

# **Carbon Trading101**

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## **Presentation Outline**

- **Market Fundamentals**
- **NZ Trading**
- **Units Traded and Price Discovery**
- **Carbon Neutrality**



## De-mystifying the emissions market

- **The NZ ETS will be a compliance market**
- **Obligations to quantify and if necessary purchase allowances**
- **Sell only once your requirements are quantified, and banking and future obligations are understood**
- **Development of risk management tools (futures & options) will occur in time.**

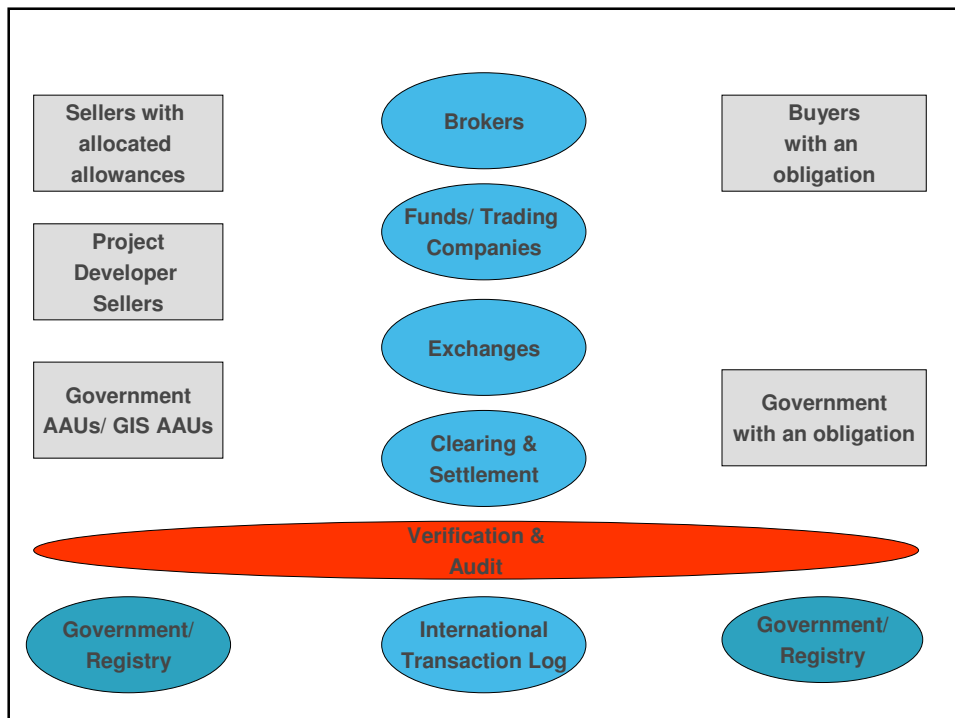
## Who are the participants in an emissions market?

### **Primary Participants:**

- Buyers
- Sellers
- Project developers
- Registries (Kyoto and International Transaction Log)

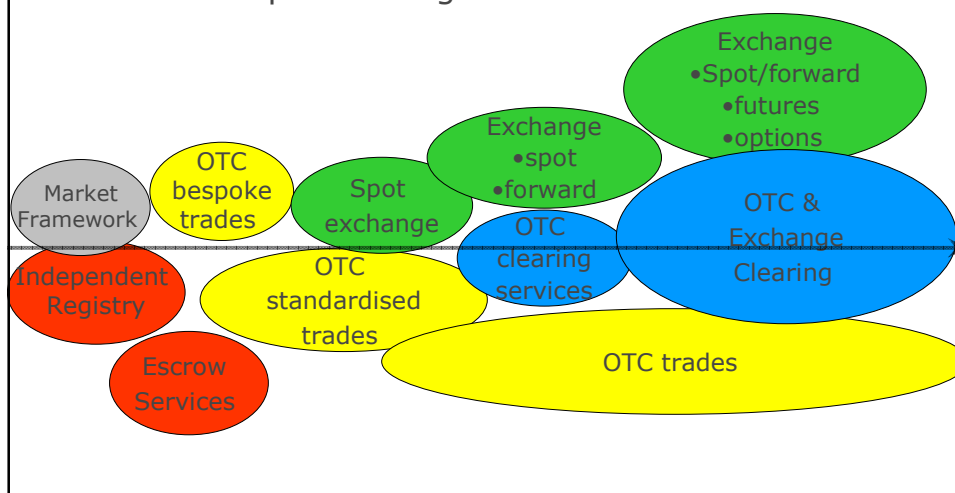
## Who are the participants in an emissions market?

- **Brokers**
- **Financial institutions that provide project finance and trading liquidity in the market**
- **Exchanges - provide a trading platform**
- **Clearing House or Clearing mechanism**
- **Settlement service providers**
- **Verifiers, auditors and advisory companies**



## Evolution of an Emissions Trading Market

### Market Development Stages



## Instruments Traded

### Physical (Compliance Market)

NZUs/ Other Kyoto Allowances

- Project based allowances (primary market)
- Secondary market spot transactions
- Physical forward transactions

### Financial

- Futures
- Options

*There are more esoteric instruments traded and settlement mechanisms but in our view these are the most widely used*



NZ Carbon Exchange

## **Opportunities – Permanent Forest Sink Initiative**

- **Promotes new, permanent forests on previously unforested land**
- **Participants receive credits (internationally tradable) AAUs based on the increase in carbon stored in their forest**
- **Landowners have a real opportunity to realise the full value of forested areas**

## **PFSI: The Basics**

- **Contract between landowner and Crown - registered on the title as a covenant**
- **Crown obligation:**
  - **Provide the landowner with credits**
- **Landowner obligations:**
  - **costs of generating units**
  - **costs of replacing any lost units**
  - **only harvest consistent with “approved practice”**

## Required Land Characteristics

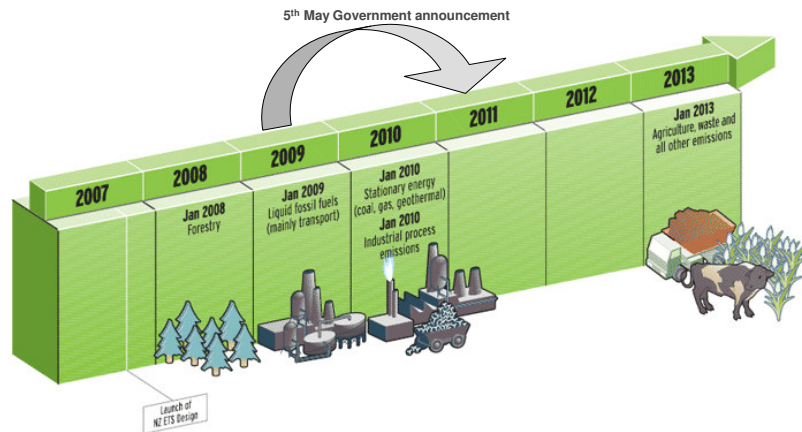
- **Land must be greater than 1 hectare in area**
- **Must not have been "Forest" at 31 December 1989**
- **Proposed/current land management meets "forest" definition and is result of active management**
- **Greater than 30m width**

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## Update on NZ ETS timing

### Emissions Trading Scheme



\* MfE, May 2008

## New Zealand Unit (NZU)

- **Primary unit of trade in NZ ETS**
- **Can be banked for future compliance periods**
- **Each NZ ETS allowance 'NZU' = 1 tCO<sub>2</sub>e**
- **Each NZU will be "backed up" by a Kyoto unit in NZ Registry**
- **Pricing and the relationship with international markets**

## NZ ETS Trading Obligations

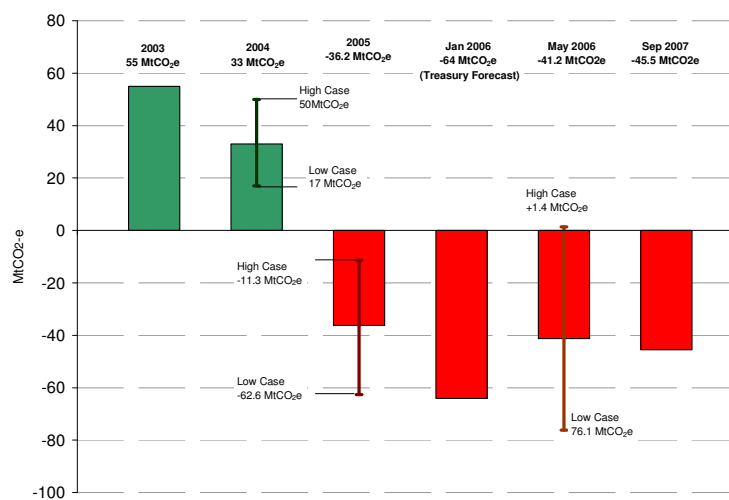
### At end of trading period:

- Remit enough allowances to cover own emissions.
- If short, face penalty and "make good" provision.

### Where to get allowances?

- Initial gratis allocation
- Through other Govt processes?
- Trade with other NZ ETS participants
- Trade internationally
  - Linking through broker
  - Projects based
  - Regulated ETS

## Linking and Cap Setting NZ Projected Net Emissions for Kyoto CP1 (2008-12) by year of forecast



## NZ ETS Supply/Demand Balance

NZETS Coverage	2006	2009	2010	2011	2012
Electricity Generation	8300	-	8300	8300	8300
Transformation Industries	1270	-	349	349	349
Manufacturing	5007	-	5007	5007	5007
National Transport	14407	-	-	16300	16600
Other Sectors	3246	-	3246	3246	3246
Fugitive Emissions	1761	-	1311	1311	1311
Industrial Process Emissions	3598	-	3598	3598	3598
AG Lime			1000	1000	1000
<b>Total Emission Units Required</b>	<b>37589</b>	<b>-</b>	<b>22811</b>	<b>39111</b>	<b>39411</b>

Gifted NZUs	2006	2009	2010	2011	2012
Industrial Sector compensation			15000	15000	15000
Deforestation (HELD)	21000	0	0	0	0
Post 1990 Forestry (30% take)	79000	2400	4740	4740	4740
<b>NZUs Issues</b>		<b>2400</b>	<b>19740</b>	<b>19740</b>	<b>19740</b>

NET BALANCE	2006	2009	2010	2011	2012
		<b>2400</b>	<b>3071</b>	<b>19371</b>	<b>19671</b>

**International allowance  
purchase required**

## Types of Emission Units

Unit Type	Regime					
	Kyoto	NZ ETS	AU ETS	EU ETS Phase I	EU ETS Phase II	CCX
<b>Kyoto Units</b>						
AAUs	x	x				
CER++	x	x	x	x	x	x
ERU++	x	x	x		x	
I-CER*	x					
t-CER*	x					
RMU	x	x	x			
<b>Regulatory</b>						
EUA				x	x	
NZU		x				
AEU			x			
<b>Voluntary</b>						
VER						x

\* Kyoto  
Forestry  
Units



++ Some exceptions on unit types apply

## International Kyoto Markets

### AAUs - Assigned Amount Units

- Units are assigned to governments, little individual trading occurring internationally
- GIS AAUs
- To date only 1 known trade involving private entity
- Supply may come from former Soviet Bloc countries
- Unacceptable in EU ETS
- Reputation issues may exist

## International Kyoto Markets

### CERs - Certified Emissions Reductions

- Units generated by Clean Development Mechanism projects
- Significant international trading
- Accepted in EU ETS and AUS (and indexed to EUA price in EU)
- Price driven by delivery factors
- Term sheets agreed prior to ERPA contract

## International Kyoto Markets

### ERUs – Emissions Reduction Units

- Units generated internationally by Joint Implementation Projects
- May be generated in NZ under the previous Government policy on *Projects to Reduce Emissions*
- Can be sold internationally
- Now accepted in EU ETS (from 2008) and in AUS
- Term sheets agreed and finalised in ERPA contract



## International Kyoto Markets

### RMUs – ReMoval Units

- Units are held by Kyoto governments, a large number of which are likely to hold these until the end of CP1
- To date no trading occurring internationally
- Unacceptable in EU ETS
- Acceptable in AU ETS (with restrictions)



## Voluntary Emissions Market

### VERs – Voluntary Emissions Reductions

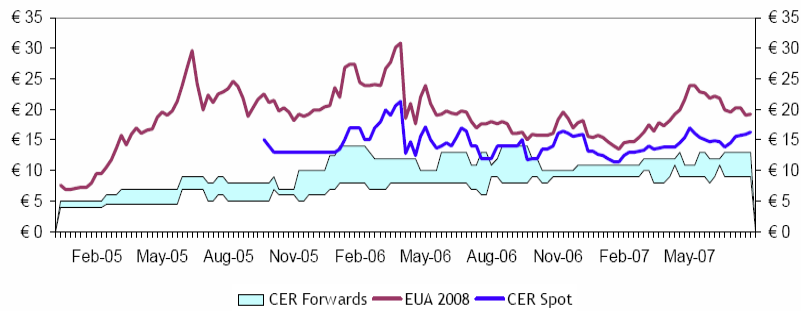
- Verification requirements and standards
- CP1 double counting issues for Kyoto country VERs
- International pricing and projects (hierarchy of projects & corresponding price points – wholesale & retail).

## Hierarchy of Allowance Prices

- EUA
- Secondary Market CERs/ ERUs
- GIS AAUs & AAUs
- Primary Market CERs/ ERUs
- VERs (GS/ VCS)
- Grey Market Allowances

## Linking : EU ETS & Kyoto Unit Prices

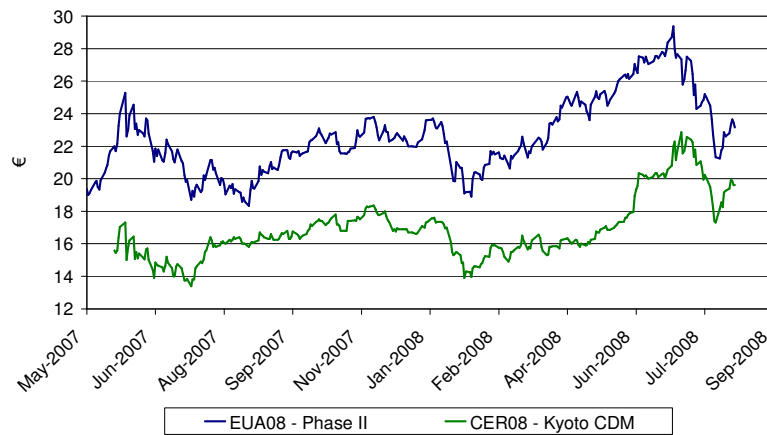
- CER Spot linked to EUA '08, spread narrows/widens with bear/bull market
- CER Forwards more stable, lag EUA price



Source: ABN AMRO Bank N.V. data

## Linking : EU ETS & Kyoto Unit Prices

EU ETS & Kyoto CDM-CER Price History  
(data source Point Carbon)

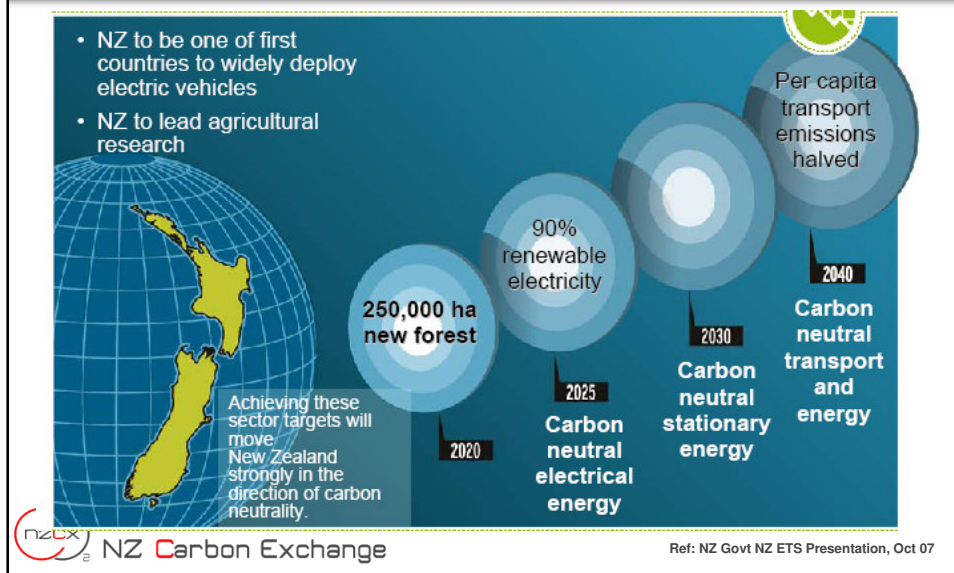


## Trading Strategy

- **Understand inventory**
- **Understand allowance types**
- **Understand price drivers and relationships**
- **Build up a portfolio by commencing early**
- **Regular trades (viable transaction size) in the market for information and deal flow**
- **Understand point of obligation (opt in, opt out etc).**

## Carbon Neutrality

## Towards a Carbon Neutral NZ



## What is Carbon Neutrality?

- Large numbers of companies claiming to be carbon neutral
- No set definition
- Is a concept, not an end point

## Achieving Carbon Neutrality

### ➤ Three-step process:

#### 1) Establishing an emissions profile

- Scope
- Calculation



## Achieving Carbon Neutrality

#### 2) Reduction as part of overall sustainability exercise

- To invoke change
- Real reductions
- Exertion of effort



## Achieving Carbon Neutrality

### 3) Off-Setting

- Unit type (Kyoto/voluntary)
- Verification
- Surrender



## Greenwash

- Misleading customers
- Risks:
  - Fair Trading Act
  - NZ Commerce Commission
  - Australian Competition and Consumer Commission - Guidelines



## Voluntary Emissions Market

- **Great variability in the quality of voluntary credits available**
- **Good ones are highly critiqued and often near UN standard**
- **Others are not...**



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