UN: BUILDING SECTOR NEEDS TO SPEED UP DECARBONIZATION

Despite modest advancements, the building sector is not yet on track to align with net zero carbon and climate resilience targets by 2050.

A March report from the UN Environment Programme (UNEP), the Global Status Report for Buildings and Construction 2024-2025, found that decarbonization policies appear to be working.

But these measures need to be intensified, if countries are to meet their goals to meet the Paris Agreement, and keep the planet within 1.5 degrees C of warming.

In 2023, the buildings and construction sector generated 34 percent of global CO2 emissions. Though the Paris agreement requires a 28 percent reduction in emissions by 2030, carbon emissions from the sector have risen 5 percent since

2015, the UNEP said.

However, there have been some moves towards lowering emissions in the sector. The buildings industry has decreased the energy intensity (the amount of energy required to support buildings) by 9.5% between 2015 and 2023. But to meet Paris targets, this will need to decline by 18.2%.

Renewable energy has also increased in final energy demand by 4.5%, though this too is short of the 28.1% reduction target.

The UNEP projects that energy demand in the building and construction sector will peak in high-income countries by 2030, and decline by 0.3% annually until 2050. However, in middle- and low-income countries, energy demand in the sector is expected to rise by 1.5% until 2030, and 1.3% until 2050 to meet cooling needs.

Operators in the building sector will need to accelerate key approaches to meet its decarbonization goals, the report says.

Building regulators need to formulate and implement codes which reflect the Paris Agreement goals. UNEP calls for major carbon emitting countries, such as those in the G-20 and in the European Union, to adopt “mandatory, modern zero-carbon building energy codes by 2028” in order to meet these objectives.

All other countries should create processes to create these codes, with implementation to begin no later than 2035. UNEP also urged regulators to couple these codes with capacity-building measures to ensure enforcement.

In addition, countries must significantly speed up building retrofitting, as the sector needs to lower its energy intensity by an additional 35% to meet the Paris objectives. Countries must upgrade all walls and windows to improve insulation, and increase the use of heat pumps and other low-carbon energies to tackle cooling needs.

Buildings must also increase their use of renewable energy. The UNEP finds that only 6% of buildings’ final energy consumption came from renewables, far below the 19% target for 2030. The sector will also need to increase the total share of electricity consumed both on- and off-site from renewable energy from 11 percent to 46 percent by 2030.

On the international level, the UNEP exhorts every country that contributes Nationally Determined Contributions (climate plans on reducing greenhouse gas emissions) to provide information on their buildings sector. This will allow countries to ensure accountability and better track their efforts to slash emissions emanating from buildings and construction.

UNEP also urges major-emitting countries to adopt embodied carbon emissions limits in the building sector by 2030. These must be accompanied by clear guidance on accounting and reporting frameworks.

Countries need to encourage the building and construction sector to use low-carbon materials, promote circular economy in building design and construction, and stretch targets for carbon emissions.

Also, energy-efficiency upgrades are in need of widespread implementation. Investment in improving energy efficiency should double from US$270 billion to US$522 billion by 2030, UNEP said.

What progress has Canada made?

In Canada, there had been some concern about the ability of the building and construction sector to continue its decarbonization push, following the repeal of the federal carbon tax earlier this month by new Prime Minister Mark Carney.

The newly appointed premier repealed the carbon tax as his first order of business, on March 14. He pointed to the need to make Canada more competitive, and vowed he would follow through with more measures to fight climate change.

However, the removal of the carbon tax is not expected to slow the Canadian building sector's move towards full decarbonization, a report from Royal Bank of Canada finds.

Heating homes using oil or gas accounts for 75 to 80% of all building emissions, and the cost of natural gas is still about two times cheaper than using electricity, RBC said.

However, provincial and federal governments are providing incentives and subsidies for building owners to move away from fossil fuels.

These incentives have facilitated the adoption of heat pumps, which have increased by 58% in residential homes at a price tag of C$1 billion for the federal government. On the corporate building side, LEED Zero Carbon Build certification has increased five-fold since 2023, though only 1% of Canadian commercial space is now net-zero.

The Canadian federal government also released a Green Building Strategy in June 2024, covering everything from procurement to construction. Four provinces – Alberta, British Columbia, Ontario, and Quebec – have stricter energy efficiency standards for buildings. BC, Quebec, and Nova Scotia are expected to increase requirements for net-zero building compliance through mandatory audits and carbon offsets in 2025, Dentons law firm said.

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