Building a Balanced Wholesale Energy Portfolio

UBS Utilities Conference

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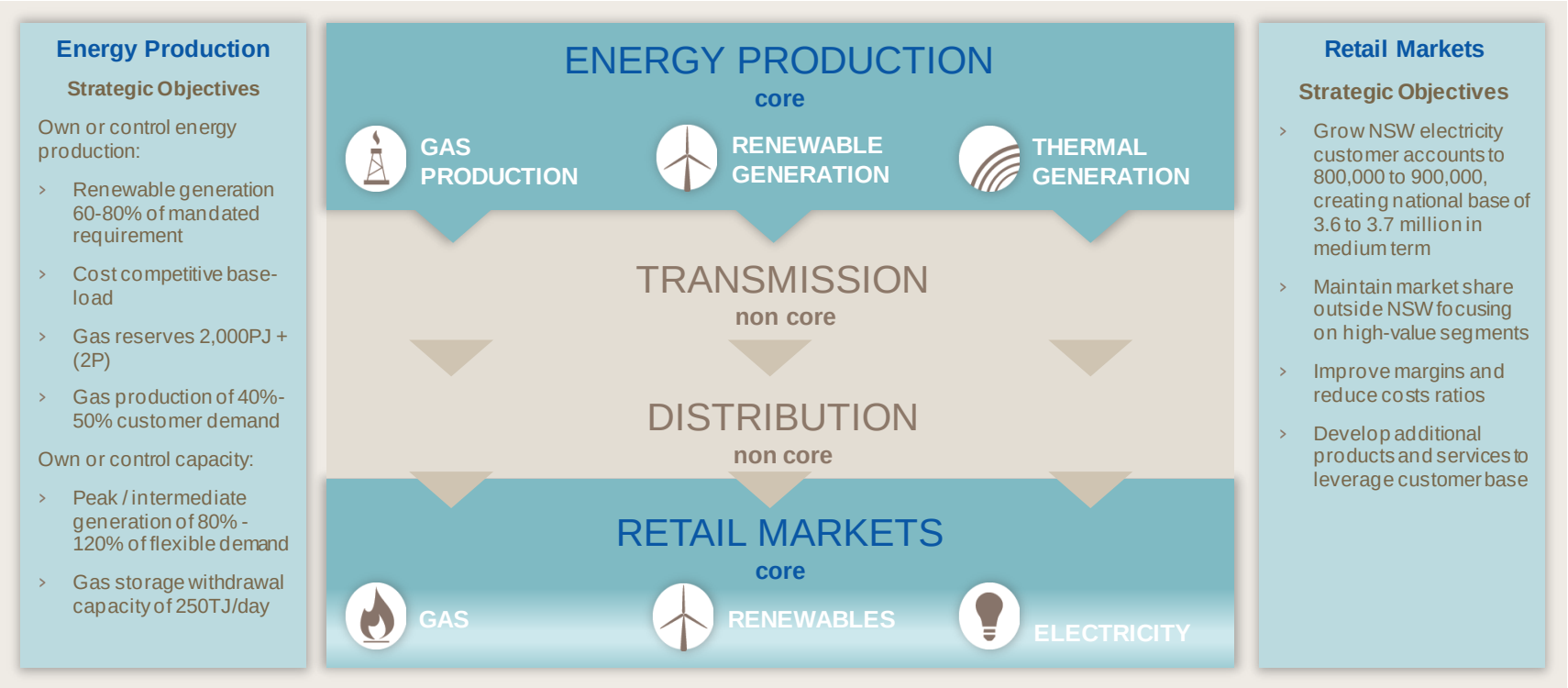
AGL External

AGLs integrated energy business

- AGL's integrated strategy provides access to multiple profit pools and balances risk between upstream supply of energy and our customers' demand for energy
- Ownership of Loy Yang will significantly increase AGL's supply portfolio and provide a reduction in its risk profile



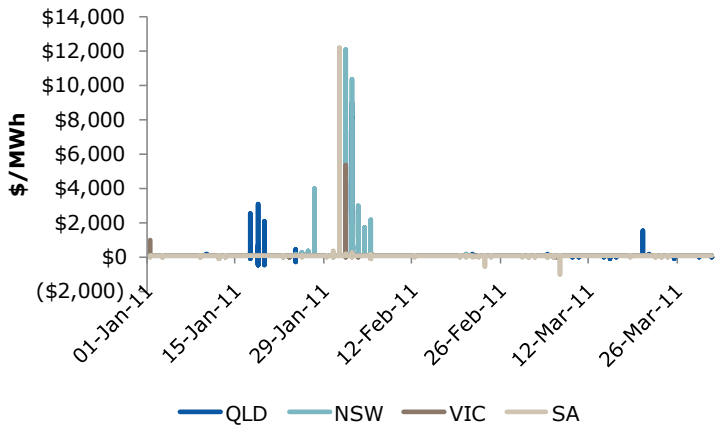
Five key components to wholesale energy risk management

- A balanced wholesale energy portfolio has five core ingredients:

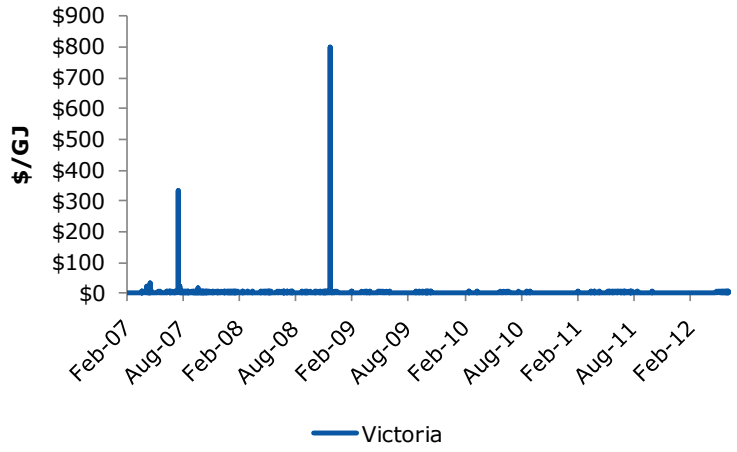
1. "Peak Day" price risk management
2. Energy price risk management
3. Fuel cost hedging
4. Renewable capability
5. Carbon risk management

1. "Peak Day" price risk management

Q1 2011 Electricity Price Spikes



Gas Price Spikes



- Structure of National Electricity Market (NEM) and inability to store electricity can result in price spikes of up to $12,500/MWh
- Gas spot price spikes of $800/GJ have occurred in the Vic Pool and the Short Term Trading Market is capped at $400/GJ:
  - Potential for increased gas generation and gas from new resources to increase spot volatility over time
- Electricity and gas demand usually well correlated with high prices

1. “Peak Day” price risk management cont.

Hydro power station

Gas storage facility

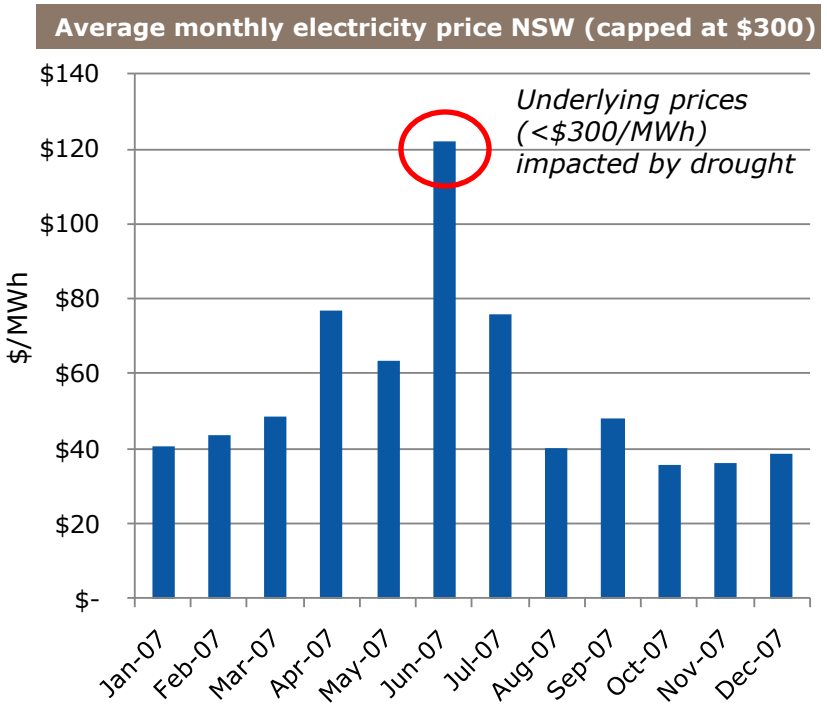
Peak Day electricity price managed by:

- Peaking electricity generation:
  - Hydro is fast start and can produce Renewable Energy Certificates but is energy constrained
  - Open Cycle Gas Turbines:
    - Slower start then hydro but can run for extended periods if required
    - Provide synergies with gas portfolio
    - Duel fuel capability (diesel) allows fuel arbitrage at times of high gas price
- Electricity derivatives such as caps
- Extreme day weather derivatives

Peak Day gas price managed by:

- Storage (LNG and depleted field)
- Line pack

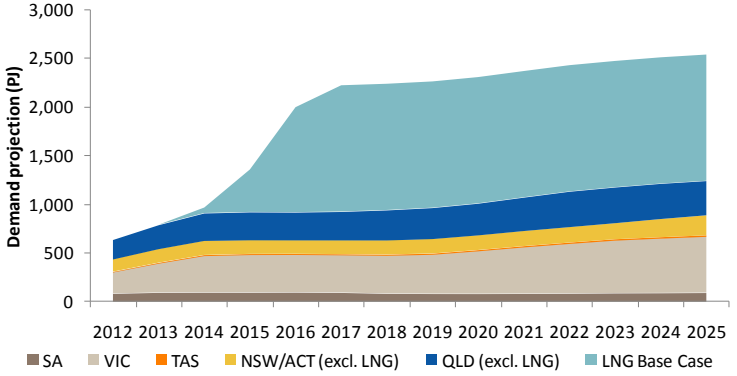
2. Energy price risk management – Electricity



- Even during non-peak periods, electricity prices can "shift" up:
  - Observed during the drought of 2007, when water constraints impacted hydros and some coal plants which rely on water for cooling
- Rising gas and other fuel costs expected to increase gas and electricity prices
- Risk managed by:
  - Base load power stations e.g. Loy Yang
  - Intermediate power stations e.g. Torrens Island which provide optionality to run at high capacity factors if required
  - Electricity derivatives e.g. swaps

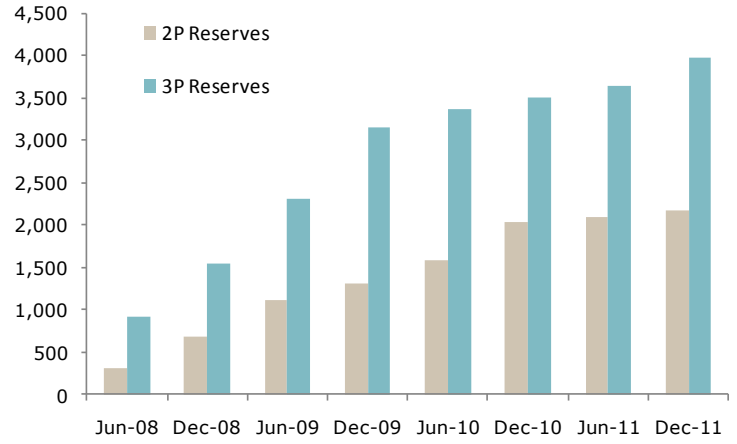
2. Energy price risk management - Gas

East Coast Gas Demand – tripling by 2020



Source: AEMO, EnergyQuest

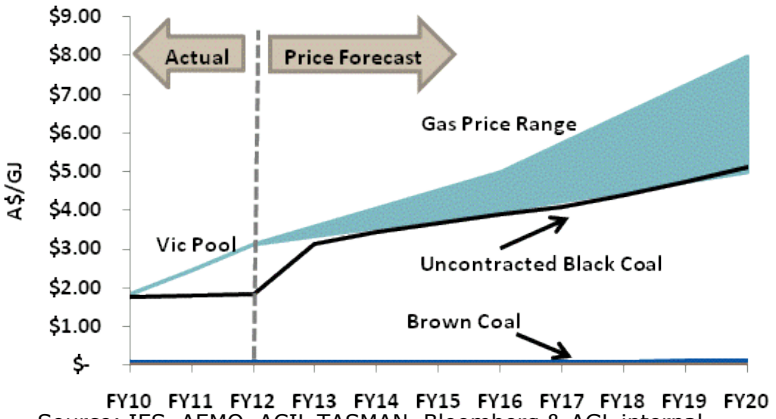
AGL Gas Reserves (inc JV interests)



- Queensland LNG projects will create a market disruption and drive east coast gas towards global net back prices:
  - Gas prices increasingly a function of oil price
  - Southern states expected to take some time to be impacted by LNG and are likely to trade at a discount due to haulage costs and constraints
- AGL upstream investments required by ~2017:
  - NSW coal seam assets expected to become increasingly important as state has no other material sources of gas supply

3. Fuel cost hedging

Historical and Forecast Fuel Prices (Southern States)



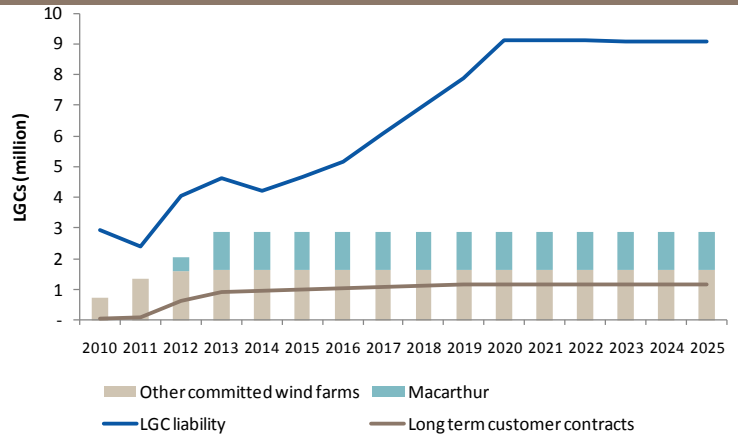
Source: IES, AEMO, ACIL TASMAN, Bloomberg & AGL internal

Loy Yang A power station

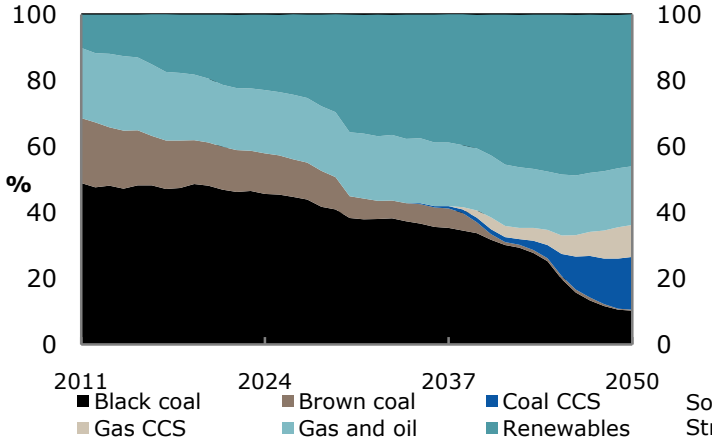
- Fuel sources for generation are increasingly becoming exposed to global prices:
  - Significant coal export from Hunter Valley over past decade
  - LNG export will nearly triple east coast gas demand by 2020
- Loy Yang has coal reserves well beyond the amount required for the life of the power station and Loy Yang B (coal customer, not owned by AGL)
- By owning Loy Yang, AGL has reduced exposure to rising fuel cost
- Potential opportunities for brown coal export will be considered

4. Renewable capability

AGL LGC Liability



Australian Generation Makeup 2050 (80% carbon reduction)



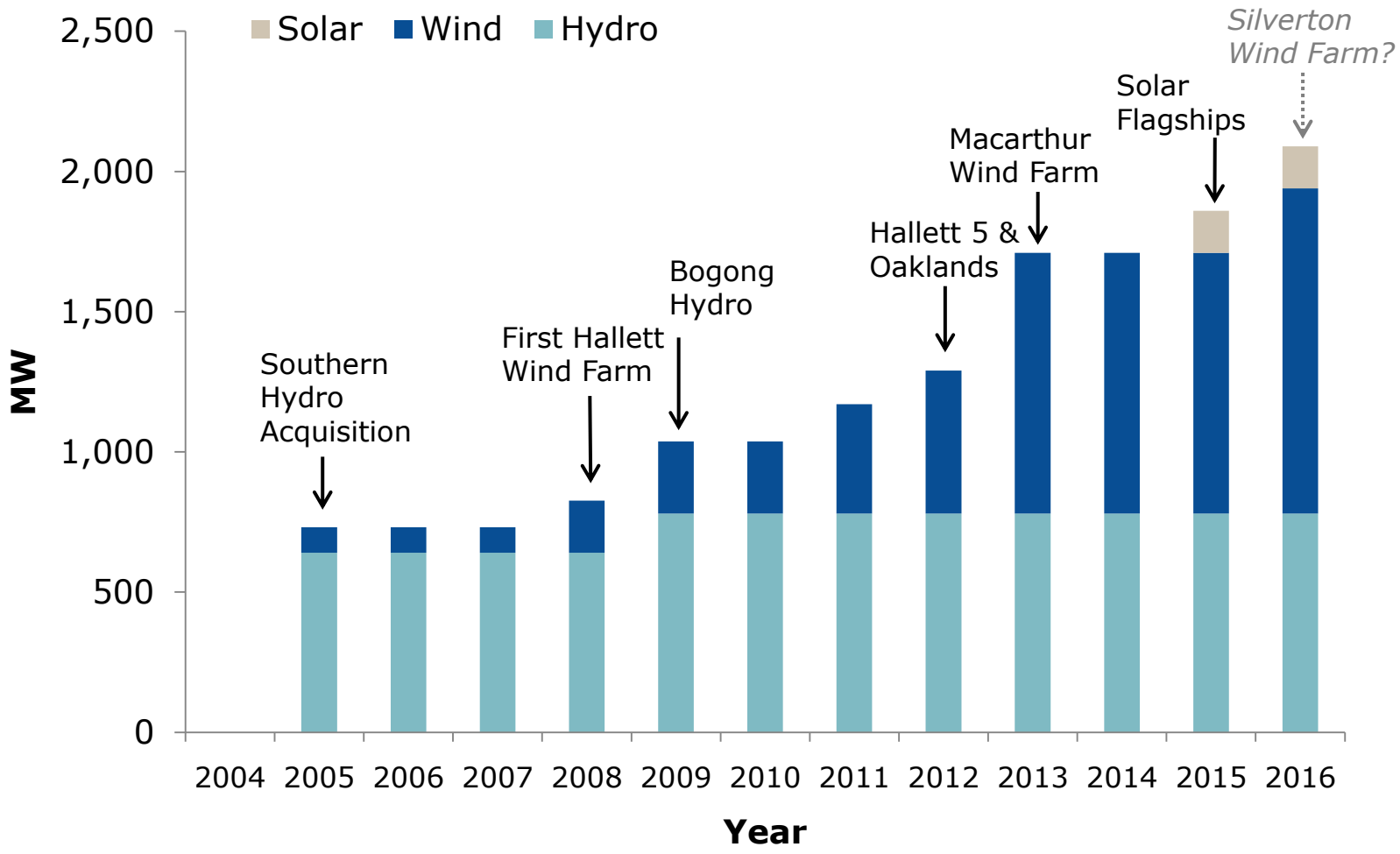
Source: SKM MMA, Treasury Modelling – Strong Growth , Low Pollution

- Australia has in place a Renewable Energy Target to have 41,000 GWh (~20%) produced from renewables by 2020:
  - To meet this target requires ~3,000MW of incremental build by 2015 and ~12,000 by 2020.
- To meet a long term target of reducing carbon emissions by 80% by 2050 expected to require 40%+ of renewable generation

4. Renewable capability cont.

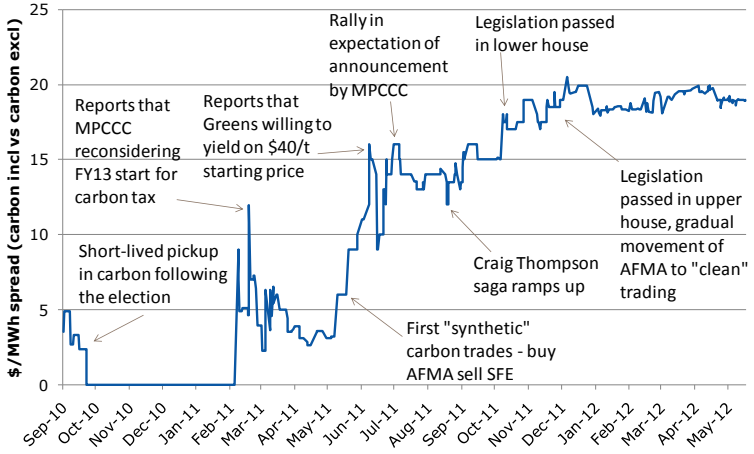
- AGL announced as successful tenderer to build 2 solar PV farms as part of Federal Governments Solar Flagships Program:
  - 159 MW at two locations in NSW: Nyngan (106MW) and Broken Hill (53MW)
  - 2.4M solar panels
  - Surface area equivalent to ~200 SCGs
  - Electricity for ~33,000 NSW homes
  - Panels, design and installation provided by First Solar
- Funding provided by AGL, Federal and NSW governments:
  - Federal: $130 M
  - NSW State: $65 M
  - AGL:$255 M
- Solar PV has the potential to compete with wind this decade as lowest cost renewable energy source

4. Renewable capability cont.

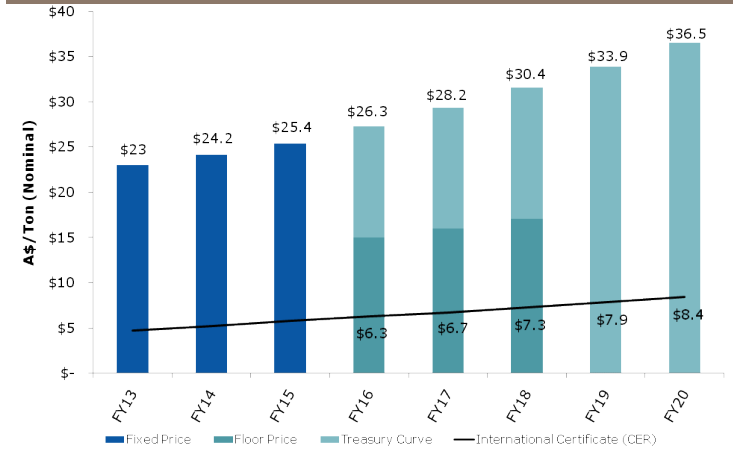


5. Carbon risk management

Carbon Uncertainty

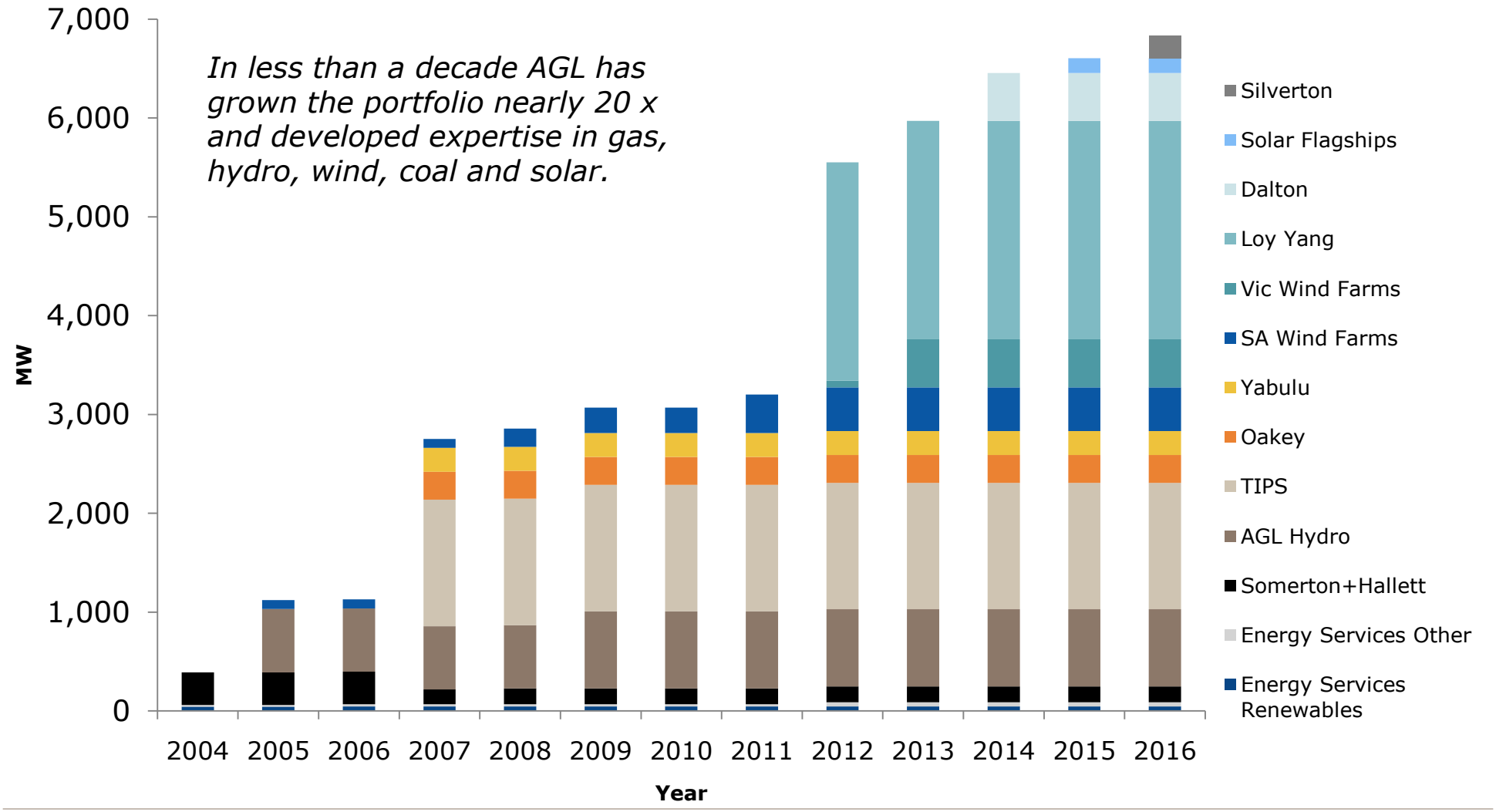


Carbon Price Trajectory



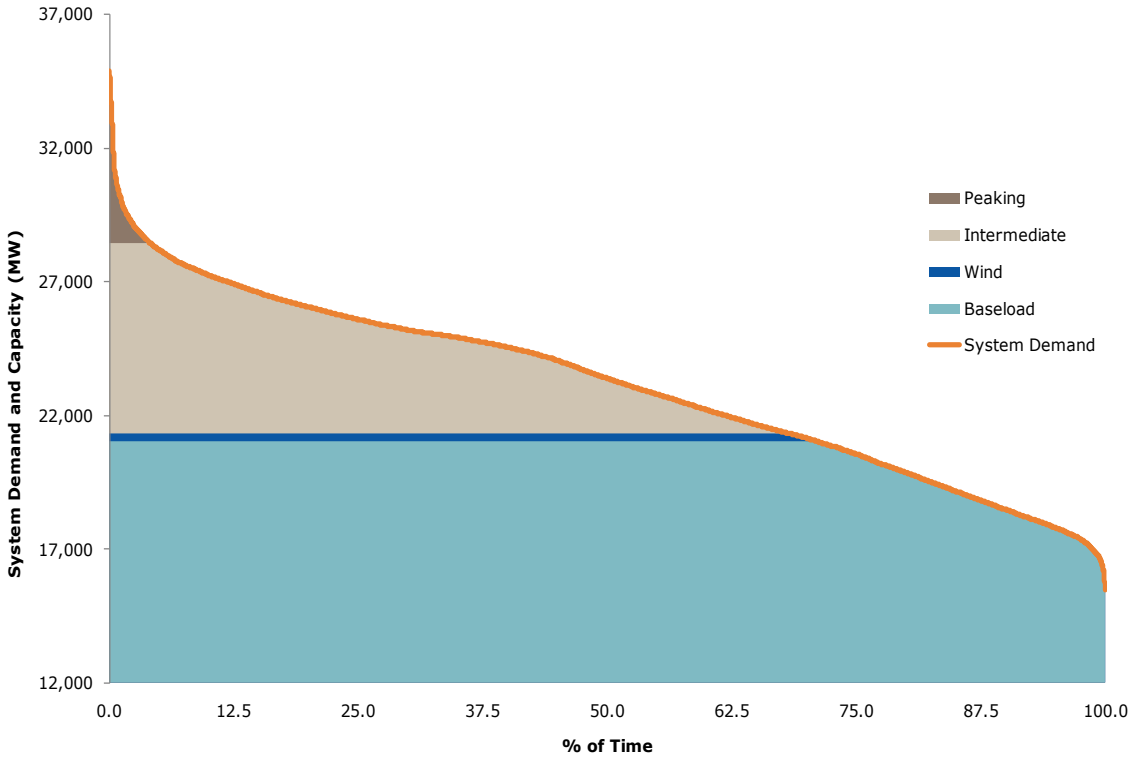
- The political climate for carbon is becoming increasingly unpredictable
- The Loy Yang transaction rebalances AGL carbon exposure:
  - Prior to Loy Yang AGL was "long carbon" with emissions intensity of 0.36
  - Post Loy Yang AGL emissions intensity of 1.0 compared to NEM average of 0.91
- Carbon uncertainty produces electricity contract volatility and a likely deterrent to future energy investment

Building the AGL Generation Portfolio

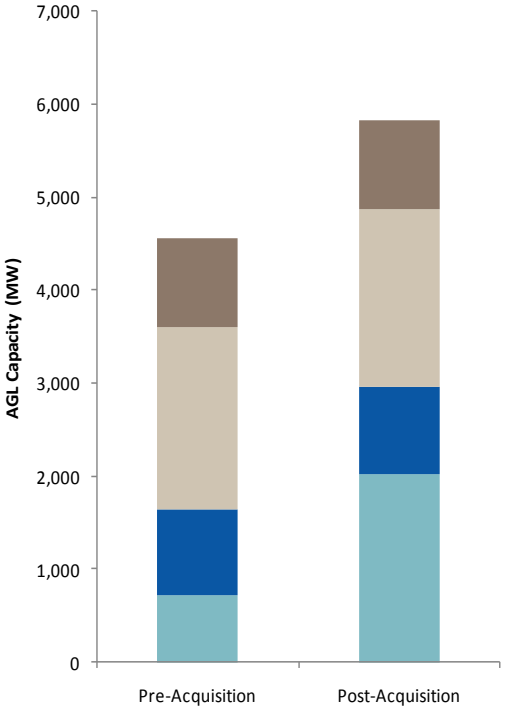


The AGL generation portfolio is well positioned to meet the challenges of the market

NEM Generation – 12 months ended 30 June 2011 [1]



AGL Generation Portfolio [2]



1. Source: AEMO data.
2. Source: AGL estimate: includes ~560 MW of generation under construction including the Macarthur and Hallett 5 wind farms.

AGL's current and future portfolio options

		Peak Day	Energy Price	Generation Fuel	Renewables	Carbon
Current	Gas Peakers	✓				
	Hydro	✓			✓	✓
	Torrens Island – Intermediate	✓	✓			
	Loy Yang	✓	✓	✓		
	Wind Farms		✓		✓	✓
	Silver Springs Gas Storage	✓				
In progress	Upstream Assets		✓	✓		
	Newcastle Gas Storage	✓				
	Macarthur Wind Farm		✓		✓	✓
	Dalton Gas Peaker	✓				
	Solar Flagships		✓		✓	✓
Pipeline	Silverton Wind Farm		✓		✓	✓
	Barn Hill Wind Farm		✓		✓	✓
	Hallett 3 Wind Farm		✓		✓	✓
	Coopers Gap Wind Farm		✓		✓	✓
	Tarrone Gas Peaker	✓				
	TIPS C Gas Peaker	✓				
	Madeline Downs Gas Peaker	✓				
	Rosewood Gas Peaker	✓				
	Silver Springs Storage Stage 2	✓				