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## **New Move to Develop Global Standards for Measuring Energy Use in Buildings**

**Paris / Nairobi, 2 August 2011** - Efforts to establish international standards for measuring energy use in buildings have received a boost, after the International Organization for Standardization (ISO) decided to consider an innovative tool developed by the United Nations Environment Programme (UNEP) to gauge energy consumption and CO<sub>2</sub> emissions in homes and offices across the world.

The Common Carbon Metric (CCM) - developed by UNEP's Sustainable Buildings and Climate Initiative - could form the basis for a new international standard for measuring the environmental performance of existing buildings. The ISO - the world's largest developer and publisher of international standards, covering 162 countries - will develop relevant methods.

The Common Carbon Metric is intended to create a uniform system for defining the climate impact of buildings through a consistent protocol, which can, in turn, help develop international baselines for use by architects, designers and the construction industry.

Today, the building sector is the single largest contributor to greenhouse gas emissions with about one third of global energy use taking place in offices and homes. Moreover, building-related CO<sub>2</sub> emissions are set to rise from 8.6 billion tones in 2004 to 11.1 billion tones in 2020.

"At UNEP we believe there is great potential for the building sector to contribute to significant reductions in greenhouse gas emissions," said Sylvie Lemmet, Director of UNEP's Division of Technology, Industry and Economics. "Development of the Common Carbon Metric and the ISO's decision to consider it as an international standard are important steps to remove the barriers to unlock this potential and provide a path to more energy efficiency in the building sector."

Developing new standards for buildings can help governments plan more effectively towards achieving national targets on sustainability and reducing carbon emissions. The Common Carbon Metric can also support the formulation of carbon credit schemes and other emission reduction mechanisms.

The CCM is specifically designed to measure energy use when a building is operational. In other words, it is not applied to the construction phase. However, given that the day-to-day use of buildings accounts for 80% to 90% of their total energy consumption, the

Common Carbon Metric deals with the period in a building's lifespan where the greatest amount of emissions are produced. First launched during the UN Climate Change Conference in Copenhagen in 2009, UNEP's Common Carbon Metric measures both energy use and greenhouse gas emissions equivalent in buildings per metre squared or per occupant over the course of one year. It contains two approaches: a "top-down" model, which takes measurements from a collection of buildings or a "bottom-up" model, which is applied to an individual building.

After initial tests by the UNEP Sustainable Buildings and Climate Initiative in 2010, the Common Carbon Metric was further refined and a second phase of testing has started recently, with preliminary results to be presented in October.

The CCM is intended for worldwide use, including developing countries, where limitations on data collection and infrastructure may not support current methods for measuring energy use and emission levels during the entire life cycle of a building.

Professor Tomonari Yashiro, Professor at the Institute of Industrial Sciences of the University of Tokyo, proposed the CCM to the International Organization for Standardization, and serves as convener of the working group that will prepare the draft standard.

"Sustainability-related standardization is one of the most significant issues in current ISO strategies," Yashiro said. "There exist serious and urgent needs to establish international consensus on globally applicable common method of measuring operational energy use in existing buildings and to report the associated greenhouse gas emissions from such operations. I hope the standardization by ISO will facilitate diffusion of CCM to many areas of business."

The proposal to use CCM as the basis for new international standards for buildings will be put on the agenda of ISO members within a year. If appropriate, new draft international standards will then be prepared on energy consumption and CO<sub>2</sub> emissions which, when finalized, could be adopted within three years.

### **Notes to Editors**

For more information based on UNEP's Sustainable Buildings and Climate Initiative, please visit: <http://www.unep.org/sbci/>

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