



:FutureCamp



Workshop

Development and Implementation of CDM Projects in
Uzbekistan and possibilities for Usbek-German cooperation

**CDM project potential in the energy sector and
best-practice examples**

17th March 2009, Poytaht Hotel Tashkent, Uzbekistan

Markus Götz, FutureCamp



Quick Overview about a CDM Project Design

= CDM project activities ...

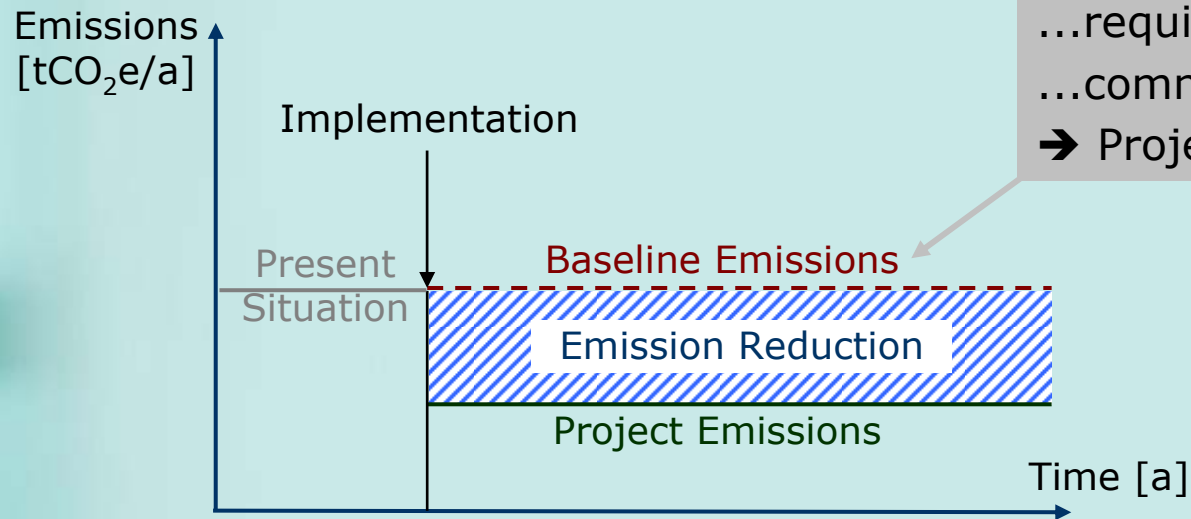
- ... are linked to scopes (industrial sectors & GHGs)
- ... prove the emission reductions with a guideline

= CDM methodologies ...

- ... represent this guideline which are also linked to scopes
- ... has to be approved by the Executive Board
- ... comprise guidance how to calculate & prove the baseline which represents the historical emission scenario

Functionality of Emission Reduction Projects – The Idea

= “Baseline & Credit”



= Purpose of Emission Reduction Projects

- = Reducing GHG-Emissions below a BAU-scenario
- = Sustainable Development (social, economical and ecological)
- = Technology Transfer

Legend: BAU = Business as usual

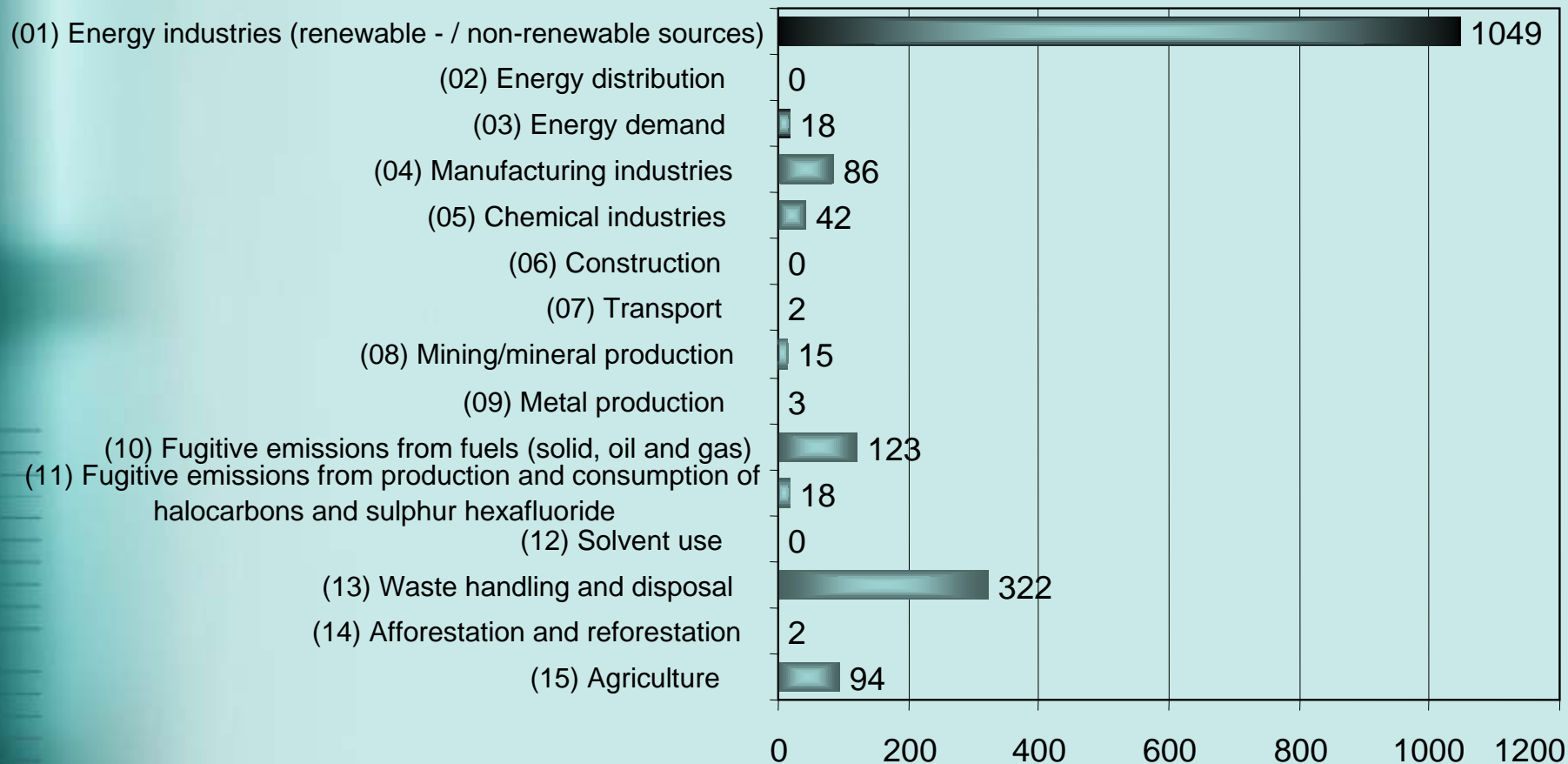


CDM Scopes

| Scope | Sectoral Scope |
|-----------|--------------------------------------------------------------------------------------------|
| 1 | Energy industries (renewable - / non-renewable sources) |
| 2 | Energy distribution |
| 3 | Energy demand |
| 4 | Manufacturing industries |
| 5 | Chemical industries |
| 6 | Construction |
| 7 | Transport |
| 8 | Mining/mineral production |
| 9 | Metal production |
| 10 | Fugitive emissions from fuels (solid, oil and gas) |
| 11 | Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride |
| 12 | Solvent use |
| 13 | Waste handling and disposal |
| 14 | Afforestation and reforestation |
| 15 | Agriculture |

Dominant CDM scope: Energy Industries

Registered CDM Projects by Scope



Interlinked Methodologies as of March 2009

== Large-scale methodologies: 62

== Small-scale methodologies: 40

| | | |
|----------------|----------------------------------------------|-----------|
| Scope 1 | Energy industries (re-/non-renewable) | 43 |
| Scope 2 | Energy distribution | 2 |
| Scope 3 | Energy demand | 12 |
| Scope 4 | Manufacturing industries | 24 |
| Scope 5 | Chemical industries | 15 |
| Scope 6 | Construction | 0 |
| Scope 7 | Transport | 5 |
| Scope 8 | Mining/mineral production | 1 |
| Scope 9 | Metal production | 6 |
| Scope 10 | Fugitive emissions, fuels | 8 |
| Scope 11 | Fugitive emissions, HFCs & SF ₆ | 6 |
| Scope 12 | Solvent use | 0 |
| Scope 13 | Waste handling & disposal | 14 |
| Scope 14 | Afforestation / Reforestation | 16 |
| Scope 15 | Agriculture | 5 |

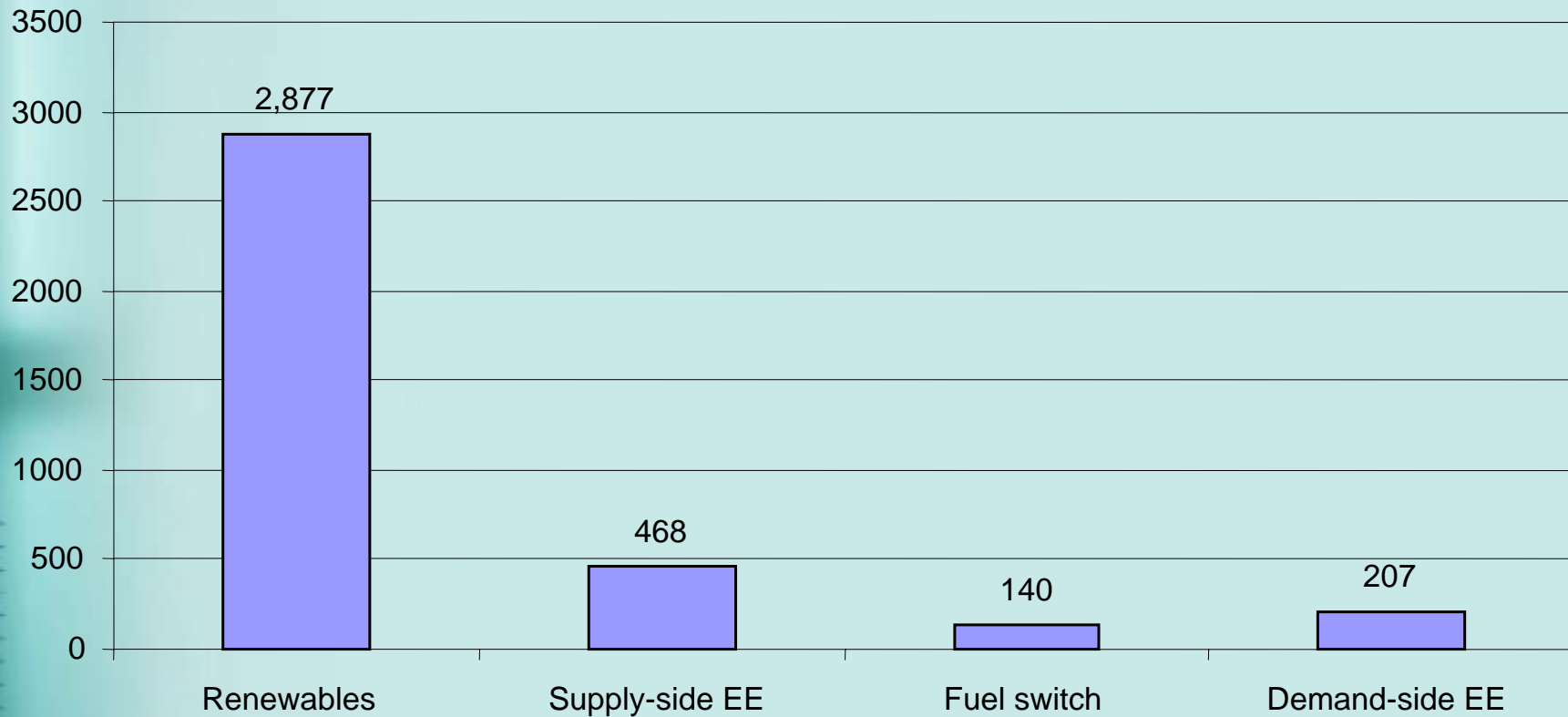


CDM small-scale (SSC) projects

= Eligible project activities:

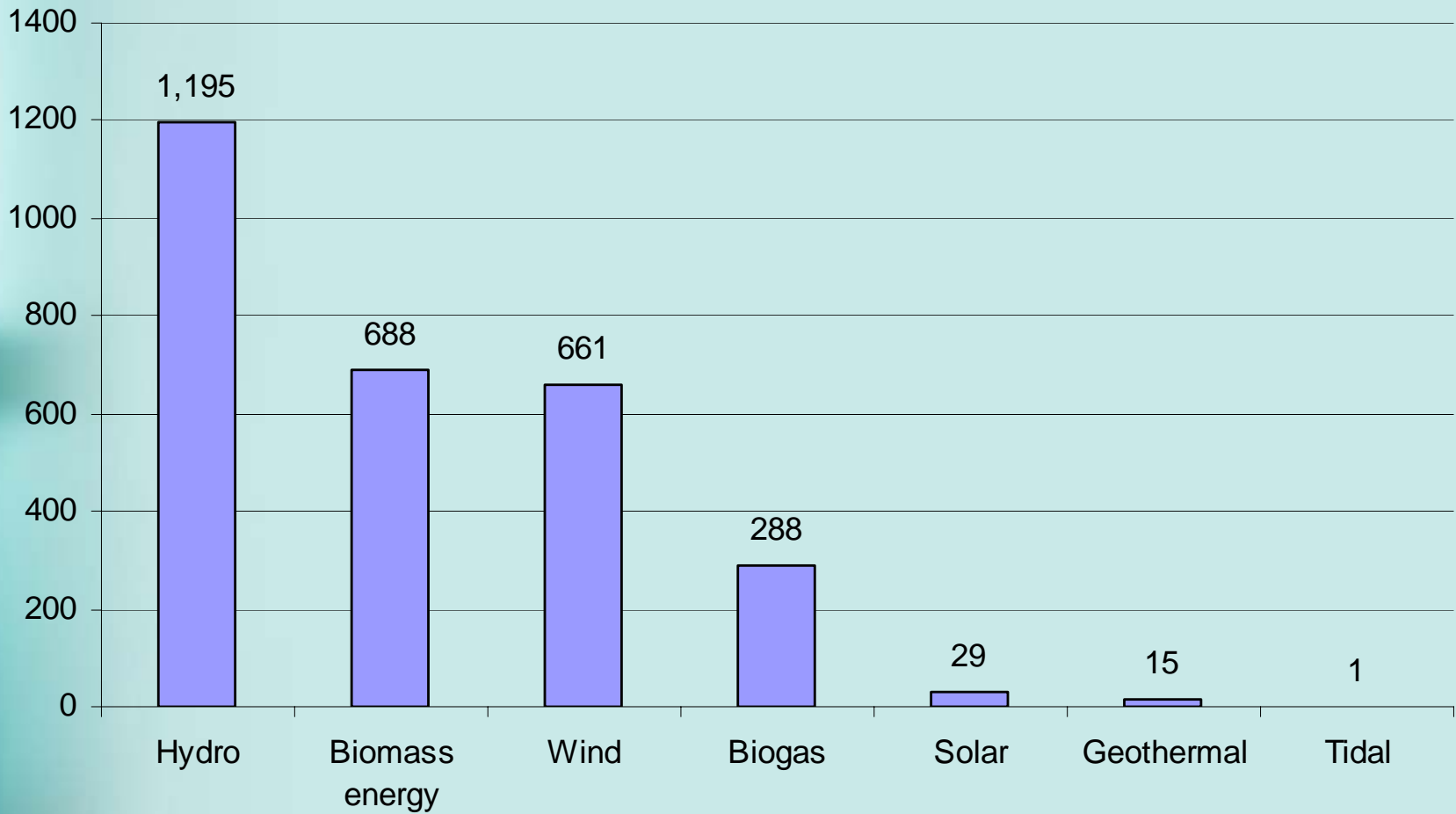
- **Renewable energy** project activities with a maximum output capacity equivalent to **up to 15 MW**; “maximum output” is defined as installed/rated capacity, as indicated by the manufacturer of the equipment or plant, disregarding the actual load factor of the plant
- **Energy efficiency** improvement project activities that result on the supply and/or demand side in a reduction of **maximum 60 GWh/a**
- **Other** project activities limited to those that result in **emission reductions of maximum 60 kt CO₂e /a**

CDM project scopes 1-3: energy project under development



Source: Unep Risoe, March 2009

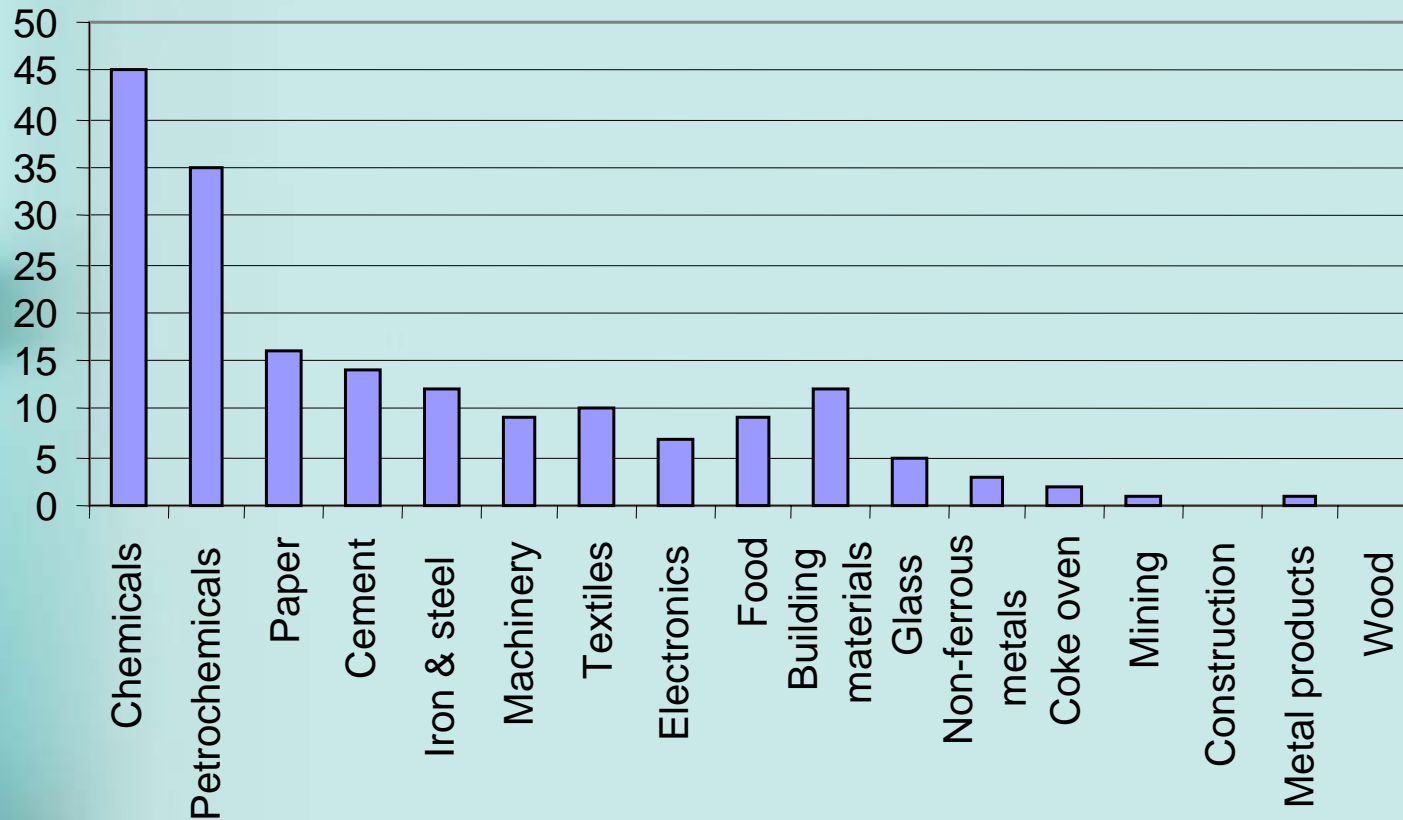
Close-up: Renewable energy projects (project pipeline)



Source: Unep Risoe, March 2009

Close-up: Energy efficiency (project pipeline)

Number of EE industry projects in each sector (181 in total)



Source: Unep Risoe, March 2009

Best practice examples 1 – small scale hydro power plant



Younghung SSC hydroelectric power plant

| Registered | Title | Host Parties | Other Parties | Methodology * | Reductions ** | Ref |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------|-----------------|---------------|------|
| 23 Mar 07 | Korea South-East Power Co. (KOSEP) small scale hydroelectric power plants project(The Samchonpo Thermal Power Plant and Younghung Thermal Power plant small scale hydroelectric power plants construction project) | Republic of Korea | | AMS-I.D. ver. 9 | 21189 | 0788 |

= Core data “KOSEP small scale hydro power plants project”

- Small-scale CDM (21,189 tCO₂e p. a.)
- Scope 1 (Energy industries)
- Methodology AMS-I.D. - Grid connected renewable electricity generation

= Project description

- situation before: Sea-water that is being used as cooling water in a thermal power plant is simply released again to the sea
- purpose: utilization of existing net head for electric power generation
- technology: small-scale hydroelectric turbine technology

Best practice examples 1 – small scale hydro power plant

= Quality criteria

- Environmental integrity
 - _ reduction in pollutants
- Sustainability effects
 - _ socio-economical benefits
 - _ decrease in import dependency of fossil fuels
 - _ increase electric power supply for an expanding market
- Investment incentives
 - _ annual support to the project of CERs
 - _ Special feature: bundling (2 sites included) reduces transaction costs of measures

Samchonpo SSC hydroelectric power plant



Reduction in pollutants

- CO₂: 21,189 tons/yr
- NO_x: 33.5 tons/yr
- SO_x: 44.3 tons/yr
- Dust: 2.3 tons/yr

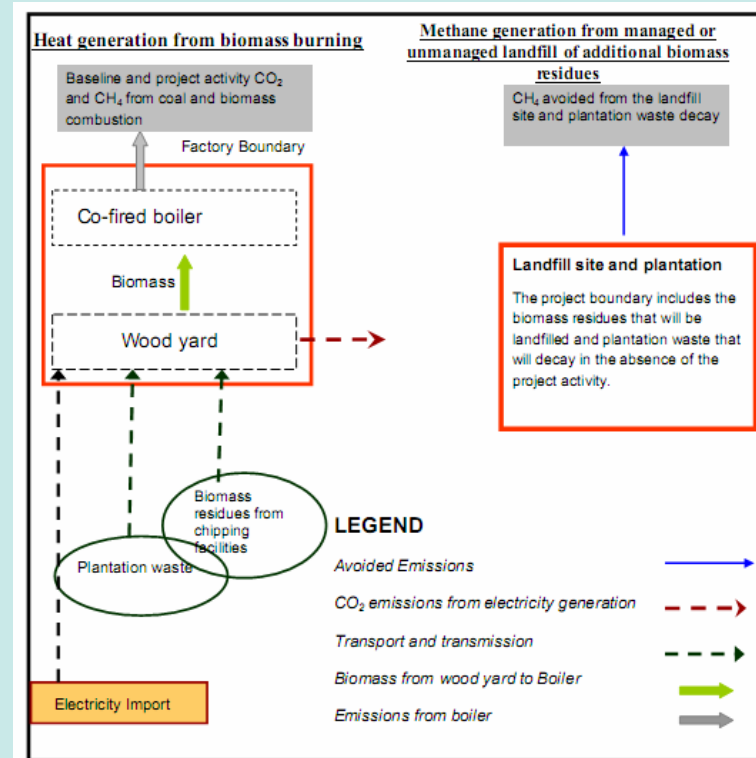
Best practice examples 2 – coal to biomass project

Core data “Mondi Richards Bay Biomass Project”

- Large-scale CDM (184,633 tCO₂e p. a.)
- Scope 1 (Energy industries)
- Methodology AM0036:
Fuel switch from fossil fuels to biomass residues in boilers for heat generation

Project description

- co-firing of boiler with third party generated biomass residues
 - _ replacing of coal as fuel
 - _ collection of biomass residues from plantations
 - _ transportation to “Mondi Business Paper Richards Bay”
 - _ shredding and firing as fuel in a co-fired boiler



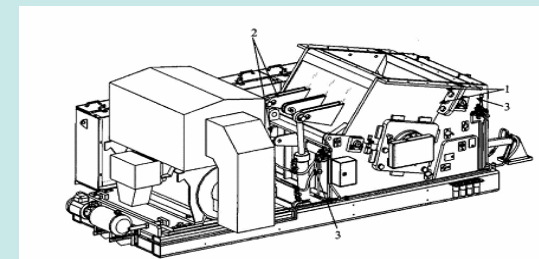
Best practice examples 2 – coal to biomass project

= Quality criteria

- Environmental integrity
 - _ improvement in air quality (SO_2 , NO_x)
 - _ Indirect (not included in project)
 - _ reduction of methane from rotting (in landfills/in nature)

- Sustainability aspect
 - _ creation of local income streams
 - _ creation of employment (40 people)
 - _ contribution to sustainable use of natural resources
 - _ support to biomass targets of national government
 - _ technology and know-how transfer
 - _ space at local landfill saved

- Investment incentives
 - _ In absence of project no implementation feasible as baseline scenario (status quo is more attractive)





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