Preparing for Emissions Trading

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Agenda

- Brief introduction to Shell’s experience in this market
- Emissions Trading – what's the point?
- Preparing for the scheme – what to ask for
- Preparing for the scheme – important issues to think about
- Q&A
Recognised for technical innovation and mega-project delivery

Employs 87,000 people in more than 70 countries

Committed to social and environmental sustainability

Partners in innovation with Ferrari F1 team

Active in alternative energies such as biofuels and wind

Producing the equivalent of 2,300 barrels of oil every minute

One of the world’s best-known brands

Selling transport fuel to some 10 million customers a day
Our Business

**Upstream** refers to the ways we find and extract crude oil, natural gas and bitumen.

**Downstream** refers to the ways we transform them into finished products.

**CHEMICAL PRODUCTS**
- for plastics, coatings, detergents

**FUELS AND LUBRICANTS**
- for transport

**GAS**
- for cooking, heating, electrical power

**Supply and distribution**

**B2B sales**

**Retail sales**

**Regasifying LNG**

**Converting gas to liquid products (GTL)**

**Shipping and trading**

**Liquefying gas by cooling (LNG)**

**Shipping and trading**

**Generating wind power**

**Extracting bitumen**

**Refining oil into fuels and lubricants**

**Producing petrochemicals**

**Exploring for oil and gas**

**Producing oil and gas**

**Developing fields**

**Mining oil sands**

**B2B sales**

**Retail sales**
**Basic concept of cap and trade**

### Cap, but No Trade

- **Total Emissions = 100**
- **Allowance/Cap = 80**
  - **Company A**: Abatement cost $10/t, Net Cost $200
  - **Company B**: Abatement cost $20/t, Net Cost $400

- **Total emission reduction = 40 tonnes**
- **Total compliance cost = $600**

### Cap & Trade

- **Allowance/Cap = 80**
  - **Company A**: Emissions = 60, A sell to B 20 @ $15/t = $300
  - **Company B**: Net Cost $300

- **Total emission reduction = 40 tonnes**
- **Total compliance cost = $400**
The trading system itself has a cap, which ensures the environmental outcome (unlike a tax).

Price Discovery – allow the market to identify the most cost-effective means of reducing emissions

Individual installations have an allowance, not really a cap. They can emit more than their allowance, but have to pay for the reduction of another installations’ emissions.

Must allocate shareholder capital to maximize return

The decision to emit requires BOTH internal costs of abatement and the market price of allowances

Emission reductions must eventually come from investments in new technology somewhere, though not necessarily from your installation
Reduce or buy?

- Emission reductions must eventually come from investments in new technology somewhere, though not necessarily from your installation.

- Must allocate shareholder capital to maximize return.

![Marginal Abatement Cost Curve (source: Mckinsey)](image1)

![KCU/KCER Forward Curve (for illustration only-numbers are not real)](image2)
Very important at this stage...

Ask for features that will give you flexibility and reduce compliance costs:

- Clarity on rules, clarity on timing of major events (e.g. allocation), clarity on compliance dates – allows planning
- Knowing your target in advance - allows planning
- Infrastructure that promotes liquidity (wide coverage, including banks and non compliance speculators etc)
- Clear classification of carbon units (financial instruments etc)
- Promotion of offset mechanism (KCERs? Other CERs?)
- Allocation followed by eventual auctioning
- Strong MRV to allow linkage with other schemes at a later date
Allocate a department to manage this issue

- Decide early on things like how you will manage multiple sites

Stage 1:
Internal Balancing

Stage 2:
Single Trading Instruction to execute residual compliance volume

Central Trading Manager

KCU Market

KCER Market

X Market

X Market
Understand what is required of you and your timeline

**EU ETS Timeline**

- **Jan 2011**
  - 2011 Compliance Year Commences
- **Apr 2011**
  - Surrender CO2 Allowances for 2010 Compliance Year
- **Jan-Feb 2012**
  - Submit Verified Emissions Report to Authorities
- **Feb 2011**
  - Receive 2011 EUA Allocation into Registry
- **Dec 2011**
  - 2011 Compliance Year Ends
- **April 2012**
  - Surrender CO2 Allowances for 2011 Year
Decide on your strategy to manage your CO2 exposure

Potential Strategies:

1. BUY/SELL SPOT (IMMEDIATE DELIVERY) CO2 ALLOWANCES

2. FORWARD HEDGE CO2 ALLOWANCES

3. USE OF MORE SOPHISTICATED TOOLS LIKE OPTIONS TO MANAGE EXPOSURE
Make sure that you Optimise your CO2 Position

Potential ‘Optimisation’ Strategies:

1. USE OF Kcers /OTHER OFFSETS FOR COMPLIANCE

2. TIMESPREADS

3. “BORROWING” ALLOWANCES FROM FUTURE PERIODS

4. USING CARBON UNITS AS COLLATERAL FOR CREDIT