

Leveraging Financial Market Infrastructure to Support Environmental Markets

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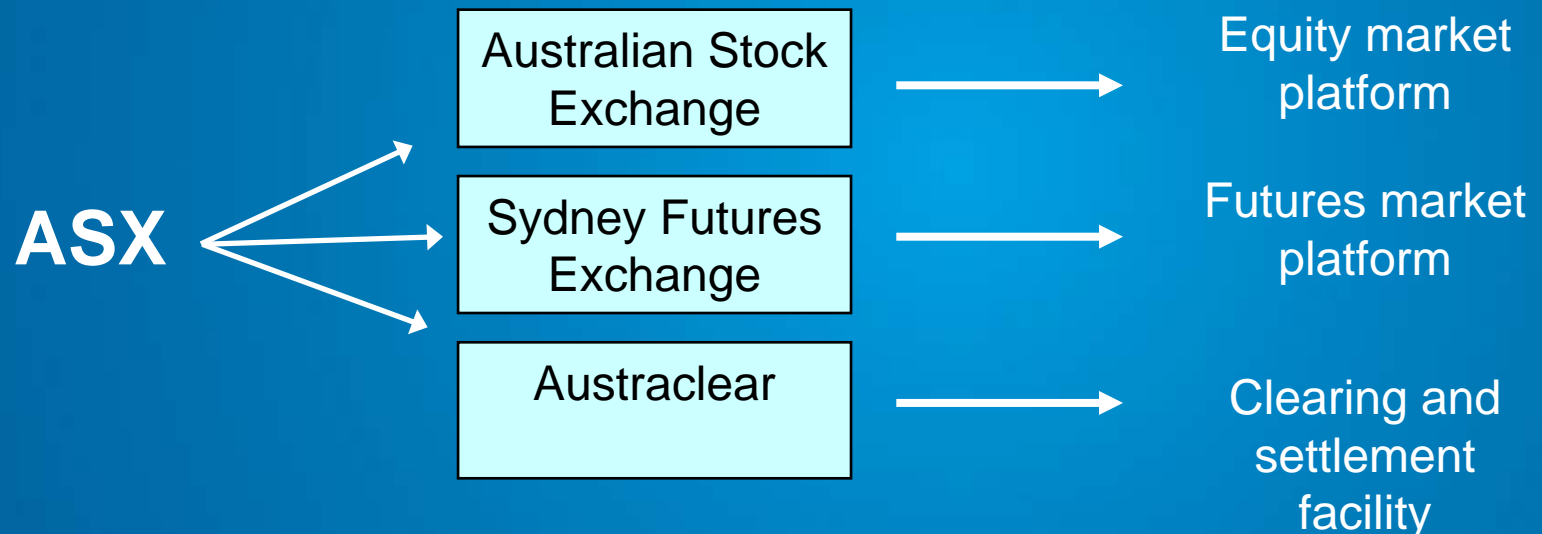
Outline



- Setting the scene
- The Role of financial markets
- Environmental market evolution
- The convergence of energy and environmental markets
- Likely market evolution (Australia)
- Leveraging existing infrastructure into new markets
- Environmental markets at ASX

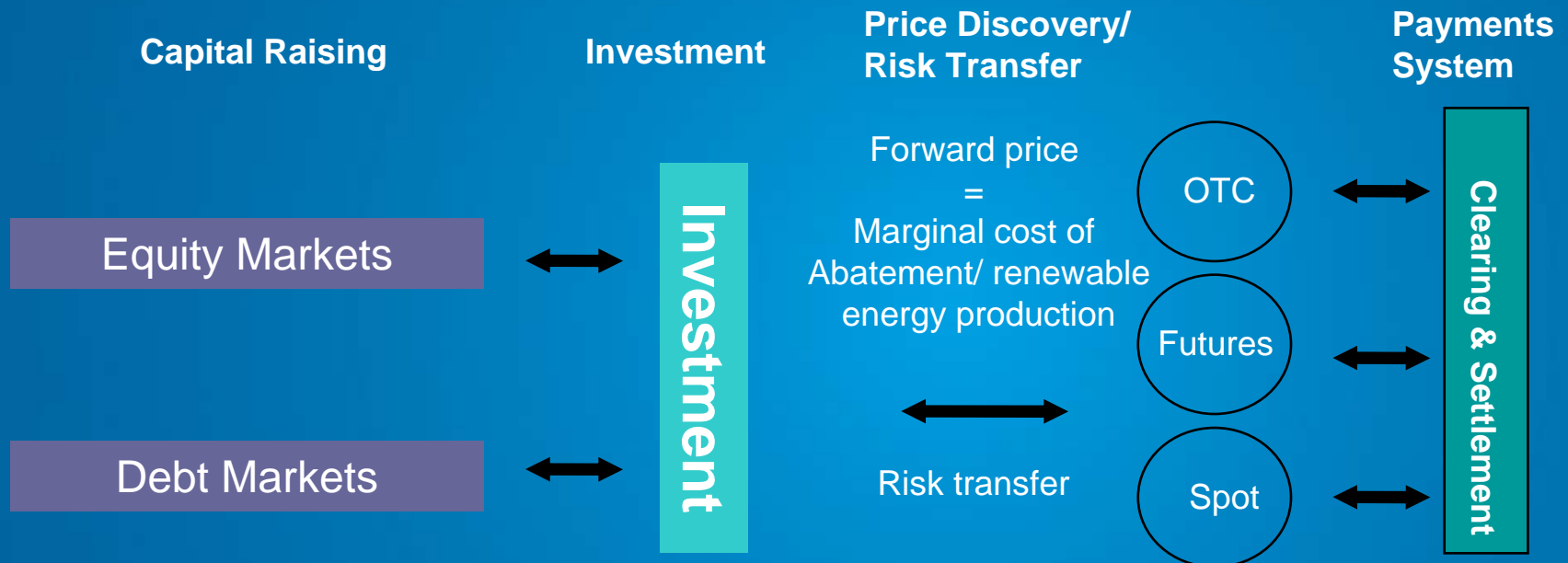
Setting the Scene

- ASX has had a long involvement in energy and environmental markets.
- ASX is seamlessly integrated into the broader global energy and environmental markets.
- ASX will provide capital efficiencies through the largest clearing house (by value of trade) in the Asia Pacific.
- ASX has several teams of executives responsible for business development in Asia, Europe, the US and New Zealand.



The Role of Financial Markets

- The role of financial market infrastructure is to facilitate:
 - price discovery;
 - capital raising/investment
 - risk transfer;
 - clearing and settlement of trades.



“Liquidity commences and resides predominately within the forward markets”

Inter-relationships-Derivative and Capital Markets

1. Forward markets for environmental products will facilitate efficient price discovery and risk transfer.

2. Efficient forward markets will inform investment decisions.

Forward markets

Debt and Equity Markets



Preference for less carbon intensive goods and services

Innovation & Competition

4. Over time, the preferences of consumers and businesses will change – some faster than others.

3. Firms will compete to provide carbon inclusive goods and services at least cost.



ASX

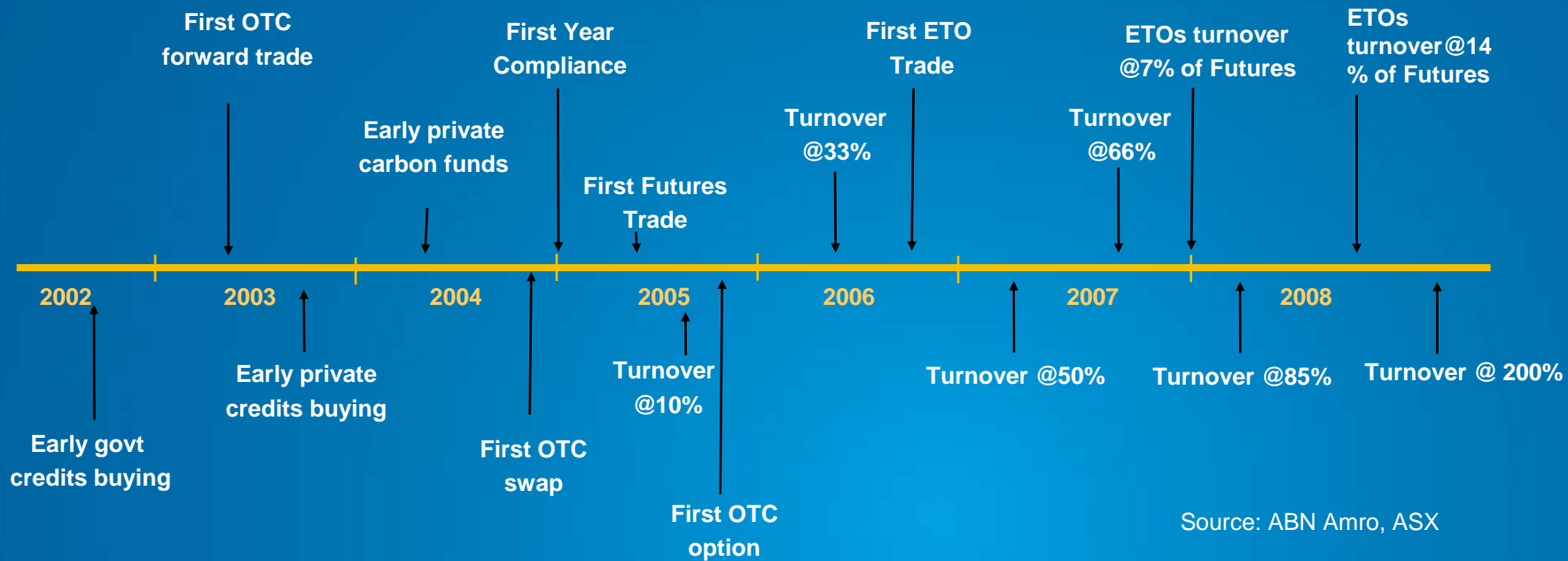
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The Benefits of Futures Markets

- Efficient price and counter-party risk transfer
- Anonymity and price transparency
- Economic signals for investment
- Capital efficiencies across correlated markets (initial margin offsets)
- Hedging cover for new entrants and existing players
- Greater competition and more efficient markets



Carbon Market Evolution (Europe)

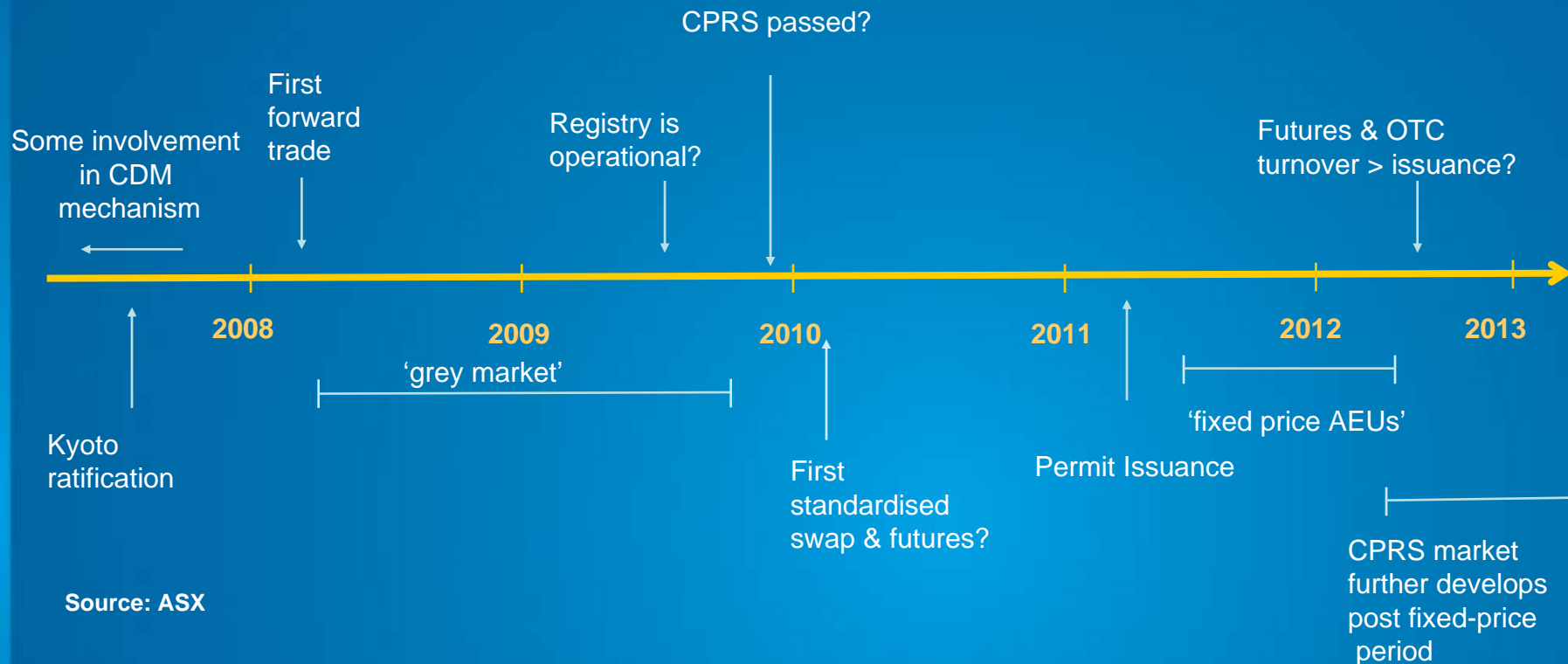


Key Environmental Schemes in Australia



- *Renewable Energy Target*
 - Federal mandate to increase renewable energy generation to 20% by 2020
 - RECS under existing MRET (Mandatory Renewable Energy Target) will continue to be eligible for surrender under RET.
 - Substantial investment in Renewable energy will be required (45,000GWh by 2020)
- *Carbon Pollution Reduction Scheme (CPRS)*
 - When legislated will create the second-largest Kyoto-compliant emission scheme in the world.
 - Will create demand for international carbon credits (e.g CERs)
 - Will be closely watched given its broader coverage and more auctioning than EU ETS
- *Other state based/voluntary schemes*
 - Likely to be phased out over time as the CPRS and expanded RET are fully introduced
 - Small in comparison to CPRS and RET obligations

Likely Carbon Market Evolution (Australia)



Source: ASX

Scheme	EU ETS	CPRS
Approx. size of cap pa (Mt)	2000	450

Australian Renewable Energy Market



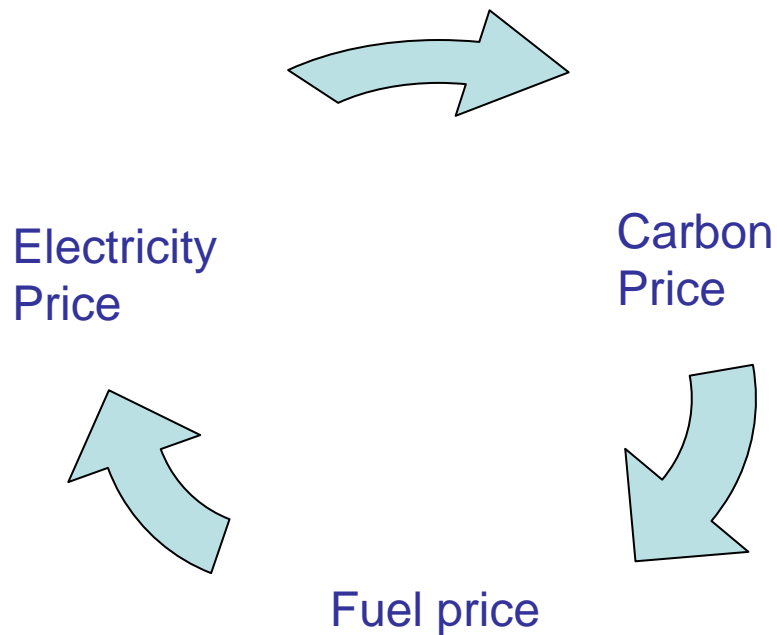
Source: ASX

Scheme	Target	By When
MRET	9,500GWh	2010-2020
RET	45,000GWh	2020

The convergence of energy & environmental markets



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Substitution between:

- ***Coal***
- ***Natural Gas***
- ***Renewable energy sources***

Key points:

- Energy, Carbon and Renewable Energy markets are interconnected
- Environmental products (emission credits and renewable certificates) are compliance instruments whose value is created by legislation and obligation to surrender
- Liquidity in environmental products originates and stays predominately within the forward markets

The convergence of energy and environmental markets - examples



- 2011/2012 Electricity futures price drop when CPRS legislation delay was announced
- Carbon pass-through clauses in long and short-term energy supply and associated agreements
- Spark spread, clean spread, dark spreads
- Prevalent fuel switching in Europe
- Renewable energy projects linked to legislation changes
- Increased gas generation

How will ASX support the environmental sector?



- **Derivatives** - ASX will introduce futures and options markets
 - Carbon futures and options
 - REC futures and options
 - Other environmental futures and options as additional markets develop
- **Equity market** - ASX is promoting Australia's Cleantech sector
 - There are approximately 80 Cleantech companies listed on ASX!
 - ASX's futures markets will provide hedging cover & in turn greater investment certainty
 - ASX is the fourth largest exchange for capital raising

ASX Energy, Environmental & Commodity Markets

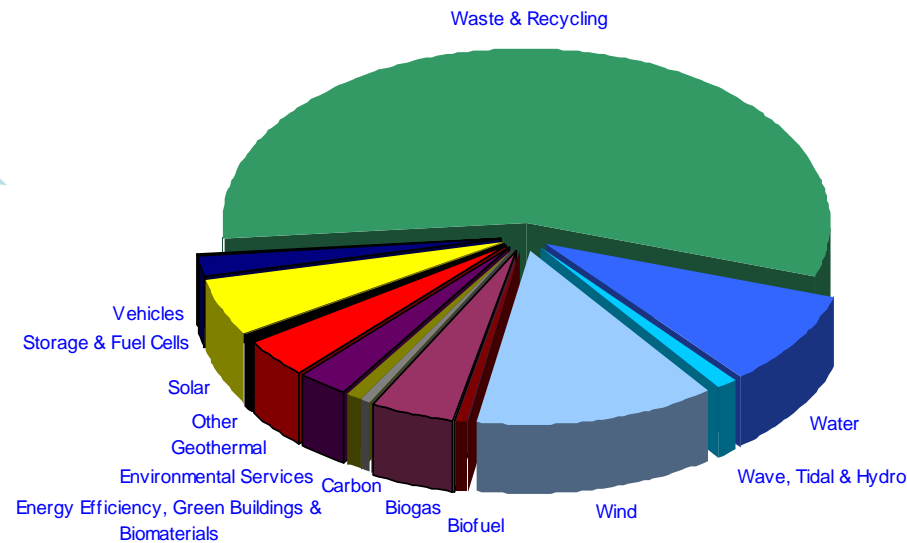


- 2009/2010 is a busy year for ASX!
- Our product suite will service the convergence of domestic and international energy, commodity & environmental product markets.
- **Current products:**
 - Agricultural futures and options: Wool, Grains (Wheat, Canola, Barley, Sorgham)
 - Australian Electricity futures & options
 - Thermal Coal futures and options (Newcastle reference point) (Listed 7th July 2009)
 - NZ Electricity futures and options (Listed 14 July 2009)
 - Victorian Gas futures (Listed 21 July 2009)
- **Coming soon:**
 - REC futures and options
 - CER futures and options
 - AEU futures and options (once CPRS legislation is passed)
 - WA Wheat contract (September 2009)

ASX listed Cleantech / Renewable stocks

ASX Listed Clean Tech Sector

Approx. 80
at present!



Total capitalisation = \$10.5 billion

Summary of Key Points

- Financial market infrastructure will provide efficient price discovery and risk transfer which will in turn inform investment in low emissions technologies and abatement at least cost.
- Many firms will use Australia's debt and equity markets to raise capital to develop and/ or deploy new low-emissions technologies.
- Existing ASX market infrastructure is well placed to support RET and CPRS.

Contact details



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