



# **CDM Potential in the Industrial Sector of Pakistan**

**By**

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## The Problem

- **Industry energy consumption per unit of GDP of Pakistan is much higher than many other developing and developed countries.**



# The Window of Opportunity

- **Energy efficiency of industrial process offer very attractive economic benefits;**
- **Reduce Green House Gasses emissions substantially;**
- **Cleaner Development Mechanism**

# How to Cash the Opportunity

- **By replacing old and inefficient energy technologies with latest energy efficient technologies**
- **Using alternate renewable energy**
- **Develop projects for CDM**

# Types of Industrial Sector Projects More Likely to Qualify CDM Financing

- Utilization of renewable energies, especially involving wind, solar and biomass power;
- Projects to improve energy efficiency, such as investments in modernization schemes;
- Fuel-switching projects, e.g. changing over from diesel fuel to environmentally friendly natural gas for electricity generation;
- Projects for preventing or reducing methane emissions, e.g. methane capture from landfill sites.

# Major Industrial Sector Relevant for CDM

- **Thermal power generation:**
  - 34-40 million tones of CO<sub>2</sub>..
  - CDM Projects: Shifting to gas
- **Cement Industry:**
  - On an average every tone of cement production generates about 1.0 tone of CO<sub>2</sub>. Estimated CO<sub>2</sub> emissions at present is about 25-30 tones per annum.
  - CDM Projects: Use of waste as fuel



# Major Industrial Sector Relevant for CDM

- **Fertilizer Sector:**
  - Estimated CO<sub>2</sub> emissions are 3.5-5 tones per annum.
  - CDM Projects: Adoption of cogeneration
- **Oil & gas sector:**
  - Large leakages in the distribution system cause GHG emissions.
  - CDM Projects: Leakage control

# Major Industrial Sector Relevant for CDM

- **Petroleum Sector:**
  - Energy intensive sector
  - **CDM Projects:** Installation of efficient burners in furnaces, boilers, and cogeneration
- **Sugar Mills and Distilleries:**
  - Energy intensive sector
  - **CDM Projects:** Replacement of low pressure by high pressure boilers, cogeneration, reuse of CO<sub>2</sub> from boiler stacks and distillery to reduce pH of sugar cane juice.



# How to Use the CDM Opportunities

- **Prepare the GHG emission profiles for major industry sectors in Pakistan.**
- **Identify CDM projects under CDM Criteria.**
- **Organize seminars and workshops to disseminate the CDM potential in major industry sectors.**
- **Bring on board CDM companies and agents presently working in Pakistan.**
- **Involve national and international financial institutions for bridge financing the CDM projects.**

# **General Criteria of Third Party Bridge Financing**

- **A positive contribution to the development of the country;**
- **Adherence to international environmental and social standards;**
- **Proven technology;**
- **Professional management;**
- **Credit worthiness / long-term profitability;**
- **A project company with adequate equity capital;**
- **All necessary approvals to have been granted/including insurances;**
- **Conclusion of a long-term power purchase agreement;**
- **Turnkey contracts for the initial building phase**

# Important Points

- **CDM financing improves the IRR in the range of 1-5 points;**
- **1 methane tone = 21 tones of CO<sub>2</sub>;**
- **Proposed emission reductions given in PDD might not be achieved, then project can enter into serious financial problems;**
- **Proposed rates might substantially decrease due to high level of reduction of CO<sub>2</sub> emissions in developed countries.**