

Co-generation projects -Potentials and Challenges

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Agenda

1. CHP under the EU-ETS in Germany

- 2. CHP Potentials under CDM and JI
- 3. Conclusion



CHP in EU-ETS in Germany: double benchmarking

Emissions: separate production I Combined heat and power



CHP $0.500 \text{ tCO}_2/\text{MWh}_{el}$

CHP in EU-ETS in Germany: double benchmarking Emissions: separate production I Combined heat and power Allocation CHP **BAT** for allocation! $0.500 \text{ tCO}_2/\text{MWh}_{el}$ Electricity 0.365 tCO₂/MWh_{el} Steam/heat 0.225 tCO₂/MWh_{th} CHP, boiler, CCGT, 40% el. efficiency 89% efficiency 55% efficiency 40% th. efficiency

CHP in EU-ETS in Germany: double benchmarking

Emissions: separate production ! Combined heat and power





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CDM: Regulatory demanding – but doable



3







Source: UNFCCC





CHP as JI / CDM project – relevant parameters

Combined margin of national electricity grid

- Substituted fuel for heat production (e.g. natural gas: 0.225 tCO₂/MWh_{th}; fuel oil: 0.3 tCO₂/MWh_{th}; coal: 0.39 tCO₂/MWh_{th})
- _ JI specific problem in the EU: double counting!
 - Country involved in EU-ETS?
 - Heat/Electricity covered by the EU-ETS? Usually yes
 - National reserve for projects in electricity sector existing (usually only in new member states, e.g. Poland)?

Programmatic Approach: JI-project in Germany (1/2)

Example JIM.NRW (see: www.dehst.de)

- Fuel switch and energy efficiency in medium heating and steam producing energy units (200 KW-20 MW capacity)
- Project region: Country of Northrine-Westphalia
- Project Owner: Energy Agency of NRW
- Target Groups: Industry, SMEs, Contractors, Municipalities, Districts
- No CHP (special promotion in Germany and to avoid double counting)

_Although the project did not start officially already strong interest!



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Programmatic Approach: JI-project in Germany

_ Critical issues on additionality for CHP:

- Relationship JI (public) subsidies
- Energy efficiency requirements of applicable laws
- _General findings
 - Very good tool to raise awareness
 - As single participant receives money for efficiency investment (financed by the sale of ERUs through energy agency) relevant vehicle to **overcome** behavioural inertia and investment barriers
 - JI can work in practice like a Green Investment Scheme especially under Track 1





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CHP is an efficient, proofed and environmentally sound technology

- _ Emission Trading Schemes can be used to promote CHP in general, depending on how the design is done
- _ JI/CDM are an "universal" tool for CHP-Promotion, the stronger the ", more fossile" energy production of the baseline is the stronger is the impact of JI and CDM
- Under CDM and especially JI programmatic approaches are a good tool to adress the whole sector by creating a framework for single smaller projects.
- Designed properly under JI, programmatic approaches can be "Green Investment Schemes"
- _So
 - The Kyoto Mechs deliver a sound basis for CHP
 - Methodological or other JI/CDM-specific problems should not lead to a "wait and see-attitude" but to a "lets solve it by doing it"





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