constructed - the equivalent of adding the floor area of Japan to the planet every single year to 2060.

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Realizing the potential of the buildings and construction sector needs all hands on deck - in particular to address rapid growth in inefficient and carbon-intensive building investments”

Erik Solheim, Executive Director, UN Environment

Buildings and construction account for 39 per cent of energy-related CO2 emissions, when upstream power generation is included. Between 2010 and 2016, population growth, rising floor area per person and greater demand for energy services all contributed to an increase in new energy demand in buildings equal to all the final energy consumed by Germany during the same period.

According to the report, the clock is ticking in part because more than half of new buildings expected to 2060 will be constructed in the next 20 years - two-thirds of them in countries that do not have mandatory building energy codes in place.

However, the report - prepared by the [International Energy Agency](#) and coordinated by [UN Environment](#) - highlights many opportunities to deploy energy-efficient and low-carbon solutions, and points to many examples across the globe that show the goals can be met with clear and concerted efforts.

"Over the next 40 years, the world is expected to build 230 billion square metres in new construction - adding the equivalent of Paris to the planet every single week," said Fatih Birol, Executive Director of

the International Energy Agency. "This rapid growth is not without consequences.

"While the energy intensity of the buildings sector has improved, this has not been enough to offset rising energy demand. Ambitious action is needed without delay to avoid locking in long-lived, inefficient buildings assets for decades to come."

The Paris pledges to date still fall short of hitting the 4.9 Gigatonnes of Carbon Dioxide (GtCO₂) annual emissions reduction that could be achieved if countries were to pursue strategic low-carbon and energy-efficient buildings technology deployment. CO₂ emissions from buildings and construction rose by nearly 1 per cent per year between 2010 and 2016, releasing 76 GtCO₂ in cumulative emissions.

The 30 per cent improvement in the sector's energy intensity would require a near-doubling of current buildings' energy performance improvements to over 2 per cent each year to 2030, the report says. This means near-zero energy, zero-emissions buildings need to become the construction standard globally within the next decade.

The rate of building energy renovations also needs to improve from 1 to 2 per cent per year to over 2 to 3 per cent in the coming decade. Such retrofits are particularly important in Organisation for Economic Co-operation and Development (OECD) countries, where roughly 65 per cent of the total expected 2060 buildings stock is already built today.

"Similar to many areas linked to the Paris Agreement, the building sector is seeing some progress in cutting its emissions, but it is too little, too slowly," said Erik Solheim, head of UN Environment. "Realizing the potential of the buildings and construction sector needs all hands on deck - in particular to address rapid growth in inefficient and carbon-intensive building investments."

The energy savings potential from improved building envelope performance improvements is huge: globally, high-performance buildings construction and deep energy renovations of existing building envelopes represent a savings potential more than all the final energy consumed by the G20 countries in 2015.

The report points to many examples of buildings that work, such as the zero-energy Edge building in Amsterdam. The building maximizes natural light intake and solar electricity production, and uses smart technologies such as intelligent ventilation systems that are responsive to sensor data or user commands.

The report identifies ways to unlock potential benefits, including:

- * Ambitious and transparent commitment. Effort is needed to bring forward strategic policies and market incentives that signal the vital role of buildings and construction in meeting the sustainable development goals.
- * Building energy codes and certification. Deployment of improved building energy codes and policies, including certification, labelling and incentive programmes, are needed in all countries.
- * Energy-efficient, low-carbon and affordable technologies. Wide-scale adoption and investment in high-performance, low-carbon solutions are key to sustainable buildings and construction.
- * Investments and finance. Transforming buildings and construction will require a major shift in financing and investments. This includes building the business case for investors, while providing information and financing tools that remove risks and uncertainties for decision makers.

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Download the full report: <https://globalabc.org/>

The Global Alliance for Buildings and Construction (GABC) is a voluntary, international, multi-stakeholder partnership. UN Environment hosts its Secretariat.

The GABC was launched by France and UN Environment at COP21. Since COP21, 24 countries and over 70 non-state actors have joined and signed a common statement to dramatically upscale action, through:

- * **Communication:** Raising awareness and engagements in order to make visible the magnitude of the opportunities and impacts in the buildings and construction sector, define sectoral climate goals and promote transparency and information exchange.
- * **Collaboration:** Further enabling actions on public policies and market transformations to achieve existing climate commitments, through implementing partnerships, sharing technology, technical expertise and know-how, and improving deal-flow and facilitate access to efficient financing and funding.
- * **Solutions:** Offering and supporting programs and locally adapted solutions to achieve climate commitments and further ambitious 'well-below 2°C path' actions.

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