EU-ETS Phase I

The Story

Statkraft

Eric Boonman

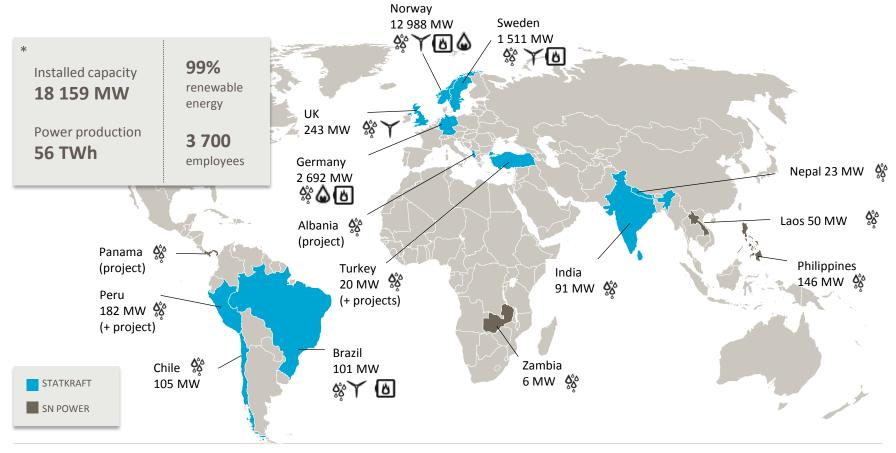
Head of Carbon Origination, Global Environmental Markets Statkraft Markets GmbH

Seoul, March 2014





Statkraft: No.1 Renewable Energy Producer in Europe



^{* 2014} figures. Includes: - Statkraft/SN Power's share of installed capacity



Statkraft and EU-ETS

Direct exposure of gas-fired assets in Europe

Indirect exposure of renewable power assets through power price

► Carbon portfolio management and trading by Global Environmental Market business unit







Statkraft in the EU-ETS Today





Project Offsets

- Participate in carbon funds
 (e.g. World Bank and KfW)
- Offset projects

Midstream

Trading & Portfolio Management

- Match upstream and downstream positions
- Balance positions according to market and regulatory changes





Downstream

Client Business

- Manage Statkraft's exposure
- Client exposure management
- Provide market access

Active across the entire value chain globally



Key Developments in Phase I

Key issues every EU-ETS company faced:

- 1. Corporate governance, roles & responsibilities and decision making
- 2. What is our carbon position (MRV)? How to manage it?
- 3. Internal Abatement Costs?
- 4. Allowances versus offsets?

Trading activities:

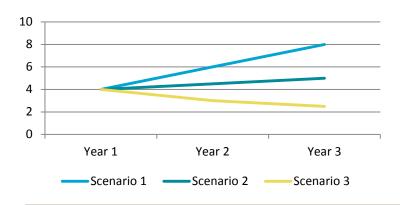
- OTC Forwards via brokers
- Standardized contracts (IETA, EFET and ISDA)
- 3. Exchange trading (ECX ICE, EEX and Nordpool)
- Derivatives



Borrow vs. Buy & Bank vs. Sell



Carbon Price Expectations



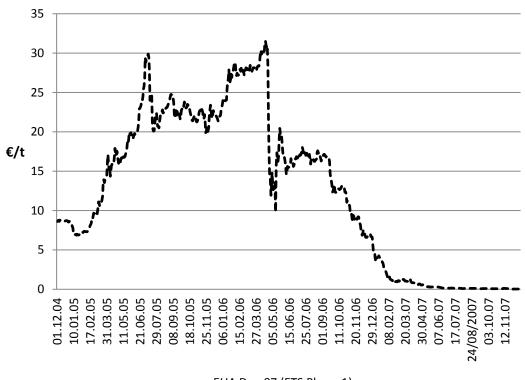
 Actions today depends on the view on the future



A liquid market of future/forward contracts enables companies to compare expectations and reduces risk



Price Developments & Milestones



- 2003: The first "OTC" EUA trade reported
- 2004: IETA, ISDA and EFET
- 2005: Exchanges to offer EUA futures
- 2006: Phase 1 price crash
- ▶ 2007: Exchanges to offer CER futures

- - • EUA Dec-07 (ETS Phase 1)



Lessons Learned & Conclusions

- Addressing key issues early provides competitive advantage
- Gain experience by trial and error
- Liquid market provides price discovery and reduces risks
- Market benefits from liquidity providers and good information disclosure
- Don't let opportunities slip by; not deciding is also taking a position on the future

Conclusion:

Carbon is more than a policy tool; it is also a source of opportunities





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Evolution of financial products in the EU ETS

- OTC forward trades
- •Spot trades (these came after forwards!)
- Centrally cleared exchanges
- •Derivatives (options)
- •Simple "Repo" trades
- •Investor financing of repo trades
- Collateralised forward trades

