

Shell Trading

Environmental Products Trading Business (EPTB)

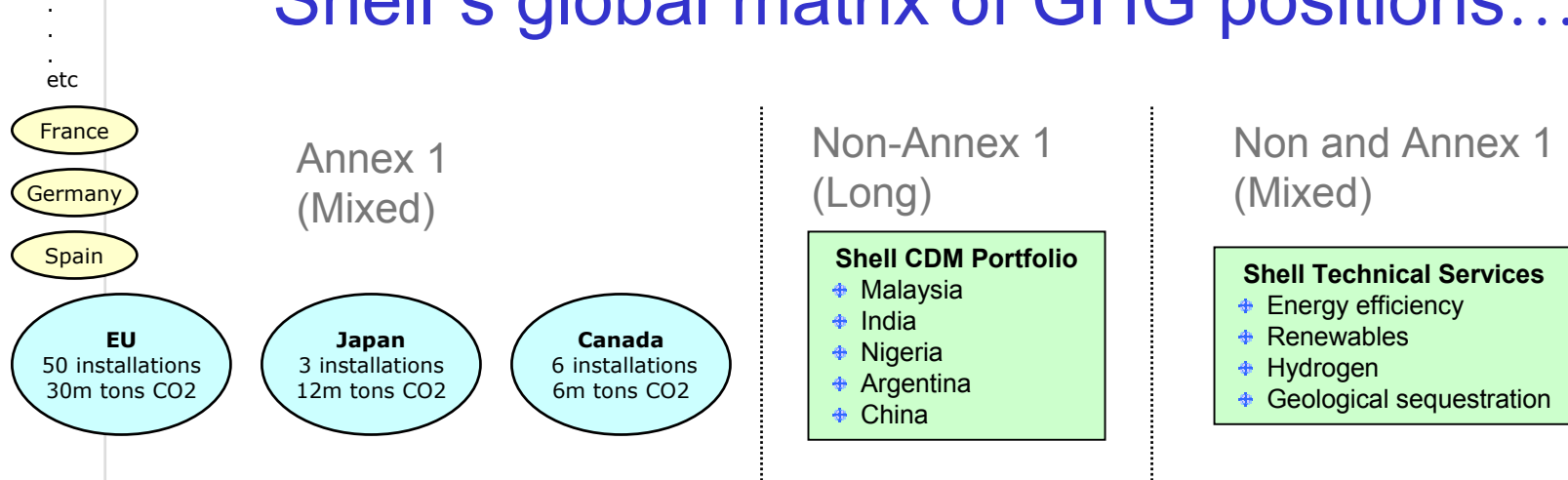


September 2005
Toby Campbell-Colquhoun



Shell Trading

Shell's global matrix of GHG positions...



Shell Trading

- ▶ Shell has operational control over 96m tons CO2
- ▶ Installations = refineries, chemicals, power generation (including offshore)
- ▶ Shell optimizes across this portfolio of positions

International market

EU Allowance Market

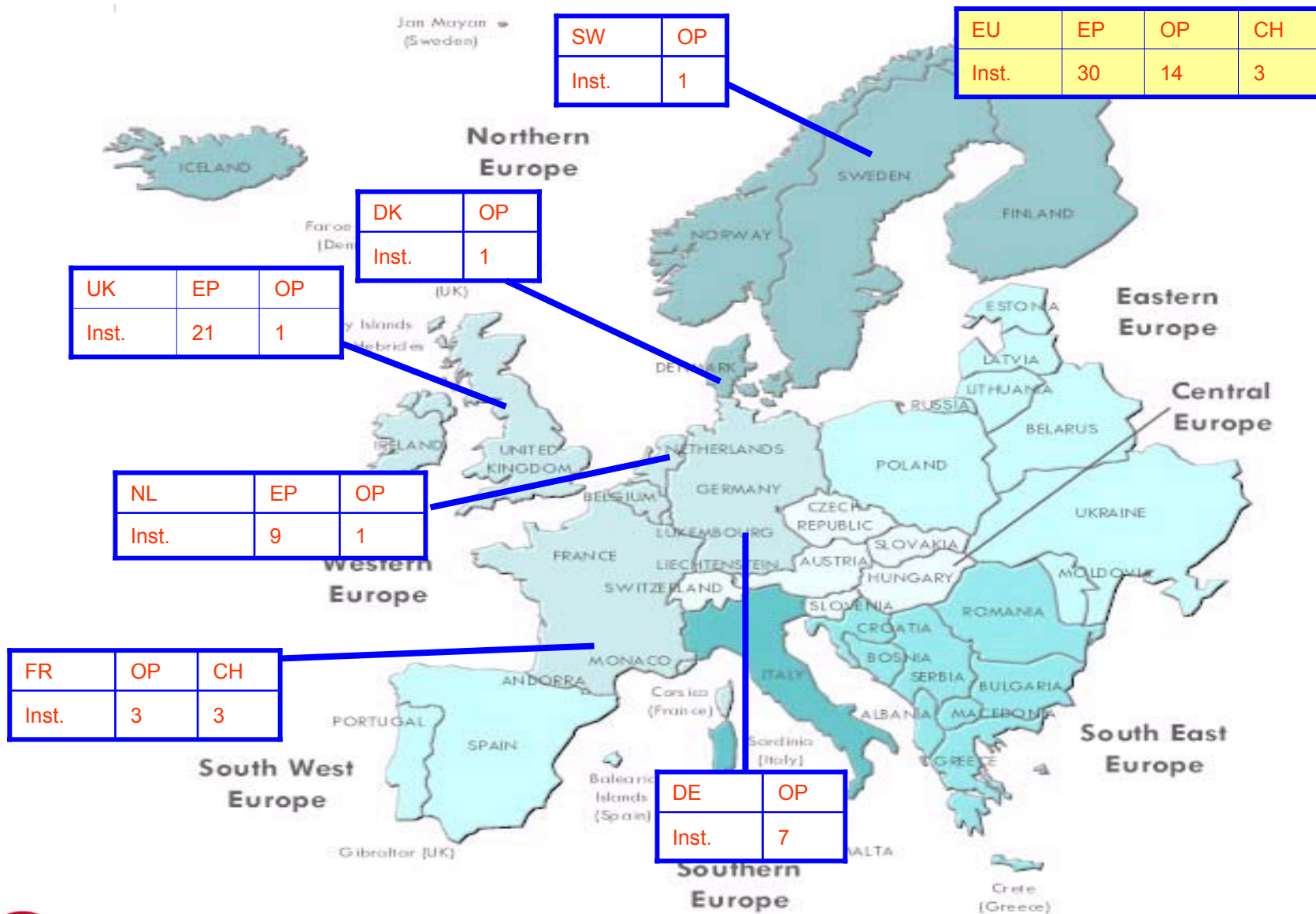
CER Market

ERU Market

AAU Market



Shell structural positions under the EUETS



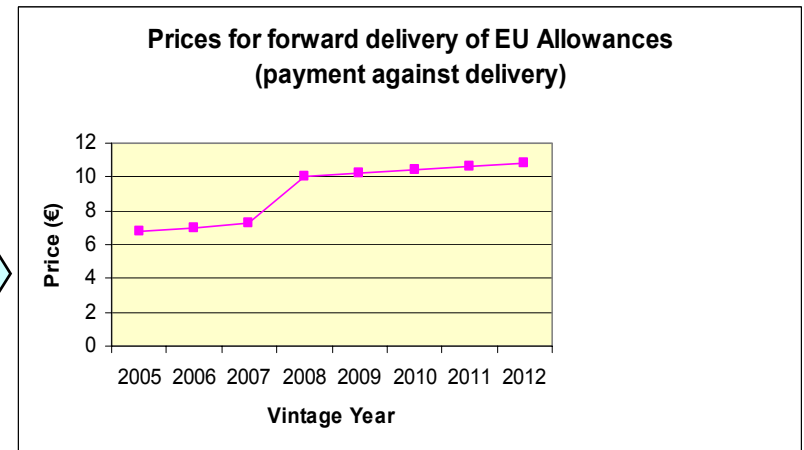
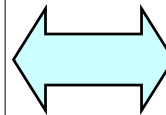
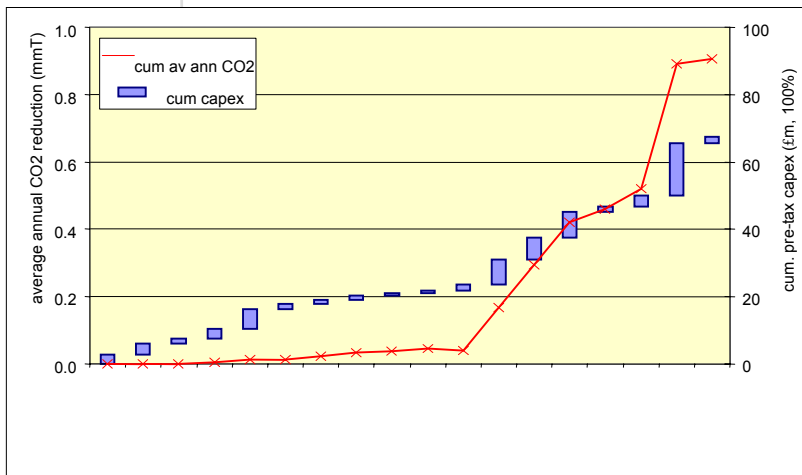
Role of Shell Trading

- ▶ **Manage the Group's Position**
 - ⊕ SLA between EP, OP/Chemicals and STASCo. From 1/1/05 this agreement optimizes monthly positions across all 50 Shell Group installations covered by legal obligations in the EU.
 - ⊕ Buenos Aires refinery CDM, STASCo submitted the first Shell project under the Kyoto Protocol Clean Development Mechanism to the UN. Others to follow.
- ▶ **Market to JV Partners and Customers**
 - ⊕ SLAs agreed with various Shell subsidiaries in Europe to use their customer networks and present more complex offers to customers.
 - ⊕ Emissions risk management agreements in place and active with a number of JV companies and new customers.
- ▶ **Proprietary Trading**



Make or buy?

- ▶ In all cases, efficient decision making requires information about BOTH internal costs of abatement and the market price of allowances
- ▶ Emission reductions must eventually come from investments in new technology somewhere, but not necessarily from YOUR installation
- ▶ Ultimate goal: allocate shareholder capital to maximize ROI



MAC Curve

Forward Curve



Reality?

- It is possible to undertake changes in management practice, behaviour and some efficiency measures immediately
- But capital investments need planning, permission and building. This can take >3 years.
- It's very unlikely that the EUETS 2005-7 will see companies undertaking major investments for compliance purposes.
- Allowance prices are therefore very unlikely to be set by the Marginal Cost of Abatement in the system.

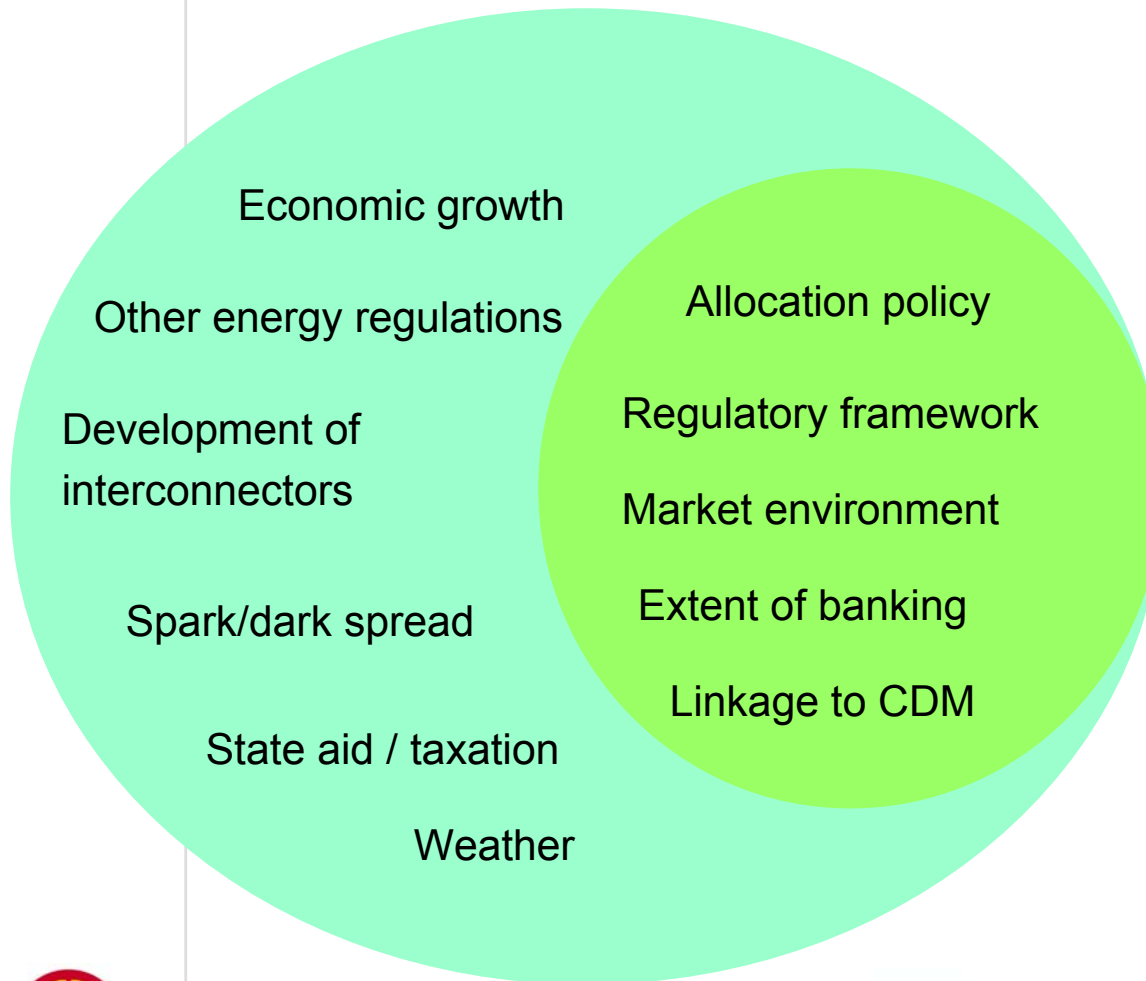


Market volumes

- ▶ EU Allowances trade actively today on OTC market. This means that the commercial terms of a transaction are agreed today “over the counter”, either bilaterally or through brokers.
 - ✦ Commercial terms: price, quantity, delivery date, payment date
- ▶ Majority of current trades on forward basis with physical settlement. Delivery of allowances onto registry account does not take place until a future date.
 - ✦ Standard delivery dates: 1/12/05, 1/12/06, 1/12/07, 1/12/08, 1/12/09
 - ✦ Delivery date spreads trade, including 07/08
- ▶ Average daily volume is 500,000 – 1,000,000, of which 25% is 06 and beyond



Market drivers in the EU emissions market



- ▶ Does not have the term structure behaviour of a physical commodity: zero cost storage and transfer
- ▶ No convenience yield within the compliance period and hence behaves like a financial instrument with a term structure that depends on the interest rate curve

● Exogenous factors (energy market)

● Endogenous factors (allowance market)



Long term allowance price drivers

● Bearish

- ▶ NAPs allocate length (note Accession States in particular)
- ▶ Linking Directive opens flood of CERs
- ▶ Government auctions
- ▶ The 2007 “wall”
- ▶ Major abatement projects?

● Bullish

- ▶ Natural sellers are not traders and prefer to hold supply off market
- ▶ Governments buy CERs...
- ▶ Phase II NAPs tighter
- ▶ The CDM process remains complex and significant CER supply does not enter the EUETS
- ▶ Non-EU entities buy EUAs
- ▶ Economic growth throughout Europe
- ▶ The 2007 “wall”



Environmental Products Trading Business

Toby Campbell-Colquhoun

+44 207 546 5149

www.shell.com/trading/eptb

