

Senate Select Committee on Climate Policy

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Terms – Senate Select Committee on Climate Policy

On 11 March 2009, the Senate established a Select Committee on Climate Policy to inquire into policies relating to climate change, with particular reference to:

- the choice of emissions trading as the central policy to reduce Australia's carbon pollution.
- the relative contributions to overall emission reduction targets from complementary measures such as renewable energy feed-in laws, energy efficiency and the protection or development of terrestrial carbon stores such as native forests and soils;
- whether the Government's Carbon Pollution Reduction Scheme is environmentally effective;
- an appropriate mechanism for determining what a fair and equitable contribution to the global emission reduction effort would be;
- whether the design of the proposed scheme will send appropriate investment signals for green collar jobs, research and development, and the manufacturing and service industries, taking into account permit allocation, leakage, compensation mechanisms and additionality issues.

ERM Executive Summary

- ERM has made a significant contribution to reducing Australia's carbon dioxide levels over the last 4 years.
 - ERM's gas-fired developments will save 5 million tonnes of carbon emissions per annum, compared to coal-fired generation, or a total of 100 million tonnes over their economic lives.
- Carbon Pollution Reduction Scheme (CPRS), in its current draft, is a flawed scheme that needs to be redesigned and introduced when a global scheme is introduced:-
 - The electricity industry sought three overarching requirements of an emission trading scheme:-
 - Security of electricity supply
 - Maintenance of investor confidence
 - No stranding of existing assets
 - CPRS as per the draft legislation fails on all three accounts. Investor confidence has been grossly undermined by the likely stranding of existing assets.
 - In addition to this, the global financial crisis has further raised the issue of sourcing of finance for the projected \$97 billion required by the electricity generation and network providers over the next 5 years on a business as usual basis.

ERM Executive Summary (cont)

- Carbon Pollution Reduction Scheme (CPRS), in its current draft, is a flawed scheme that needs to be redesigned and introduced when a global scheme is introduced (continued) :-
 - The increased sovereign risk by the CPRS places the Australian electricity sector at a significant disadvantage with global debt and equity providers.
 - Failure to source the projected \$97 billion over 5 years (\$20 billion in 2009/10) will result in power supply shortfalls.
 - Treasury modelling did not factor in this combination of events including the lack of liquidity in the global debt markets due to the global financial crisis.
 - In combination with these issues the current CPRS, will only achieve minimal reduction in carbon dioxide levels by Australia.
 - Treasury's own analysis shows over 50% of Australia's permits will be imported from overseas.
 - In any case, Australia acting alone will have no effect on reducing global carbon pollution levels.

ERM Executive Summary (cont)

- Australia needs to design a carbon pollution reduction scheme that is consistent both in form and timing with whatever international carbon pollution reduction scheme is introduced.
 - The process of forming the design and the timing of such a scheme starts in Copenhagen at the end of 2009, and will be decided by the major carbon polluters, and mainly the USA and EU.
- Until the introduction of the international agreement, Australia 's immediate response must be to licence carbon emissions by way of a nominal charge and to incentivise investment in low emission gas-fired generation as well as renewables by way of abatement incentive schemes. This will enable Australia to move quickly to adapt to whatever form the international scheme takes.
 - A gas-fired incentive scheme, such as the Queensland GEC Scheme, for electricity growths and replacement of retiring coal-fired generation, will be able to achieve greater than 12% reduction in the electricity sector by 2025 (compared to 2000 levels).

Senate Select Committee

Supporting Submission:

1. ERM – Carbon Reduction Record In Australia

2. Carbon Pollution Reduction Scheme (CPRS) in its current draft is flawed
3. Need to incentivise investments in low emission renewables and gas-fired generation

1. ERM – Carbon Reduction Record In Australia

ERM has been the developer of 2,500 MW of gas-fired generation, in Queensland, NSW & Western Australia. ERM's gas-fired developments over the last 4 years have represented approximately half the total new generation development across Australia.

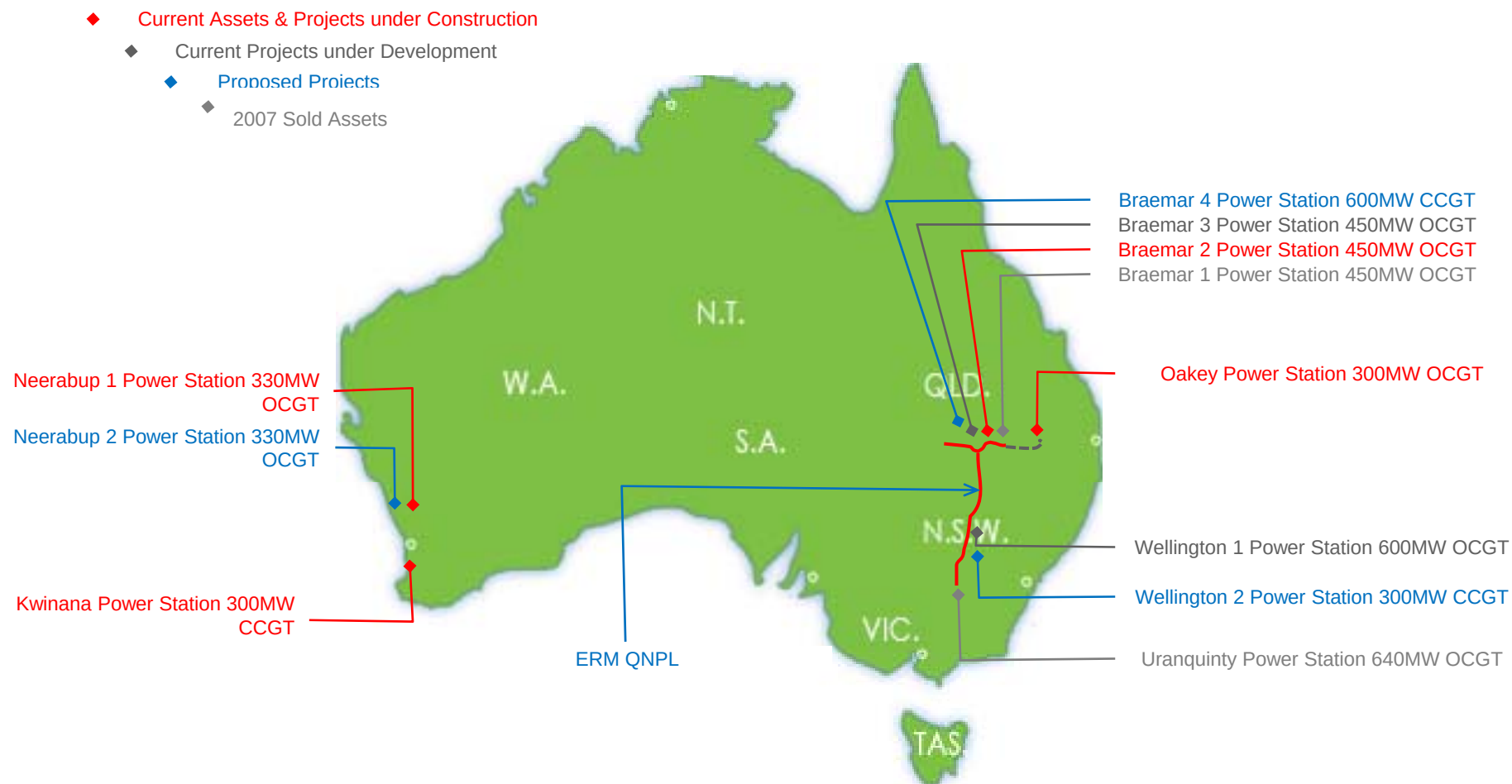
ERM's gas-fired developments will save 5 million tonnes of carbon emissions per annum, compared to coal-fired generation, or a total of 100 million tonnes over their economic lives.

With no immediate alternative to coal or gas for the bulk of electricity generation in Australia to meet existing and the 25% growth of electricity demand over the next decade, existing and new gas-fired generation is essential, in addition to the 20% renewables target, to the maintenance of reliable electricity supplies.

ERM's current Qld development (Braemar 2) and near-term Qld and NSW developments (Braemar 3 and Wellington) will rely entirely on coal seam gas as a fuel source.

1. ERM – Carbon Reduction Record In Australia

ERM generation development record & development pipeline



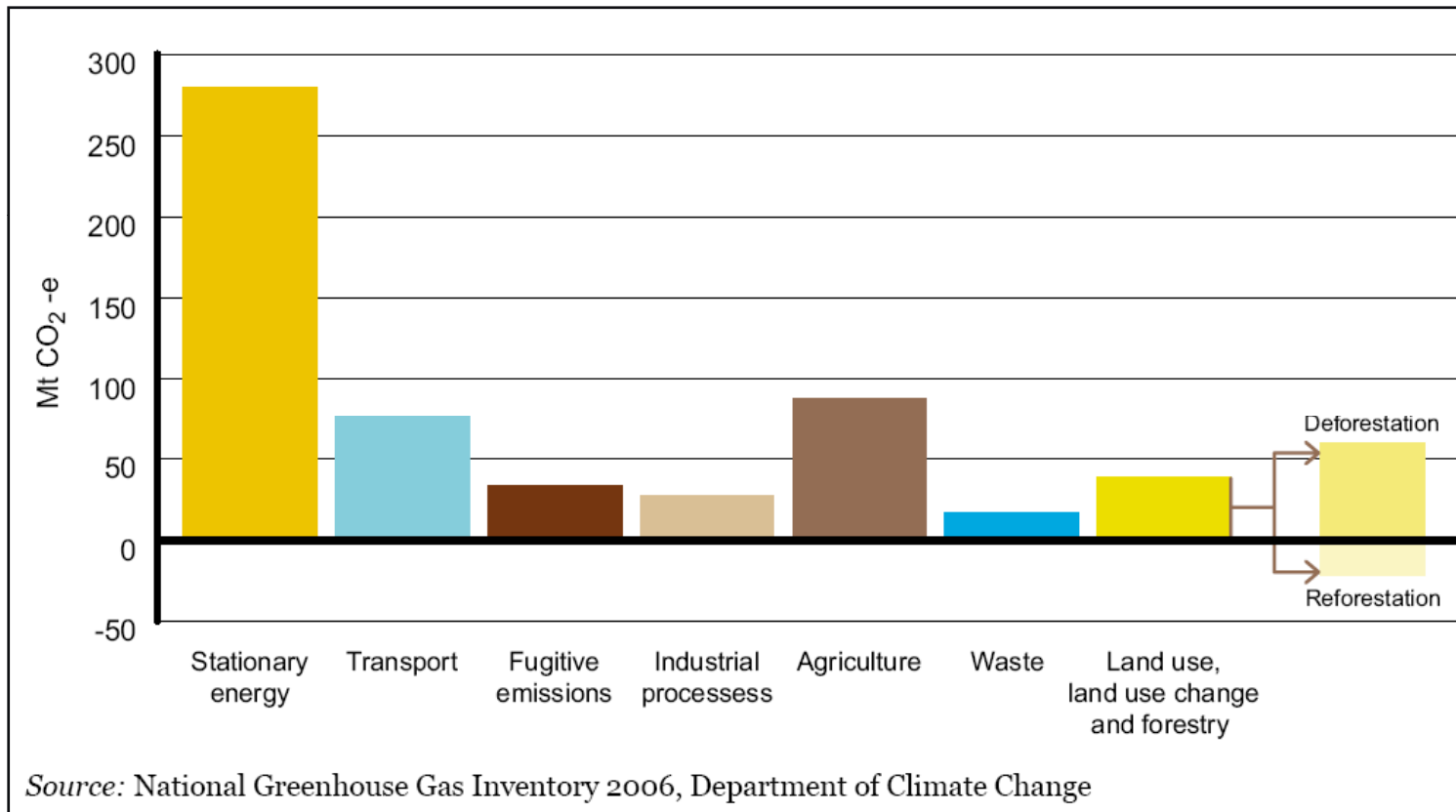
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- 2. Carbon Pollution Reduction Scheme (CPRS) in its current draft is flawed**
3. Need to incentivise investments in low emission renewables and gas-fired generation

2. Carbon Pollution Reduction Scheme (CPRS) in its current draft is flawed

The stationary energy sector contributes around 50% of total greenhouse gas emissions in Australia and is the fastest growing sector.



2. Carbon Pollution Reduction Scheme (CPRS) in its current draft is flawed

Australia's proposed carbon pollution reduction scheme, proposed to be introduced prior to a global scheme being agreed upon and implemented:

- does not incentivate new investment essential to maintain reliable electricity supplies,
- threatens the viability and solvency of existing base load power generating businesses, and the competitiveness of local industries,
- has already damaged the Australian electricity sector attraction to local and international investors by ignoring sovereign risk.
- will fail to reduce carbon emissions in the sector unless there are industry closures, power station closures and electricity rationing,
- will impose huge costs on power generation businesses and on most Australian manufacturing industry, to no avail, and
- will not get Australia prepared for a global carbon pollution reduction scheme, as it won't even be clear as to what form it will take, nor known when it will commence, for years.

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- 3. Need to incentivise investments in low emission renewables and gas-fired generation**

3. Need to incentivise investments in low emission renewables and gas-fired generation

The electricity sector across Australia has successfully stemmed the growth of carbon pollution intensities by mandating proportions of Renewables and gas-fired generation which electricity retailers must purchase from low emission generation producers.

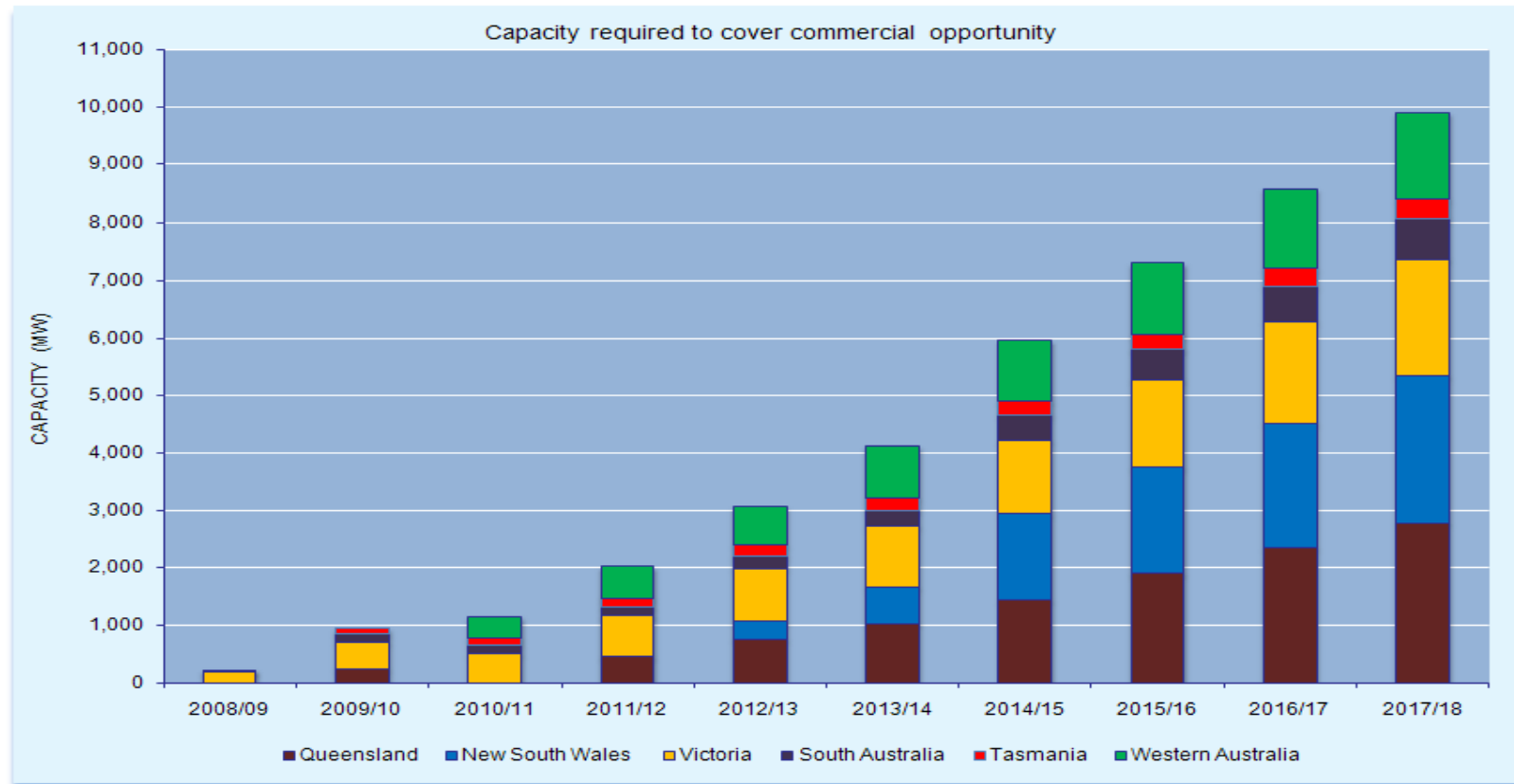
- The 20% RET scheme will extend investment in Renewables, but at a very high cost of carbon pollution reduction, for this 20% of electricity generation,
i.e. plus $>20\% * \$70/\text{MWh} \Rightarrow \$14/\text{MWh}$
- Investment in low emission gas-fired generation is the only immediate or near-term means available in Australia for carbon pollution reduction for the remaining 80% of base-load and intermediate electricity generation.
- Gas-fired generation must be incentivated in a similar mandated certificate scheme to Renewables, such as the successful Qld Gas Energy (GEC) scheme, the catalyst for investment in 2,600MW of new gas-fired generation, and 5 MtCO₂/a (-10%) reduction in carbon emissions compared to coal.

3. Need to incentivise investments in low emission renewables and gas-fired generation

With immediate incentivisation of gas-fired generation as well as renewables, and with a nominal (<\$5/tCO₂) licensing fee for carbon emitters, that can be adapted to the eventual global CPRS model, the electricity sector could achieve carbon pollution reduction 12% below 2000 levels, by 2025, and also fund clean coal research and development.

- The critical importance of investment certainty for the capital-intensive electricity sector is the reason for the emphasis by the electricity sector on the greatest possible certainty of the carbon emission impost over a long-term investment cycle.
- Emission trading with cross-sectoral & international off-sets is therefore not conducive to investment certainty in the electricity sector, nor for the capital-intensive transport sector.
- The greater forward cost certainty and investment certainty that the GEC Scheme plus a small carbon tax offers for the electricity sector, compared to the cap & trade scheme, will produce much greater certainty of continuing electricity supply reliability as well as certainty of achieving the greatest carbon pollution reduction.

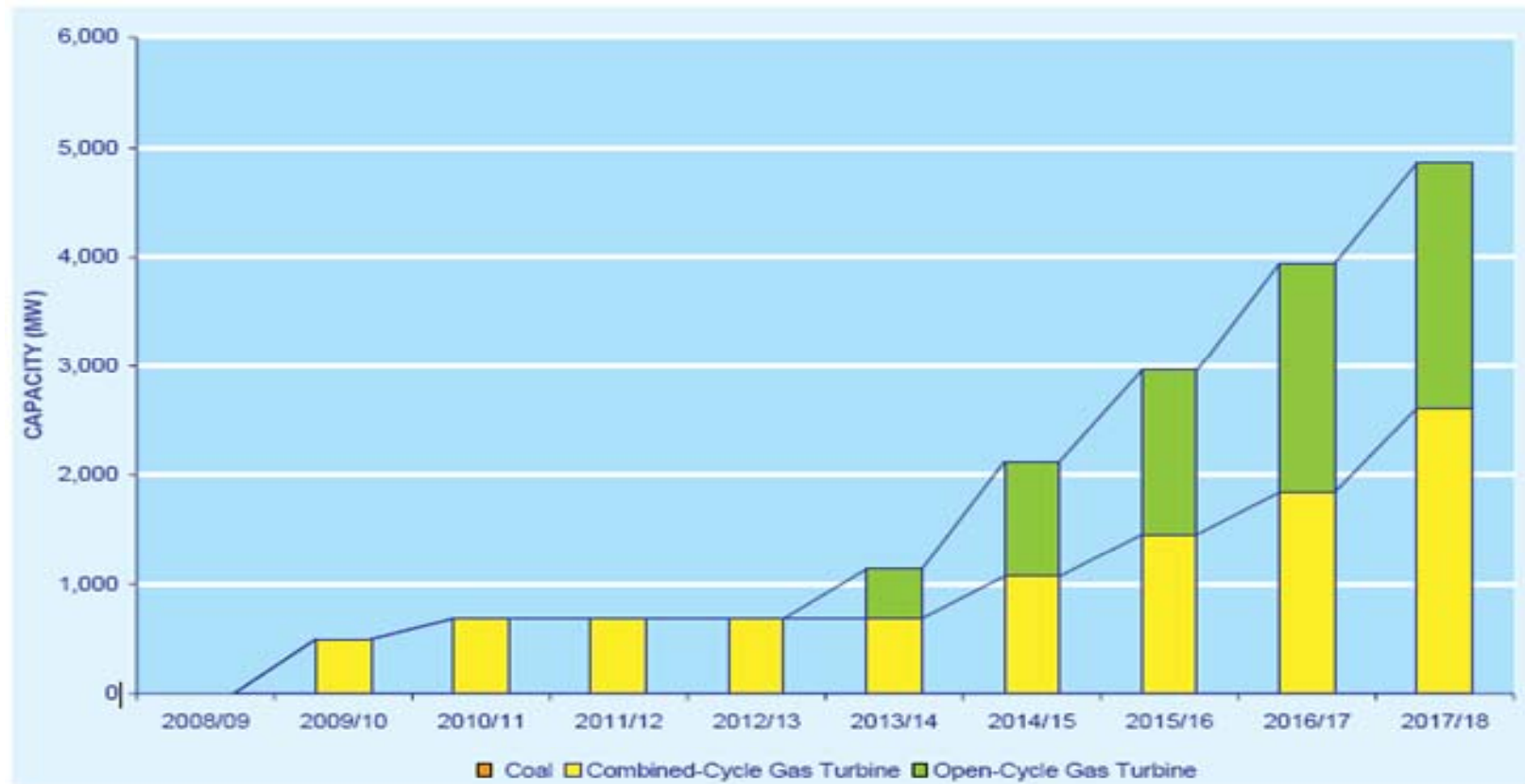
3. Need to incentivise investments in low emission renewables and gas-fired generation



Source: NEMMCO 2008 SOO / SWIS 2008 SOO and ERM analysis

- 1000MW of new generation capacity is required each year for the next 9 years to meet demand growth and scheduled retirements
- This forecast does not include replacement capacity for coal plant retirements brought forward by a carbon reduction scheme

3. Need to incentivise investments in low emission renewables and gas-fired generation



Source: NEMMCO 2008 SOO

- According to NEMMCO forecasts, new capacity requirements will be met almost entirely by a combination of combined cycle and open cycle gas generation

3. Need to incentivise investments in low emission renewables and gas-fired generation

The table on the next slide illustrates the potential emission reductions based on the following assumptions:

- All existing power stations are assumed to be able to obtain permits, at a nominal penalty permit cost, to complete their reasonable expected operating lives on which investment returns would have been based, assumed in the case of base-load generating plant to be 30 years, after which each plant is assumed to be retired by 40 years.
- Renewables are assumed to expand in each State by 200MW per annum, or a total of 1,000MW pa for the NEM, accounting for approximately one-third the projected electricity energy growth over the next twelve years.
- All other energy growth to 2030 and also replacement of retiring plant was assumed to be with gas-fired CCGT.
- After 2030, all energy growth was assumed to be with carbon capture & geo-sequestration, either for IGCC or super-critical coal-fired power plant.

3. Need to incentivise investments in low emission renewables and gas-fired generation

2009 Base Case

Total NEM EMISSIONS (000's tCO ₂ e/a)						
Decommissioning Years		40	40	40	40	40
Year at	2009	2020	2025	2030	2035	2040
TOTAL	187,895	159,560	140,400	120,328	108,375	99,610
% Increase/Decrease		-15%	-25%	-36%	-42%	-47%

2000 Base Case

Total NEM EMISSIONS (000's tCO ₂ e/a)						
Decommissioning Years		40	40	40	40	40
Year at	2000	2020	2025	2030	2035	2040
TOTAL	160,224	159,560	140,400	120,328	108,375	99,610
% Increase/Decrease		0%	-12%	-25%	-32%	-38%

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