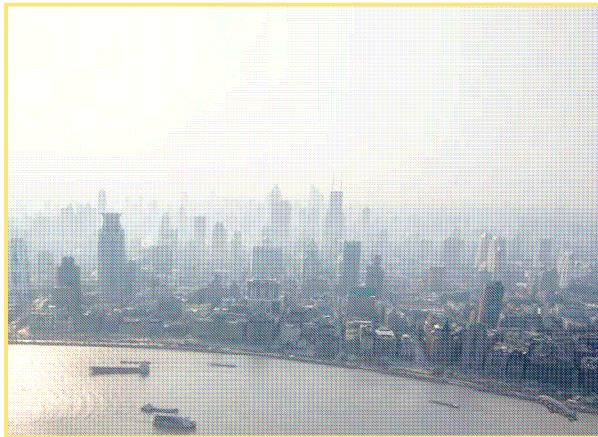


# **Energy/Environmental Challenge**

## ***Helping Customers Use Less, Emit Less***

**ATHENS**  
**5 May 2011**



# AGENDA

**1**

Introduction

**2**

Global Environmental challenge and EU ETS overall

**3**

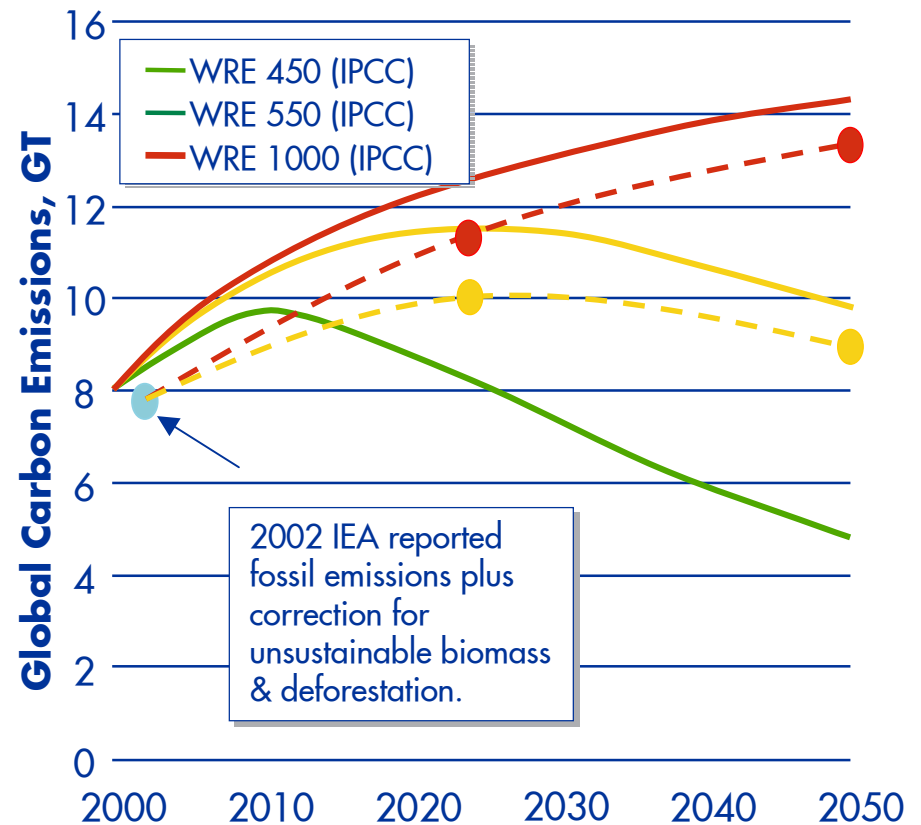
What and when will it affect airlines

**4**

Practical steps and actions

# GLOBAL CO2 EMISSIONS NEED TO BE REDUCED

- Demand for energy is expected to double by 2050
- General consensus is that CO2 emissions will increase and we need to reduce CO2 emissions
- While governments continue to debate how best to tackle CO2, there is much **we** must do now.



Theoretical carbon emissions profiles published in IPCC 3<sup>rd</sup> Assessment Report

## AIRLINES ARE RESPONDING (off the www)

Singapore Airlines will continue to be at the forefront of aviation's drive towards carbon-neutral growth with the aim of a sustainable future for the airline industry

Qatar Airways therefore designed a wide ranging Environmental Management System around its six step environmental policy

Delta's comprehensive environmental policies guide our continued efforts to improve fuel efficiency and reduce CO2 emissions

# IATA IS RESPONDING

## IATAs Four Pillars



\* Assuming 30% technical improvements and 10% saving from alternative fuel blend

# SHELL IS RESPONDING – FOR ITSELF + CUSTOMERS



**EFFICIENCY OF  
OPERATIONS**

**CO2 CAPTURE AND  
STORAGE**

**NATURAL GAS**

**BIOFUELS**

**HELPING CUSTOMERS  
USE LESS**

## **Customer drivers**

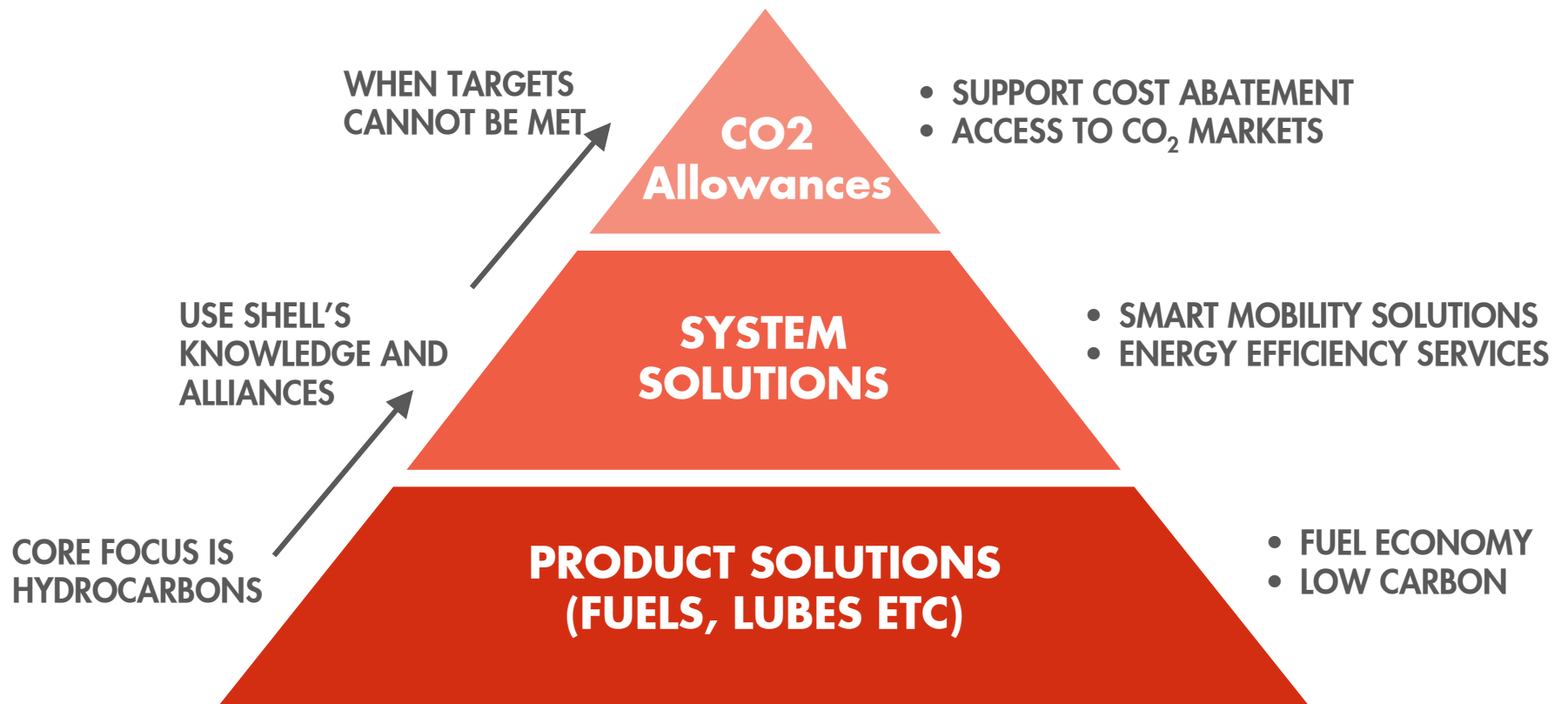
- Growing global energy demand
- Energy Security / Supply challenges
- Growing CO2 emissions
- Regulatory systems
- Retailer, competitive pressures

***Critical customer growth enabler***

CVP'S THAT HELP CUSTOMERS  
EMIT LESS CO<sub>2</sub>

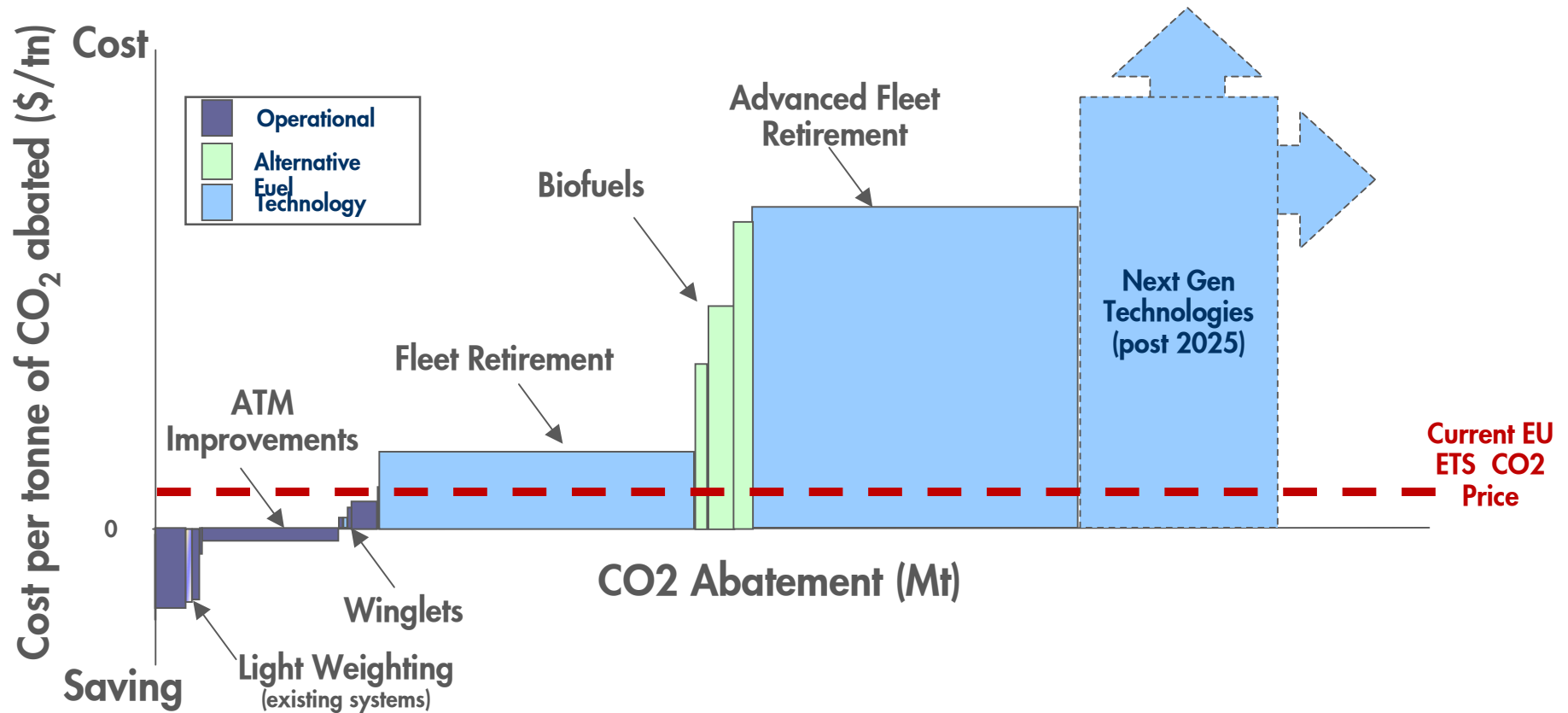
**VALUE TO  
CUSTOMER**

# OUR INTEGRATED APPROACH WITH CUSTOMERS



# NO ONE SOLUTION WILL BE SUFFICIENT TO REDUCE CO2

## Illustrative Global 2025 Marginal Abatement Curve – Aviation Sector



Sources: Shell modified

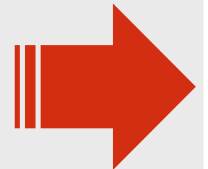
## NO EASY SOLUTION

**Longer Term:**                      **Bio Fuels / New Technology**

**Medium Term:**                      **Fleet Replacement etc**

**Short Term:**                      **Light weighting +**

**Buying/ Selling CO<sub>2</sub>**



# International Response and Regulation:

# Global Development of Carbon Markets

ALBERTA: Specified Gas Emitters Regulation (SGER) presents an obligation to purchase offsets and/or pay into a technology fund.

EUROPEAN UNION: EU ETS firmly established; outlines quantitative and qualitative restrictions for offsets.

CANADA: Assume that it will adopt legislation in line with U.S.

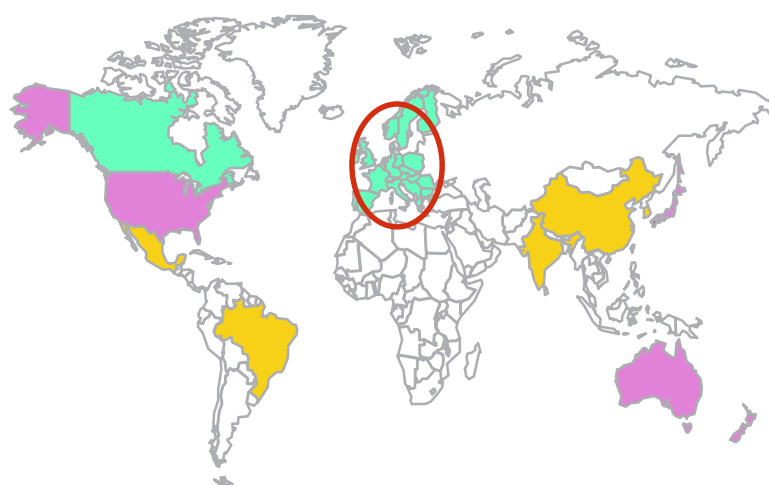
JAPAN: Voluntary schemes ongoing. Draft ETS in place.

UNITED STATES: Waxman-Markey bill passed in 2009; regulatory proposals that are in discussion have schemes for use of domestic offsets.

WEST COAST: Western Climate Initiative (WCI), led by California.

EAST COAST: Regional Greenhouse Gas Initiative (RGGI) is established, however initial overallocation has pushed the price below \$2.00/t

MIDWEST: Midwestern Greenhouse Gas Reduction Accord (MGGRA) not expected to create exposure.



AUSTRALIA: After failing passage twice, government has postponed further Carbon Pollution Reduction Scheme (CPRS) work until 2013. Recent proposal by opposition party includes scheme where government purchases domestic offsets.

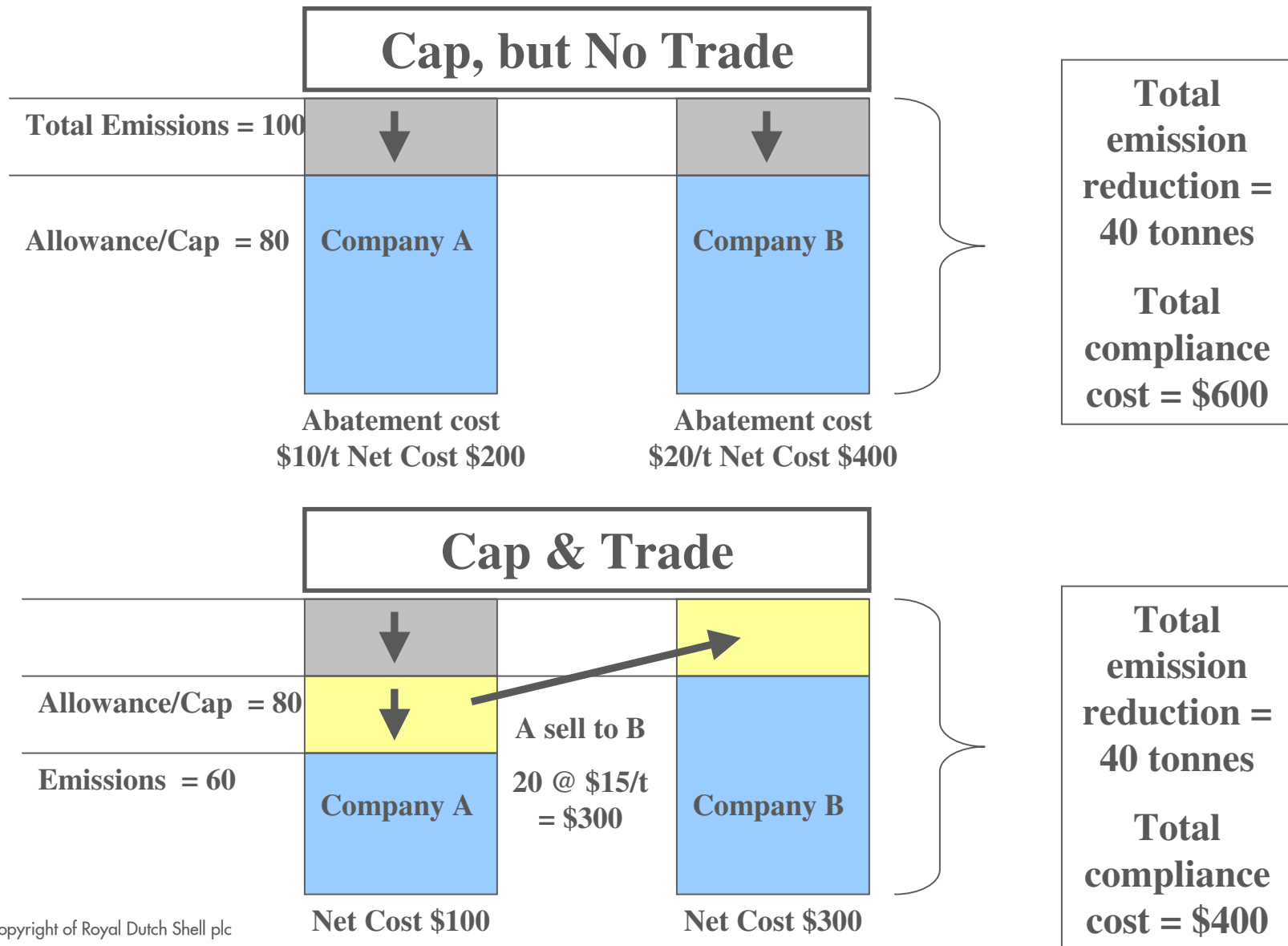
NEW ZEALAND: NZ ETS is now operational and has a mechanism for forestry and other offsets.

LEGEND:

- Existing regime
- Expected regime in 2015
- Expected regime in 2020

Regulatory schemes have become more diverse and don't appear to be developing in a way that will quickly converge into a global carbon market. However, regulatory schemes appear to be considering offset as a mechanism to allow for regulatory flexibility and price regulation.

# How does a Cap & Trade scheme work?



# **Aviation's inclusion EU ETS**

# KEY FEATURES OF AVIATION'S INCLUSION IN EU ETS

**1**

## FLIGHTS COVERED

- All flights departing or arriving at an EU or EEA EFTA Member State (Iceland, Liechtenstein, Norway).
- Does not cover flights just 'flying over' EU/EEA EFTA Airspace.

**2**

## EXEMPTION

Commercial Air Transport Operators that meet the below rules are exempted from the EU ETS:

- Less than 243 flights per period for three consecutive four-month periods.

*OR*

- Flights with total annual emissions < 10,000 Tonnes per year.

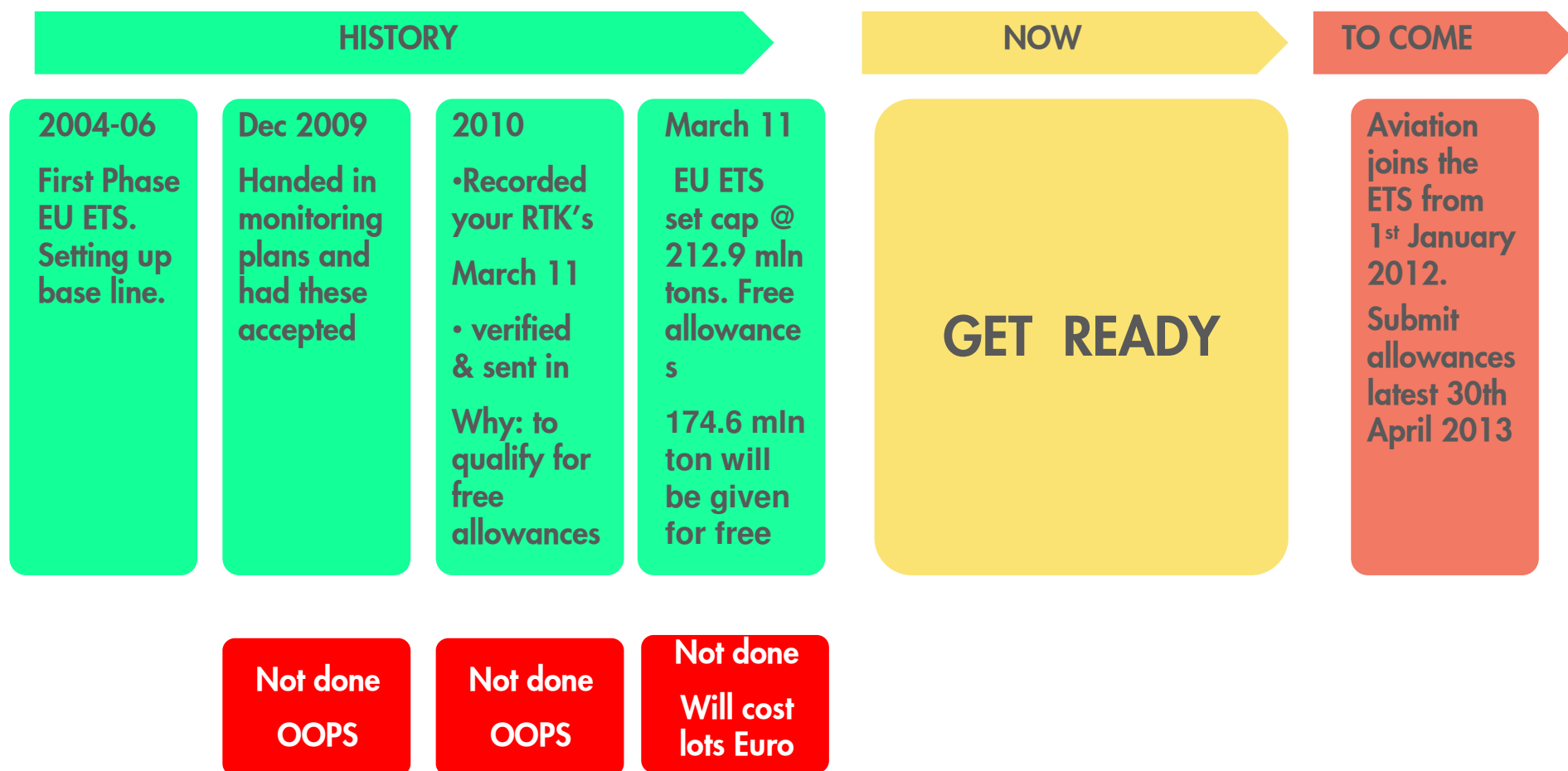
# KEY FEATURES OF AVIATION'S INCLUSION IN EU ETS

## 3

### OTHER EXEMPTIONS

- Certain flights transporting Heads of State, Government, etc.
- Military flights.
- Police flights.
- Search and rescue flights.
- Certain training flights.
- Aircraft with a maximum take-off mass of less than 5,700Kg.
- Return-to-Ramp flights.

# AVIATION – EU ETS KEY STAGES



## *Understand the amount of EUAAs to be Allocated to Aviation Industry.*

Total Allowances Available to the Aviation Industry (EUAAAs) – 2012:

= Average of 2004 to 2006 Industry Emissions x 97% = 212.9 Mt

82  
%

Free Allocation to Airlines (2012): 174.6

= Total Allowances Available x 82% = Mt

15  
%

Allowances to be Auctioned (2012):

= Total Allowances Available x 15% = 31.9 Mt

3%

Allowances in New Entrance Reserve (2012):

= Total Allowances Available x 3% = 6.4 Mt

# EXAMPLE

## *Estimating the EUAA Allocation for Your Airline.*

Total EUAA Allocation to Airlines (2012) = 174.6 Mt

- Estimated share of 2010 Industry RTK's (EU Flights) = 0.50%
- Estimate of 2012 EUAA Allocation =  $174.6 \text{ Mt} \times 0.50 \%$   
= 873,000 EUAA's

## EXAMPLE

*Determining your expected Surplus / Shortfall Position.*

**Your Expected Emissions (2012) = 945,000 tCO<sub>2</sub>**

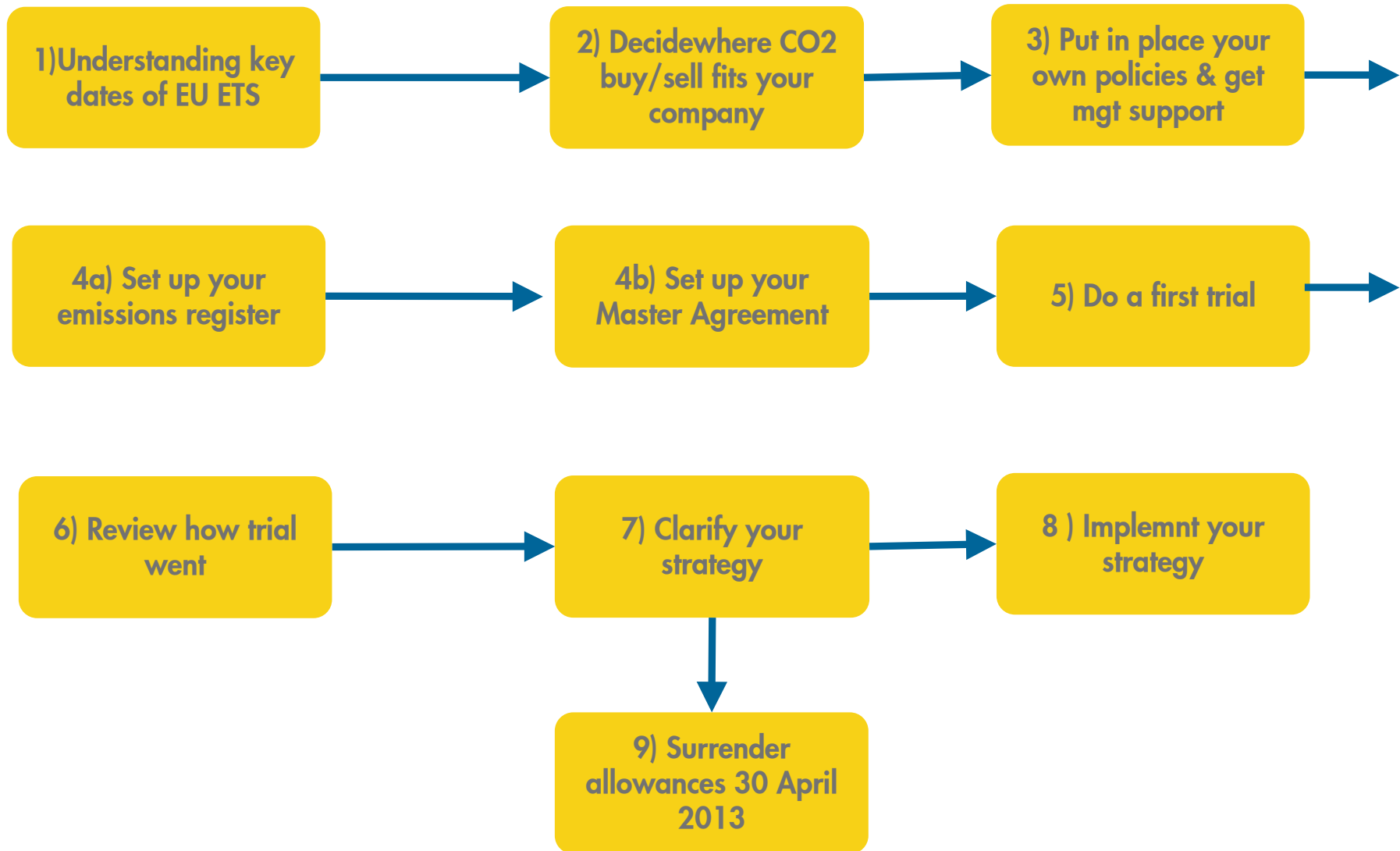
**Your Expected EUAA Allocation (2012) = 873,000 tCO<sub>2</sub>**

**Your Expected Shortfall Position (2012) = 72,000 tCO<sub>2</sub>**



**What can you do now?**

## 9 SUGGESTED STAGE GATES FOR ET ETS



# 1. AVIATION – EU ETS KEY STAGES

## HISTORY

**2004-06**

**First Phase  
EU ETS.  
Setting up  
base line.**

**Dec 2009**

**Handed in  
monitoring  
plans and  
had these  
accepted**

**2010**

**•Recorded  
your RTK's  
March 11  
• verified  
& sent in**

**Why: to  
qualify for  
free  
allowances**

**March 11**

**EU ETS  
set cap @  
212.9 mln  
tons. Free  
allowance  
s**

**174.6 mln  
ton will  
be given  
for free**

## NOW

**GET READY**

## TO COME

**Aviation  
joins the  
ETS from  
1<sup>st</sup> January  
2012.**

**Submit  
allowances  
latest 30th  
April 2013**

## 2. WHERE DOES CO2 BUY/SELLING FIT IN YOUR COMPANY

Some examples (illustrative only – your company could be different, so test)

**Environment Dept**

**Adv - Has been involved since beginning**

**DA - Time to run day to day**

**Finance Team**

**Adv – have experience in risk management**

**DA – No direct link to fuels / operations that generate and hence can impact CO2 direct reduction**

**FUEL BUYER**

**Adv – Deeply involved in the source of the CO2 generation and buy/sell skills**

**DA – EU ETS new to many staff**

**SHELL : FUEL BUYER**

### **3. POLICIES / BOARD SUPPORT**

**Strategy on  
managing  
environment**

**CO2 Trading  
policy**

**Operating  
mandates**

## 4a. EU ETS REGISTERS- AVIATION

- **Why:** To buy/sell CO2 allowances (EU ETS or for voluntary reasons)
- **Where:** Register in the EU country where you arrive/depart the most
- **When:** For EU ETS by 2012, but good to do now.



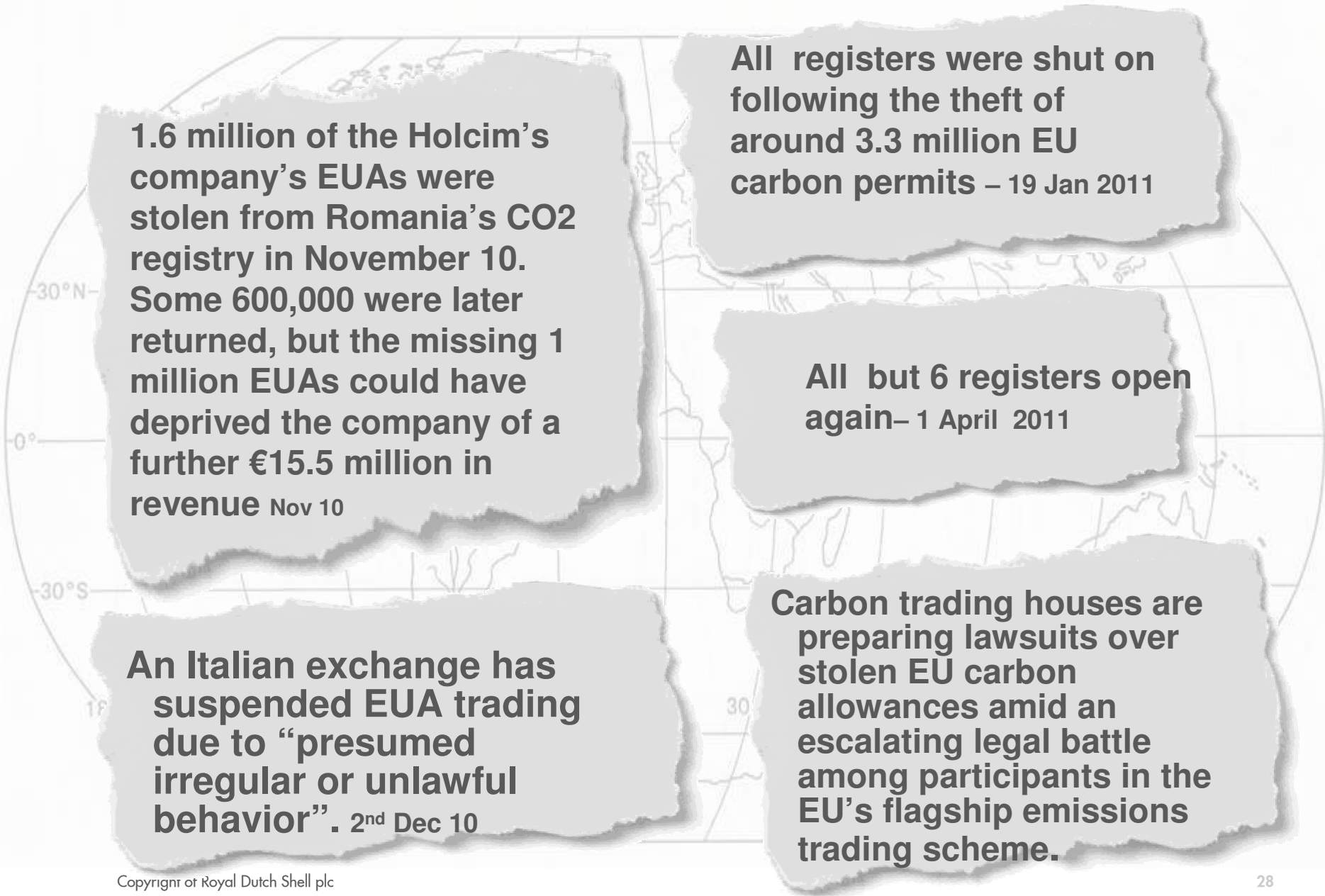
## REGISTRY DETAILS of 27 EU members + 3 non Members

Austria	<a href="http://www.emissionshandelsregister.at">http://www.emissionshandelsregister.at</a>	Operational
Belgium	<a href="http://www.climateregistry.be">http://www.climateregistry.be</a>	Operational
Bulgaria	<a href="http://bg-server1.etr.moew.government.bg/">http://bg-server1.etr.moew.government.bg/</a>	Operational
Cyprus CP0		<b>Not Operating</b>
Czech Republic	<a href="http://www.ote-cr.cz">http://www.ote-cr.cz</a>	Operational
Denmark	<a href="http://www.ens.dk/sw61389.asp">http://www.ens.dk/sw61389.asp</a>	Operational
Estonia	<a href="https://khgregister.envir.ee">https://khgregister.envir.ee</a>	Operational
Finland	<a href="https://www.paastokaupparekisteri.fi/">https://www.paastokaupparekisteri.fi/</a>	Operational
France	<a href="http://www.seringas.caissedesdepots.fr">http://www.seringas.caissedesdepots.fr</a>	Operational
Germany	<a href="https://www.register.dehst.de/">https://www.register.dehst.de/</a>	Operational
Greece	<a href="http://www.ghg.greekregistry.eu">http://www.ghg.greekregistry.eu</a>	Operational
Hungary	<a href="http://www.hunetr.hu/">http://www.hunetr.hu/</a>	<b>Not Operational</b>
Ireland	<a href="http://www.etr.ie/">http://www.etr.ie/</a>	Operational
Italy	<a href="http://www.greta-public.sinanet.apat.it/">http://www.greta-public.sinanet.apat.it/</a>	Operational

## REGISTRY DETAILS of 27 EU members + 3 non Members

Iceland		Operational
Latvia	<a href="http://etrlv.lvgma.gov.lv/">http://etrlv.lvgma.gov.lv/</a>	Operational
Liechtenstein (non EU)	<a href="https://www.national-registry.li">https://www.national-registry.li</a>	Not Operational
Lithuania	<a href="http://etr.am.lt">http://etr.am.lt</a>	Not Operational
Luxembourg	<a href="https://www.climateregistry.lu/crweb/public/welcome.do">https://www.climateregistry.lu/crweb/public/welcome.do</a>	Operational
Malta CP0		Not Operating
Netherlands	<a href="http://www.emissieautoriteit.nl">http://www.emissieautoriteit.nl</a>	Operational
Norway * not EU member	<a href="http://www.kvoteregister.no">http://www.kvoteregister.no</a>	Operational
Poland	<a href="http://www.kashue.pl">http://www.kashue.pl</a>	Operational
Portugal	<a href="https://rple.pt">https://rple.pt</a>	Operational
Romania	<a href="http://www.anpm.ro/index.aspx">http://www.anpm.ro/index.aspx</a>	Operational
Slovakia	<a href="http://co2.dexia.sk">http://co2.dexia.sk</a>	Operational
Slovenia	<a href="http://rte.arso.gov.si">http://rte.arso.gov.si</a>	Operational
Spain	<a href="http://www.renade.es">http://www.renade.es</a>	Operational
Sweden	<a href="http://www.utslappshandel.se/">http://www.utslappshandel.se/</a>	Operational
United Kingdom	<a href="http://emissionsregistry.gov.uk">http://emissionsregistry.gov.uk</a>	Operational

## NEWS.... NOT GOOD FOR REGISTERS



**1.6 million of the Holcim's company's EUAs were stolen from Romania's CO2 registry in November 10. Some 600,000 were later returned, but the missing 1 million EUAs could have deprived the company of a further €15.5 million in revenue Nov 10**

**All registers were shut on following the theft of around 3.3 million EU carbon permits – 19 Jan 2011**

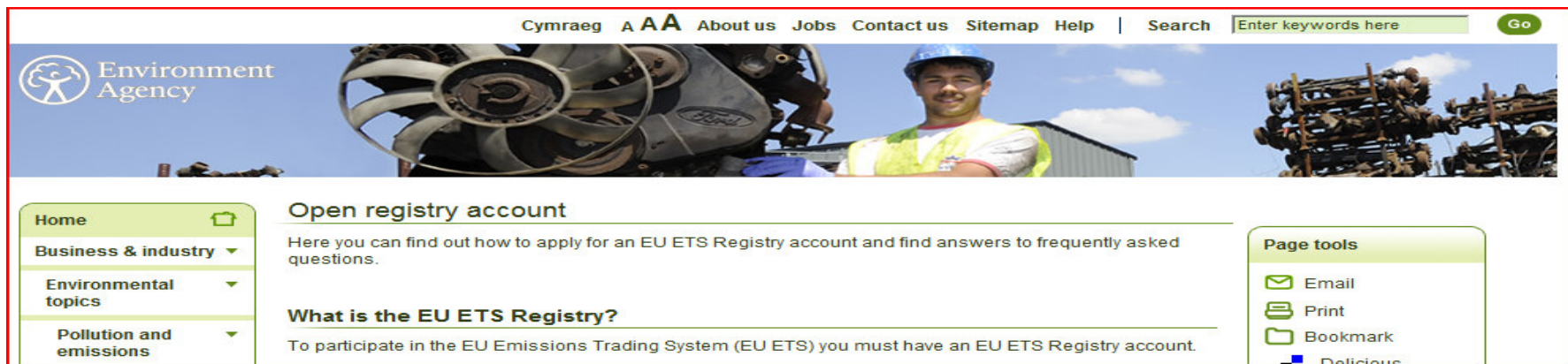
**All but 6 registers open again– 1 April 2011**

**An Italian exchange has suspended EUA trading due to “presumed irregular or unlawful behavior”. 2<sup>nd</sup> Dec 10**

**Carbon trading houses are preparing lawsuits over stolen EU carbon allowances amid an escalating legal battle among participants in the EU's flagship emissions trading scheme.**

# SETTING UP YOUR REGISTER YOURSELF

- All country sites can be done of the WWW.
- Each country has slightly different requirements
- But basically:
  1. You need to get some basis documents on your company and certified eg
    - Certificate of incorporation
    - Company financial statements
  2. Details of 2 company representatives to operate register
  3. Naturally some \$..... Not that much eg UK £200



# SOME EXAMPLES

Defra, UK - DK : 1.23 - Microsoft Internet Explorer provided by GL-D

File Edit View Favorites Tools Help

Address <https://dktreasure.mst.dk/Default.aspx?Menu=Menu&Module=ManageAccounts/NewAccount>

Homepage > DK > Manage Accounts > View Account

## Manage Accounts > View Account

- Public Home
- My Accounts
- Manage My Details
- Manage Accounts
  - Open New Account
  - Update Account Details
  - Close Account
  - Display Balance Details
  - View Account**
  - Account Reports
  - Appoint AAR
- Manage Users
- Transaction Management
- Help
- Log Off

**Selected Entity :**

Org ID	Name
DK-726	Shell Trading International Limited (STIL)

[FULL DETAILS](#)

**Selected Account :**

Account ID	Account Name	Balance
DK-121-385-0	Shell Trading International Limited (STIL)	4883405

[VIEW DIFFERENT ACCOUNT](#) [FULL DETAILS](#)

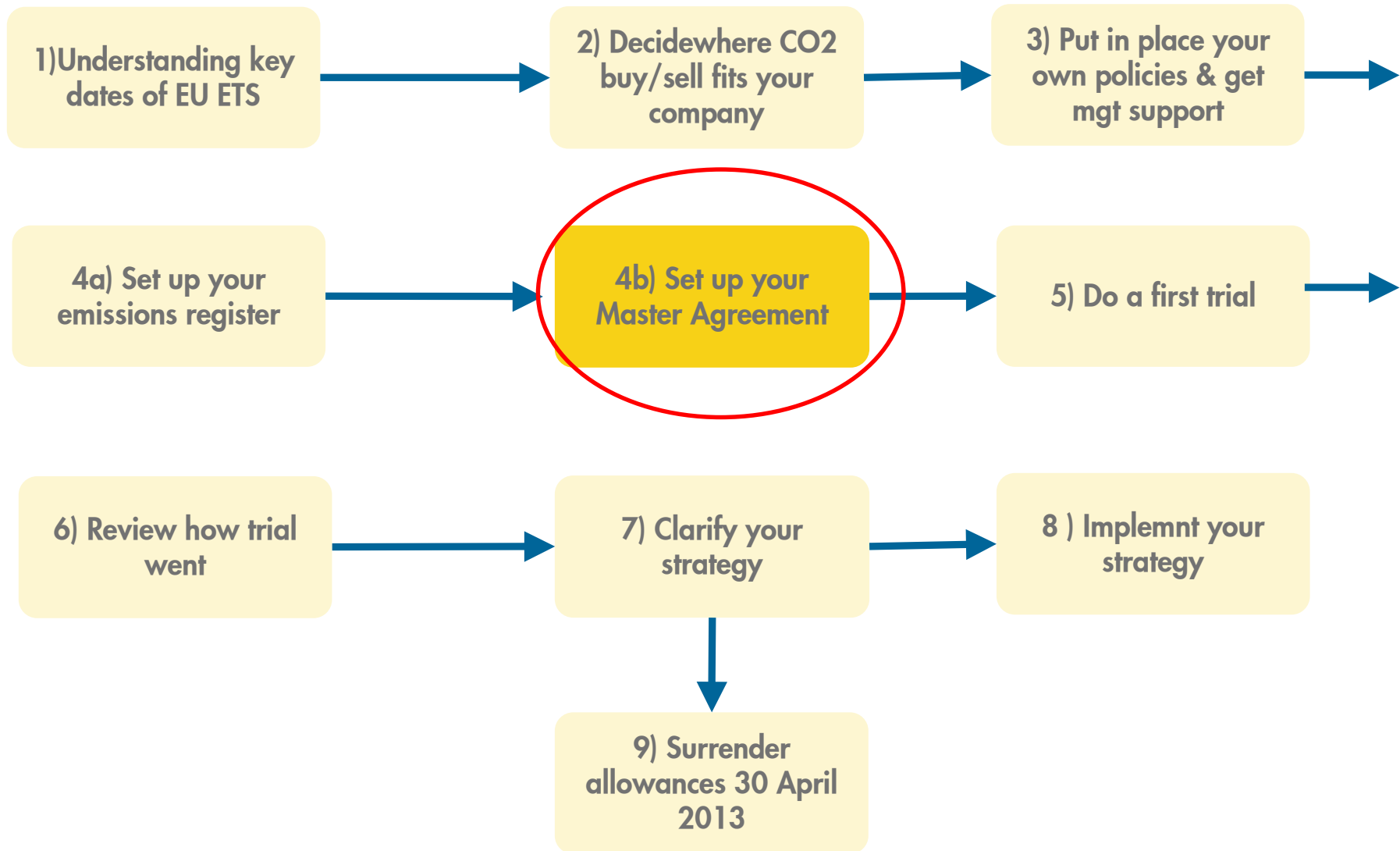
**Account Activity**

Page 1 of 162 pages. (1614)

Transaction Number	Transaction Type	Supplementary Transaction Type	Date/Time	Status	Organisation	Account Number	Credit	Debit
<a href="#">FR-21555</a>	External transfer of unit (between registries)	External transfer (2005-2007)	17/12/2007 14:46:39	Complete		FR-121-1237	279000	0
<a href="#">GB-9205</a>	External transfer of unit (between registries)	External transfer (2005-2007)	17/12/2007 12:57:57	Complete		GB-120-77	30000	0
<a href="#">GB-9198</a>	External transfer of unit (between registries)	External transfer (2005-2007)	14/12/2007 17:29:30	Complete		GB-121-754	100000	0
<a href="#">GB-9196</a>	External transfer of unit (between registries)	External transfer (2005-2007)	14/12/2007 15:30:14	Complete		GB-120-354	143950	0
<a href="#">DK-4927</a>	External transfer of unit (between registries)	External transfer (2005-2007)	04/12/2007 11:34:33	Complete		NL-121-219-0	0	205000
<a href="#">GB-9147</a>	External transfer of unit (between registries)	External transfer (2005-2007)	03/12/2007 17:20:34	Complete		GB-121-868	55000	0
<a href="#">GB-9138</a>	External transfer of unit (between registries)	External transfer (2005-2007)	03/12/2007 15:37:46	Complete		GB-120-77	50000	0
<a href="#">CZ-4328</a>	External transfer of unit (between registries)	External transfer (2005-2007)	03/12/2007 15:35:54	Complete		CZ-120-411	14268	0
<a href="#">CZ-4325</a>	External transfer of unit (between registries)	External transfer (2005-2007)	03/12/2007 15:33:58	Complete		CZ-120-310	50590	0
<a href="#">GB-9122</a>	External transfer of unit (between registries)	External transfer (2005-2007)	03/12/2007 14:02:41	Complete		GB-120-722	5819	0

Done Internet

## 9 suggested stage gates for ET ETS



## 4b. MAIN EMISSION CONTRACT TYPES

Some examples (illustrative only)

### ISDA

International Swap Dealers Agreement

**with emissions annex  
& confirmations**

**Pro: well known and  
covers many types trades**

**Cons: very complex**

### STA

Single Trade Agreement

**Pro: Easy to implement**

**Con: for one trade only  
and long document each  
time**

### MA

Master Agreement

**with Confirmations**

**Pro: Much shorter than  
the ISDA and can be for  
Emissions only**

**Con: Very few**

**Preferred : MSA**

# MASTER AGREEMENT

## 1. Master Agreement:

- Sets out the structure of fixed price deals and needs to be signed before a deal is done.
- Allows multiple deals to be done against one MA.

## 2. Confirmation Format:

- Actual supply contract that is sent to Customer the day the deal is done
- Used to confirm key terms of specific deal eg :
  1. allowances bought
  2. Period
  3. price

## 3. Contracting Party with Shell: The same as your fuel contract

# MASTER AGREEMENT

DRAFT

## EMISSIONS SERVICES MASTER AGREEMENT

This Emissions Services Master Agreement is made on \_\_\_\_\_ 20\_\_\_\_ between \_\_\_\_\_ a company incorporated in \_\_\_\_\_ (Company No. \_\_\_\_\_) and having its registered office at \_\_\_\_\_ (the "Customer") and \_\_\_\_\_ a limited company existing under the laws of England and Wales (Company No. 525037) whose registered office \_\_\_\_\_

### PART A – ELECTIONS

1. "Holding Account" shall be for:
  - 1.1 Shell Trading account GB-121-754-0 for Shell \_\_\_\_\_
  - 1.2 Customer: **[insert Registry and account number]**.
2. **Automatic Early Termination:** Applies to the Customer.
3. **Credit Support:** The Credit Support and Conditions to be agreed by Shell. This Master Agreement shall not come into effect until a Credit Support Document has been communicated to the Customer.
4. **Taxes.** Shell confirms that it has established its business in the UK and that its VAT identification number which has to be mentioned on any invoice which Shell receives from suppliers outside of UK is GB 235 763 255 (130). The Customer confirms that it has established its business in **[insert Country]** and that its VAT identification number which has to be mentioned on any invoice which Party B receives from suppliers outside of **[insert Country]** is **[Vat Registration Number including Country Affix]**.

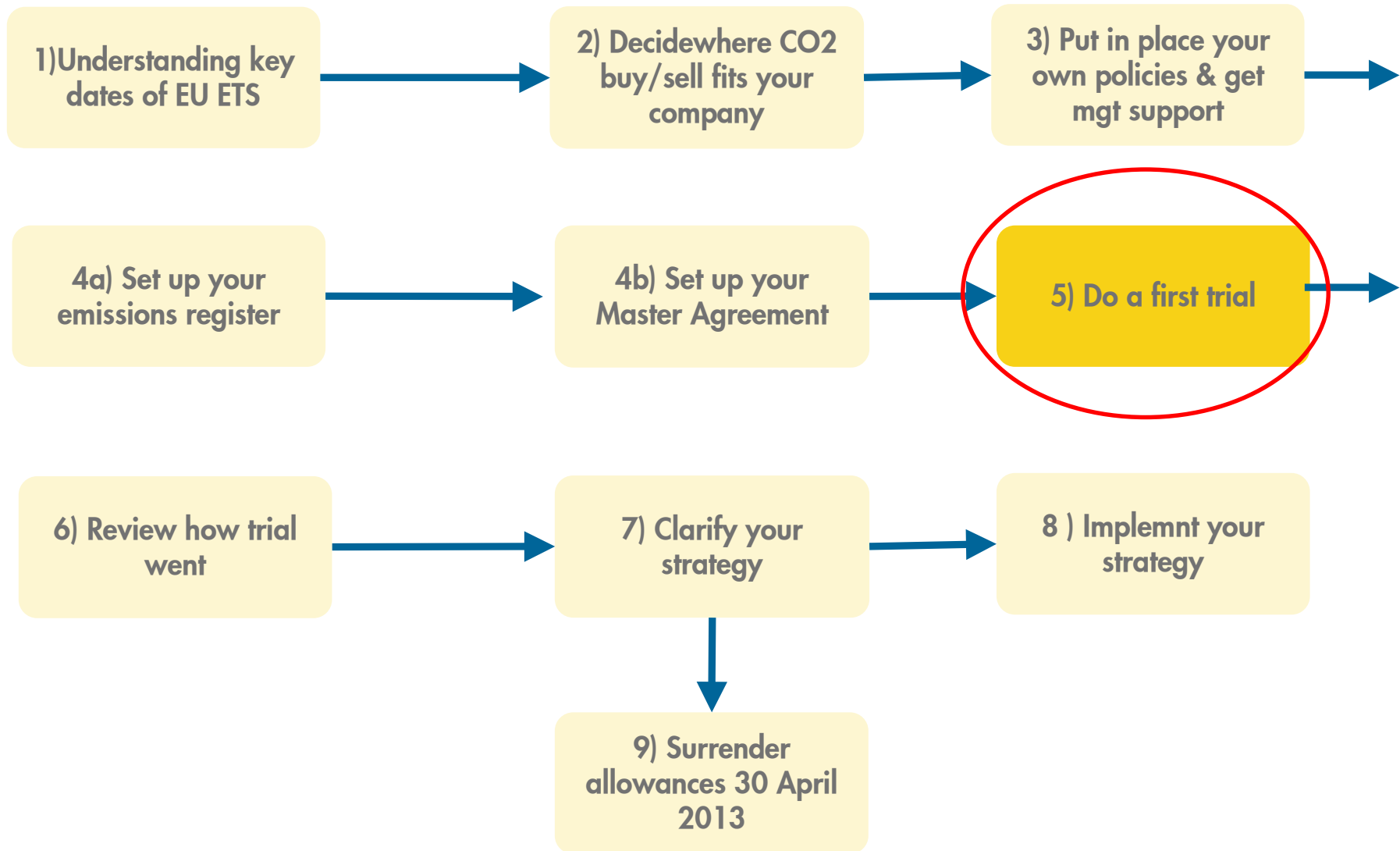
# CONFIRMATION DOCUMENTS (Example)

## FORM OF CONFIRMATION

This Confirmation evidences the terms of the binding agreement regarding the Transaction described below and entered into under the Emissions Services Master Agreement dated \_\_\_\_\_ between \_\_\_\_\_ (the "**Customer**") and \_\_\_\_\_ ("**Shell** \_\_\_\_\_"). This Confirmation describes the additional terms applicable to this Transaction and supplements the Emissions Trading Master Agreement which applies to this Confirmation except as amended below. In the case of any inconsistency or conflict between this Confirmation and the terms of the Master Agreement the terms of this Confirmation shall prevail for the purpose of this Transaction.

Delivering Party and contact person:	
Receiving Party and contact person:	
Trade date and time Transaction agreed:	
Allowance type (EUA, a CER, ERU):	
Volume:	
Delivery date:	
Price(s) (€ / Allowance):	
Total amount:	
Payment Date:	
Name of Broker (if applicable):	
Bank details:	Shell Trading: Account Name: _____ Shell _____ IBAN No. _____ Bank Name: _____ Bank Address: _____ Bank BIC (Swift Code): _____ Customer: _____
Special Conditions:	

## 9 suggested stage gates for ET ETS



## 5. DO A TRIAL – AS EASY AS 1-2-3

### 1. All new to Aviation industry

- There has not been much experience
- Shell has done 6 transactions with Airlines recently
- Lets learn together'

### 2. Keep the first transaction simple

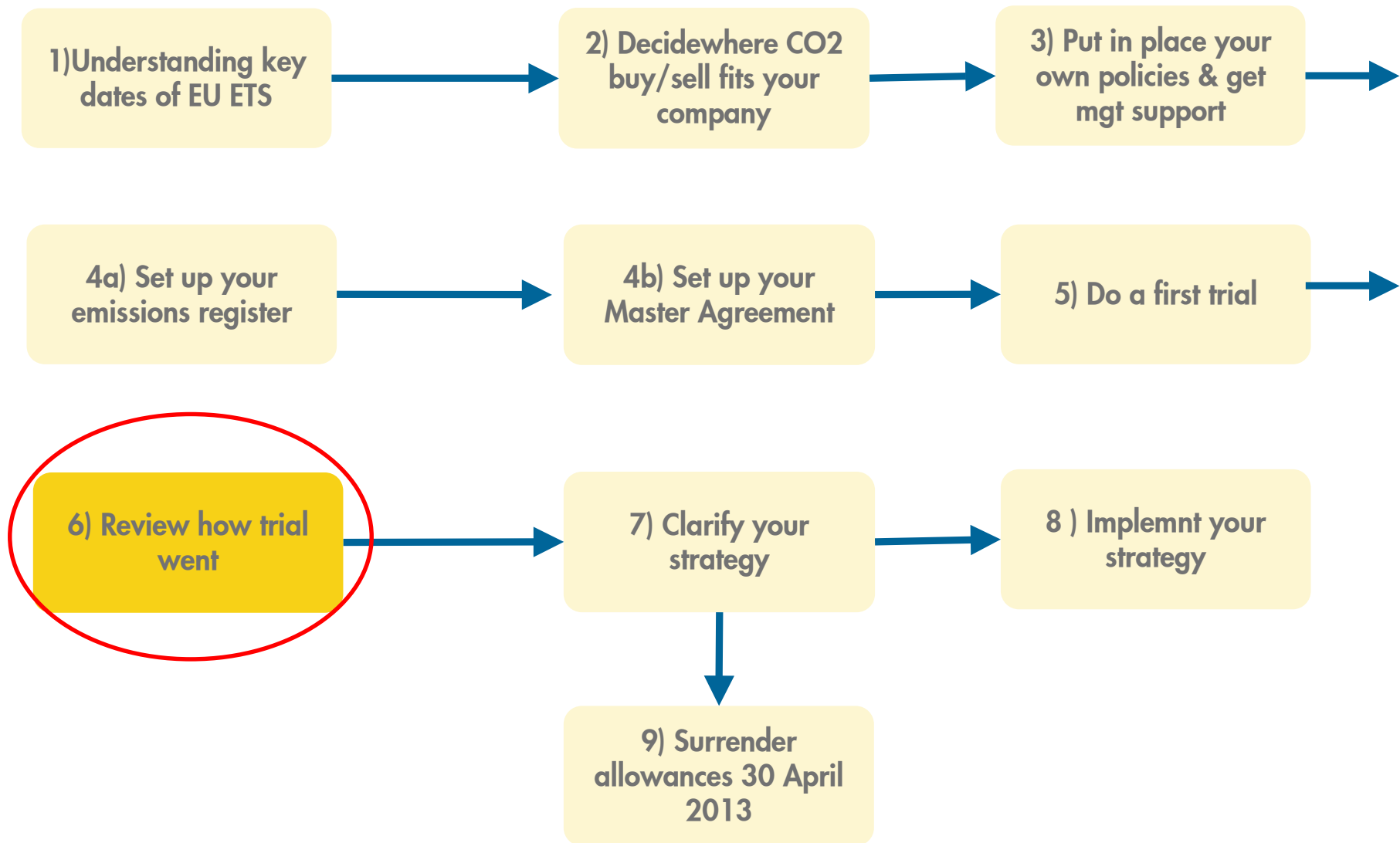
- Sign the Master Agreements (or other agreements)
- Set up a register (or be prepared to do it before 20 Dec 2011)
- Look to do an EUA trade
- Keep it simple
  1. Airline buys
  2. Volume of allowances between 100 and 1,000
  3. Cost approx \$2,000 and \$20,000

# TRIAL – AS EASY AS 1-2-3

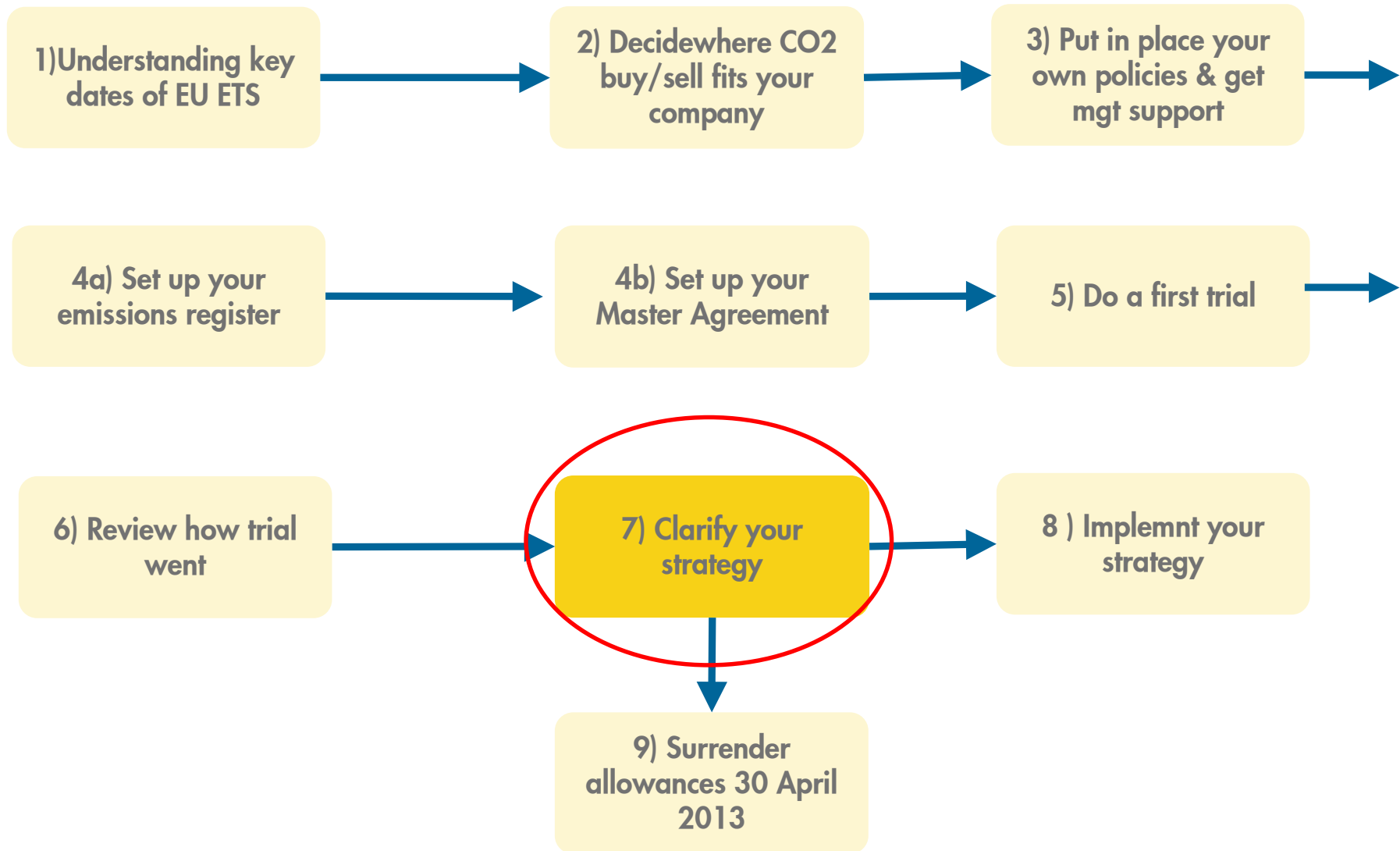
## 3. Key Steps

- You call Shell Account Manager and ask for a price
  - Type of allowances: EUA's
  - Period: Dec 11
  - Volume: 1,000 allowances
  - Terms: Against the agreed Master Agreement
- Shell Account Manager will provide a price in Euro/Tonne with a validity period
- Price is acceptable, deal is done
- Confirmation Document sent out
- Payment Made by Airline
- Allowances delivered as agreed to Airline Emissions register

## 9 suggested stage gates for ET ETS

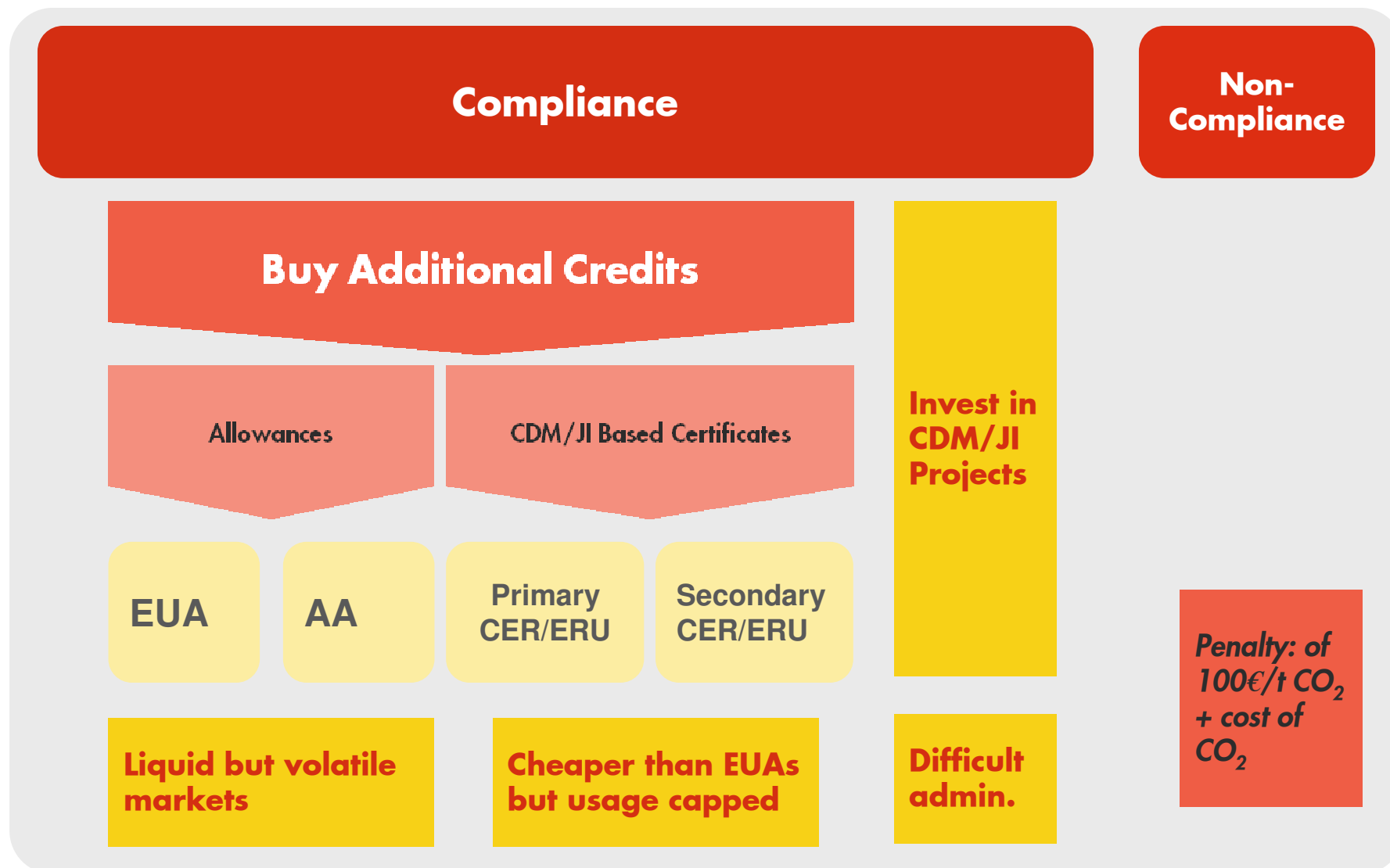


# SUGGESTED STAGE GATES FOR ET ETS

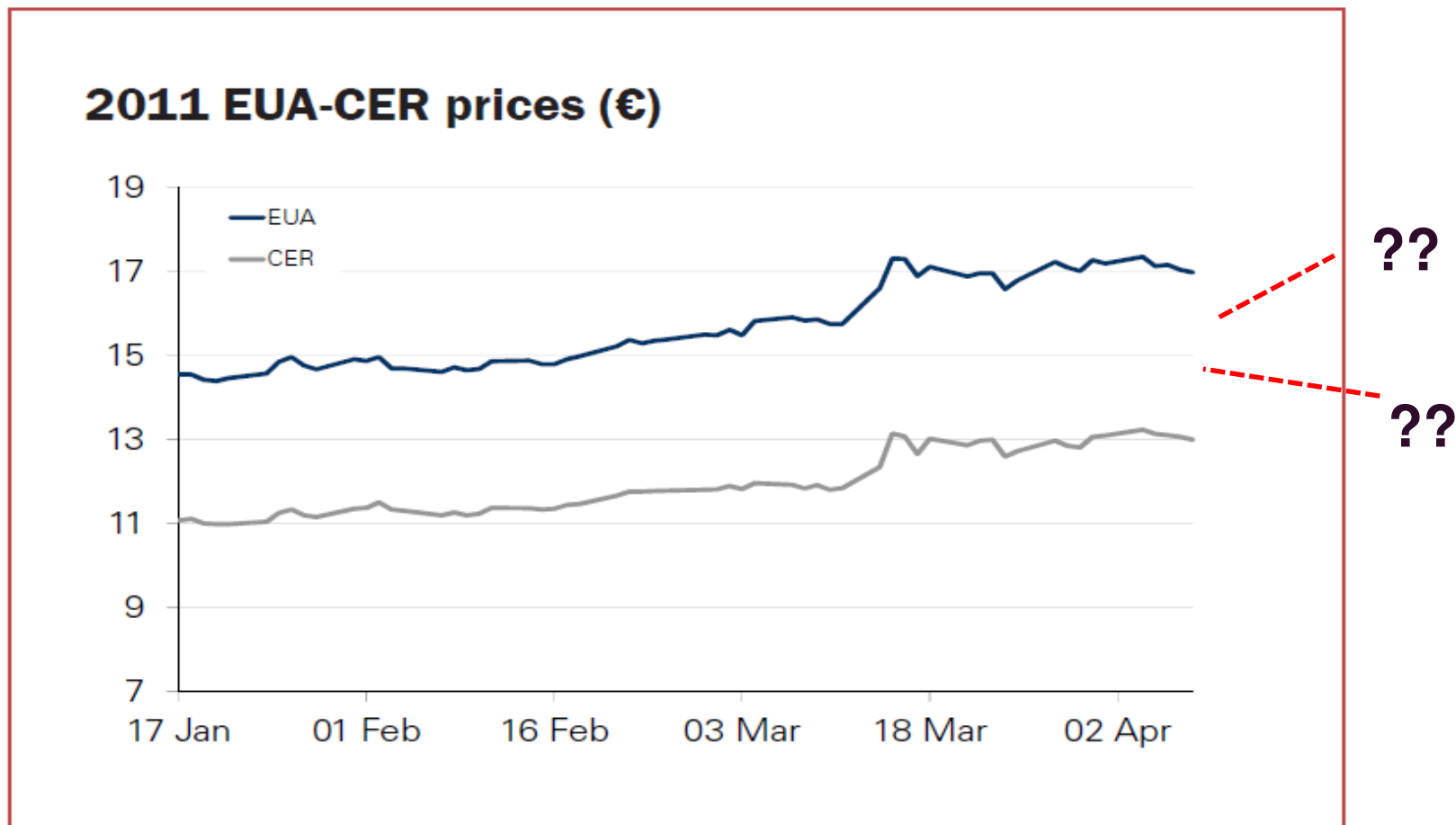


## 8. CO2 TRADING STRATEGY FOR REGULATED EU ETS

CO<sub>2</sub> Buy/Sell

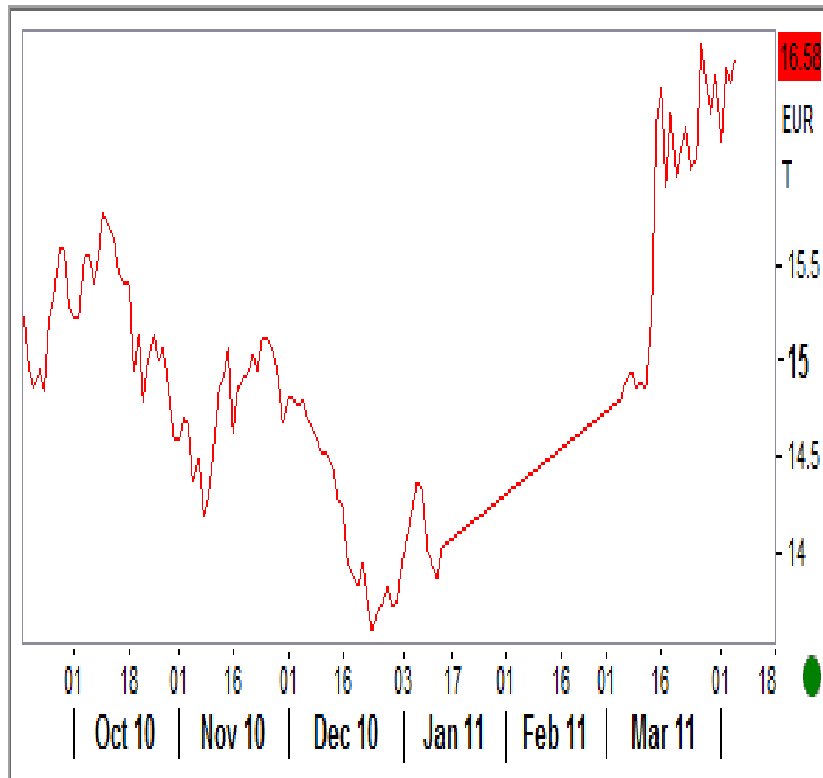


# What About CO2 Prices



# Where are CO2 prices heading ?

EUA's



Europe  
Economic  
activity

Construction  
down

Europe  
sovereign  
debt  
increase

EU  
changes  
policy



Economy  
picks up  
faster

Aviation  
comes  
on  
earlier

Government  
policy  
increases

Nuclear  
closures

## A BUMPY ROAD AHEAD



**Managing your fuel and emission costs in these challenging times will be difficult if you don't have a clear strategy.**

**Could be a bumpy road ahead.**

# WHY SHELL?



## RELATIONSHIP

- Shell's primary goal is to be a long term supplier of hydrocarbon to your company, providing you with high-quality fuels and reliable supply at competitive prices
- Shell operates with local touch while being a global player. You work through one focal point, your LOCAL account manager



## EXPERTISE & LEADERSHIP

- Looking to take a leadership position with you, exploring your needs and trying to find solutions
- We have over 10 years of experience in emissions markets



## DIVERSE PRODUCT PORTFOLIO

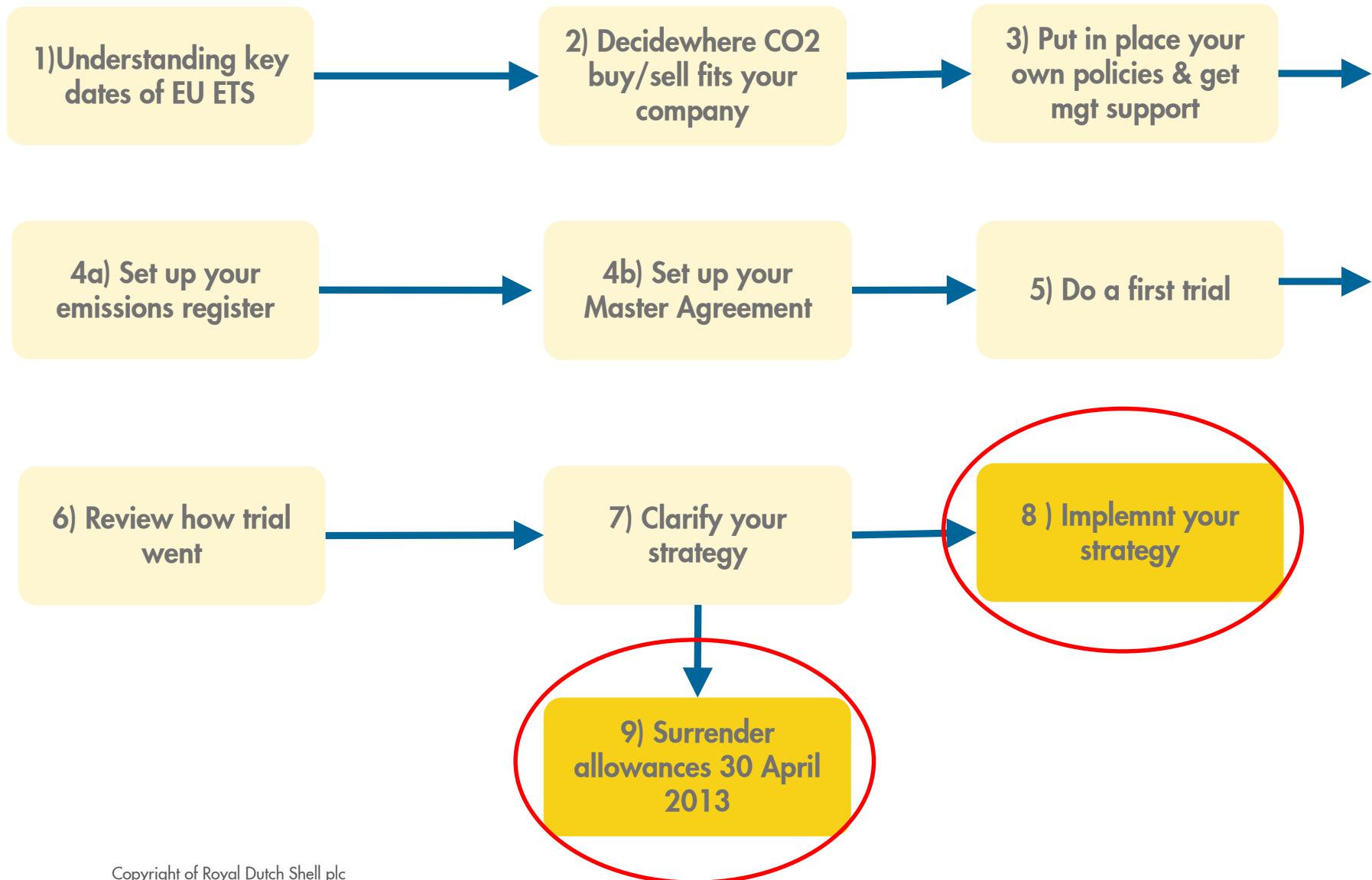
- With our global reach we can cover nearly every emissions market
- We offer a wide and comprehensive range of products/solutions, not just one separate solution.



## COMMERCIAL

- Liquidity / natural position - our natural position is a key strength and differentiator
- We have a direct interest and stake in CO<sub>2</sub> costs and impacts. Shell is at the table for EU and global emissions policy and regulation discussions as an industrial
- If you are already a customer, we have existing credit lines in place

## 9 suggested stage gates for ET ETS



**SHELL LOOK'S FORWARD TO  
WORKING WITH YOU TO ADDRESS  
THE ENVIRONMENTAL CHALLENGE**

**QUESTIONS ?**



***Helping Customers Use Less and Emit Less***