



Coal
Murray Meaton
19 February 2019

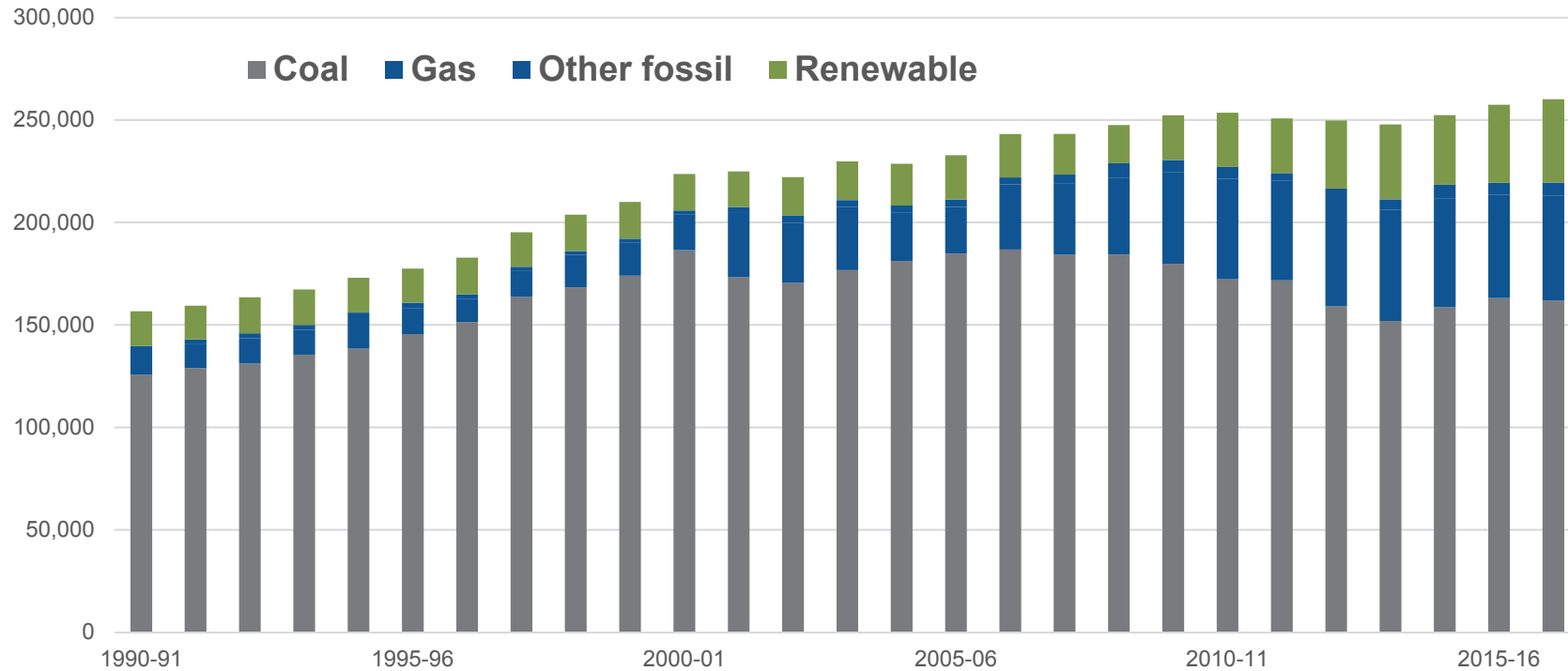


Coal – a vital raw energy source
now a political football.

Where do we go from here?



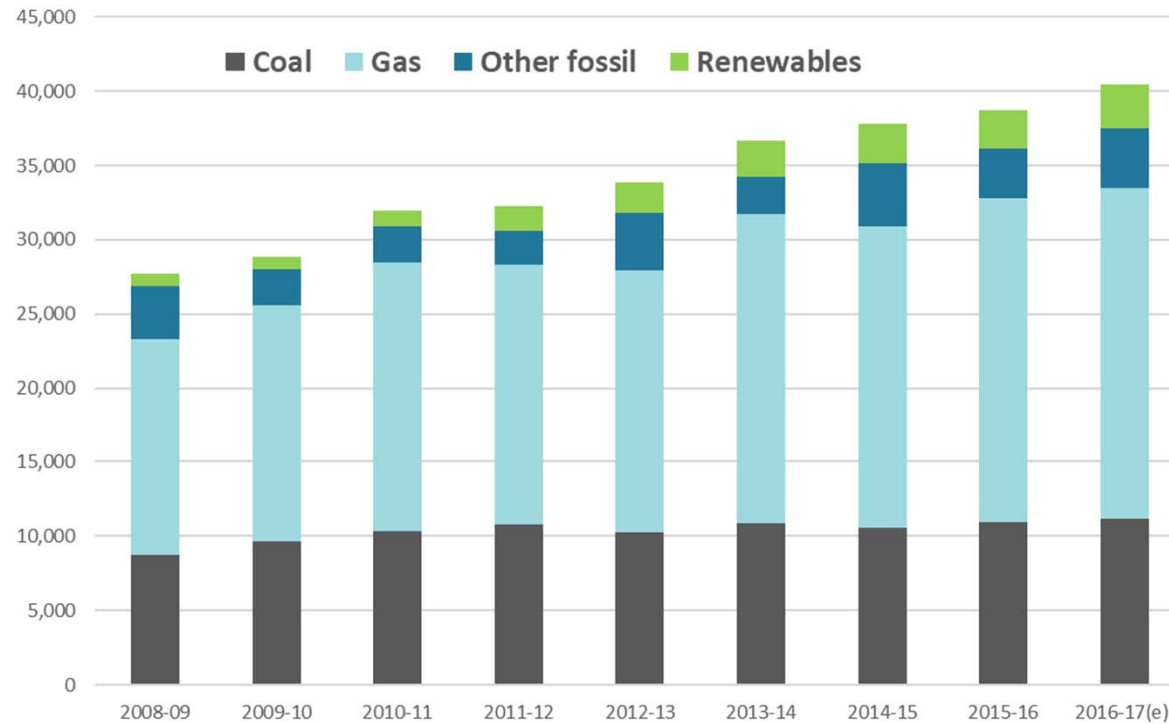
The BIG picture – Australian electricity production (GWh)



83%

62%

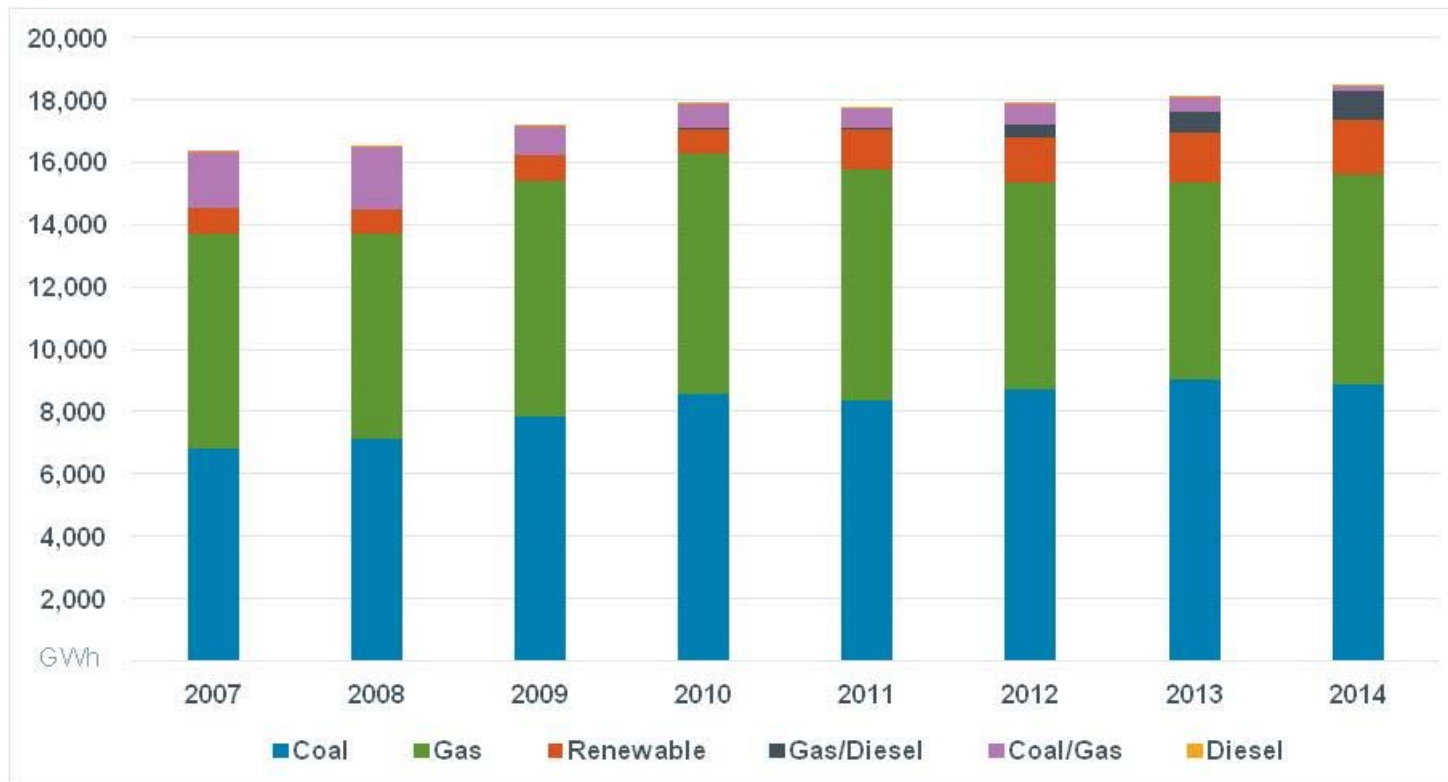
WA electricity production (GWh)



Coal share 28% and gas 55% in 2016-17



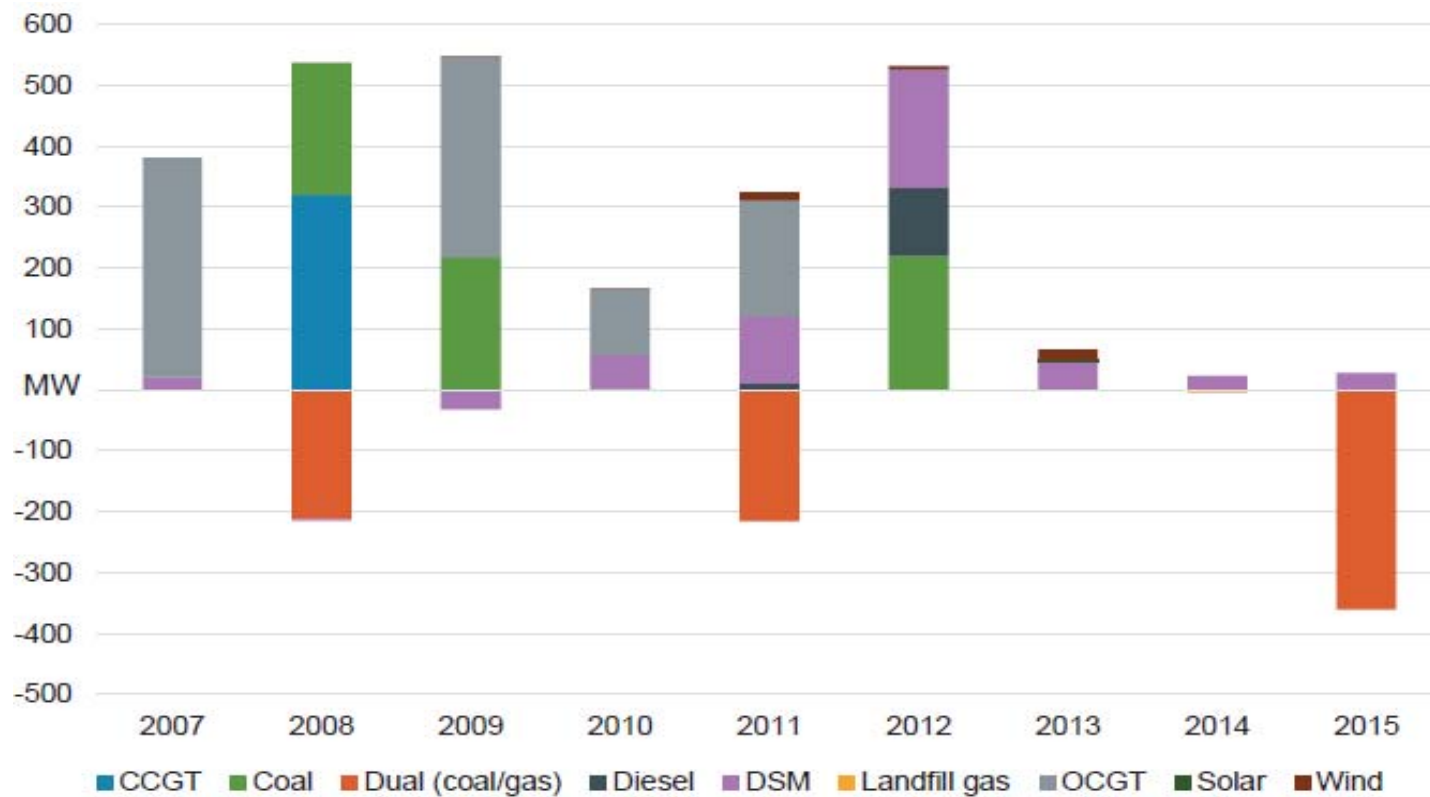
SWIS electricity production (GWh)



Coal share very close to 50% - AEMO
Coal is **vital** to the SWIS electricity system



SWIS primary fuel changes



2017 retirements:
Muja A & B (240),
West Kalgoorlie GT, Munjarra GT, One Kwinana GT (296)
Total: 436

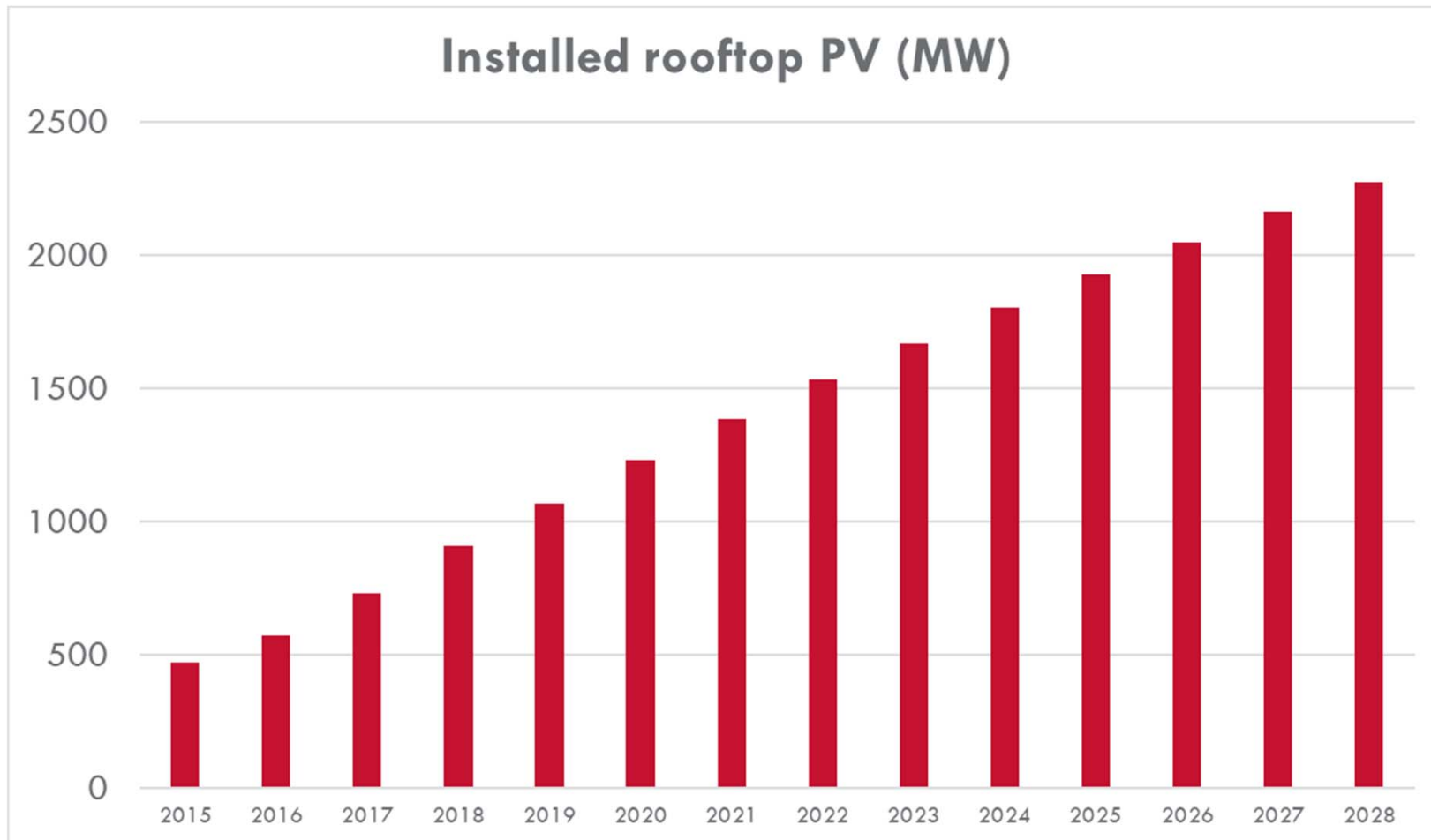


SWIS capacity credit changes

Coal	1,652	-220
Gas	1,430	-90
Dual	123	-83
Gas/diesel	1,691	
<i>Total fossil</i>		<i>-393</i>
Rooftop PV	826	+180
Grid solar	140	+130
Grid wind	607	+130
Biogas	23	
Total renewable	1,596	+430
<i>Total capacity credits</i>	<i>4,896</i>	<i>+37</i>

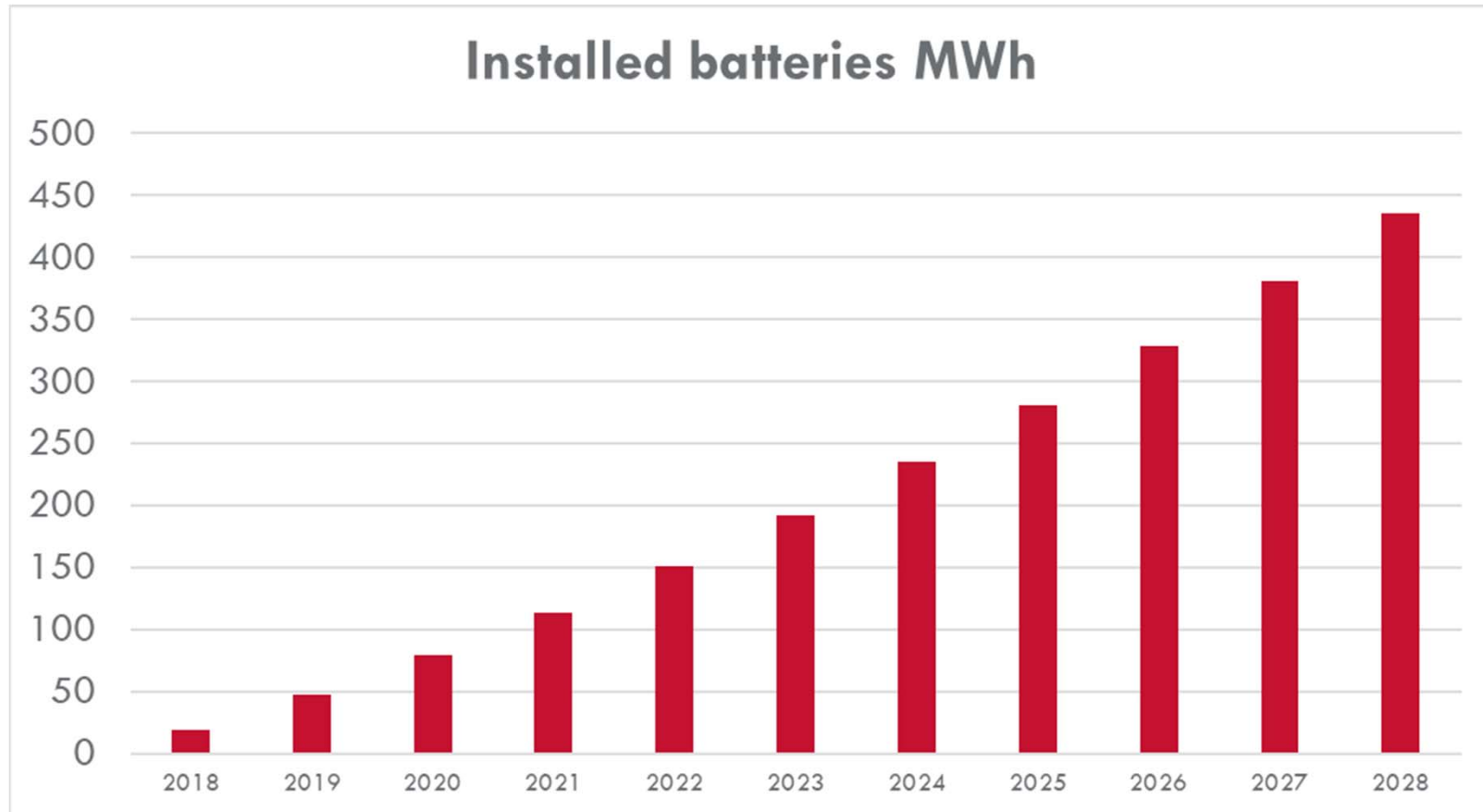


AEMO forecast of installed PV in SWIS



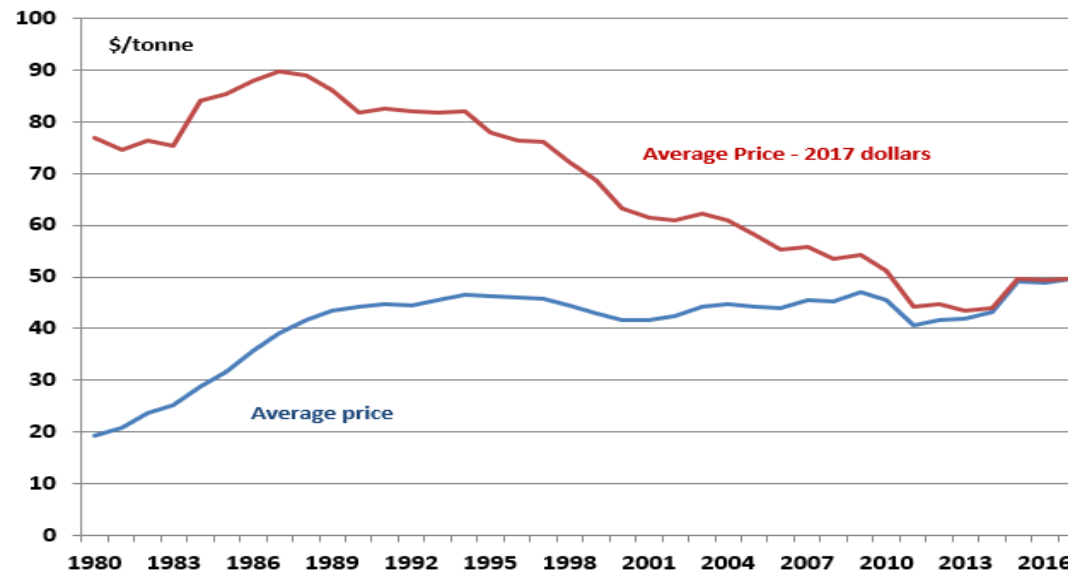
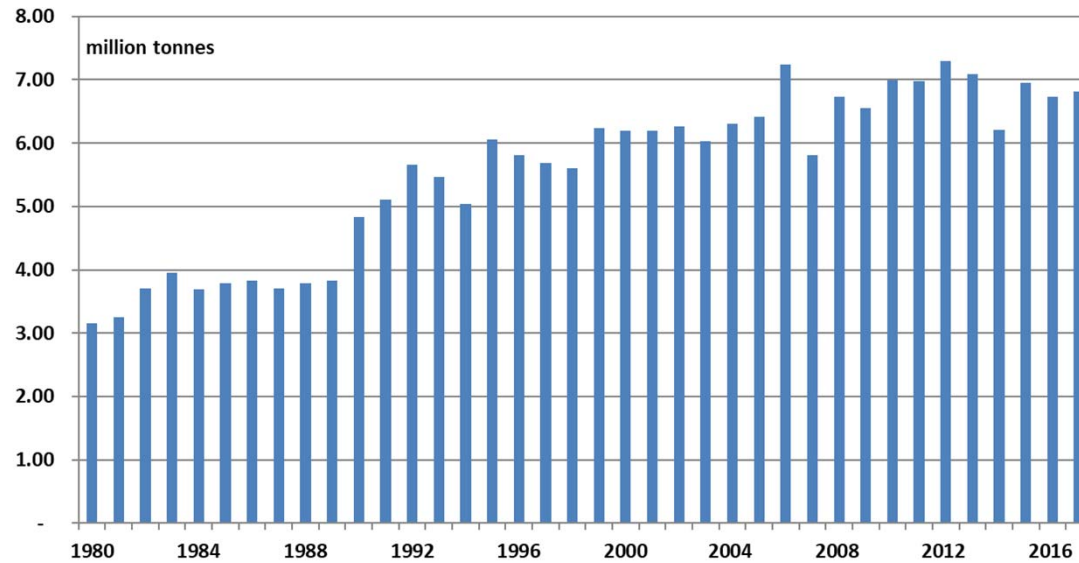


AEMO forecast of installed batteries in SWIS





Coal production and price





Coal demand factors

- Grid Electricity (70%):
 - SWIS growth slow +0.6-0.9%
 - Excess capacity – 300MW plus
 - PV +8.5% pa – over 1,000MW now
 - Batteries +10 fold
 - Old power stations – Muja C 38 years
 - Major Synergy contract expires 2030

- Alumina - stable - could go gas
- HMS – one diminishing, one could expand
- Cement – possibly go gas or close



Coal supply factors

- Small production - 2 companies
- Export not viable
- Premiers wanted 5mtpa (3.5-4)
- Lanco wanted 15mtpa (2.5)
- 2 disappointed companies – probably paid too much and both making losses
- Contracts very hard to re-open
- Lanco Infratech receivers looking for majority investor since mid 2017
- Large clean-up bills



Conclusions

- Collie plays an critical role in the State's energy infrastructure
- The government power stations are old 29, 33 and 38 years
- They face high maintenance costs
- Rooftop PV and Large renewables will combine with batteries to push up capacity
- Excess capacity now and increasing – it will be retired
- Gas better suited than coal to provide renewable backup and is readily available at a “reasonable” price
- **Replacement generation will not be coal-fired units**



Conclusions

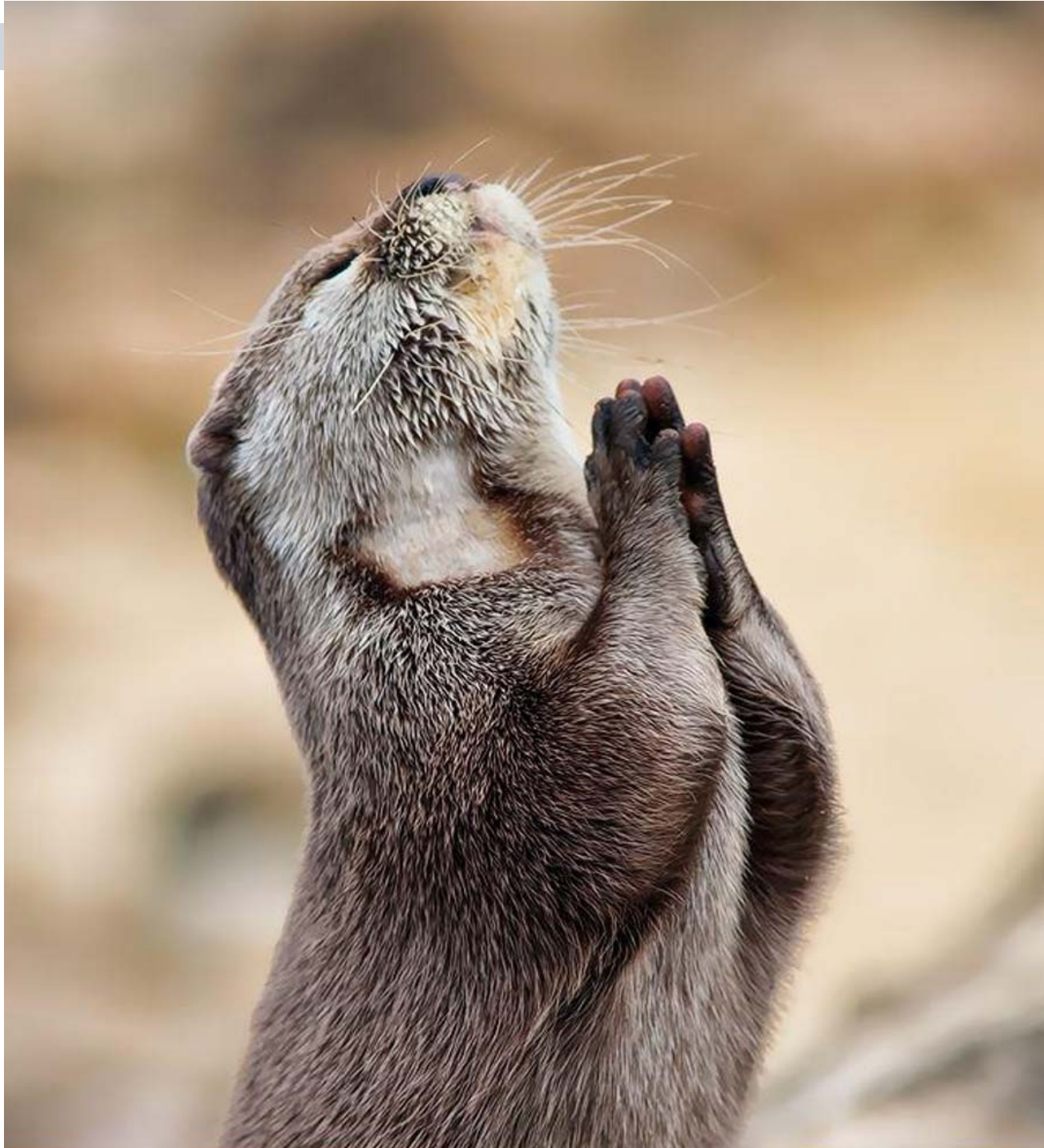
- Trigger points for coal:
 - Bankruptcy
 - Capital starvation for existing private companies
 - Low utilization
 - Loss of large industrial customer

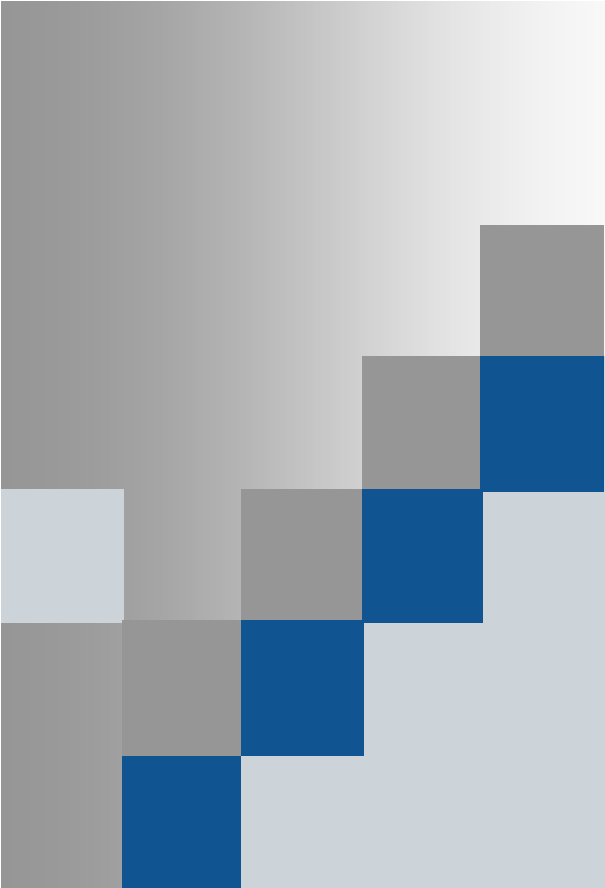
- **My guess:**
- 2030 coal consumption forecast 1.5 to 4 Mtpa
- 2035 coal consumption forecast zero



Transition

- Collie is important to the State's energy infrastructure
- Collie is important socially and politically
- Only need one coal mine in the next 10 years
- We need less coal generation capacity
- Restructuring the industry is vital to the Collie community
- Government can assist – new contract to 2030 at a price that locks in rehabilitation of both mines and closure
- Consideration of power station conversion to gas
- Ensure the Collie community understands the transition
 - The current Collie Futures Fund is a sound initiative but there is a lack of clarity in government messaging (the word coal often fails to appear)





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