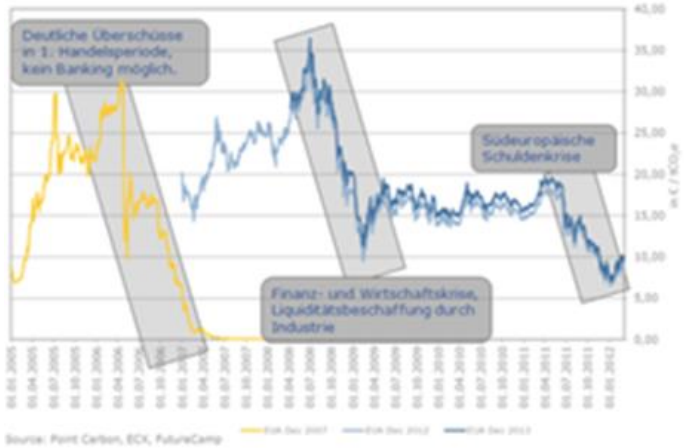
ETS-Readiness – lessons learned and preparation of private sector



BMUB-Capacity Building Programme

Visit of Chilean Group

Dr. Roland Geres, FutureCamp

Berlin, December 15th 2017

Content of this presentation

- Short Intro on FutureCamp
- “Carbon Management” of a company
- The private sector guidance
- Selected excerpts of the guidance
- Conclusions and Recommendations

At a glance

Founded 2001 and independent we are serving companies and governments with a interdisciplinary team of 25

Management & strategic consulting

sustainability & climate strategy
committee work | innovation processes
Global Climate Governance
ISO 9001 quality management systems

Climate & environment

EU emissions trading | emissions reduction projects | CDP | CSR reporting
carbon footprint | Life Cycle Assessment
water footprint | emissions compensation
ISO 14001 environment management systems

Energy efficiency

ISO 50001 energy management systems
DIN EN 16247-1 energy audits
evaluation & monitoring

CO_2 trading

trading services | marketing of certificates | market analysis
project & offer assessment

Analysis & knowledge transfer

Workshops, training & seminars
moderations | capacity building
research, studies and expertises

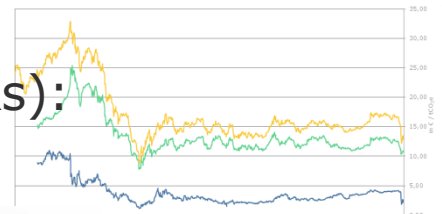
FutureCamp Akademie

Practice-oriented seminars about climate, energy, environment & sustainability

FutureCamp: ETS services for operators in Germany since 2001

Strategic and operational support:

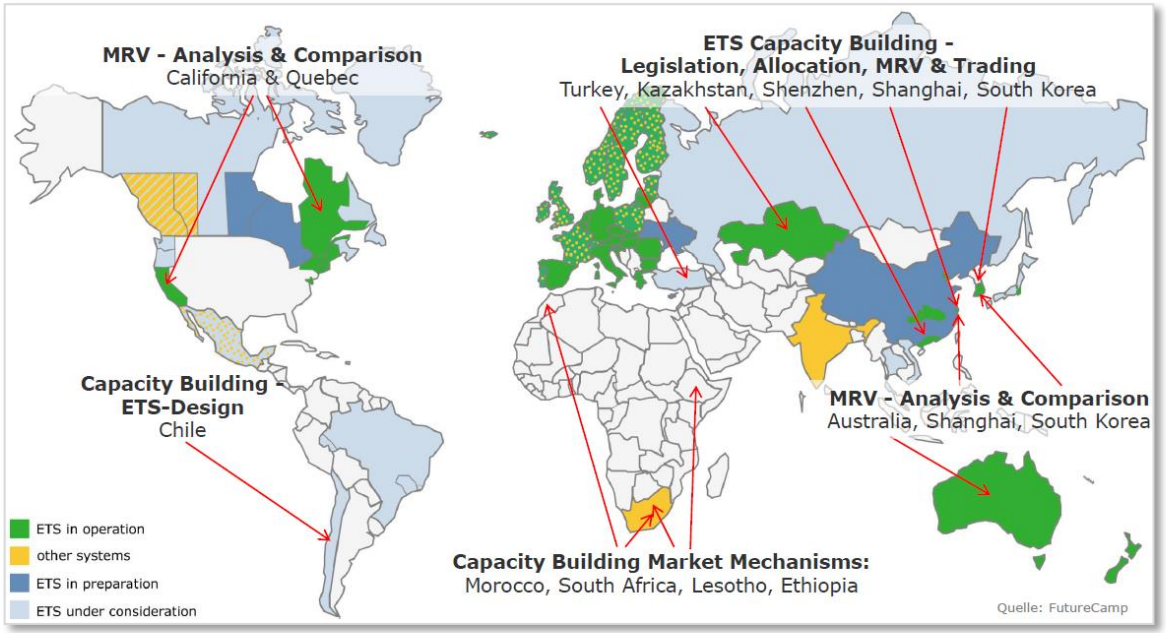
- Emissions management / monitoring and reporting:
  - Data collection
  - Development of monitoring reports
  - Set-up and process organisation, including all relevant corporate divisions
- Analysis of internal abatement measures
- Application for allocation of EU emissions allowances (EUAs)
- Emissions reporting and production notification
- Trading of allowances and credits (EUAs, ERUs, CERs):
  - market monitoring
  - implementation support
  - assessment of options for action using markets
- In addition: Development of JI-projects



FutureCamp: International ETS capacity building

Services

- elaboration of monitoring, reporting and verification systems
- development of evaluation and allocation regulations
- conferences, workshops and training
- Building up know-how in emerging and developing countries



Selected references

- Capacity building for the introduction of MRV and emissions trading systems in other states on behalf of the German Ministry of the Environment, GIZ and World Bank, e.g. in Chile, China, Kazakhstan, Mexico, South Korea, Thailand, Turkey and the Ukraine
- Development of benchmarks for the ETS in Shanghai on behalf of the Asian Development Bank
- Development of a roadmap for a Turkish Emissions Trading Scheme on behalf of the World Bank
- Elaboration of basic conditions / criteria required for linking trading systems from an MRV perspective in the form of a Best Practice Guidebook for the German Federal Environment Agency / German Emissions Trading Authority
- Organisation of the international conference on monitoring, reporting and verification with participants from Australia, China, Kazakhstan, Mexico, South Korea, USA and various other European States on behalf of the Federal Environment Agency

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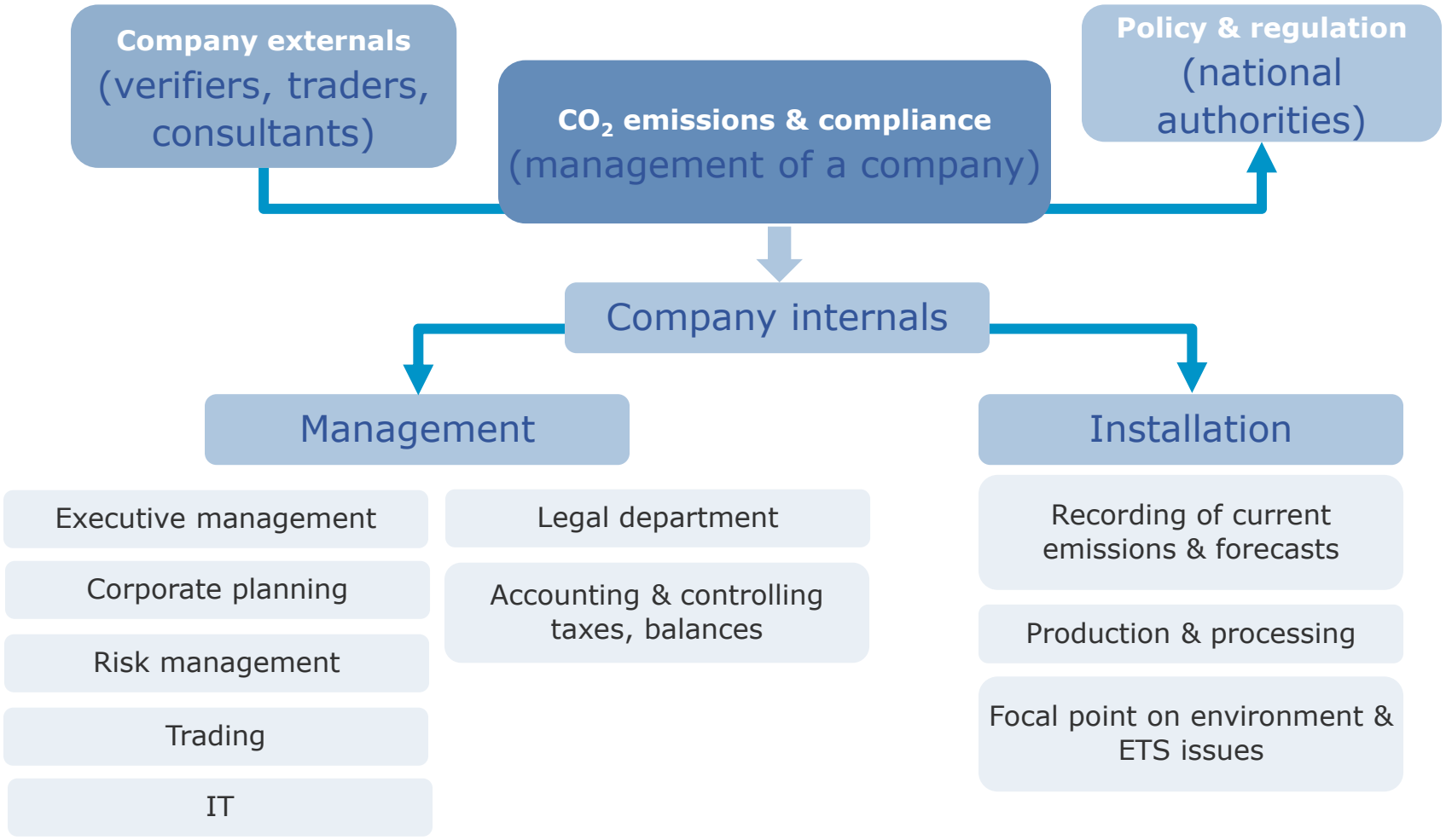
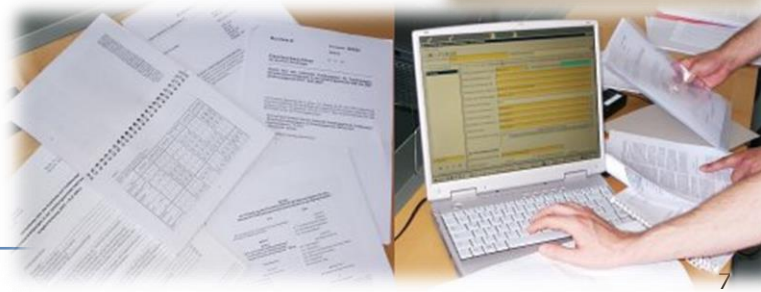
Carbon Management of a company - Overview



Typical challenges for companies with (EU-)ETS Introduction

- Inside of a company: issue sometimes underestimated
  - Treated as classical „environment issue" not one of financial one;
  - Lack or slow provision of personal and / or financial capacities;
  - Processes not defined (e.g. "who is responsible for what?");
  - Lack of or not well defined internal management systems.
- Related to government action
  - High time pressure; late release of legal documents;
  - Sometimes important regulation appeared with considerable delay (e.g. treatment within taxes and balances for companies).
- Accruing conditions like establishment of registries
- Please note: In EU we introduced MRV and ETS at the same time!



Experiences and Lessons Learned – Scope

2005-2007	2008-2012	2013-2020
• Combustion >20MW • Industrial activities, e.g.		
	• Further industrial activities, e.g. steam cracker; aviation (2012)	
		• Further industrial activities, e.g. organic chemicals and other GHG (N2O, PFC)
Critical issues for operators		
• Definition of installation boundaries • Cumulation of units • Purpose of combustion	• Definition of industrial / energy installations	• Combustion included regardless of purpose

Experiences and Lessons Learned – market behaviour

2005-2007	2008-2012	2013-2020
Energy sector		
• Active trading from the beginning • Large windfall profits	• Active trading • Still windfall profits	• Active trading • No free allocation for electricity • No windfall profits
Industry:		
• No or little trading activities • Free allocation sufficient • No selling of allowances	• Beginning of trading activities • Free allocation sufficient • Selling of allowances during economic crisis	• Increase of trading activities • Beginning of structural shortage (slowly) • Selling of allowances during economic crisis

Experiences and Lessons Learned - Allocation

2005-2007	2008-2012	2013-2020
Subject to national legislation		EU harmonized

Germany:
• Optional grandfathering or benchmarking
• Up to 60 special rules
	Germany:
	• Energy:
	  • benchmarking
	  • Auctioning (10%)
	• Industry: Grandfathering
		• Energy:
		  • auctioning (electricity, 100%)
		  • Benchmarking (heat)
		• Industry: Benchmarking

Complexity allocation rules: High	Low	High
Average Allocation vs emissions:		
Energy sector Surplus	beginning of shortage	shortage
Industry Large surplus		

Experiences and Lessons Learned – MRV

2005-2007	2008-2012	2013-2020
• EU Guidelines, national implementation in law • Supported by templates and guidance on national level		• EU regulation, no national implementation • Several EU guidance documents and templates

• Little standardization, very individual concepts	• increased standardization
	• Sector specific examples (Germany)
		• Simplifications, e .g.
		  • Meters under metrological control
		  • Frequency of analysis
		• Increased expectations, e.g
		  • Individual uncertainty calculation

2nd period of EU-ETS (2008-2012) – some more lessons learnt

- Lessons learnt on allocation and other regulations:
  - Simplification supported the efficiency and acceptance of the system
  - General economic development in Europe and missing ex-post adaptation possibilities led to oversupply in the market, further fed by success of CDM and JI leading to rapid import of CERs and ERUs
  - Trade volumes increased - market oversight issues more important

- Lessons learned within operators:
  - For most operators managing emissions and ETS is „**business as usual**"
  - More operators have become more active also in trading, made **use** of the instrument in order to
    - co-finance investments,
    - create revenues and even
    - generate liquidity (economic crisis 2009!)

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Private sector guidance developed as part of the PMR project in Turkey 2016 – background, content and purpose

The private sector guidance has been developed

- as part of the PMR project on ETS introduction in Turkey
- by FutureCamp (lead) with contributions from Ecofys and LifeEnerjy
- **http://pmrturkiye.org/wp-content/uploads/2017/01/PMR-Turkey-Private-Sector-Guidance.pdf**

1. **Glossary**
2. **Introduction** (Purpose, advice for users, introduction of pictograms)
3. **ETS Basics** (Rationale, design elements, compliance, policy interaction)
4. **Useful hints and checks for preparing for ETS** (coverage, allocation, MRV, compliance, CO2 position management, emission reduction measures, trading strategies, risk management)
5. **Annex** (helpful links & materials, checklist for operators)

Within the chapters we included specific introduction, background information, best practice examples and hints for operators

Symbols for highlighting specific, interesting aspects

Different symbols are used for highlighting specific aspects

Symbol	Description
	Important hints for operators, summary of steps for preparation.
	Simplifications compared to general requirements of the Monitoring Regulation (MR)
	Issue applicable for installations with low emissions
	Reference to other resources
	Rules to be defined; possibility for stakeholders to bring in opinions

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Chapter 4: Corner stones of an ETS

Aim of chapter 4

- Better understanding of operators' role in the policy instrument "ETS"
- Summary of operators' tasks to prepare for ETS
- Opinion formation by operators with respect to ETS design

Structure of chapter 4

4 The Corner Stones of an ETS
4.1 Scope and Coverage of an ETS
4.2 Allocation of Allowances
4.3 Monitoring, Reporting and Verification of Emissions
4.4 Manage your CO_2 position
4.5 Trading Allowances
4.6 Risk Management
4.7 Your flexibility: Make or Buy
4.8 Surrender Allowances

Chapter 4.1: Scope and coverage of an ETS

Content of the chapter

- Information on greenhouse gases and activities covered by ETS
- Reference to Annex I of the Monitoring Regulation (MR)
- Hint on possible exclusion of small emitters (EU ETS analogy)

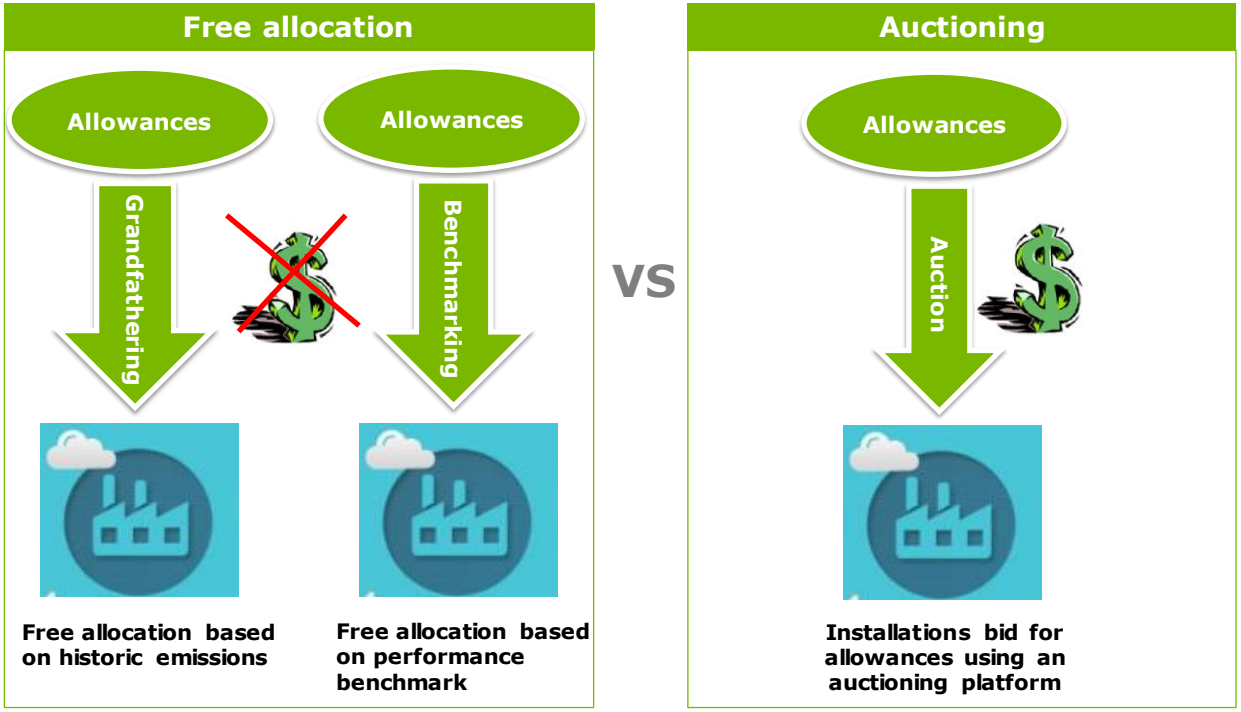
Hints for preparation for ETS

- Compare activities in your installation with list of activities covered (Annex I MR)
- Check thresholds and coverage of your installation (Annex I MR)
- Check compliance with the existing MRV-scheme in Turkey
- Clarify specific questions, e.g. regarding exact boundaries of an installation covered

Chapter 4.2: Allocation of allowances

Content of the chapter

- Possible allocation methods and particular issues of relevance such as "Early Action" or "Carbon leakage"



- Currently discussed allocation methods
- Link to the roadmap regarding pros and cons of the methods

Chapter 4.2: Allocation of allowances

Hints for preparation for ETS

Depending on the allocation method, the following data will be needed from each installation.

Grandfathering

- Historic emissions

Benchmarking

- Production data of relevant products
- Amounts of measurable heat
- Amounts of used fuels for production processes
- Process emissions

In any case it can be useful to collect and track both emission and production data in an internal inventory for tracking development of emission intensity and comparison with benchmarks.

Chapter 4.3: MRV

Content of the chapter

- Relevance and typical elements of the monitoring plan
- Simplifications for small emitters and further simplifications for specific categories of installations and source streams
- Relevance of the monitoring report
- Relevance of the verification and operational hints
- Relevant deadlines for MRV

Hints for preparation for ETS

- Check of the approval of the Monitoring plan and possible remarks and requirements from the CA
- Clarify and define internal responsibilities and procedures for MRV
- Check actual implementation of monitoring procedures at the installation
- Assign the auditor for verification

Chapter 4.4: Manage your CO2 position

Content of the chapter

- Essential issues for carbon management
- Linking between carbon management and operation of the installation (e.g. production plans)

Hints for preparation for ETS

- Establish emission and allocation forecasts and balances
- Clarify internal processes and responsibilities for tracking the CO_2 position
- Refer to chapter 4.3 for calculation of CO_2 emissions, allocation methods etc.

Chapter 4.5: Trading Allowances

Hints for preparation for ETS

- Define necessary processes and responsibilities
- Observe the market
- Clarify necessary access to the relevant exchange or other trading partners
- Make sure registry account can be accessed
- Define trading strategy

Chapter 4.6: Risk Management

Hints for preparation for ETS

- Identify relevant risks from allowance market (e.g. price risks, volume risks)
- Discuss the need for addressing the risks
- Determine risk management strategy (e.g. hedging of price risks; use analogies from trading of other commodities/resources of your company)
- Determine process to update risk management on the basis of carbon position and trade strategy

Chapter 4.6: Example for simple trading strategies

Example: A company needs to buy 40,000 allowances each year, all trades should be performed on spot basis

Option 1 – very simple

- The company buys all allowances in one deal per year
  - Low transaction costs / high price risk

Option 2 – very simple

- Four deals à 10,000 allowances (quarterly)
  - Medium transaction costs / medium price risk
  - No dependency on one single price and therefore a quite good average price

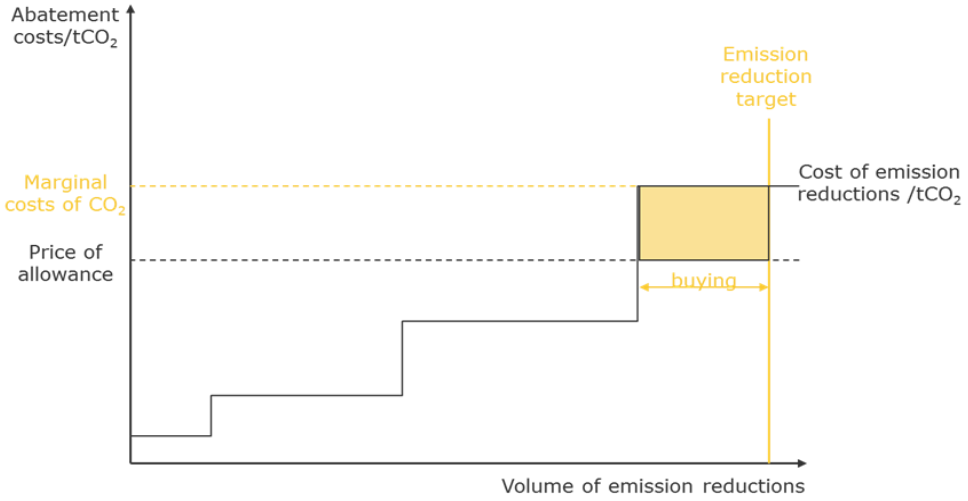
Option 3 - simple

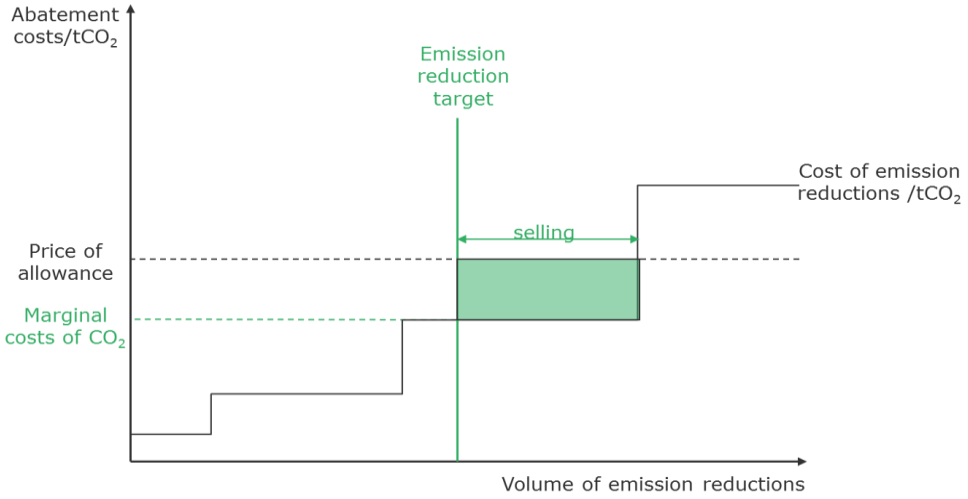
- Four deals à 10,000 allowances (quarterly) + price cap (e.g. 10 €/allowance)
- When the price reaches the price cap, the company already buys allowances, even though the set date is not reached. It has to be decided, whether then the company buys all of the remaining allowances or only one or two additional tranches.
- The strategy can also be diversified, so that the company buys one tranche in advance, once 9 Euro/allowance is reached, another one or two, once 10 Euro/allowance is reached and another one, when 11 Euro/allowance is reached.
  - Medium transaction costs / low price risk

Chapter 4.7: Make or Buy

Content of the chapter

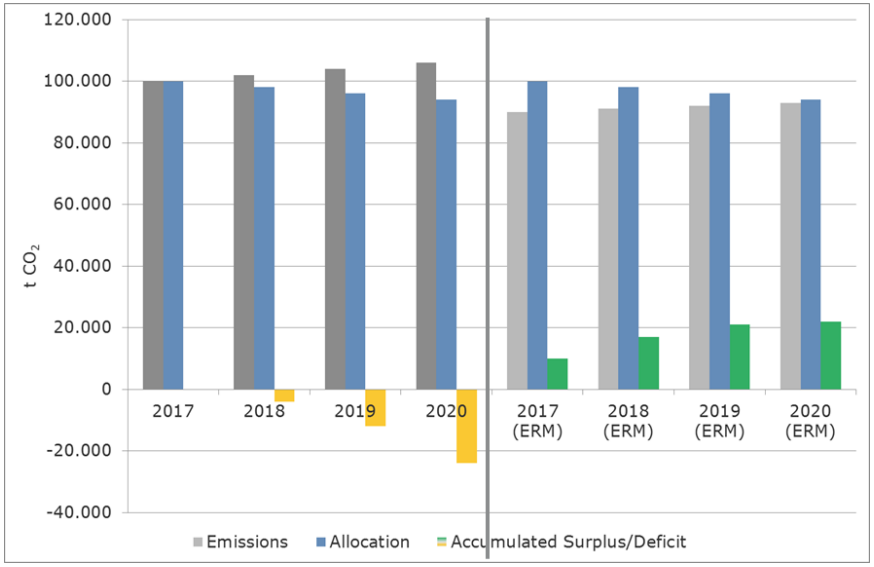
- Flexibility of the ETS
- Description of „Buy"-Side
- Description of „Make"-Side
- **Examples for co-financing of emission reduction measures**
- Handling of abatement costs





Chapter 4.7: Make or Buy

- **The „buy-side“: trading**
- **The „make-side“: typical emission reduction measures stimulated by carbon costs and/or revenues**
  - Power production: Retrofit (Energy efficiency)
  - Industry/District heating: Boiler renovation (Energy efficiency)
  - Industry: Waste heat utilization (Energy Efficiency)
  - Fuel Switch (from coal/oil to natural gas or biomass)



Chapter 4.7: Make or Buy

Hints for preparation for ETS

- Identify need to act: Is there an allowance shortage?
- "Make"-side: Close gap by reducing emissions
- "Buy"-side: Close gap by buying allowances or other eligible units
- Identify and keep list of possible reduction measures and accordant costs and keep it up to date (internal abatement costs)
- Establish clear strategy for answering the make-or-buy-question → define internal decision process which reflects other medium or long term targets of the company, e.g. internal efficiency targets or process innovations

Chapter 4.8: Surrender Allowances

Hints for preparation for ETS

- Observe set-up of infrastructure and procedures by the CA
- Make sure that internal responsibility is defined

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Conclusions and Recommendations – from EU-ETS experience and discussions with operators

- Existing MRV regulation - advantage for ETS introduction. But needs to be implemented properly!
- Avoid complexity especially on allocation as far as possible, concentrate more complicated rules on emission sources of relevance.
- ETS: market-based instrument – needs framework and participants. Price signals from ETS should influence investment decisions.
- Emission reduction targets exist - ETS should be compared with other instruments, not with the status quo. **Businesses should be aware that the alternative to an ETS is NOT nothing else!**
- Companies need time to implement internal processes and might have additional costs - but also might support business targets by making use of ETS.

Contact

Dr. Roland Geres
Managing Partner

FutureCamp Holding GmbH
Aschauer Str. 30
81549 Munich, Germany

Phone +49 (89) 45 22 67 -33
Fax +49 (89) 45 22 67 -11

roland.geres@future-camp.de
www.future-camp.de