



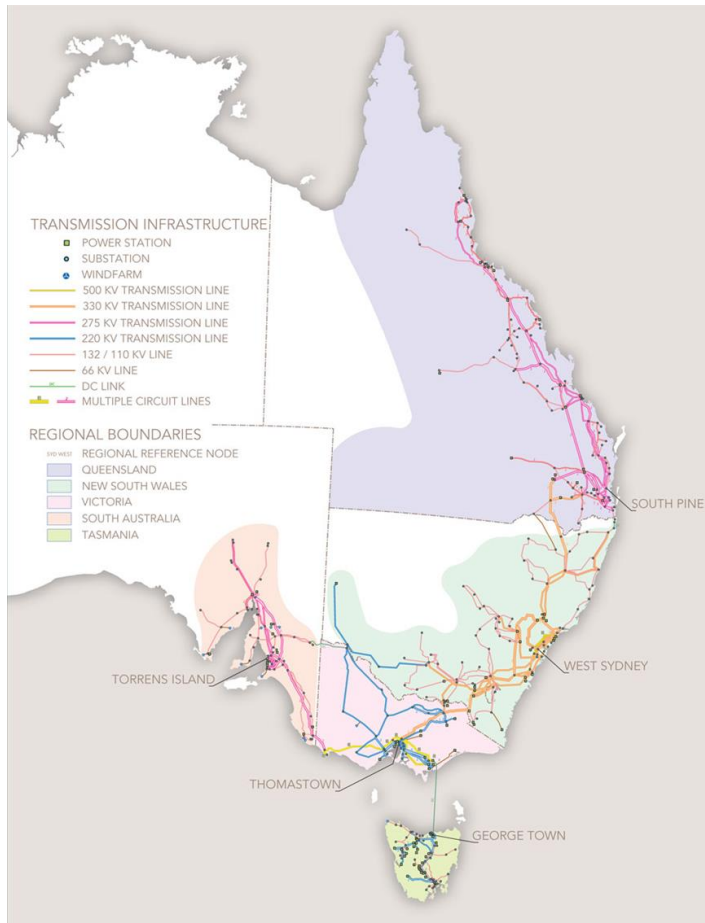
Regulatory landscape for the Electricity sector in Australia

Sebastian Roberts, AER General Manager of Transmission and Gas

9:00-10:30am, 14 March 2019

aer.gov.au

The National Electricity Market



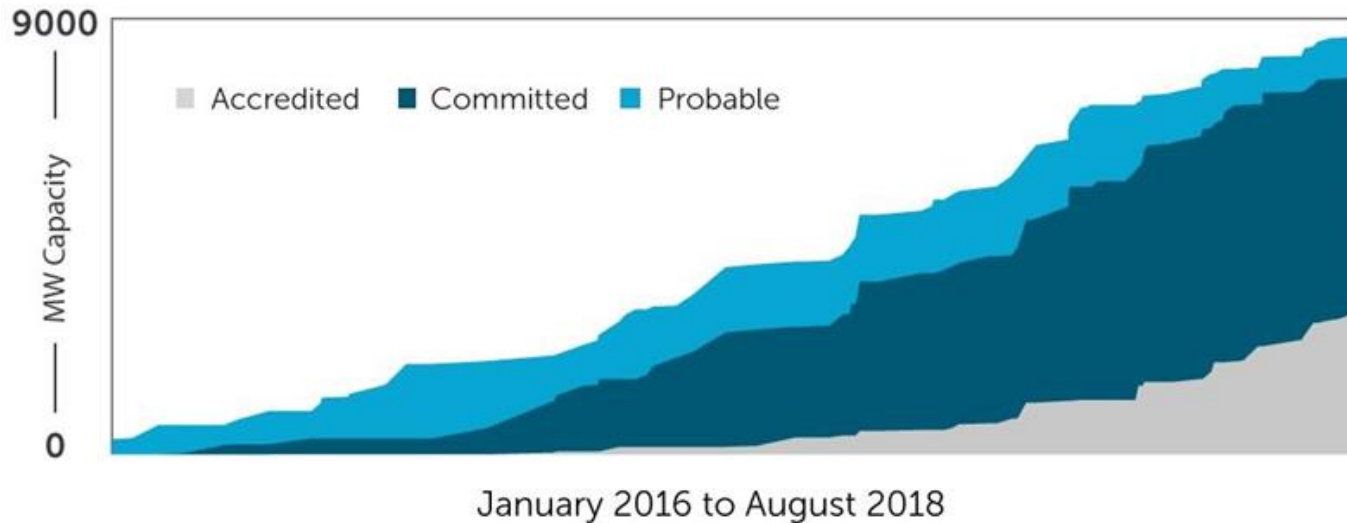
- The longest AC grid in the world.
- Five regions with limited interconnection
- Energy only market
- Gross pool
- Real time
- Central dispatched
- Marginal pricing
- High spot price risk
 - \$14 500/MWh cap
 - -\$1000/MWh floor
- Financial markets to hedge risk
- No market power mitigation

Source: Australian Energy Market Commission

Current state of the National Electricity Market

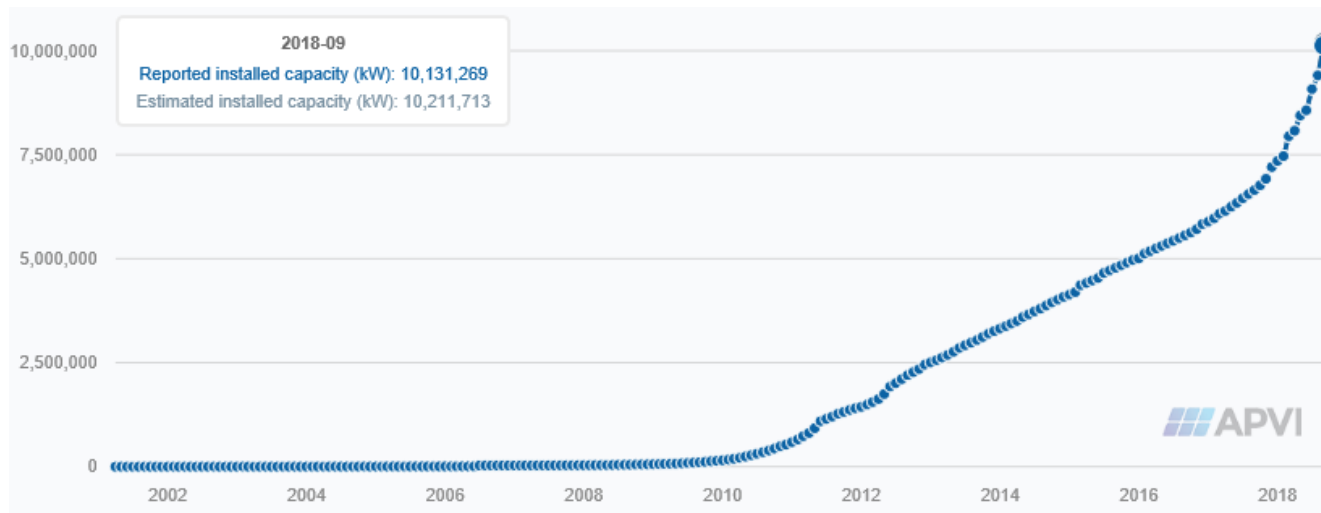
- Peak demand is rising*, particularly in Queensland (reaching a record level in February 2018) and NSW.
- Coal generators are being retired and not being replaced
- High gas fuel costs are contributing to high electricity prices.
- Growing investment in renewable generation
- Uncertainty about governments' energy and climate change policies is affecting investor confidence.

Electricity – the generation mix is changing



Australian large scale renewables investment

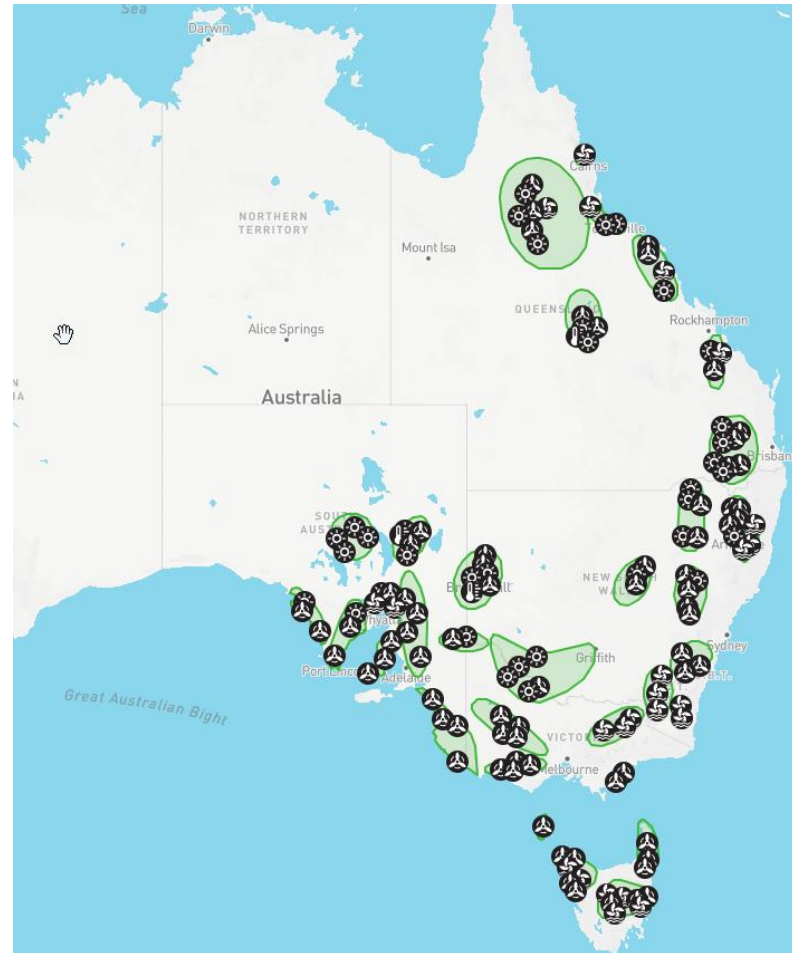
Source: Clean Energy Regulator



Australian solar PV installations since April 2001

Source: Australian Photovoltaic Institute

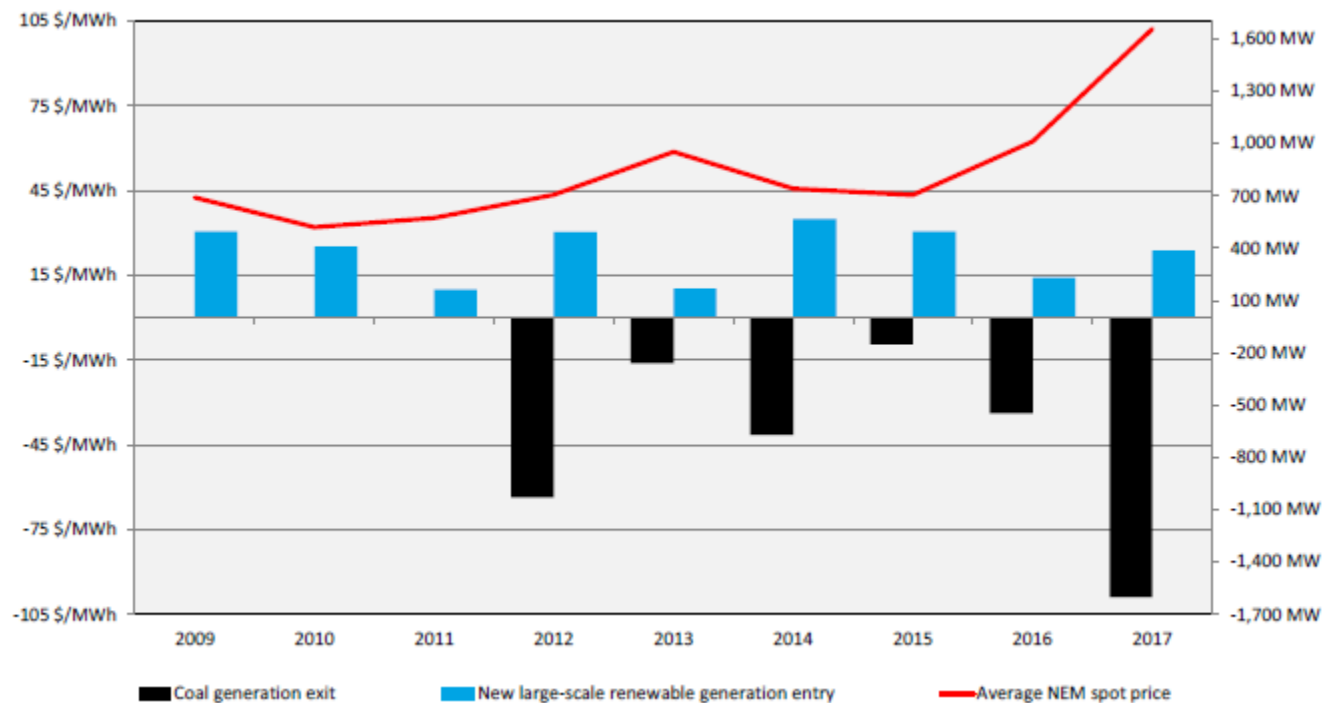
This has implications for planning of key electricity infrastructure – including transmission



Source: Australian Energy Market Operator

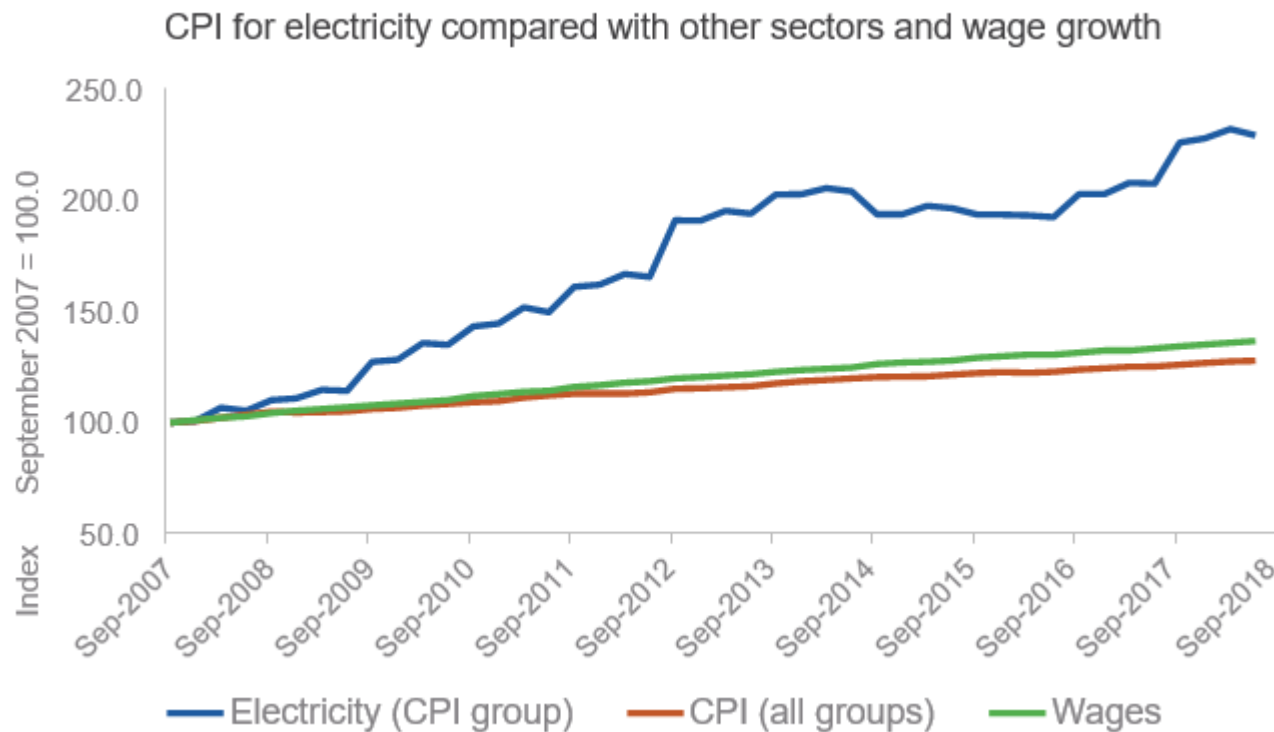
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The changing generation mix has coincided with increases in prices



Source: Australian Energy Market Commission

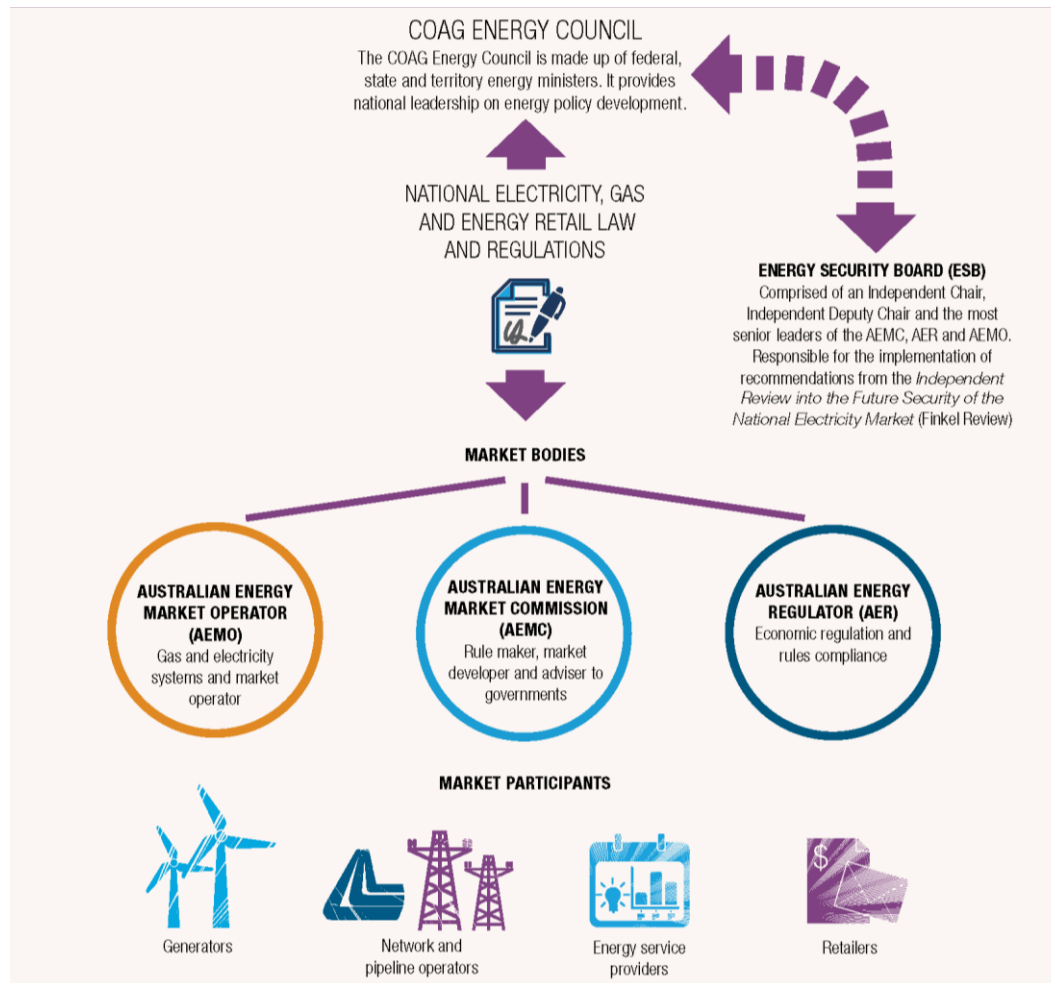
Electricity – affordability challenges



Source: Australian Bureau of Statistics

What's the AER's role?

Australia's energy governance regime



Guided by the National Energy Objectives

The National Electricity Objective:

- to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:
 - price, quality, safety and reliability and security of supply of electricity
 - the reliability, safety and security of the national electricity system.

The National Gas Objective:

- to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

The National Energy Retail Objective:

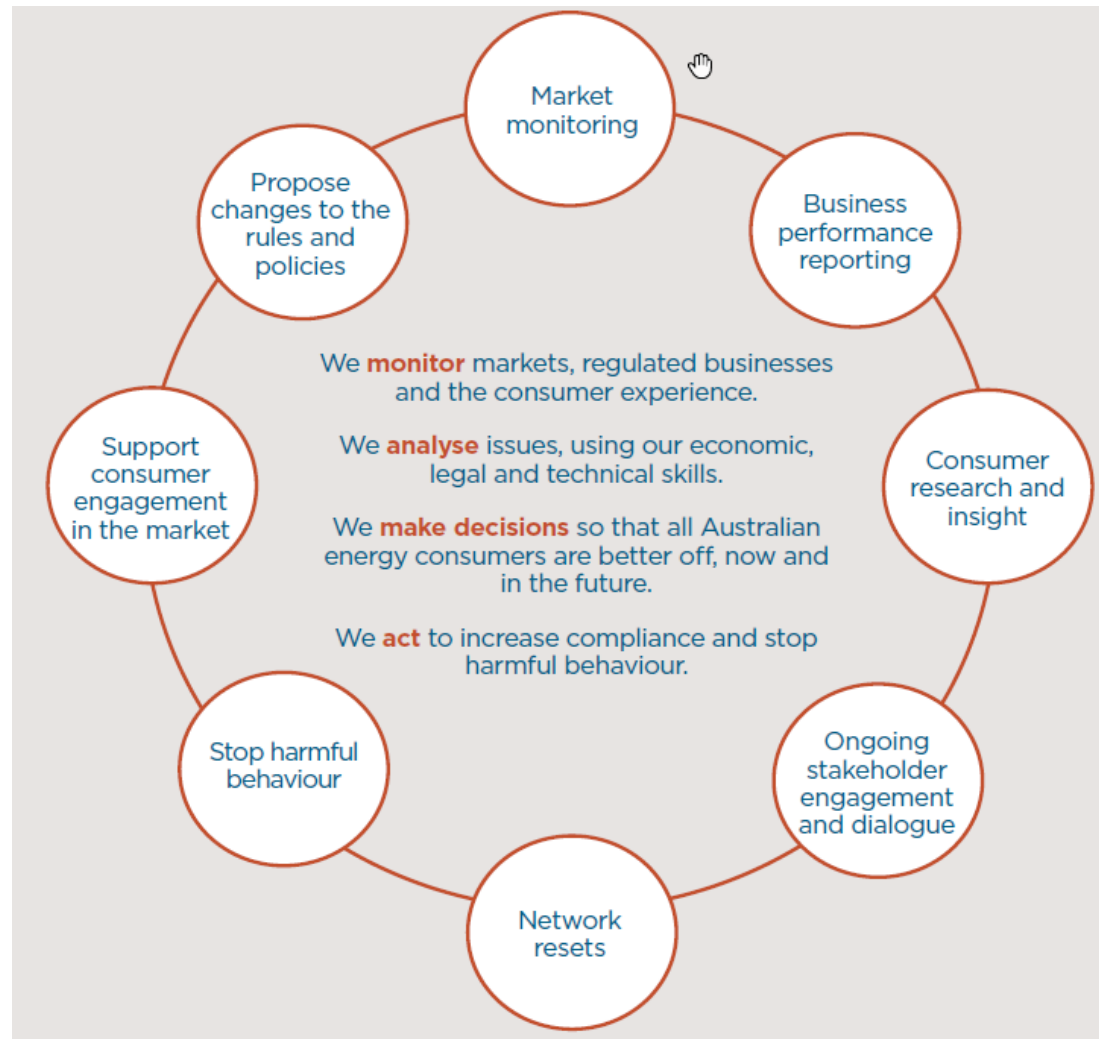
- to promote efficient investment in, and efficient operation and use of, energy services for the long term interests of consumers of energy with respect to price, quality, safety, reliability and security of supply of energy.

AER strategic objectives

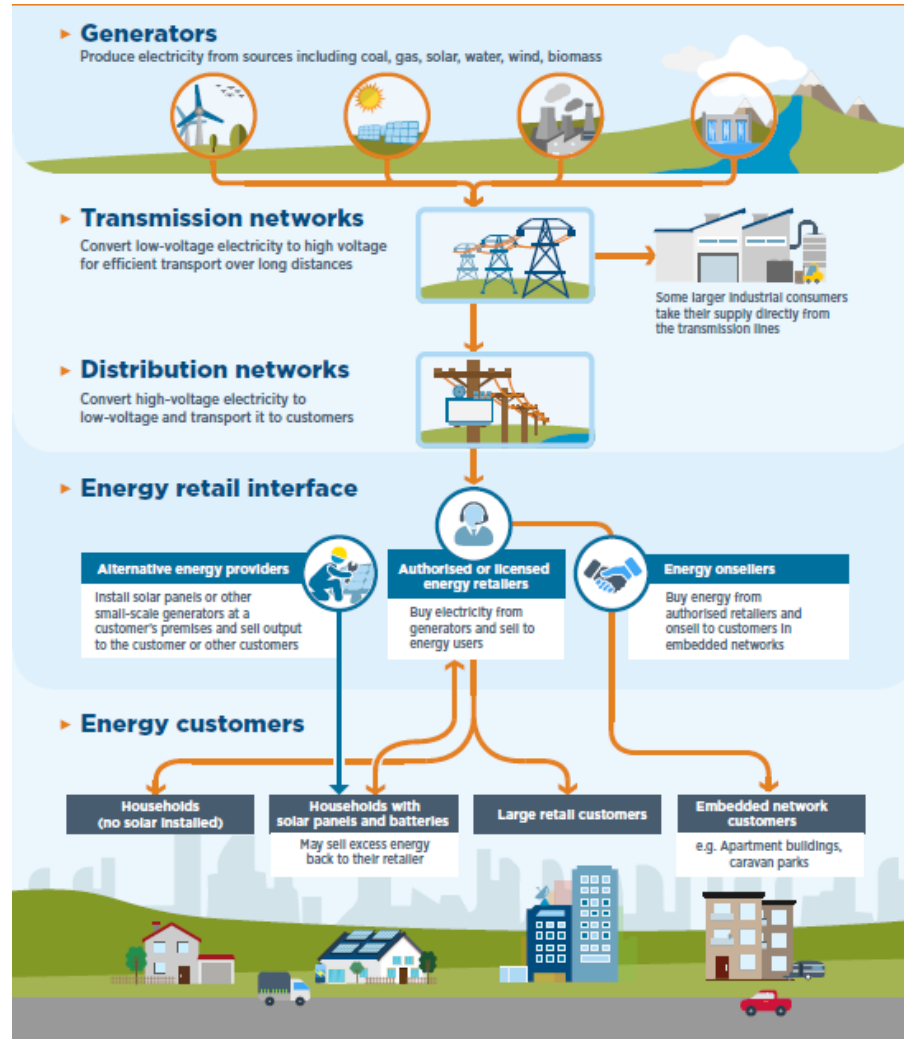
Strategic objectives which drive our annual work program are:

- Drive effective competition where it is feasible
- Provide effective regulation where competition is not feasible
- Equip consumers to participate effectively, and protect those who are unable to safeguard their own interests
- Use our expertise to inform debate about Australia's energy future, the long-term interests of consumer and the regulatory landscape
- Take a long-term perspective while also considering the impact on consumers today

Achieving our objectives



The AER works across the electricity supply chains



Wholesale

Wholesale market roles

- Monitoring wholesale market performance
 - Publish weekly reports
 - Publish reports where price exceeds thresholds set out in the electricity and gas legislation
- Monitoring compliance with electricity and gas legislation
 - Risk assessment approach undertaken to determine type and frequency of monitoring for each provision
 - Ongoing process to take into account new/revised legislation
- Monitoring and reporting on Effective competition to identify:
 - whether there is effective competition in the market
 - features of the market that may be detrimental to effective competition or the efficient functioning of the market
- Report findings every two years – December 2018

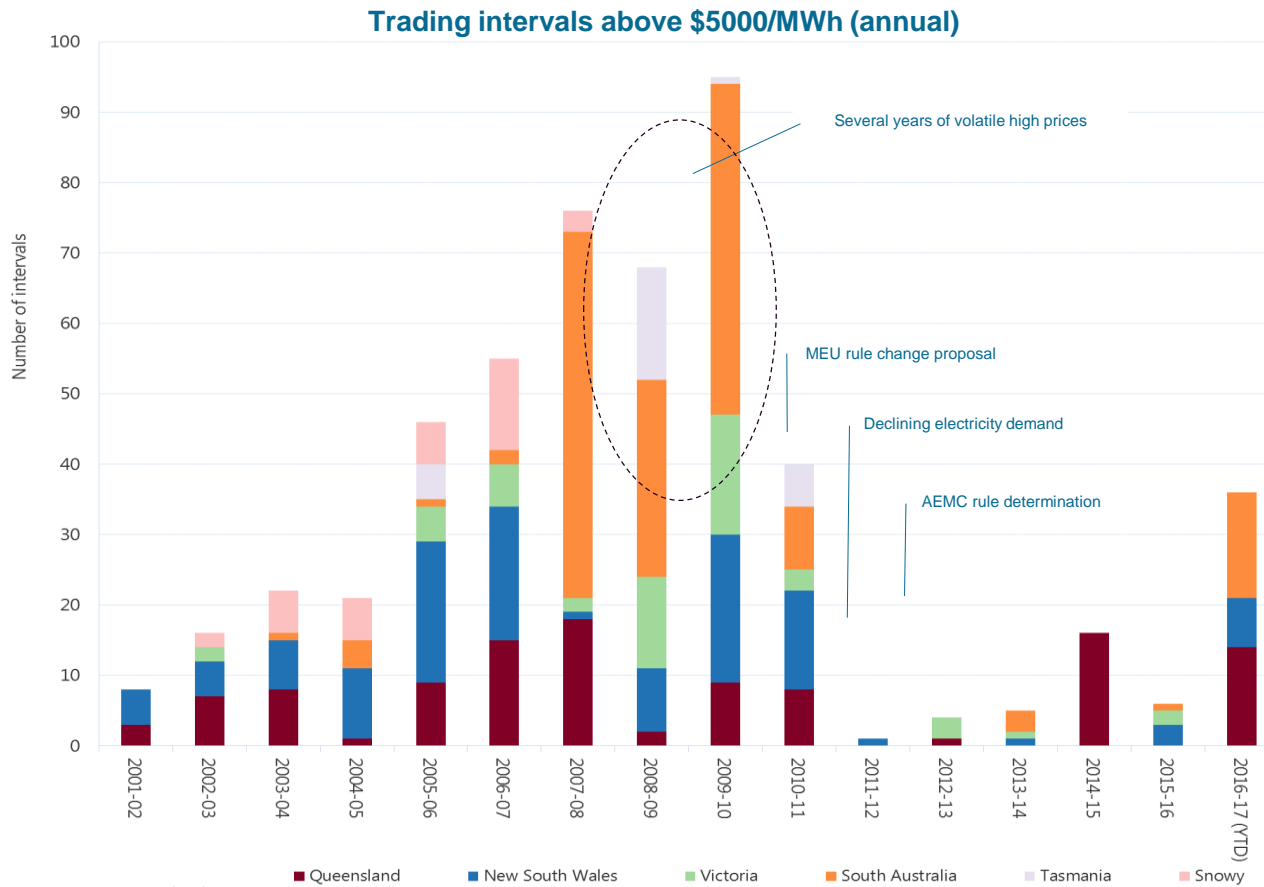
Wholesale electricity market legal framework

- National Electricity Market (NEM) - began December 1998
 - Many years of successful operation
 - Entry and exit has occurred
- Obligations set out in:
 - National Electricity Law
 - National Electricity Rules
 - Associated procedures

The spot market design

- Five regions with limited interconnection
- Energy only design plus 8 Ancillary service markets
- Gross pool
- Real time market only - 5 minute dispatch and settlement*
- Security constrained dispatched
- Marginal pricing
- High spot price risk
 - \$14 200/MWh cap
 - -\$1000/MWh floor
- Financial markets to hedge risk
- No market power mitigation provisions

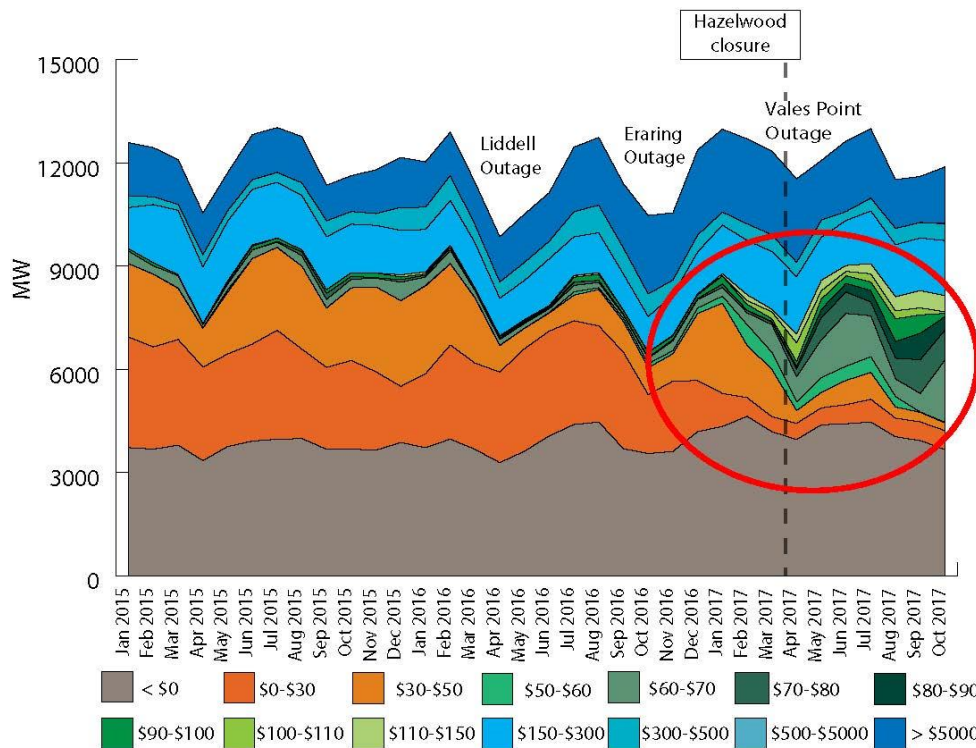
Volatile spot prices



Source: AER; AEMO, Last updated: 3 Apr 2017 - 10:51 am

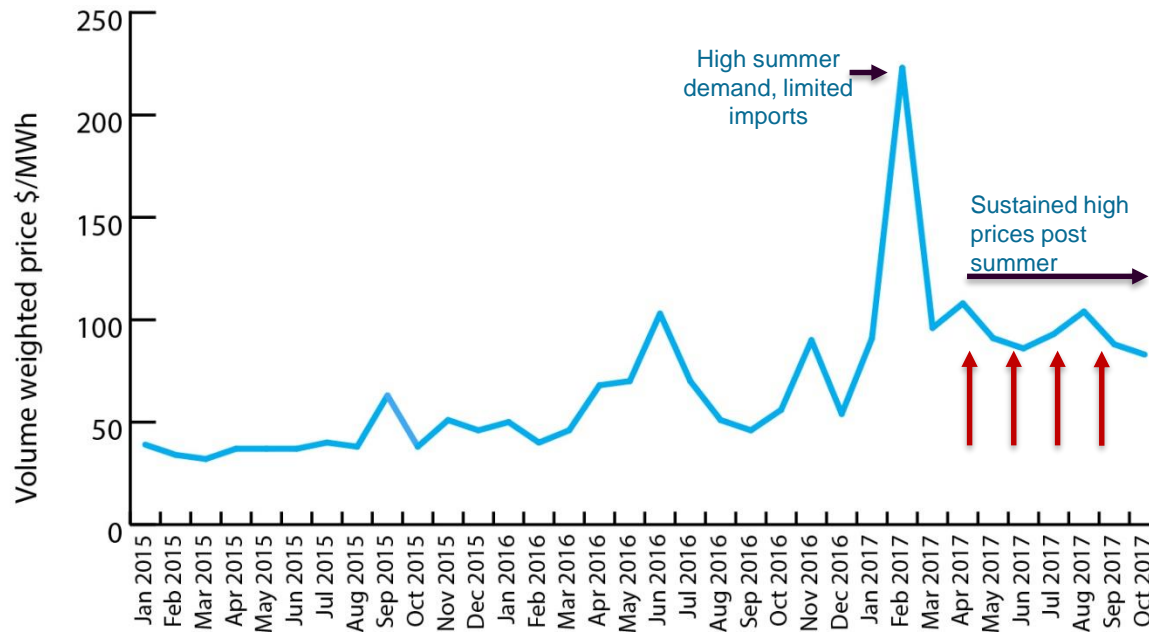
Analysis of generators' offers

Monthly average capacity offered by NSW generators, by price



Sustained high prices

Monthly volume weighted average prices NSW



Promoting competition in the wholesale sector

- Monitoring and reporting on effective competition in wholesale.
 - Is there effective competition in the market?
 - Are there features of the market that may be detrimental to effective competition within the market?
 - Are there features of the market that may be impacting detrimentally on the efficient functioning of the market (and if so, assess the extent of the inefficiency)?
- Adequate enforcement powers and penalties are necessary:
 - proportionate to the offence
 - acts as a deterrent
 - provides certainty that the policy objectives are to be met.
- The ACCC and Energy Security Board have recommended that the AER needs the powers to address market manipulation.

Networks

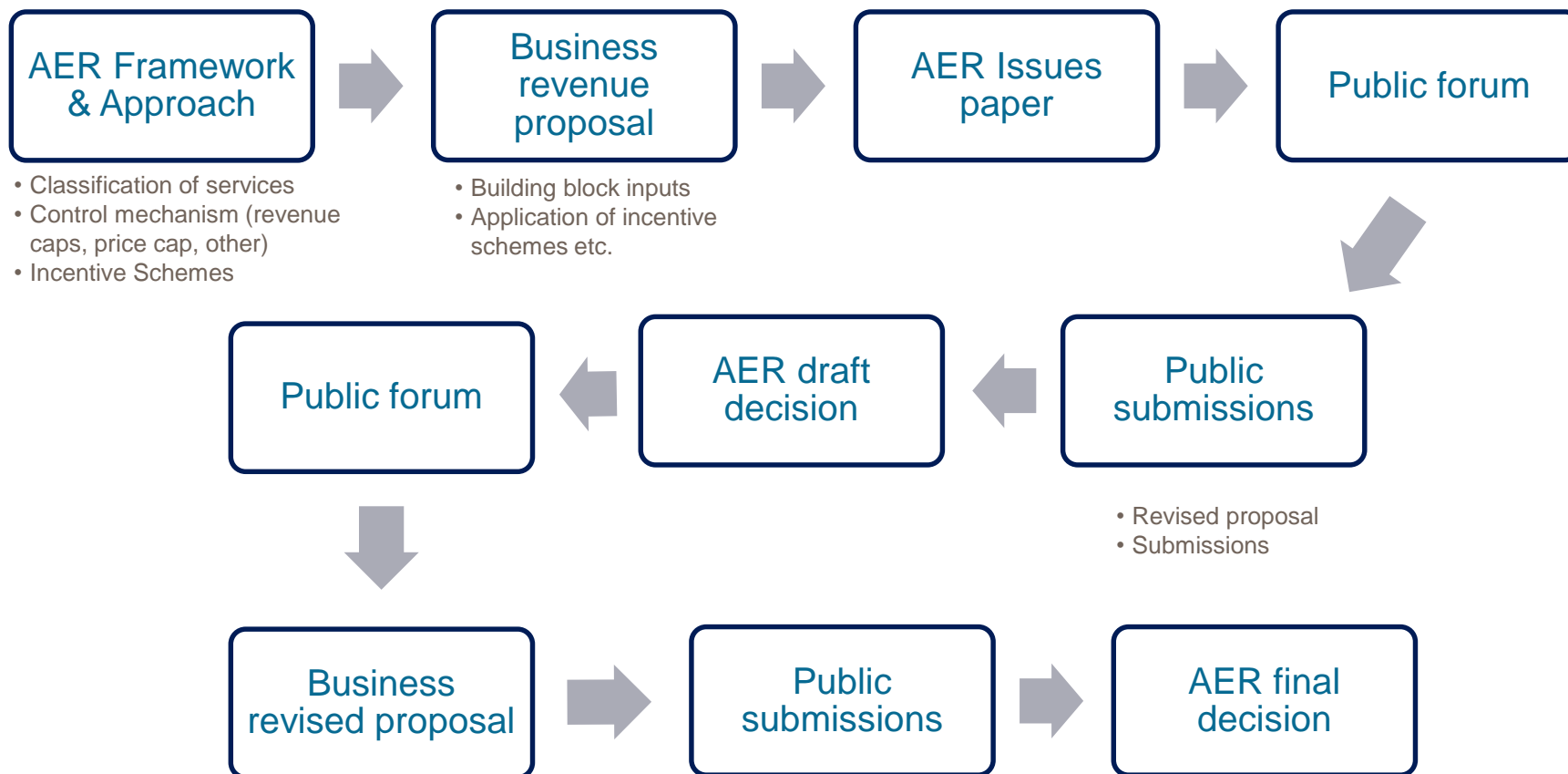
AER role in networks

AER has two broad energy network regulation roles:

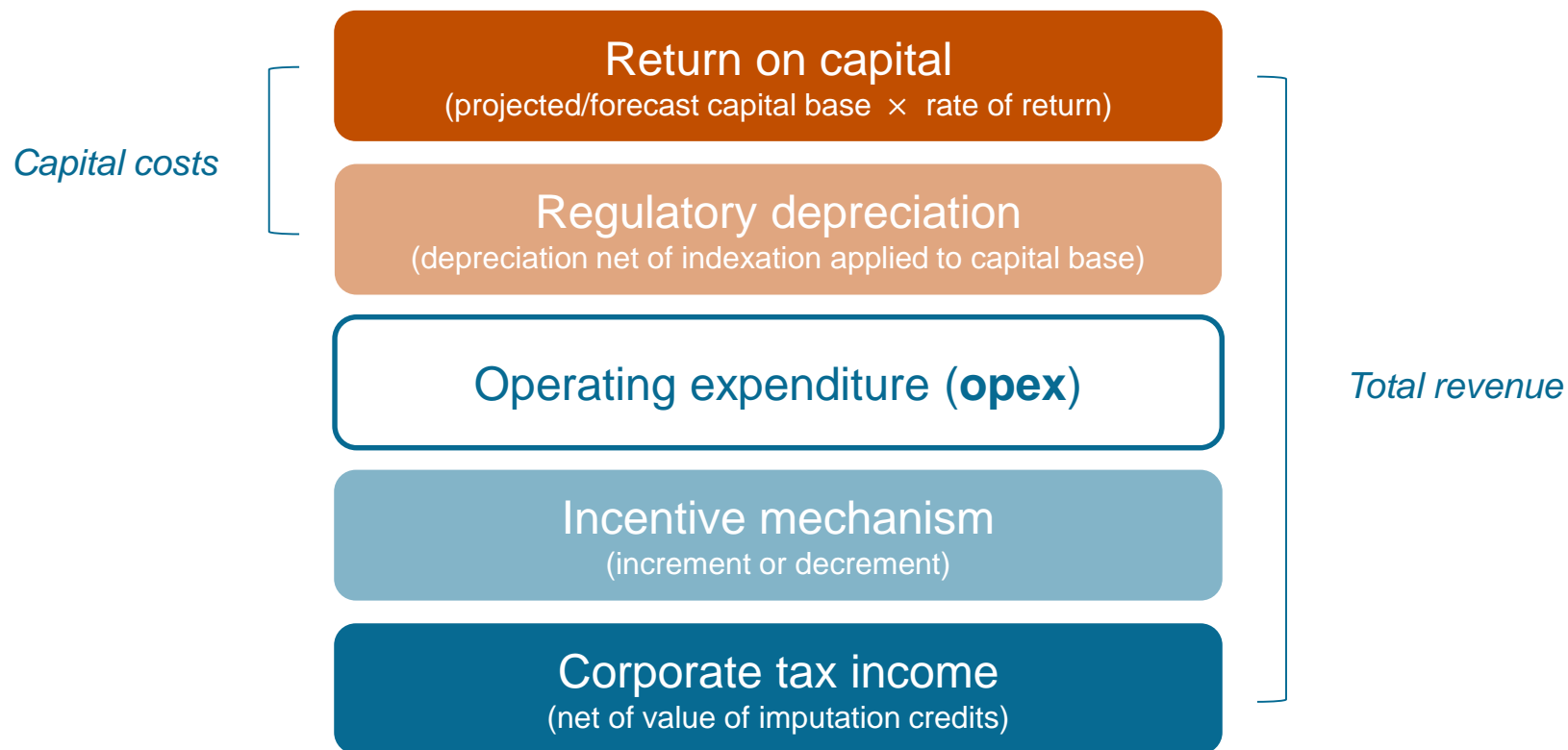
1. Approving the amount of revenue that transmission and distribution network businesses can recover from customers for using networks. This is done through the regulatory determination process
2. Networks pricing and oversight



The AER regulatory process



An incentives-based regime: the building blocks



The incentive arrangements

EBSS

- **Efficiency benefit sharing scheme** – provides for a fair sharing between network businesses and network users of opex efficiency gains and losses made during a regulatory control period

CESS

- **Capital expenditure sharing scheme** – allow for the benefits/costs of capex underspends/overspends to be shared between network businesses and their customers

DMIS

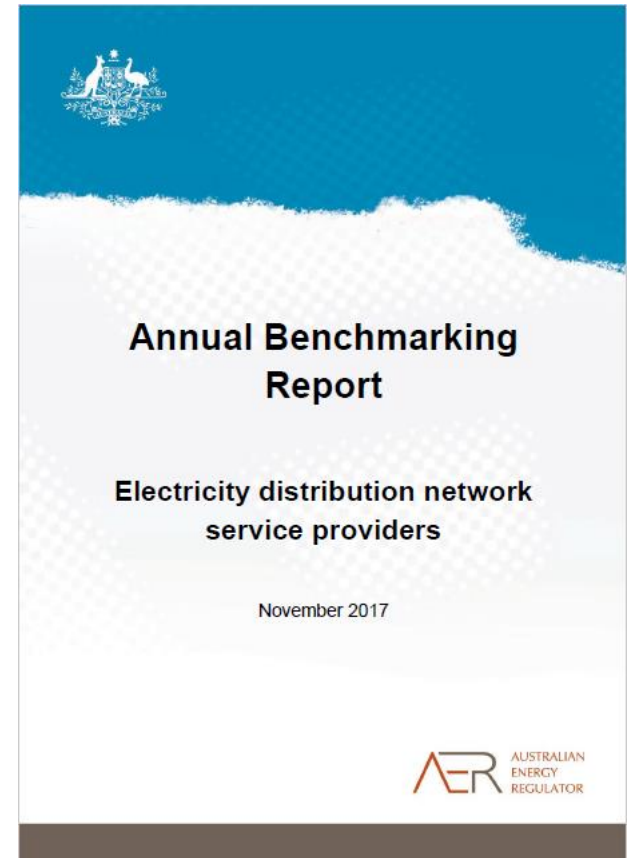
- **Demand management incentive scheme** – provide incentives for network businesses to implement efficient non-network alternatives and manage demand

STPIS

- **Service target performance incentive scheme** – provide incentives for network businesses to maintain and improve service performance

AER benchmarking

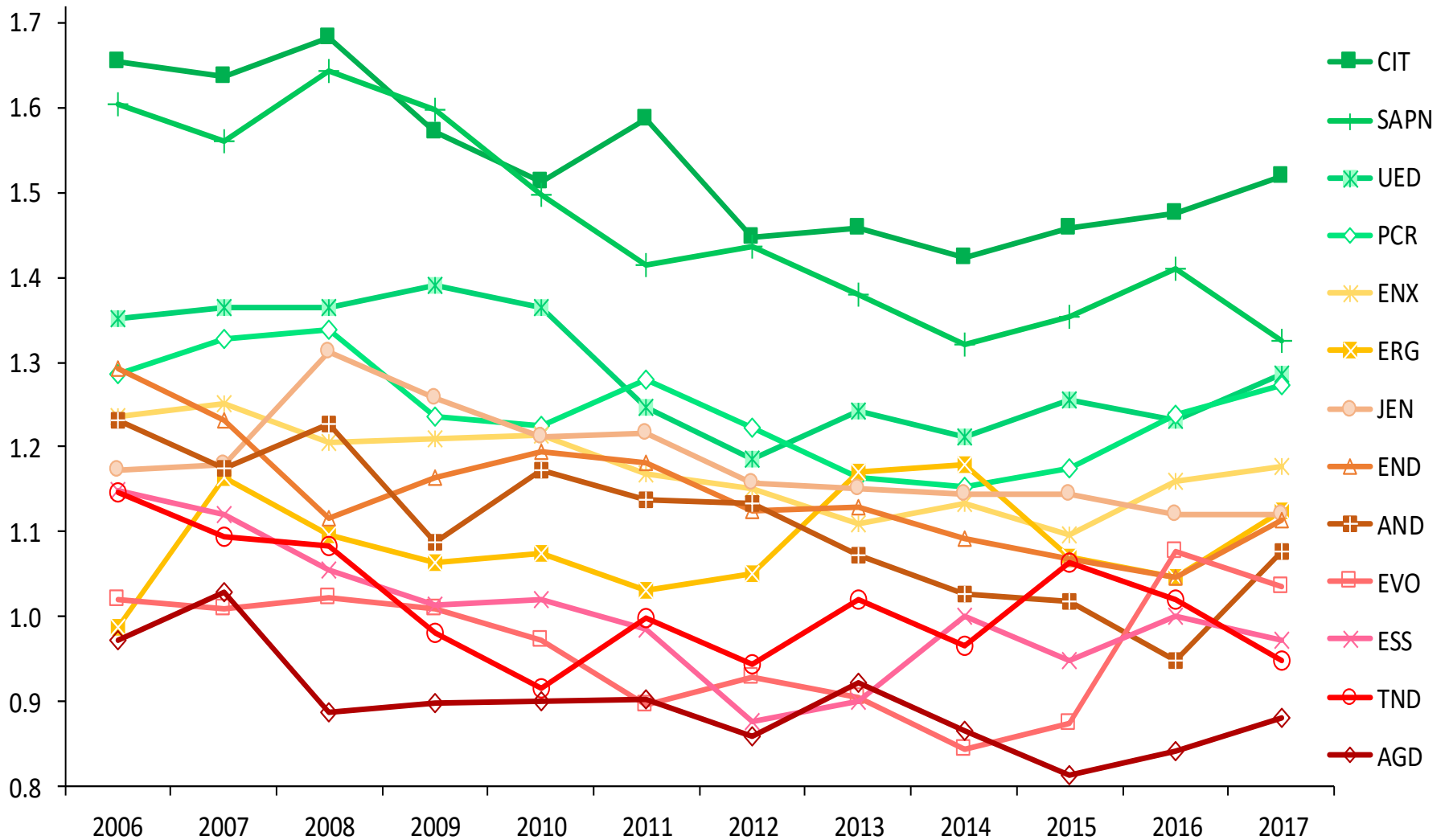
- Benchmarking compares current performance of a business to its own past performance and to the performance of other businesses
- The National Electricity Rules require the AER to:
 - have regard to network benchmarking results when assessing and amending network capex and opex expenditures, and
 - to publish the benchmarking results in an annual benchmarking report.



Benchmarking reports

- The AER's annual benchmarking reports presents results from three types of 'top-down' benchmarking techniques:
 - Productivity index number models (PIN), such as total factor productivity
 - Econometric opex cost function models
 - Partial performance indicators (PPIs).
- The AER has published five benchmarking reports. The most recent report was published on 30 November 2018.
- Published reports are available at: <https://www.aer.gov.au/networks-pipelines/network-performance/annual-benchmarking-report-distribution-and-transmission-2018>

Past results: multilateral total factor productivity

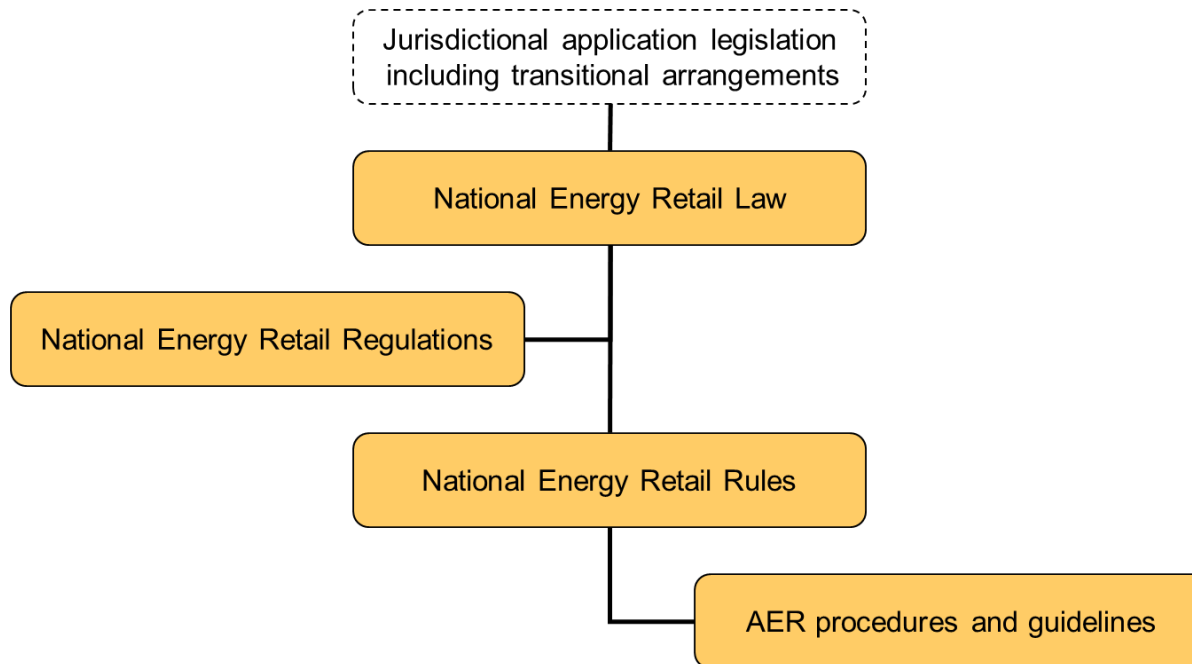


Consumer Challenge Panel

- The CCP is an advisory board to help us make better regulatory determinations by providing input on issues of importance to consumers
- CCP objectives:
 - Ensuring proposals are in consumers' long term interests
 - Advise us on the effectiveness of networks' engagement activities with customers and how this is reflected in the development of their proposals
- Sub-panels of 3 to 4 members work on each regulatory determination (generally a cluster of businesses that are jurisdiction based). Members are allocated based on their expertise and conflicts of interest.

Retail

Retail market legal framework



Retail Markets performance/affordability data

The AER publishes data reported by retailers under the *AER (Retail) Performance Reporting Procedures & Guidelines*

What do we collect? Each quarter:

- Retail market data
- Market activities data
- Hardship program data

Who provides data?

41 retailers (54 reporting entities)

5 jurisdictions – NSW, ACT, QLD, SA, TAS

3 retailers control about 85% of the retail market

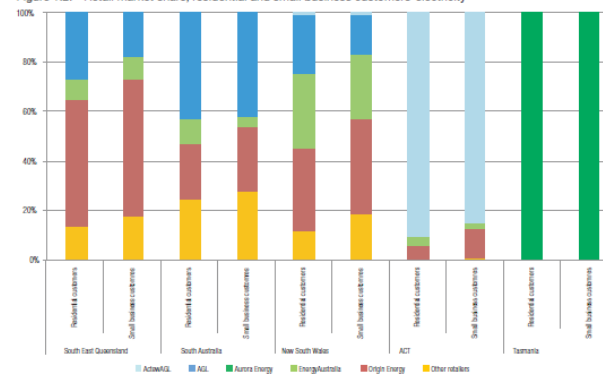
105 unique data sets

Energy offers:

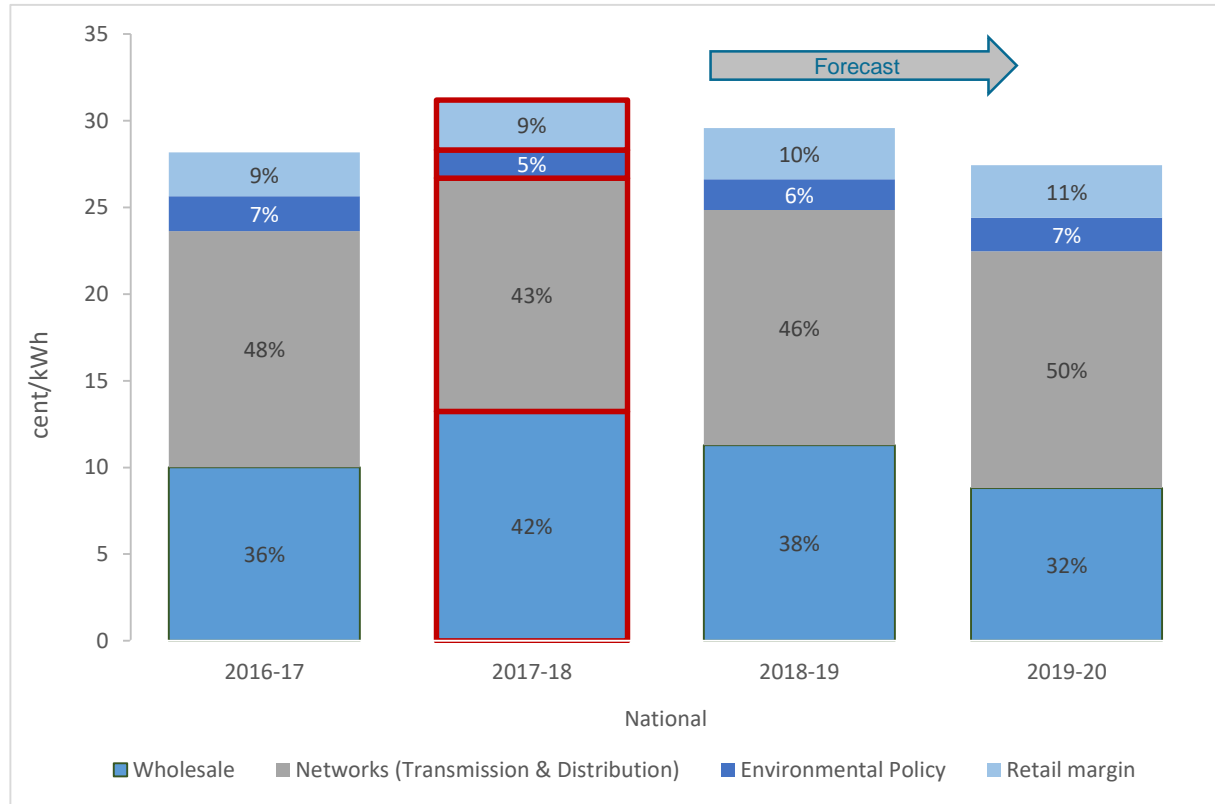
energymadeeasy.gov.au



Figure 1.2: Retail market share, residential and small business customers-electricity

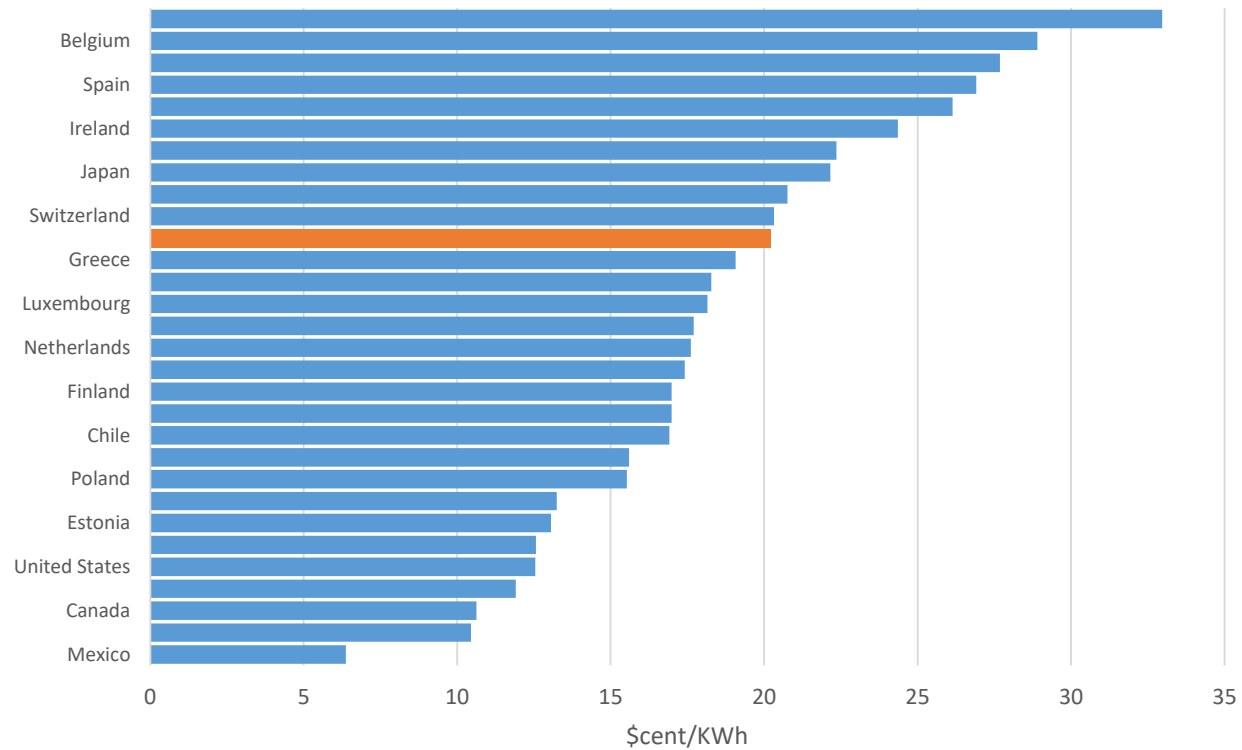


Residential Electricity Bills and Composition – NEM Average



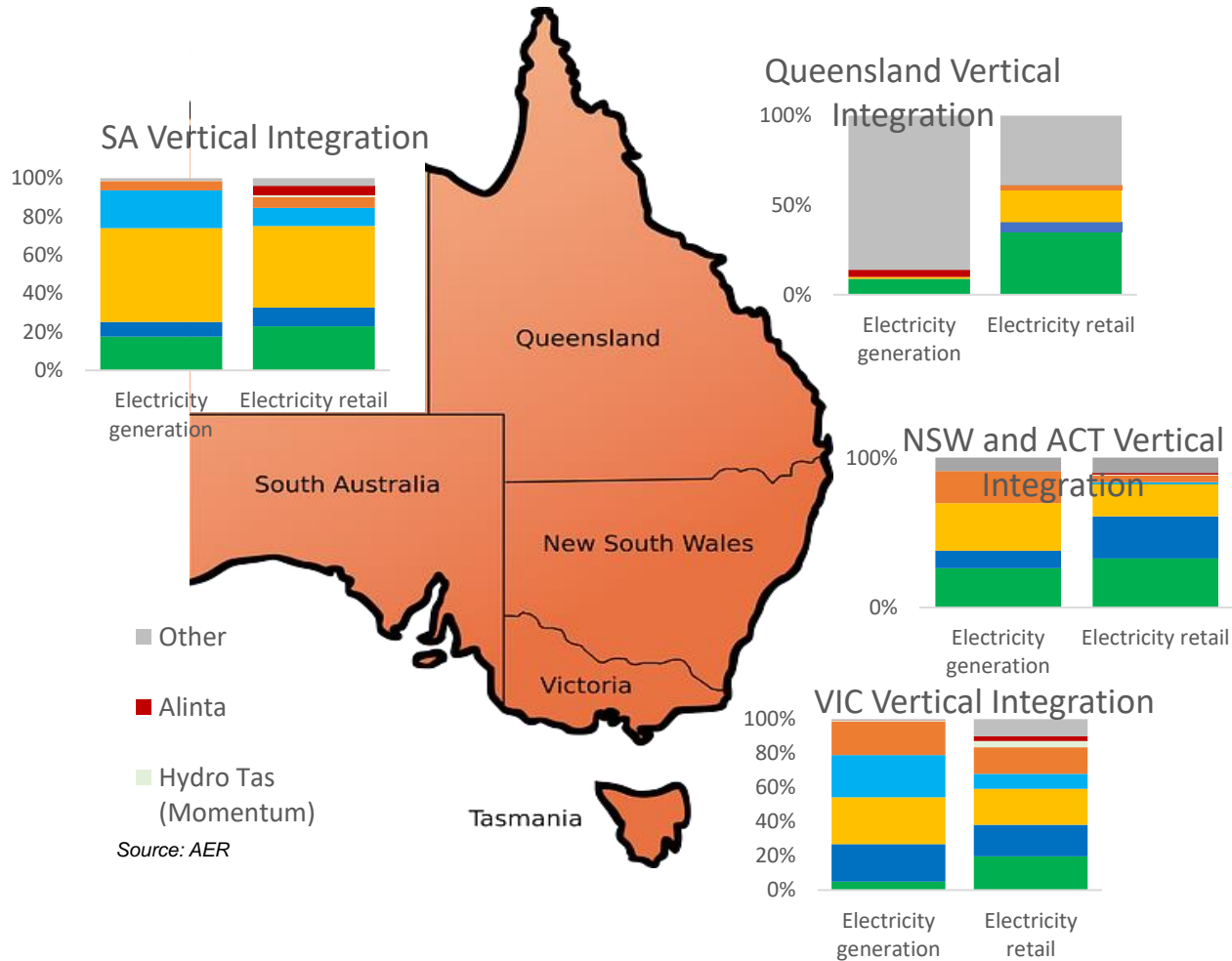
Source: AEMC, 2017

Residential Electricity Prices (PPP USD)



Source: IEA, 2017

Vertical Integration of Generation and Retailing

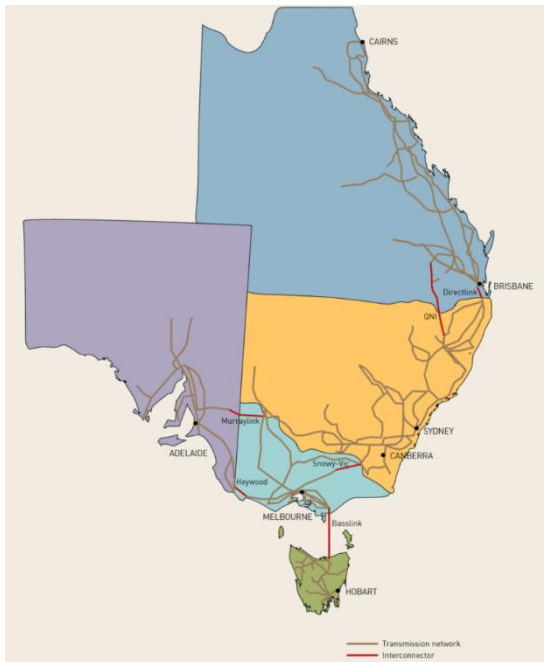


Promoting competition in the retail sector

- Consumers need to be equipped with the tools and information to engage confidently with the market. We're helping enable this through measures including:
 - Energy Made Easy website
 - Retail Pricing Information Guidelines.
- Robust consumer protections are critical, for example:
 - hardship requirements
 - explicit informed consent provisions.
- Adequate enforcement powers and penalties are necessary:
 - proportionate to the offence
 - effective deterrents.
 - provide certainty that the policy objectives are to be met.
- The ACCC has made recommendations for further improvements, including:
 - a default offer price
 - publishing a reference bill amount (and discounts anchored to this)
 - advancing consumer data right in energy
 - better support for vulnerable consumers.

Competition in the Eastern Australian wholesale electricity market

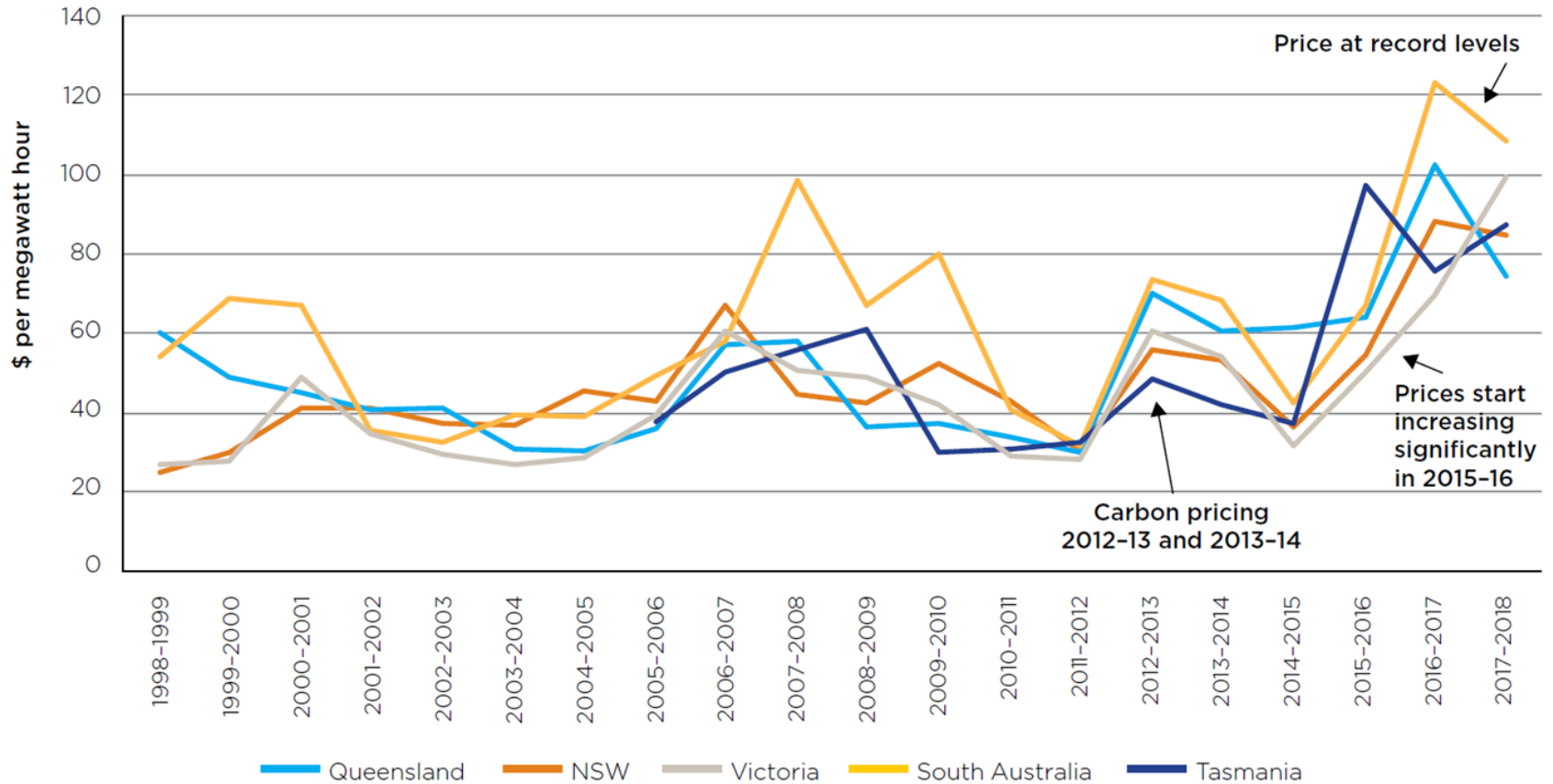
Australia's Eastern Electricity Market



- almost 10 million customers
- one of the world's longest AC interconnected systems
 - 4500 km over 5 regions
- electricity sector
 - 220 scheduled/semi generators over 30 MW
 - 5 transmission networks
 - 6 interconnector businesses
 - 13 distribution networks

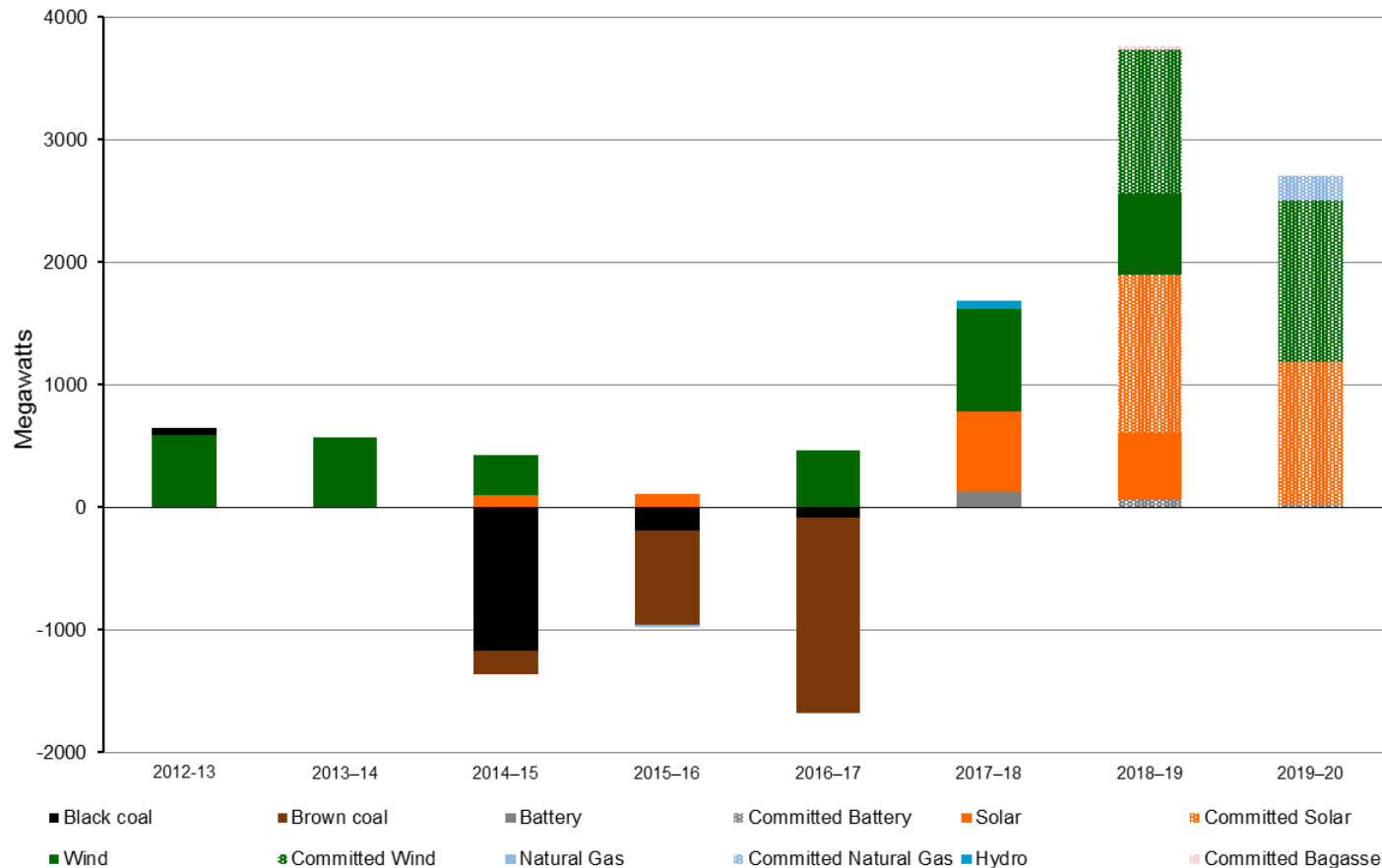
Prices at Record Levels

Yearly volume weighted average prices

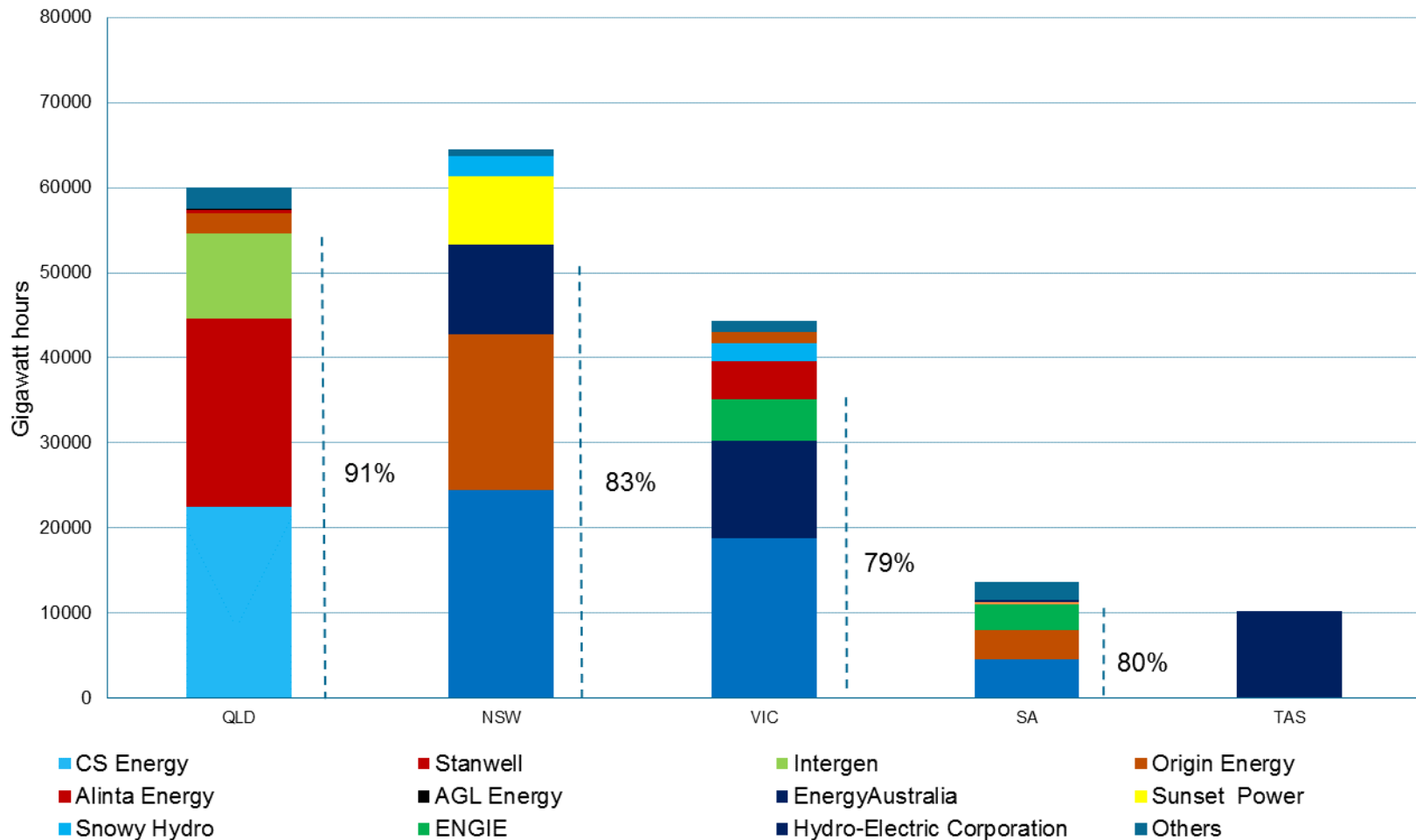


The supply demand balance has tightened

Additional and withdrawn capacity in the NEM



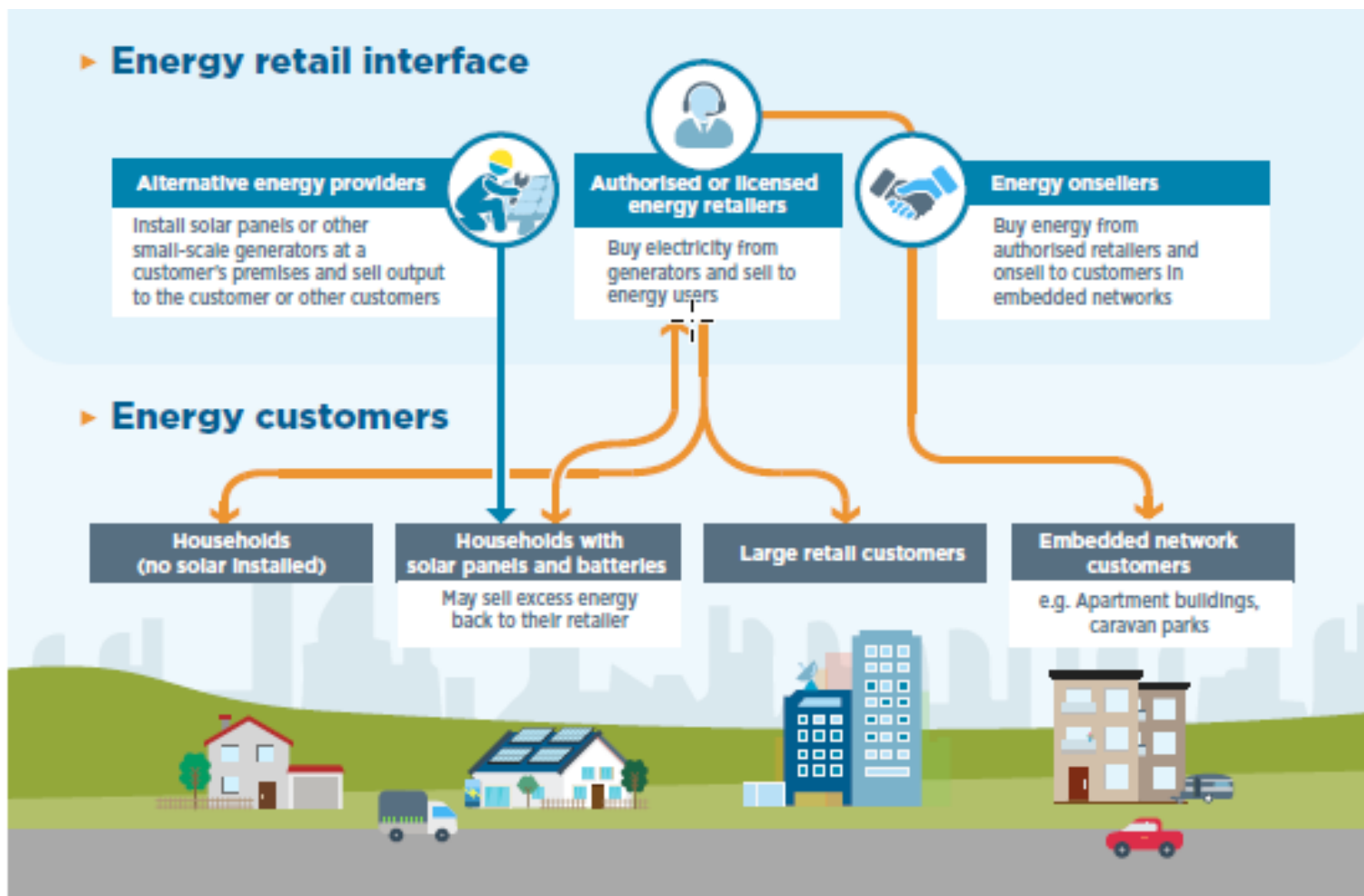
The wholesale market is concentrated



Source: Australian Competition and Consumer Commission

Evolving with the market

An evolving market



Key electricity reforms

- Implementing recommendations from the Australian Competition and Consumer Commission's Retail Electricity Pricing Inquiry.
 - The Australian Energy Regulator has commenced work on a default market offer (DMO) price and reference bill.
- Retailer reliability obligation.
- Coordination of Generation and Transmission Investment and Integrated System Plan
- Value of Customer Reliability (VCR)
- New Reg



More collaborative and consumer-centric

- While maintaining the fundamental principles, we are evolving the way we regulate:
 - Working more collaboratively and engaging with energy businesses earlier in the process.
 - Putting consumers at the heart of decision making.
 - Identifying key points of disagreement early and working together to resolve them.
 - Our *New Reg* project (with Energy Consumers Australia and Energy Networks Australia) seeks to achieve the above.



Conclusions

- As the market evolves and we work through recommendations of various reviews, we do not lose sight of:
 - importance of competitive pressure in bringing out good economic performance
 - long term interest of consumers being at the heart of decision making
 - importance of an effective and empowered regulator.

Thank you – any questions?

