



# Energy Efficiency in Buildings

**The Kyoto Protocol as a Driver for Low Emission Buildings? - The CDM Example**

UNFCCC Bonn Climate  
Change Talks  
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## **UNEP SBCI** **Sustainable Buildings & Construction Initiative**

## A UN Initiative

Partnership between the Private Sector and the United Nations (UNEP).

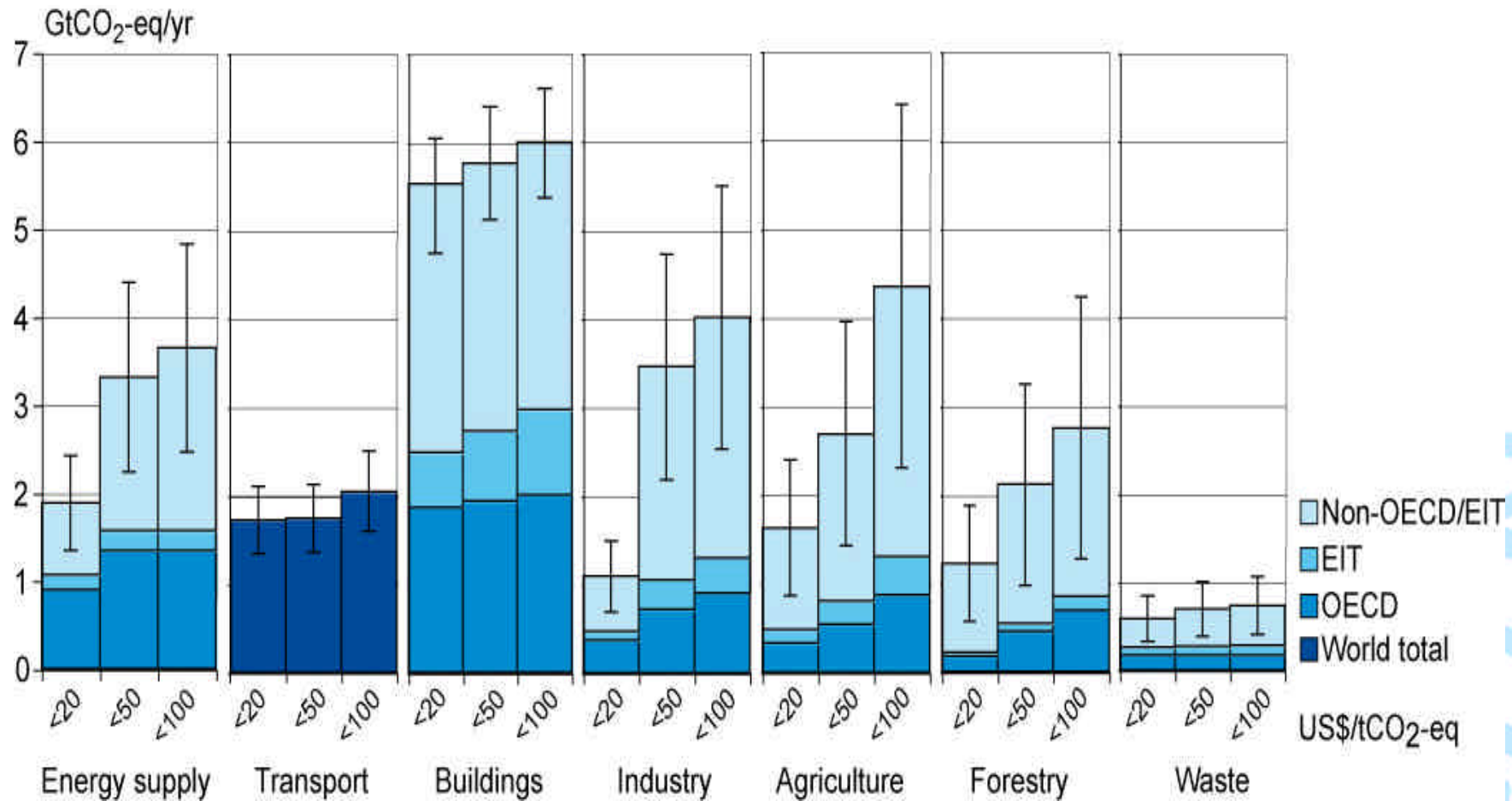
Seeks to address common global challenges to sustainability in the B&C sector.



### Four focus areas

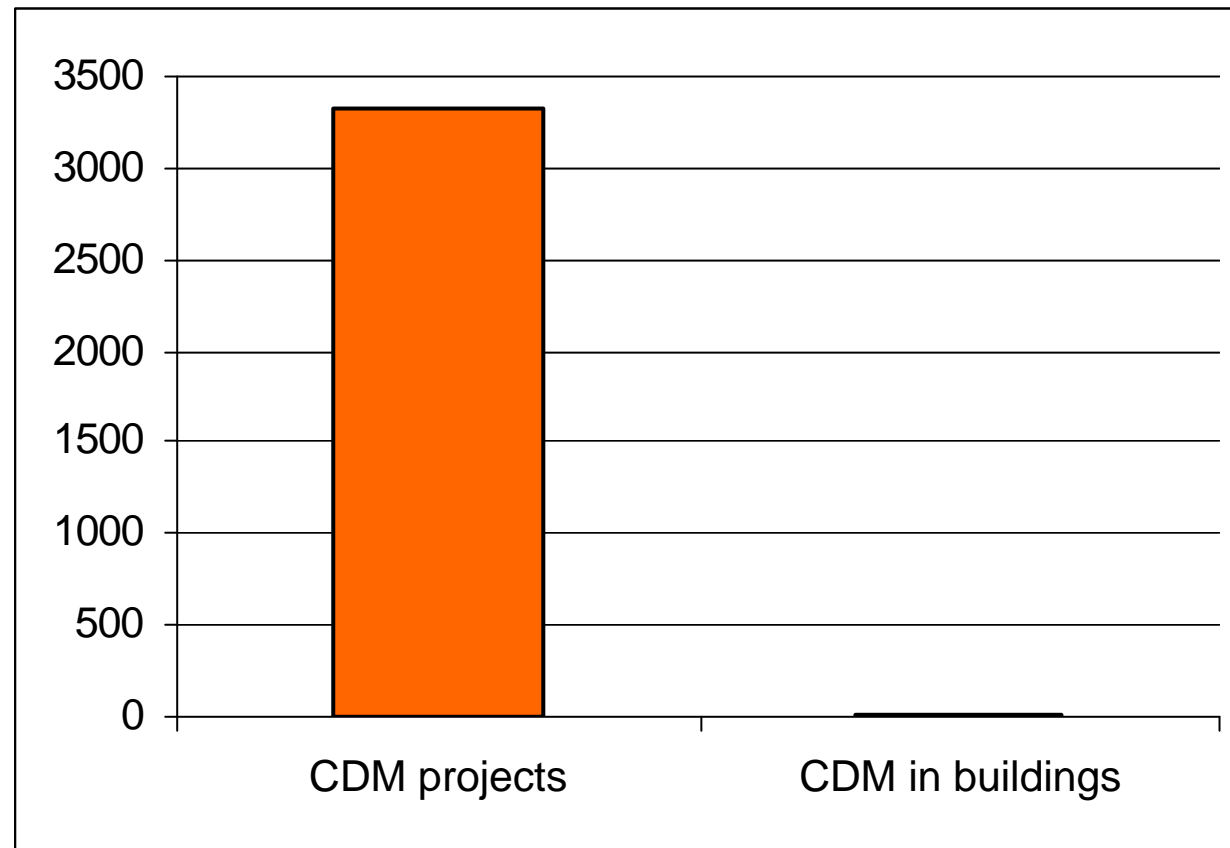
- ☐ Improve support to energy efficiency in buildings from the Kyoto Protocol and other international agreements
- ☐ Evaluate and promote national policy tools encouraging a life cycle approach to buildings and construction.
- ☐ Establish global benchmarks on SBC
- ☐ Support SBC capacity building in developing countries

# The Emission Reduction Potential



IPCC assessment of emission reduction potential by 2030 in different sectors depending on the carbon market price

## The impact of CDM



Number of CDM projects in the pipeline June 2008

## UNEP SBCI report: Strengthening CDM for the Building Sector

- 1. Study of all current known projects targeting energy efficiency in buildings (EEB).**
- 2. Seeks to explain why there are so few EEB projects in CDM and what can be done to increase the numbers.**
- 3. Based on data research and interviews with involved partners and experts.**



**Full report to be published in mid 2008.**

**Tentative findings presented at COP 13**

**Study conducted by the UNEP Risö centre.**

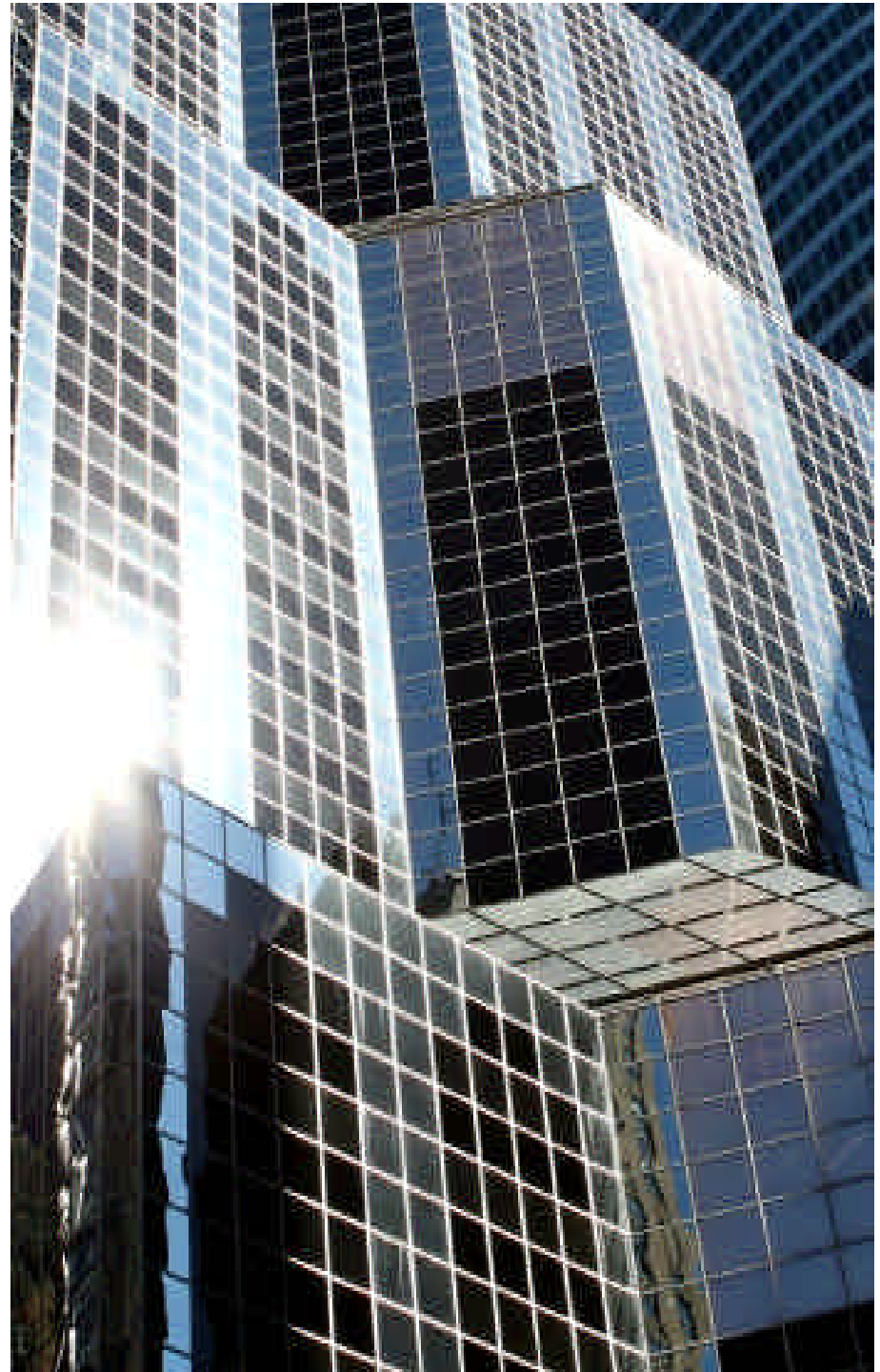
# Barriers to CDM in the building sector

- 1. The economic revenue from energy efficiency in buildings (EEB) projects is normally not significant and can frequently not even offset transaction costs.**
- 2. The typical EEB project uses a combination of many measures to reduce energy consumption.**
  - Each measure need to be validated and verified.**
  - Some measures are difficult to verify with applicable CDM methodologies**



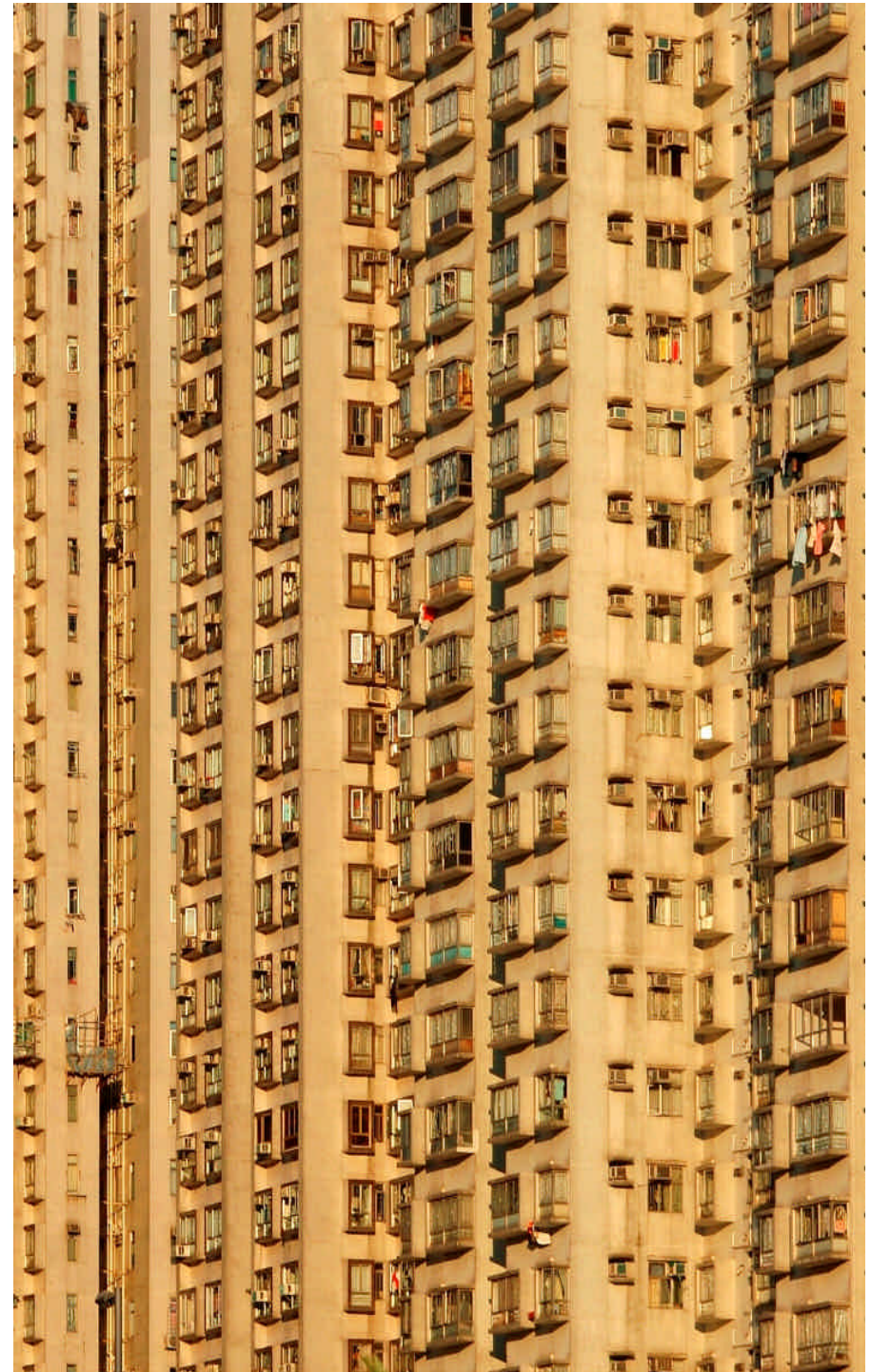
## More barriers to CDM

3. **Buildings are often unique to their function and location. They have a long life span, and often survives technology development. Identifying comparative buildings for baseline development is therefore often difficult.**
4. **The additionality criteria of CDM that a CDM project should not be the financially most attractive option is not always valid. Most EEB projects are the financially most attractive options if life cycle costs are considered. Yet they are not implemented.**



## Even more barriers to CDM

5. **Many building projects in developing countries aim to provide housing for the poor. Their default energy consumption is minimal and need to increase. The level of energy efficiency in such buildings will directly affect the ability of the poor to afford energy, as well as the total CO<sub>2</sub> emissions. However, as the project means increased emissions (as compared to a highly unsatisfactorily present situation) CDM cannot support the project.**



## Can CDM be built to support buildings?

### **CDM is not working for the building sector:**

- **Because of conditions in the building sector**
- **Because of flaws in the CDM design**



- **CDM can be reformed so as to better support EEB projects.**
- **But in addition, policy makers need to directly support EEB projects in other ways.**
- **CDM is only one of many tools!**

# How to make CDM work

## 1. Allow CDM EEB projects to use performance based indicators (energy use per m<sup>2</sup>) for validation, monitoring and verification.

- Reduce the transaction costs for EEB projects that are combining several kinds of energy efficiency measures in one project.
- Uncertainties of what measures can be included are removed: Any action leading to reduced emissions is accepted.
- Soft measures are made eligible
- Encourage continuous pursuit of energy efficiency, as all measures resulting in emission reduction can be credited



# How to make CDM work

## 2. Develop common performance based baselines for different types of buildings

- Baselines need to take into account local conditions such as climate, building type, and availability of materials and technologies.

## 3. Give economic credit to sustainability aspects of CDM projects

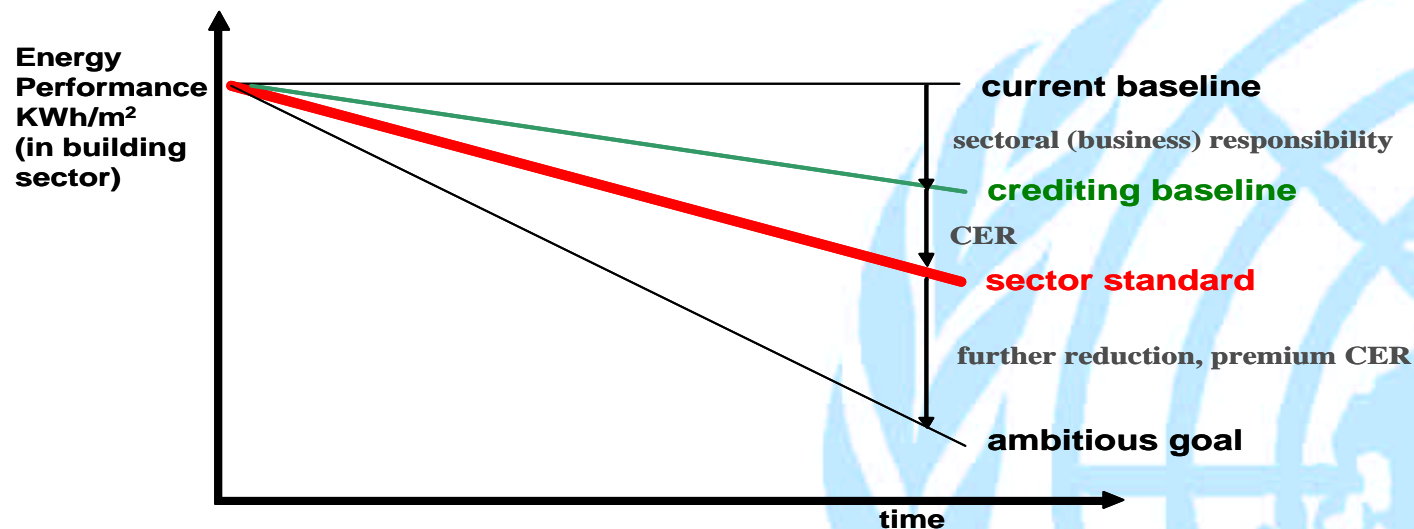
- Consider to provide “premium credits” for projects with a strong sustainability component”
- Recognize the concept of “avoided emissions”



# How to make CDM work

## 4. Allow CDM to support projects aiming at meeting performance based sector standards.

- Encourages countries to establish standards
- Assists in implementing standards, which in many cases otherwise are ignored.
- Still need for defining a minimum crediting baseline



## What else is needed?



**CDM is but one of many ways to encourage energy efficiency in buildings.**

**CDM can be reformed to function much better than today, but many barriers inherent in the building sector will remain.**

**Governments need to establish supporting policy frameworks to overcome common barriers in the building sector.**

**The SBCI policy study shows that combination of regulation, economic incentives, fiscal measures, and information and capacity building tools can be both effective and cost effective.**

# THANK YOU

**For more information and access to reports, please refer to:**

**[www.unepsbci.org](http://www.unepsbci.org)**

**[www.unep.fr](http://www.unep.fr)**

