

AGL Energy Limited

Green skills: identifying need and evolving capabilities in the fight against climate change

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Energy Market Transformation

Global energy markets are undergoing significant transformation. Energy policy makers are responding to three key issues:

Issue	Global Policy Response	Australian Policy Response
Climate Change	Greenhouse gas emissions trading	Carbon Pollution Reduction Scheme
Energy Security	Renewable energy targets	20% Renewable Energy Target
Fuel Poverty	Energy efficiency schemes	Emerging state-based schemes

AGL Approach

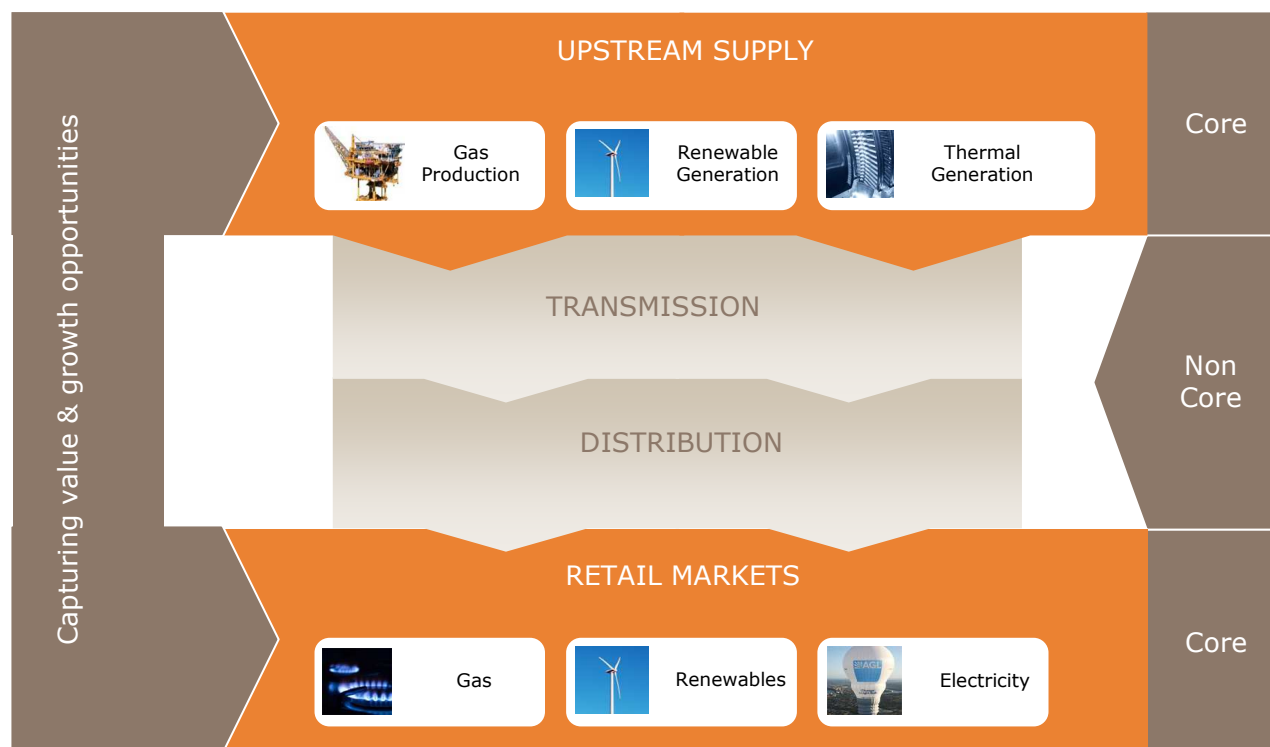


AGL Energy Limited

- AGL is a market leader in sustainability.
- We believe that the proactive management of sustainability risks and opportunities and an active contribution to the communities in which we operate, influences returns to shareholders over the long term.

The Integrated Strategy

Building a world class customer focused energy company



- > Leverage leading retail position to capture value and growth opportunities.
- > Grow upstream gas and power generation portfolios.
- > Market leadership in renewables to benefit under a carbon constrained future.
- > Drive retail economies of scale and enhance customer service capability.

Generation Asset Portfolio

QUEENSLAND	
Existing	
GAS	
Yabulu	121MW
Oakey	282MW
Moranbah	12.5MW
Development Opportunities	
GAS	
NQ Peaker (Townsville)	360MW
SEQ1 (Ipswich)	360MW
SEQ2 (Kogan)	350MW/800MW
WIND	
Crows Nest (Toowoomba)	150MW
Coopers Gap (Kingaroy)	300MW
Other (1 site)	200MW

WESTERN AUSTRALIA	
Development Opportunities	
WIND	
Other (2 sites totalling)	200MW

SOUTH AUSTRALIA	
Existing	
GAS	
Torrens Island	1280MW
Angaston	49MW
WIND	
Hallett 1	94.5MW
Wattle Point	90.8MW
Hallett 2 (Under construction)	71.4MW
Hallett 4 (Under construction)	132.3MW
Development Opportunities	
WIND	
Hallett 3	80MW
Hallett 5	50MW
Worlds End	180MW

AGL EQUITY MAP



NEW SOUTH WALES	
Existing	
HYDRO	
Copeton	22.5MW
Other (4 sites totalling)	39.7MW
Development Opportunities	
GAS	
Leafs Gully	360MW
Other (1 site)	750MW

AUSTRALIAN CAPITAL TERRITORY	
Development Opportunities	
GAS	
ACT Peaker (Williamsdale)	500MW

VICTORIA	
Existing	
HYDRO	
Kiewa Scheme	240.6MW
Bogong & McKay Creek (Under Construction)	150MW
Eildon	135MW
Dartmouth	180MW
Other (3 sites totalling)	27.7MW
GAS	
Somerton	150MW
COAL	
Loy Yang A (32.5% equity)	689MW
Development Opportunities	
HYDRO	
Dartmouth (upgrade - head height & plant)	
WIND	
Oaklands Hill	63MW
Macarthur	330MW
GAS	
Tarrone	500MW

Note: AGL Energy Limited has an additional 68.9MW of small scale generation spread across all states.

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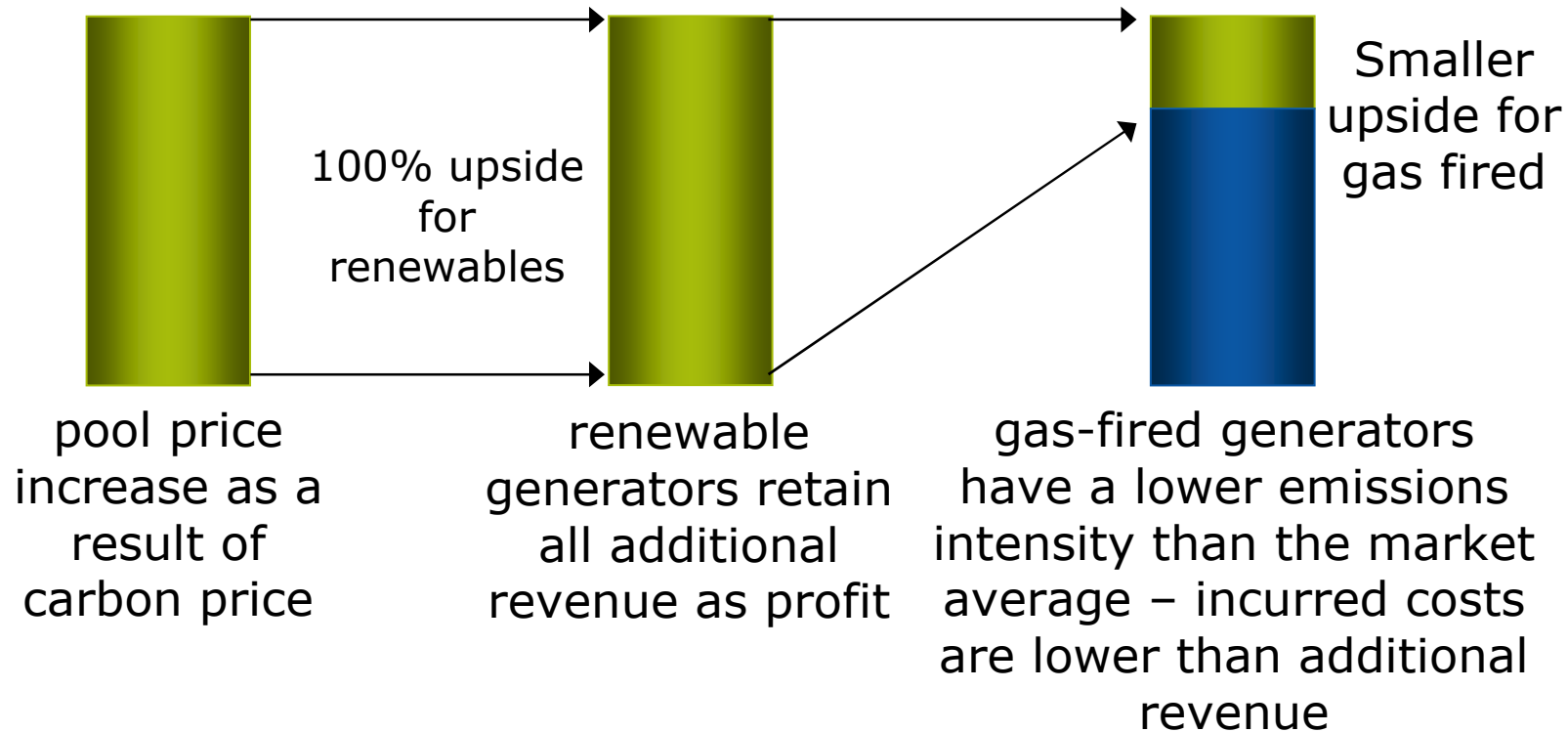
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Impact on individual generators

Renewable generators increase substantially in value, gas-fired also increase but coal fired generators decrease in value



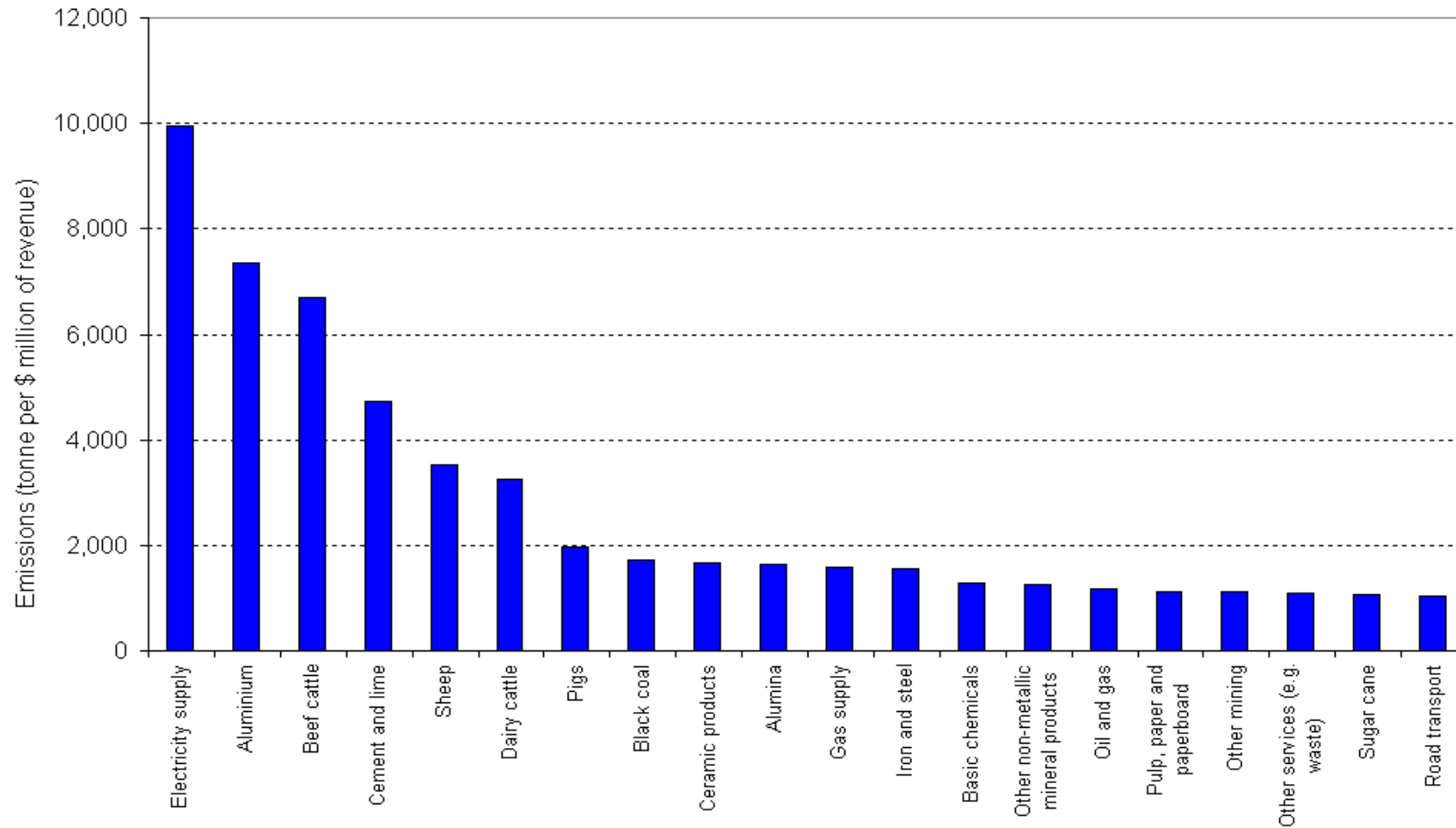
Impacts on Industry



Emissions by Sector

- › The following slide contains information on emissions by sector
- › The emissions are provided in tonnes per million dollars of revenue
 - » Includes both direct and indirect (electricity) emissions
- › This is a useful indicator to determine impacts on industry
- › Data has been obtained from two sources
 - » Australia's National Accounts (ABS)
 - » National Greenhouse Inventory (Department of Climate Change)
- › Data is provided for top twenty sectors

Emissions by Sector



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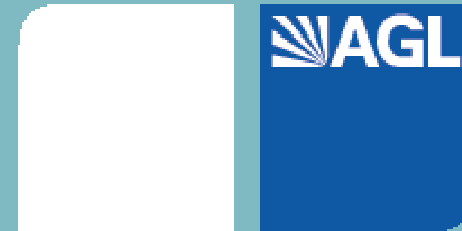
Example: Cost Impacts on Specific Industries

- › At a carbon price of \$20 per tonne, the following costs may be experienced:

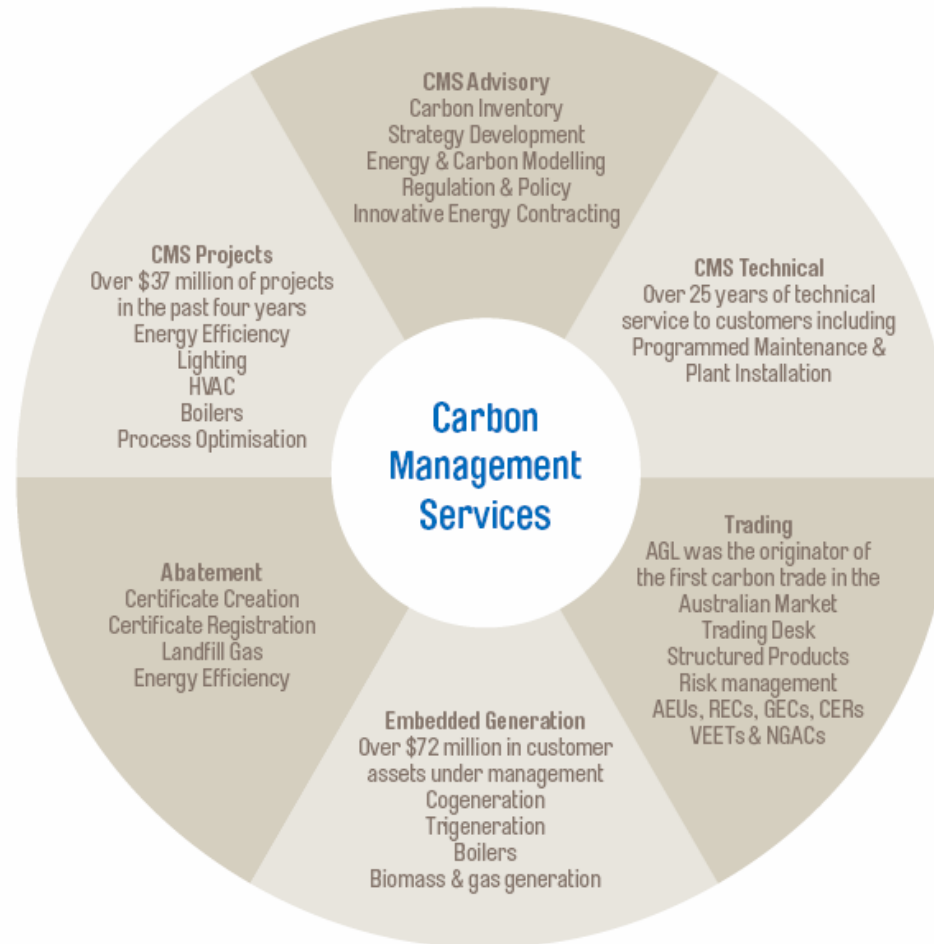
Sector	Increased Costs at \$20 per tonne	Increased costs as proportion of revenue
Cement and Lime	\$94k	9%
Ceramic Products	\$34k	3%
Iron and Steel	\$31k	3%
Basic Chemicals	\$26k	3%
Poultry	\$16k	2%

- › Importantly, cost impacts within industries will not necessarily be uniform
- › Individual company impacts will depend upon emissions intensity relative to competitors

AGL using our learning to benefit our Customers



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Cogeneration

- > AGL Energy Limited owns and operates cogeneration plants on behalf of customers, Coopers and Symex. Heat is recovered and used in the manufacturing process. Power is utilised onsite with surplus electricity exported to the grid.
- > **Coopers Brewery**
 - » 4.4MW gas fired cogeneration plant with islanding capacity.
- > **Melbourne Water**
 - » \$16 million biogas utilisation project at Melbourne Water's Western Treatment Plant
The plant produces approximately 50,000 megawatt hours of renewable energy per annum.



Coopers Brewery, 4.4MW



Symex Holdings, 4.4MW

Summary

- Rapidly evolving regulatory environment
- Nature of business bring a requirement to develop internal responses, 'ahead of the curve'
- Change brings *risk* and *opportunity*
- 'Green skills' required to manage these risks and opportunities
- Both internal, and external benefits.

Thankyou

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