

## **Country Report**

### **CTI the Sixth Workshop for Asia (at ICETT)**

Name of Participant: Ahmad Aris

Organization: PT Semen Padang (Persero)/Cement Plant

Department and Duties:

1. Kiln and Coal Mill IV Supervisor (Production Department)
  - a. Maintain Kiln and Coal Mill IV operation stability to achieve production target, quality and material and energy consumption.
  - b. Propose equipment and process improvement in Kiln and Coal Mill IV.
  - c. Make schedule for maintenance with maintenance engineer.
2. Process Design Engineer (Engineering Department)
  - a. Make a process design document for new equipment or process improvement (flow sheet, mass-heat balance, PID narration, utility, etc.)
  - b. Propose equipment and process improvement.

### **Current Situations in PT Semen Padang (PTSP):**

PTSP has already had team and program on Energy Efficiency and Clean Production.

#### **Energy Efficiency and Cleaner Production Programs in PTSP**

##### **1. Waste Heat Recovery System**

Using waste heat from cooler, preheater and diesel generator for power generation and heat source for additional drying of raw material.

##### **2. Utilization of Waste Material**

Using waste material for energy source or raw material source.

##### **3. Power Distribution System Efficiency**

Audit and improvement of power factor and efficiency has been carried out in some of electrical room/substation and power distribution system.

##### **4. Utilization of High Efficiency Equipment**

Modification and replacement of old equipment and control system to improve operation stability and energy efficiency.

##### **5. Implementation of Better Energy Management**

Study and evaluation has been carried out in some department.

##### **6. Operation Management**

Some of the program has been running and some of them are postponed due to financial and technical problem. Study for plant modernization and waste heat utilization, from clinker cooler and preheater to produce electricity, has been done by NEDO in Indarung IV (including equipment modernization) and Indarung V (Waste Heat Recovery Generator only). Project study in Indarung V is planned to be implemented under CDM mechanism. On October 1, 2003 CDM seminar was held in Padang to socialize CDM for Energy Intensive Industry.

Beside, PTSP also joint Greenhouse Gas Emission Reduction from Industry in the Asia and Pacific (GERIAP). This program is designed to develop and demonstrate mechanism that can help industries to reduce gas emission especially greenhouse gas emission. In September 2003 energy audit has been carried out in Indarung IV plant.

**Problem, challenges and factors preventing the widespread use of technology**

Cement plant is an energy-intensive industry. In the future cost of energy is becoming more and more expensive and source of fuel is becoming scarce. Energy efficiency and cleaner production is becoming needs. This is in accordance with company policy, which treats environment as an integrated part of its operation and business activity.

PTSP has 5 line of plant, from Indarung 1 to Indarung 5 and has different type of equipment among the line. Indarung 1 is wet process kiln and has been stopped since 1998. Indarung 2 and 3 are FLS dry process with conventional preheater and planetary cooler. Indarung 4 is conversion from single conventional preheater to NSP (SLC-S) calciner system. Indarung 5 is a modern plant with double calciner preheater system. To find the suitable technology for each line with different equipment and how to manage the energy better are not easy. Training about energy management will be helpful.

Plant	Service Year	Capacity (ton/year)
Indarung I	1913 (stop in 1998)	-
Indarung II	1982	660.000
Indarung III	1984	660.000
Indarung IV	1986/1993	660.000/1.620.000
Indarung V	1998	2.300.000

Limited knowledge, technology and investment are another factors that preventing the widespread of technology transfer. Waste heat recovery generator, for example, is new technology and for PTSP. PTSP is very interested in CDM because it introduces high technology and capital. We still need support on preparation of the proposal for project that will be carried out under CDM scheme.