



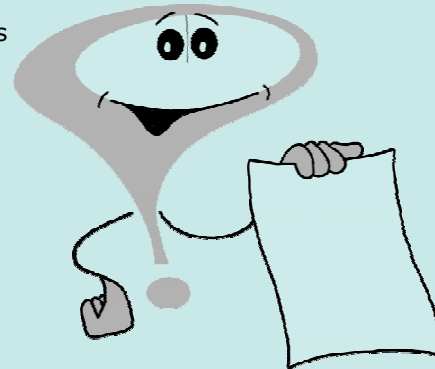
How German Companies are acting on the Carbon Markets

Options for Industrial Enterprises for a proactive CO₂ Management



Content

- _ Core Philosophy of EU ETS
- _ CO₂ Management
- _ In-house Emission Reduction Activities
- _ Survey of JI/CDM Applications
- _ Proactive CO₂ Management





:FutureCamp

FutureCamp – the Company at a Glance



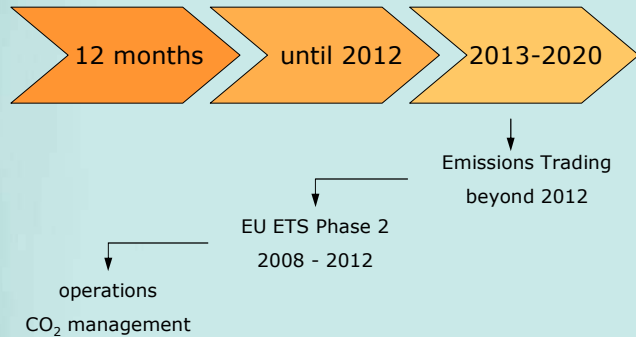
- = FutureCamp GmbH is
 - An independent company, founded in 2001
 - A spin-off of the former Mannesmann Pilotentwicklung
 - Located in Munich
 - Staffed by an interdisciplinary team of 25
- = Our focus is to
 - Deliver consultancy and services on EU-ETS, JI, CDM and VER mechanisms
 - Deliver consultancy on innovation methodologies and processes
 - Develop new businesses („incubator“), basing on new technologies in the sectors energy, materials, health
- = Part of FutureCamp are
 - FutureCarbon Ltd (Hydrogen Storage Systems, Carbon Nanomaterials)
 - Hepanet Ltd (Health, Lever Dialysis Services)



EU ETS: Core Philosophy

- = The EU ETS is a cap and trade market created by politics and regulation in order to comply with Kyoto targets
- = CDM and JI will be a key compliance tool within the framework of EU ETS for the compliance obligation, probably averaging around 12% across the EU ETS
- = Cap and trade more flexible than a carbon tax
- = Important to understand the framework so as to enable forward planning
- = Forward planning enables implementation of appropriate strategic response

CO₂ Management: three-step planning

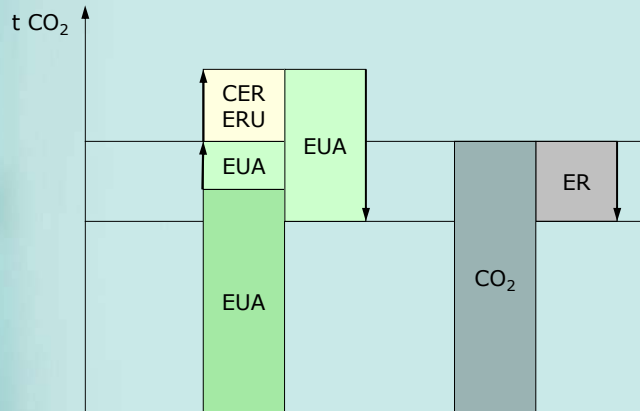


Objectives:

- = Timely comply obligation from EU ETS
- = Implementation of an active CO₂ management
- = Minimization of potential risks



CO₂ Management: Forward & Position Planning



Objective: Determination of required actions and options for actions

In-house Emission Reduction Activities

= Technical feasibility

→ Emission reduction without any negative impact on production quality

= Economical feasibility

→ Cost recovery by EUA revenue

$$\text{EUA revenue} = \text{number of emission reductions} \times \text{EUA price}$$

= Number of emission reductions

→ Depends on the technical opportunities

= EUA price

→ Depends on the market development



In-house Emission Reduction Activities

= Determination of possible emission reduction measures

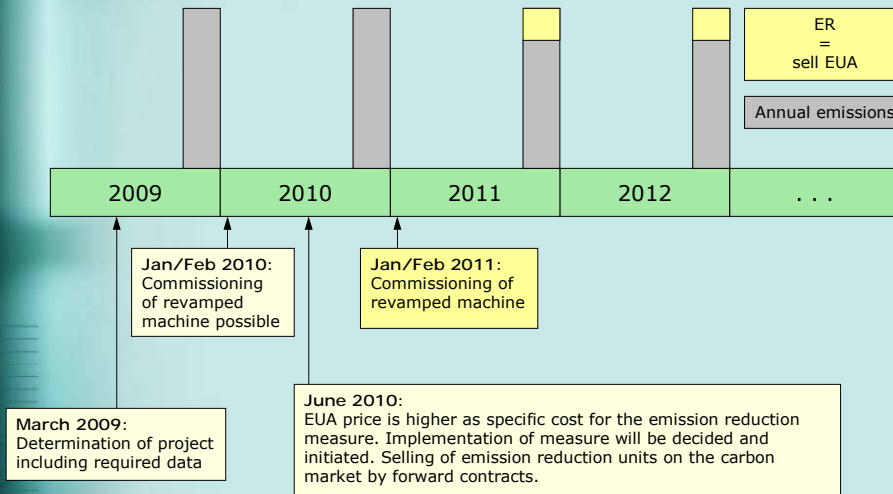
= Required Data:

- Cost of measure
- Numbers of saved CO₂ emissions
(depends on the considered period)
- Hence the price of tCO₂ – abatement costs - can be determined


= Procedural method:

- Implementation of the measure if the determined future price is equal to the specific costs
- Emission reductions will be sold forward
- Hence the emission reduction measures can be financed/co-financed

Example: In-house Emission Reduction Activities



Objective: Self-financing of the revamped machine/installation



Example: Measures for a coal-fired combustion plant

- = Waste heat recovery can be used for the feed water heating
 - Small-scale energy efficiency measure
 - Economical at a low emission reduction potential and low coal prices
- = Dewatering & co-firing of sludge as substitution for coal
 - Economical at higher emission reduction level and coal prices
- = Results are
 - Efficiency factor will be improved by 0.25% to 1%
 - Saved energy and lower coal consumption
 - Lower CO₂ emissions
- = **T@W** partners are helping with the identification, calculation and implementation of such in-house emission reduction projects, e.g. for the German market KEWOG/ZREU



Survey of Applications for JI and CDM project activities

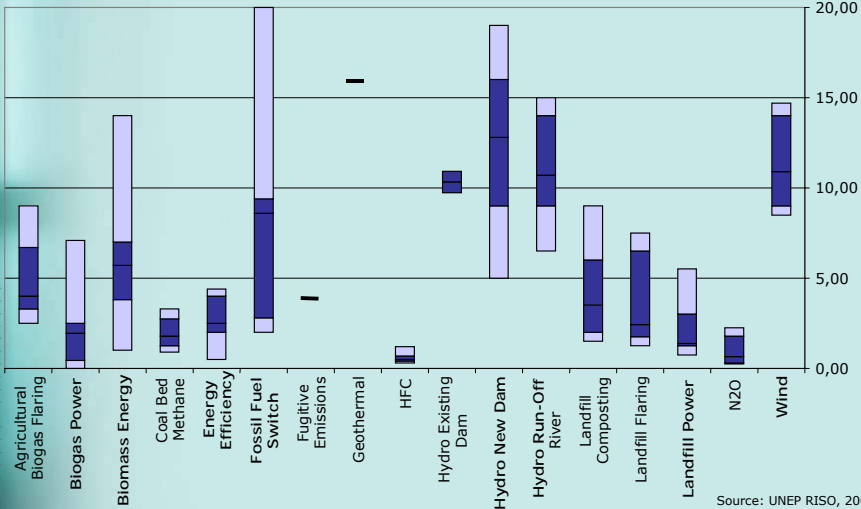
		Total	CDM	JI abroad	JI Germany
Total		232	129	9	94
Application for Endorsement (LoE)					
	Requests	59	11	9	39
	Finished Procedure	42	9	8	25
	Approved	36	9	8	19
Application for Approval (LoA)					
	Requests	173	118	0	55
	Finished Procedure	163	112	0	51
	Approved	118	112	0	6
Project Categories					
	BioGas	11	5	0	6
	Biomass	37	30	3	4
	Solar Energy	3	3	0	0
	Hydro Power	44	44	0	0
	Wind Power	18	16	2	0
	Fuel Switch/Energy	39	17	2	20
	Landfill Gas	6	5	0	1
	HFC23 Destruction	3	3	0	0
	N2O Destruction	17	6	1	10
	Geothermal Energy	1	0	0	1
	PFC Destruction	1	0	0	1
	Mine Gas	52	0	1	51

Source: DEHSt, 2008



Abatement costs for CDM project activities

© 2008 FutureCamp GmbH page 12



Source: UNEP RISO, 2008

Proactive CO₂ Management

- = Proactive CO₂ management
 - Permanent trading of EUAs
 - Utilization of CER/ERU and CER-EUA swap
 - Energy efficiency in-house projects
- = Borrowing for short-term EUA deficits only in case of short-term fluctuations



CO₂ Management by a proactive
& permanent Carbon Value Management



Contact

:FutureCamp

Markus Götz
Project Manager

FutureCamp GmbH
Chiemgaustr. 116
81549 Munich, Germany
Fon +49 (89) 45 22 67 -29
Fax +49 (89) 45 22 67 -11
markus.goetz@future-camp.de
www.future-camp.de

