



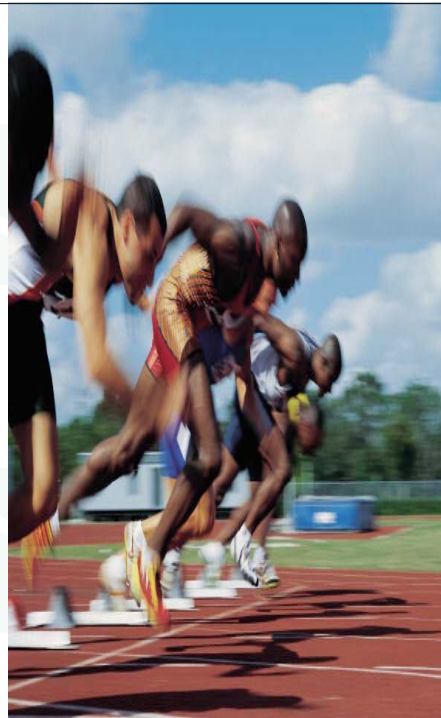
Carbon Pollution Reduction Scheme

Richard Wrightson
Manager Emissions Trading
Implementation Group
Loy Yang Power

Timeline

- Green Paper July 2008
- Treasury Modelling Oct 2008
- White paper Dec 2008
- February 2009
- Caps early 2010
- First auction March 2010
- Commence July 2010

- From woe to go in two years



Is Australia Leading the Way?

EU	Australia
CO ₂	CO ₂ e
45% of Emissions	75% of Emissions
100% free allocation (40% by 2020)	30% free allocation
At \$20/tonne 0.25% of GDP	At \$20/tonne 1% of GDP



The Electricity Sector

- 35% of Australian emissions.
- 80% of electricity comes from coal generation.
- Average NEM carbon intensity is 1 tonne of CO₂e per MWh
- Victoria reliant on brown coal with a carbon intensity average of 1.4 tonnes of CO₂e per MWh.



Wholesale Price Impact

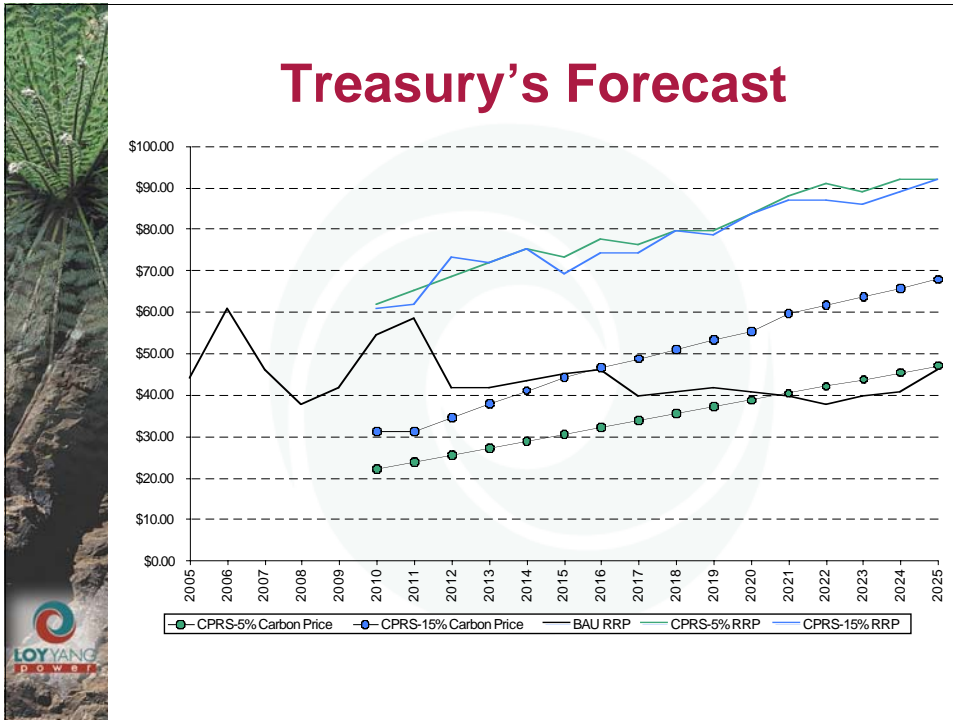
Power station	Variable cost - \$/MWh			% Increase	
	Carbon price \$/CO ₂			Carbon price	
	No ETS	\$20	\$50	\$20	\$50
Hazelwood, Vic	\$2.46	\$31.66	\$75.46	1,780%	2,967%
Loy Yang A, Vic	\$2.28	\$27.45	\$65.20	1,656%	2,760%
Black Coal, NSW	\$11.47	\$28.99	\$55.27	229%	382%
Black Coal, Qld	\$12.33	\$31.03	\$59.07	227%	379%



Wholesale Price Impact

Coal Generators will seek to recoup costs. The extent that this is achieved depends upon:

- Water levels in hydro stations to facilitate increased generation
- Spare generation capacity in the gas stations.
- The speed with which gas plants can be bought on line
- The speed with which renewable plants can be bought on line



Treasury Modelling

- 5 Scenarios publicly released.
- Very little cost to implement
- Brown coal sector remains profitable until at least 2020.
- No supply issues.
- Renewables and demand side response are the key source of abatement from electricity.
- But...





Treasury Modelling

- What other scenarios were modelled?
- Energy prices quoted do not cover the operational costs of brown coal sector
- Modelling assumes plant comes on line to replace closing plant.
- Can Australia buy CER's cheaper than Europe?
- Is no fuel switching credible?

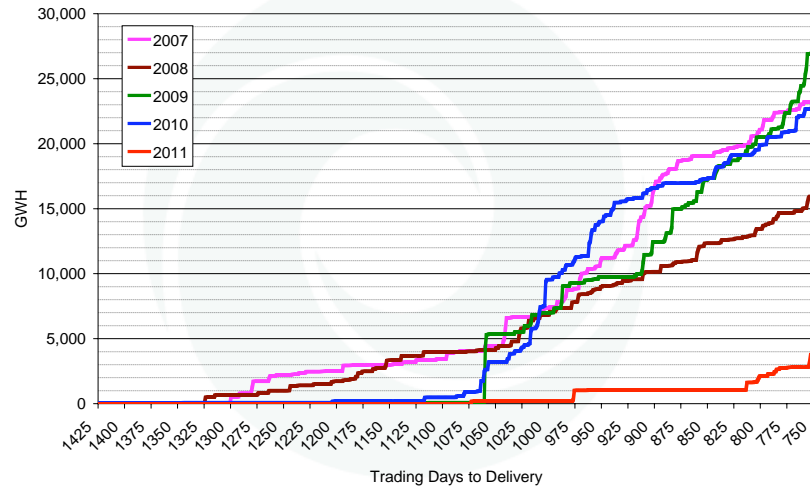
Impact on the Contracts Market

- No trading of electricity contracts for periods post 1 January 2011.
- Targets will provide guidance
- Until permits are issued the market will have to rely on entities taking significant speculative short positions against the price of carbon.
- Hedge activity will not recommence until permits are issued at the first auction.





Electricity Contracting Activity



Auctioning – Issues

- All current permits must be paid for at the time of auction.
- Future vintages may have delayed settlement
- To maintain the current hedge position of all generators the industry will need to source \$7Billion in new funding.
- The private sector generators can not access new funding.
- The public sector generators will need support from State Treasuries

Auctioning

Given the current settlement proposals for carbon permits the private generation sector is unlikely to be able to offer electricity hedges.



Assistance to the Generation Sector

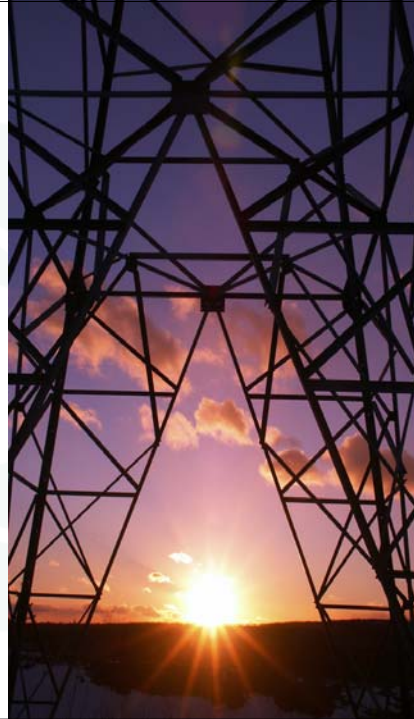
Treasury modelling expects the coal generation sector to lose over \$10Bn.

The assistance package is worth \$3.5Bn



The Benefits of an Assistance Package

- Reduced investment risk
- Ensure continuing maintenance programs.
- Reduce the cost of early abatement.
- Support for new coal investment
- Maintain the operation of the wholesale electricity market
- No impact on the environmental goals of the scheme
- A smooth transition to a low carbon future



How is Loy Yang Power Preparing?

- Engaging with Government
- Ensuring our emission measurement processes and systems meet requirements
- Developing trading systems to integrate emissions trading into out electricity trading activities
- Developing our future operating and maintenance strategies
- Investing in R&D to reduce emissions and to develop new generation options

Any Questions?

