

CMT-06-02: Benchmarking (Benchmark Development)

Project

This project is to select key performance indicators based on the result of emissions surveys of CO₂ and air pollutants in the Partner country's cement plants, and to develop benchmarks for evaluating the emissions reduction potential.

Participation

Managing Parties

Japan, the United States.

Participants

Relevant ministries and cement associations of Partner countries.

Objectives

Through stakeholder meetings:

- Select key performance indicators such as CO₂ emissions for benchmarking;
- Define benchmarking (regional, national or global vs. kiln type);
- Set benchmarks and estimate the potential for emissions reduction; and
- Identify potential barriers, recommendations for each government and economic viability in order to meet the reduction goal.

Milestones

Hold the first stakeholder meeting in the margin of the second Task Force meeting to be held in Xi'an, China on 20 and 21 September 2006.

Develop the tools for benchmarking (ex. BEST developed by LBNL).

Select key performance indicator(s) for developing benchmarks and define benchmarks within 2006.

Set benchmarks and estimate the potential for emissions reduction in 2007.

Identify potential barriers, recommendations for each government and economic viability in 2007.

Location

Benchmarks will be discussed and developed by Partner countries.

Resources

Japan, the United States.

Detailed Description

Possible indicators for benchmarking (to be selected from the following):

1) CO₂

- Cement-based emission intensity (net/gross).

2) Energy efficiency

- Clinker-based heat consumption intensity for clinker production (net/gross).
- Clinker-based electricity consumption intensity for clinker production.
- Total energy intensity for clinker production (net/gross).
- Electricity consumption intensity for cement-production process.

Note 1) Net: fossil fuels only (excluding alternative fuels) Gross: fossil fuels and alternative fuels

Note 2) Excluding power generation from waste heat recovery

3) Recycled resource ratio

- Alternative raw material ratio (wet/dry basis).
- Alternative fuel ratio (calculated on thermal-basis).

4) Emissions of air pollutants

- Concentration of SO_x, NO_x and dust in the exhaust gas (calculated on 10% oxygen-basis) and their intensity per ton of product (specific emissions).
- Percentage of kilns installed with pollutant-capturing equipment.
- Percentage of kilns covered by monitoring system for the concentration of O₂, SO_x, NO_x, and dust in the exhaust gas.