Study on Co-benefits type pollution control for Heat Only Boiler

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MEGDT (Ministry of Environment, Green Development and Tourism)
OECC (The Overseas Environmental Cooperation Center, Japan)
On the behalf of
MOEJ (The Ministry of the Environment, Japan)
Today’s content

1. Meaning of Co-benefits approach

2. Results of our Co-benefits approach
Co-benefits approach

The Co-benefits approach means integrated efforts to address climate change mitigation concerns, while meeting development needs in partner countries.

The Co-benefits approach supports partner countries increase their ownership while engaging in efforts to address climate change, by introducing measures to achieve tangible development benefits.
Co-benefit approach (1)

Thermal power plant implementation

Before Implementation

After Implementation

Merits of co-benefits project:
- Prevention of air pollutants emissions
- Increase in amount of power generated due to efficiency improvement
Co-benefit approach (2)

Problem areas
- Large amounts of air pollutants from small old buses
- Traffic congestion
- Increase GHG emissions from private cars and taxis

Before Implementation

After Implementation

Introduction of a bus-only

Merits of co-benefits project:
- Reduction of air pollutants
- Reduction of GHG emissions

Main route: 1200 buses
Feeder route: 600 buses (120-seat bus)

GHG emissions reduction: 246,563 tCO2e/year
PM: 7,000 t/10 years
NOx: 50,000 t/10 years
Concept of our Co-benefit approach

(1) HOB (Made in Mongolia) with Upgraded Technology
(2) Operation and Maintenance (Not only upgraded technology)
(3) How to MRV (Measurement, Reporting, Verification) for Co-benefit Effect
(4) Capacity Building for (1) - (3)
Result of 2014
Production of auxiliary unit (Fan, Cyclone Control unit) modified HOB (MUHT-1)

Approach of 2015
Attachment of coal feed unit on the modified HOB (MUHT-2)

Concept of our Co-benefit approach

MUHT - I (Auxiliary unit modification)
MUHT – II (Attach coal feed unit)
MUHT – III (Boiler modification)
Reference HOB
MUHT -0 (Existing HOB)

Measurement of Exhaust gas and coal consumption
Verification of Co-benefit effect
No.65 School HOB (MUHT-0 0.7MW)

No.79 School HOB (Reference HOB, Odcon 0.35MW)
HOB Modification

- **Target**
  - Stable Combustion
  - Reduction of Coal Moisture
  - Upgrading the Thermal Efficiency
  - Reduction of HOB Dust

- **Coal Storage Area**
  - Attach the roof for the rain protection

- **Cyclone**
  - Improvement of Dust Collection

- **Air Preheater**
  - Replacement of Heat Exchanger Tube

- **Forced Draft Fan, Induced Draft Fan**
  - Air feed adjustment, Collusion protection material

- **HOB Housing**
  - Rearrangement in addition to the new HOB
Coal Storage Area

August

November