



Storage and Super Grid: the key to 100% renewable energy

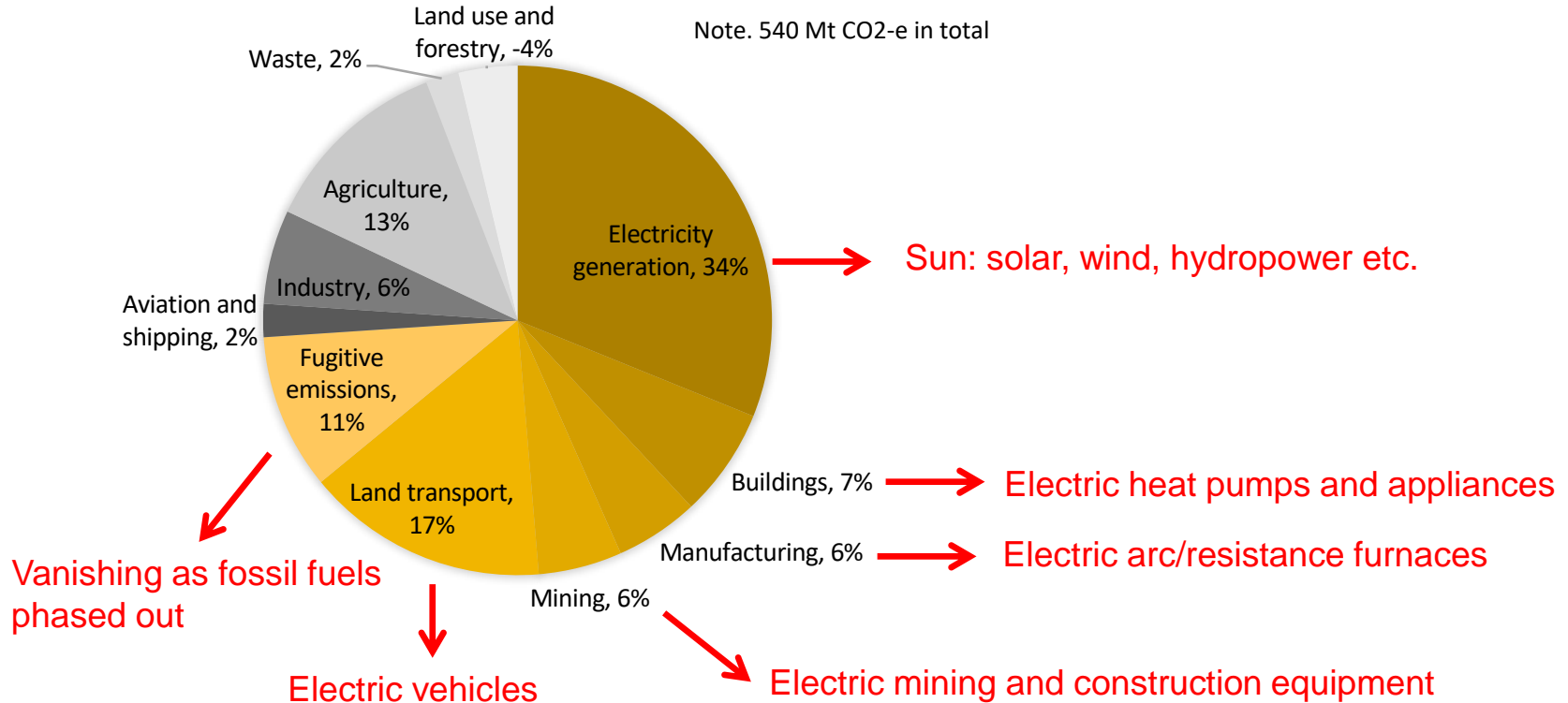
Bin Lu, Andrew Blakers, Matthew Stocks, Cheng Cheng and Anna Nadolny

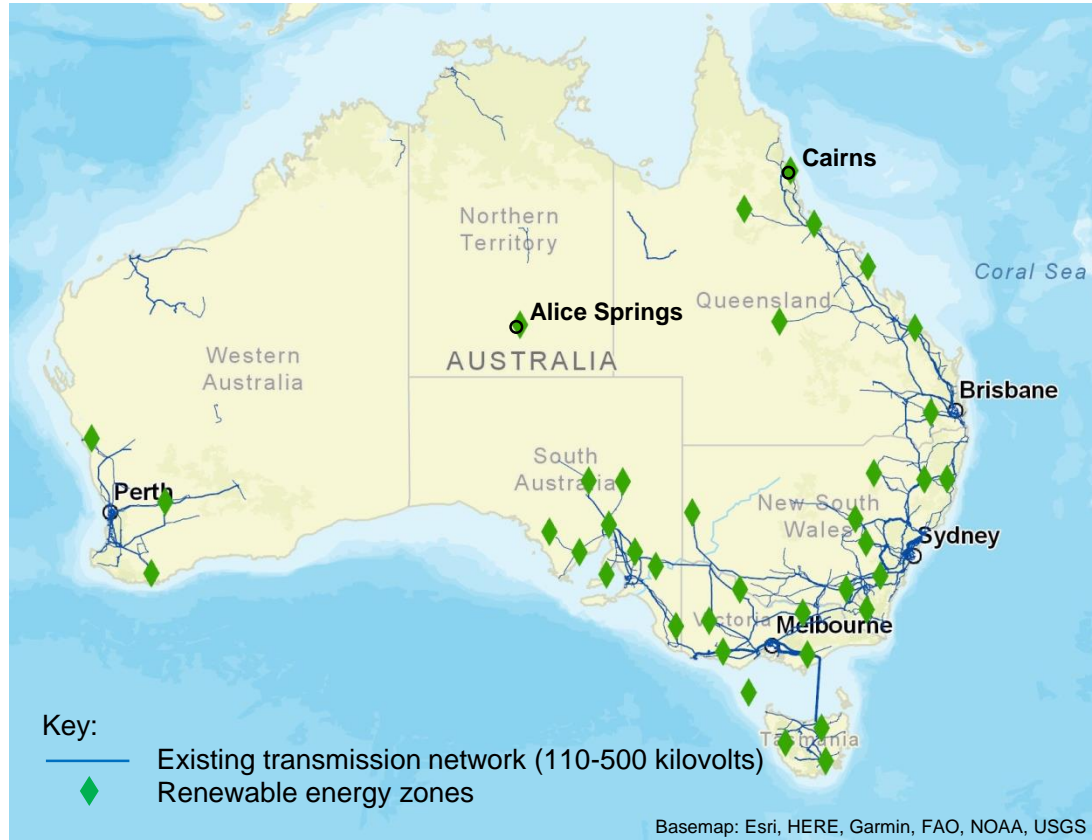
ANU 100% Renewable Energy Group

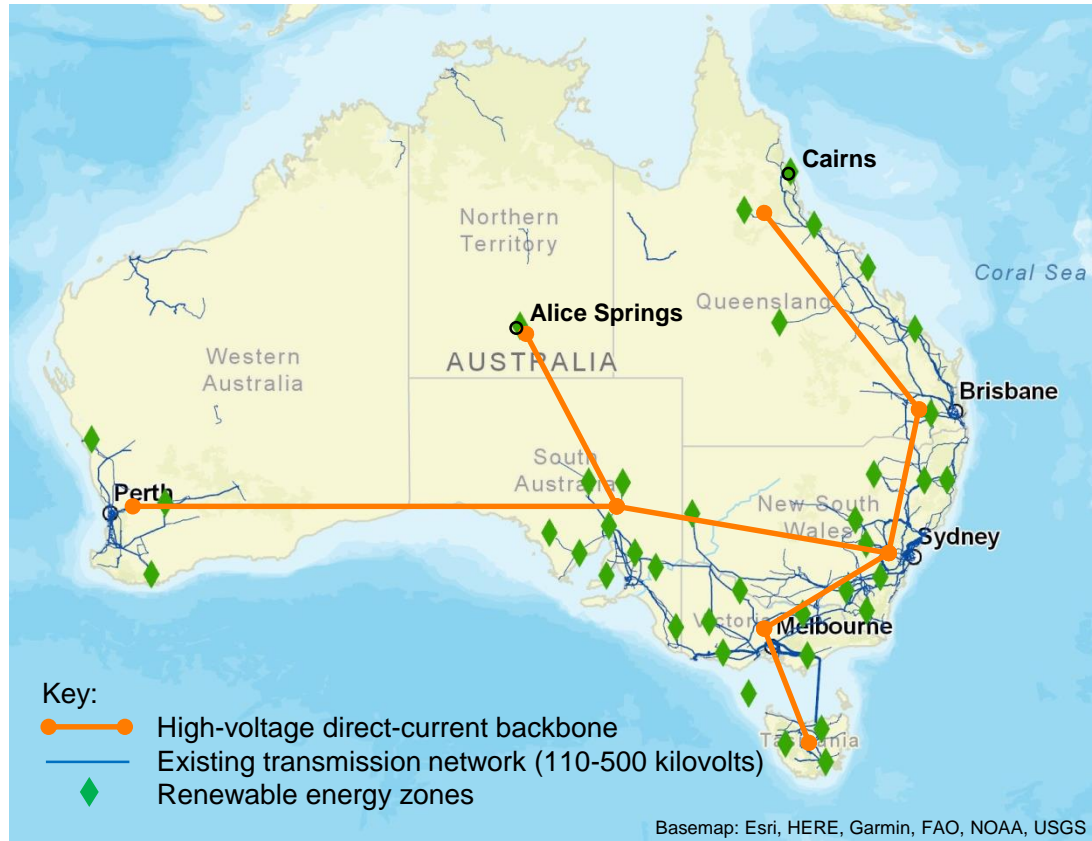
<http://re100.eng.anu.edu.au>

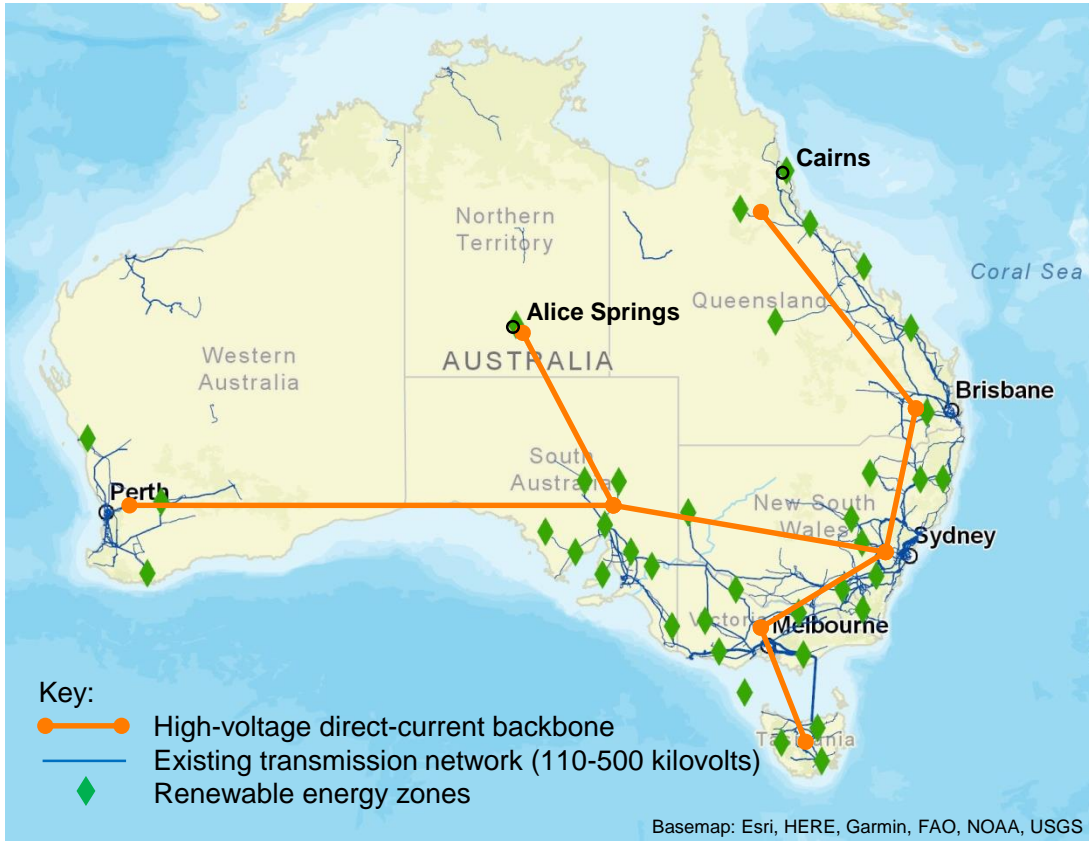
Australia's greenhouse gas emissions by sector in 2018

Note. 540 Mt CO₂-e in total







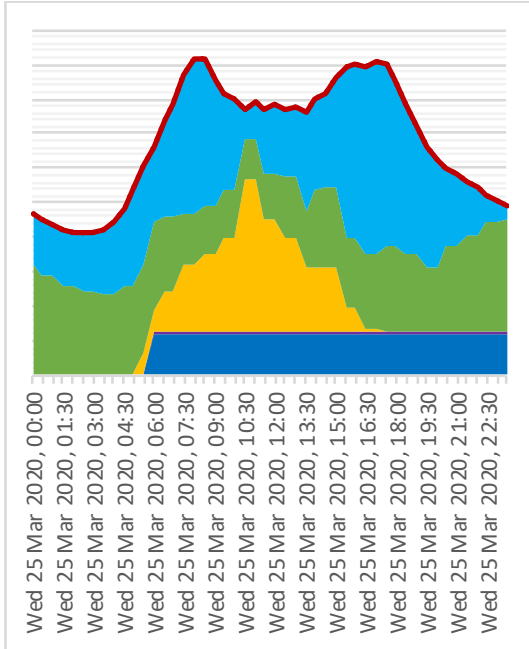


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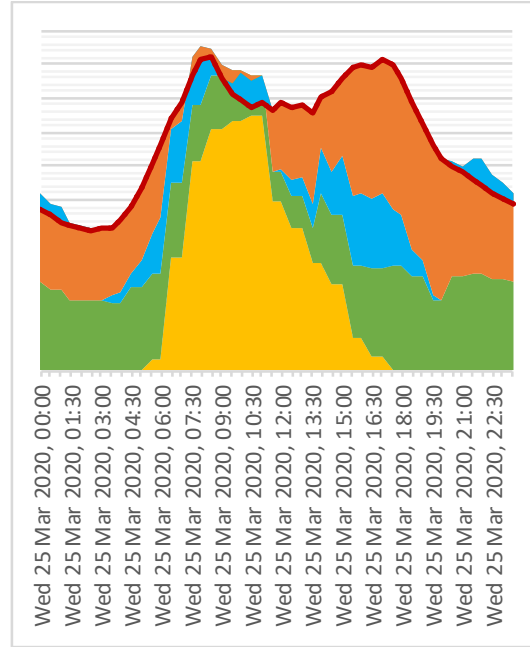


Assuming smart charging of electric cars in response to energy deficit or surplus

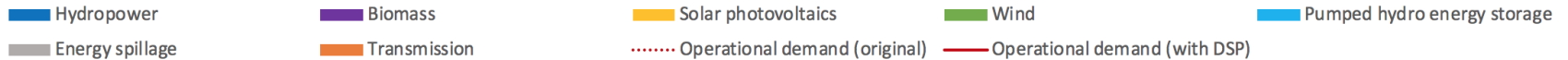
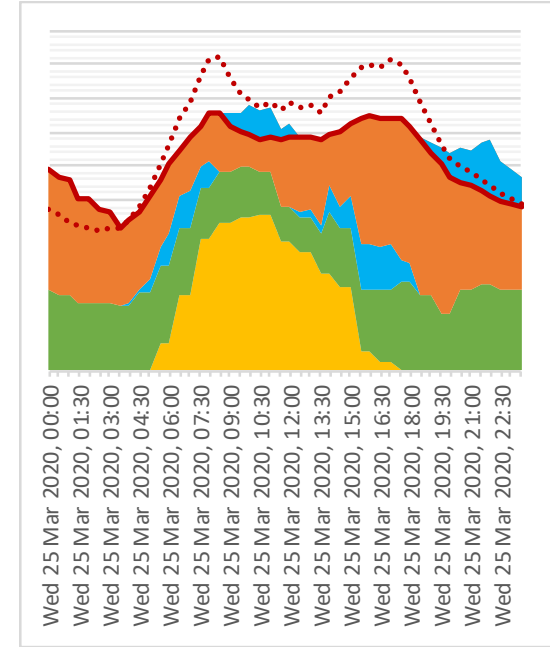
7 Grids

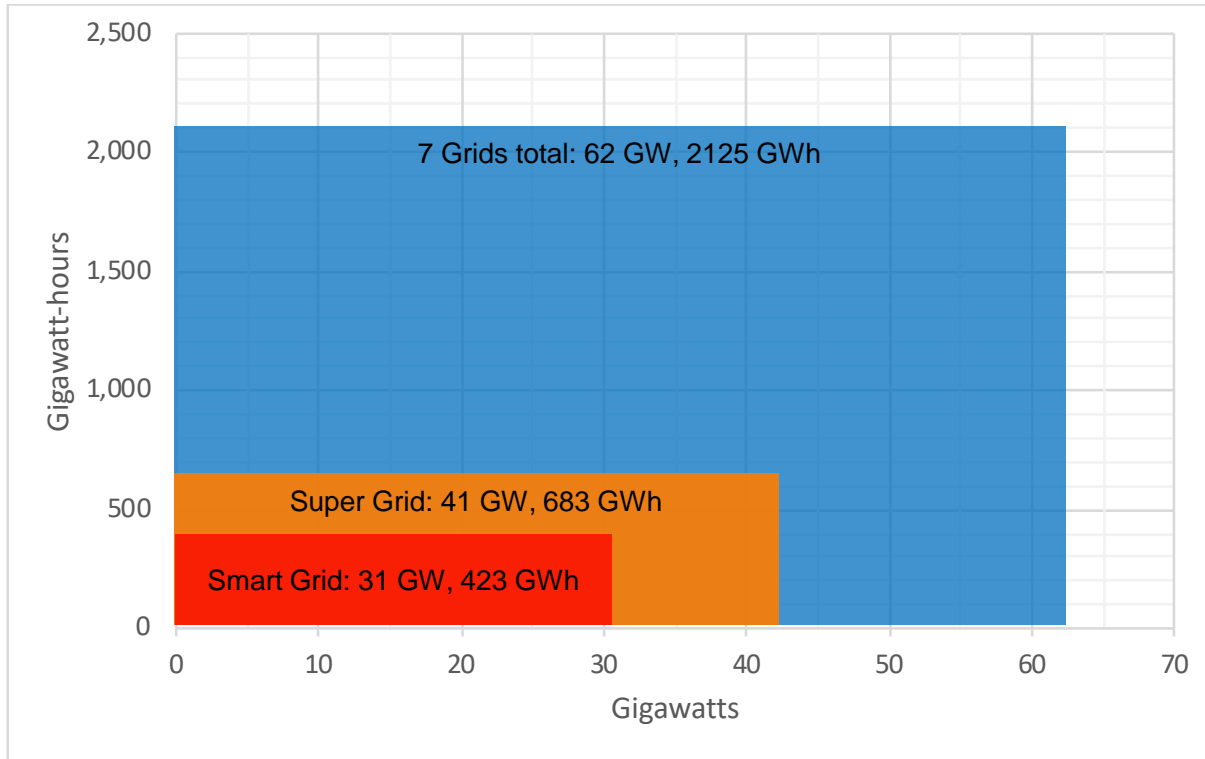


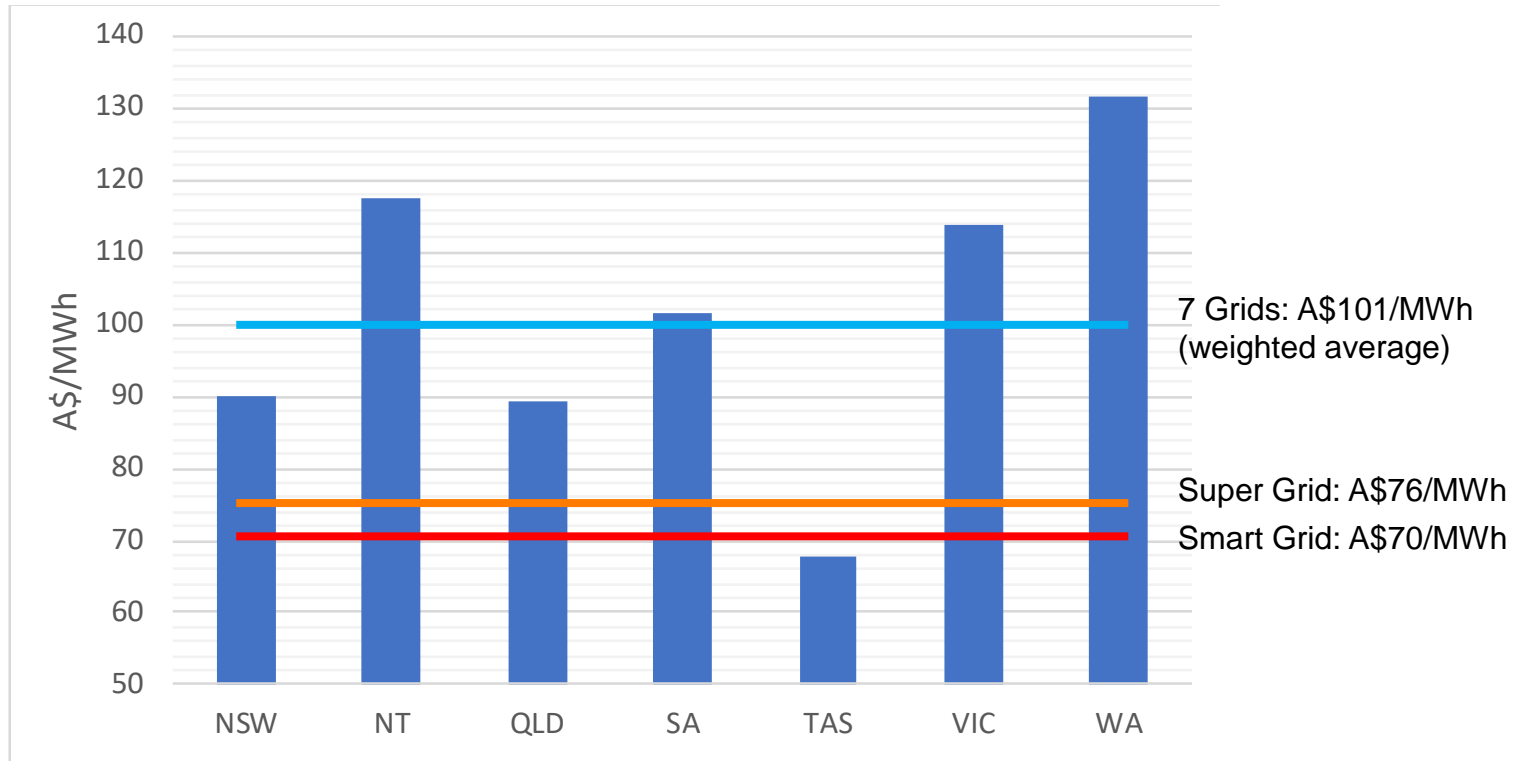
Super Grid

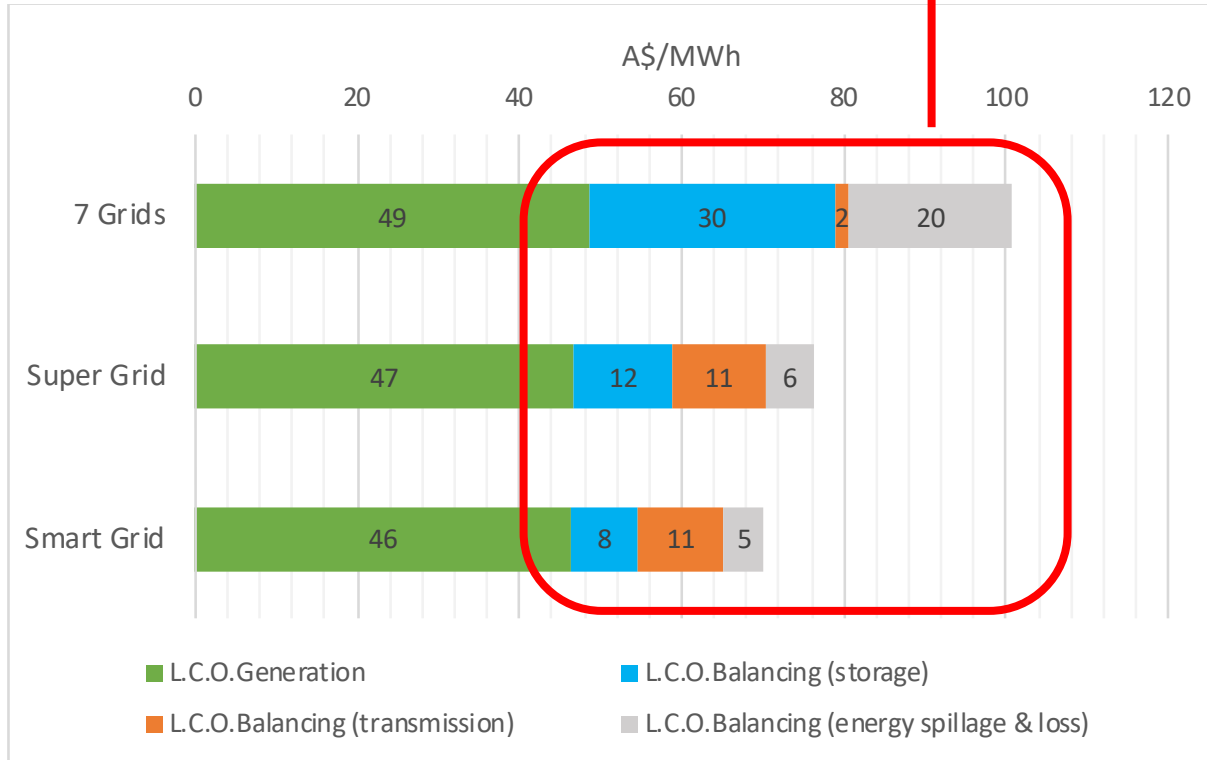


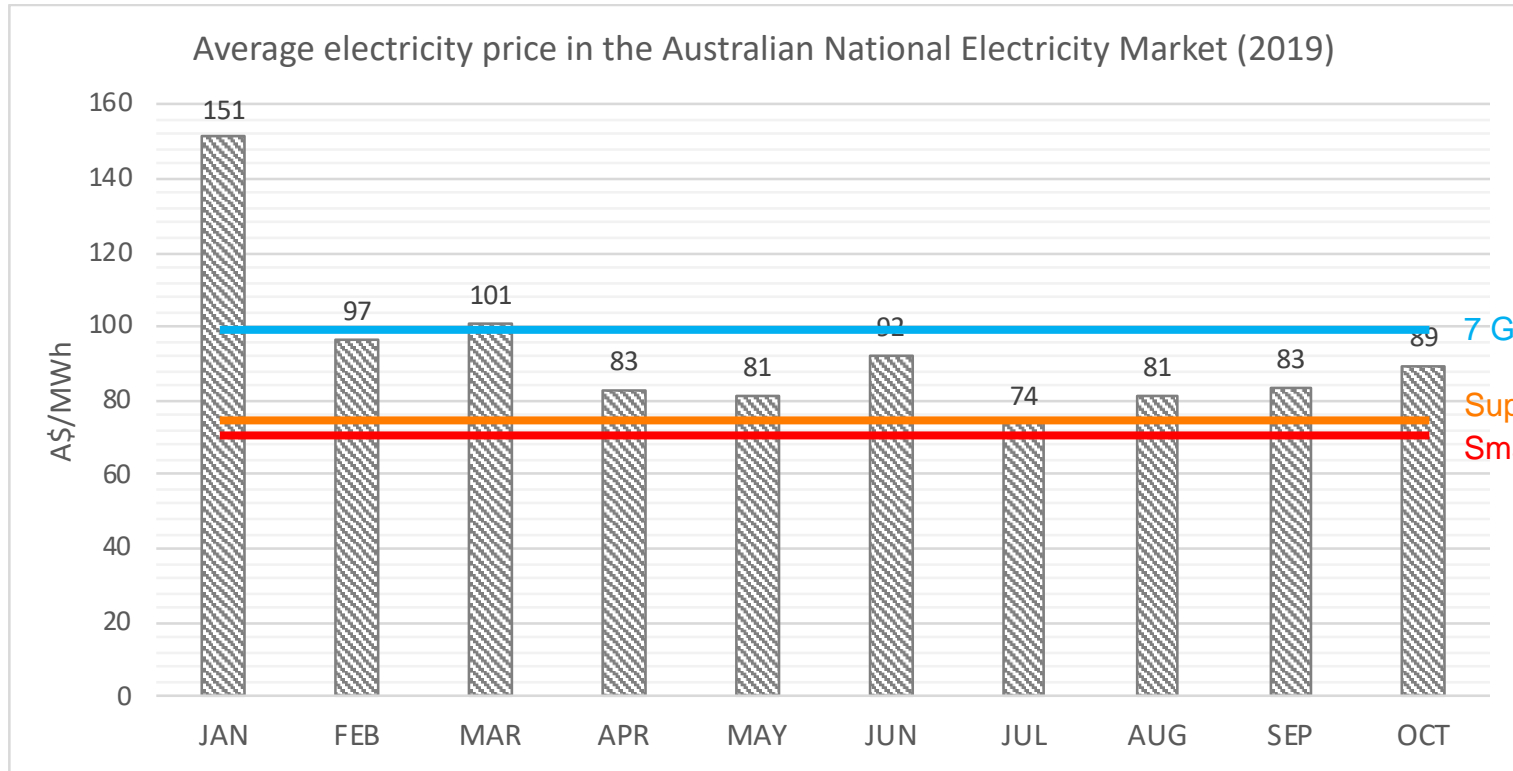
Smart Grid











- A low-carbon energy future can be built based on renewable energy along with electrifications of heating, transportation and industry.
- Energy security and reliability are maintained through a synergy of pumped-storage hydro (off-river), high-voltage direct-current and demand-side participation.
- The levelised cost of 100% renewable energy is competitive with existing and new-build fossil fuel systems in Australia.



Thank you!

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