



AER role and new challenges

CAREC delegation

21 November 2016

AER role and new challenges

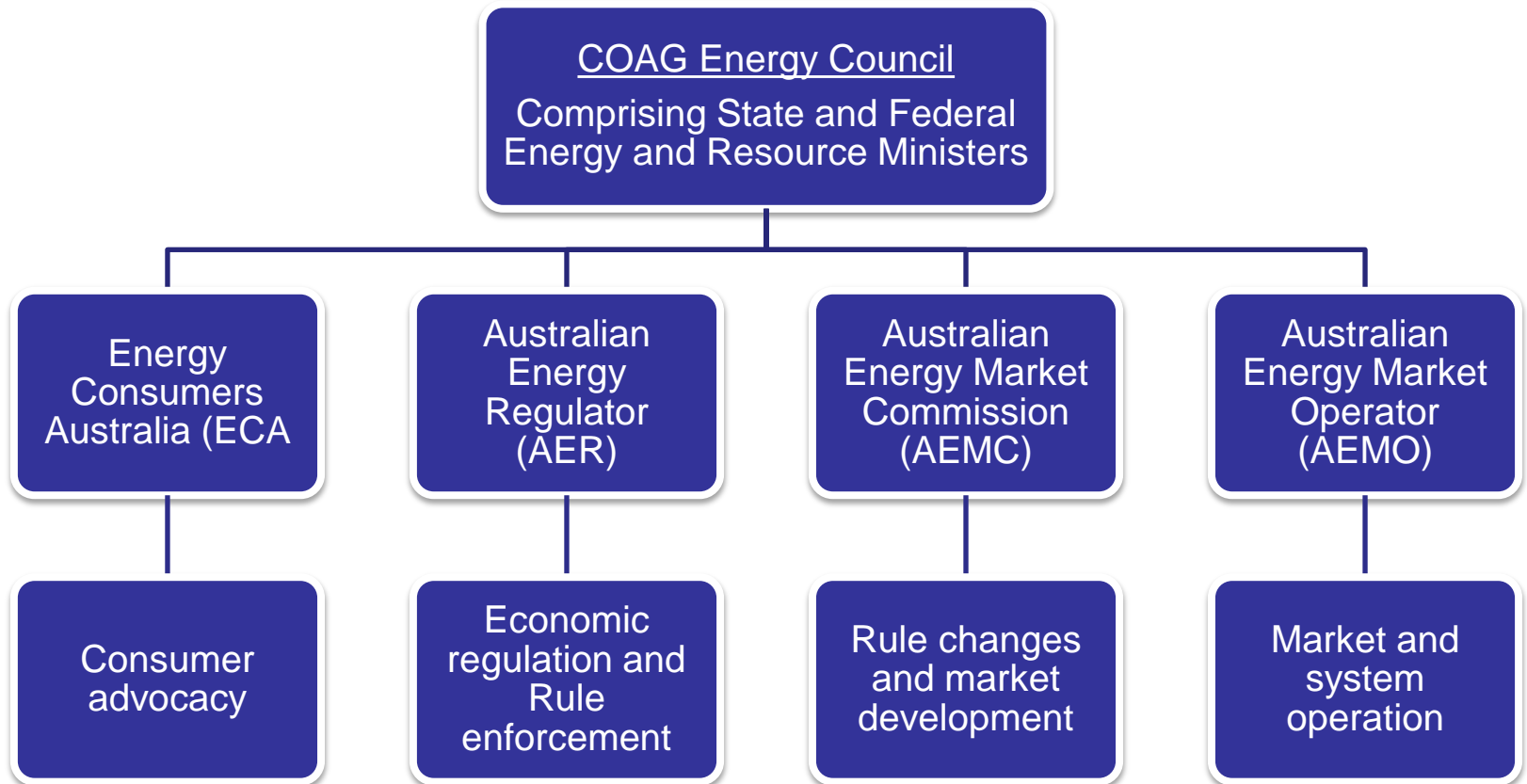
- General discussion on the different regulatory agencies and their role
- The AER's role
- The impact of new technology on regulation

Australia – a snapshot

- Australia's total size is 7,692,024 square kilometres
- Australia's population is ~24.2 million
- National electricity peak demand 35,800 MW
- Installed generation 43,800 MW

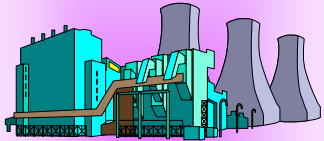


National Electricity Market Regulatory Bodies



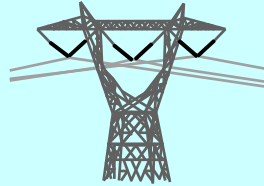
Overview of AER's roles in energy

**Wholesale gas
& electricity
markets**



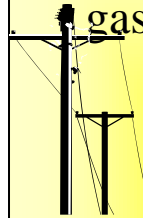
Monitor wholesale
markets and
enforce rules

**Transmission
networks &
pipelines**



Regulate
revenues of
transmission
businesses

**Distribution
Networks for
gas/electricity**



Regulate
revenues of
distribution
businesses

**Retail
& other
distribution**



Regulate non-price
retail activities
(currently in ACT
TAS, SA, NSW and
QLD)

ACCC and AER

Australian Competition and Consumer Commission

- Enforcement of anti trust and consumer law (Competition and Consumer Act)

Australian Energy Regulator

- Monitoring compliance and enforcement of electricity laws, rules and regulations
- Monitoring compliance and enforcement of energy retail law, rules and regulations

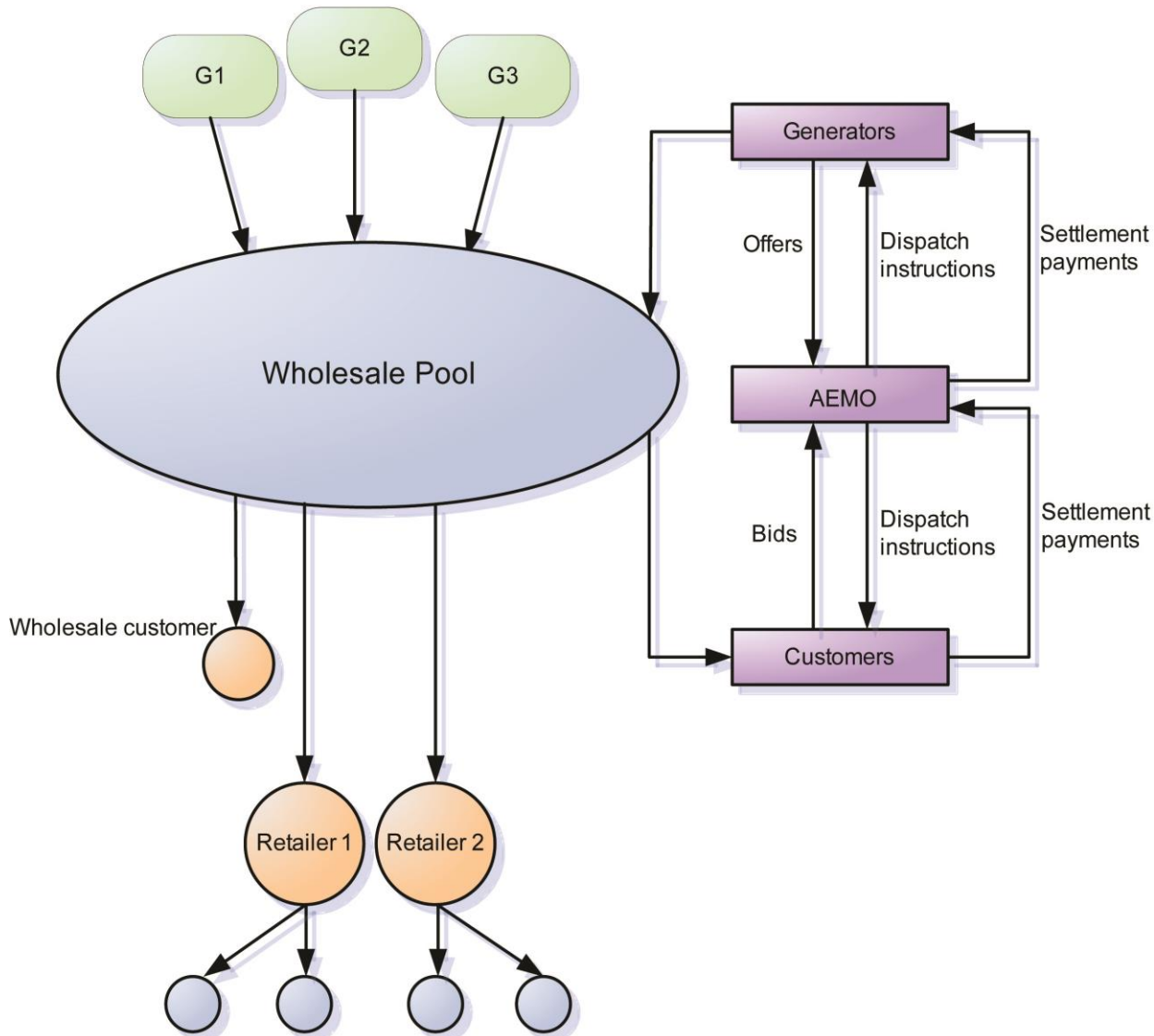
- Power stations:
- Coal
 - Gas
 - Hydro
 - Diesel/fuel oil/multi-fuel
 - Wind
 - Biomass/bagasse
 - Transmission network

- Power station size:
- > 1000 MW
 - ▲ 500–1000 MW
 - < 500 MW

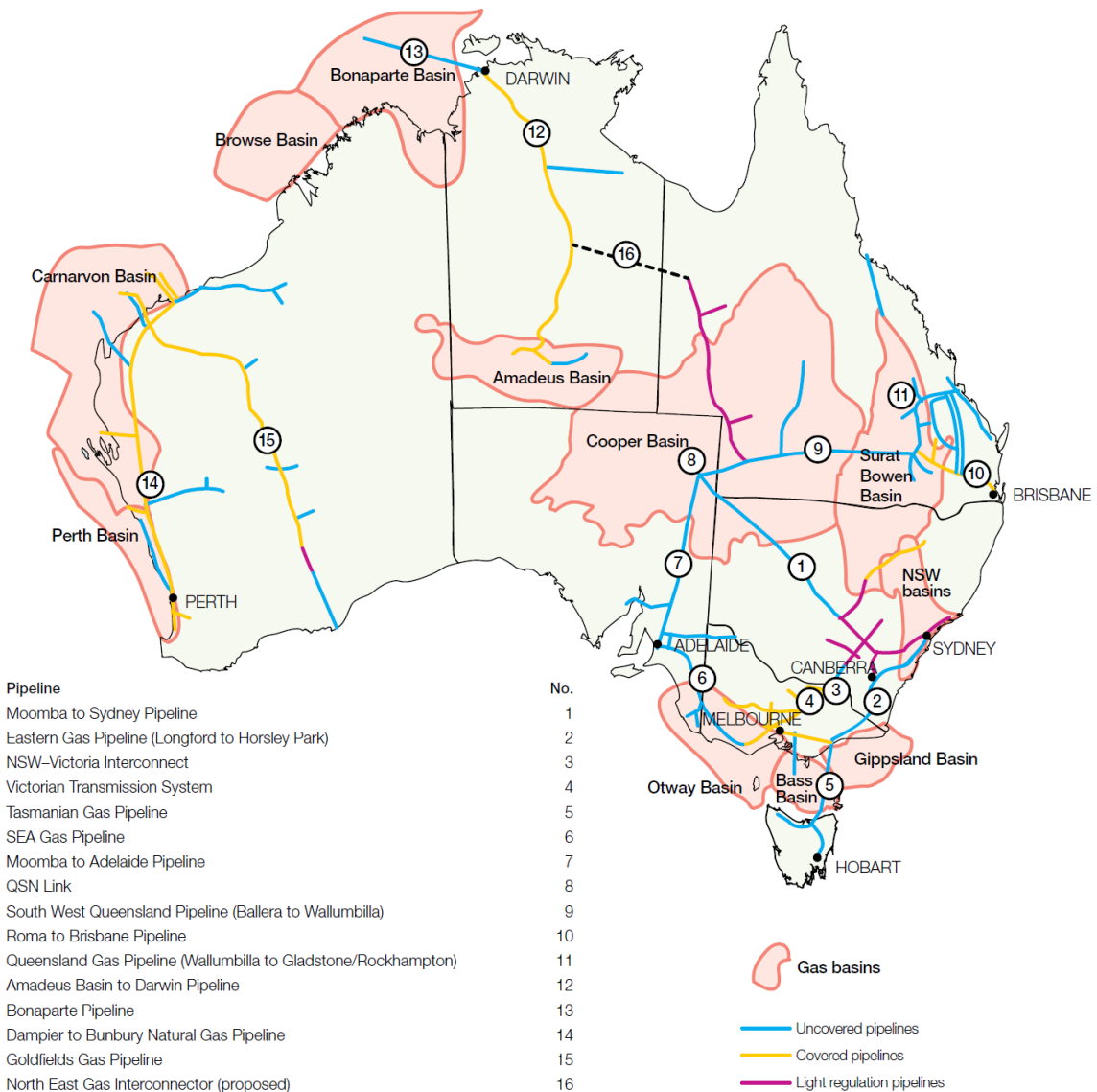


National Electricity Market

Electricity market arrangements



Upstream gas supply



Gas market arrangements

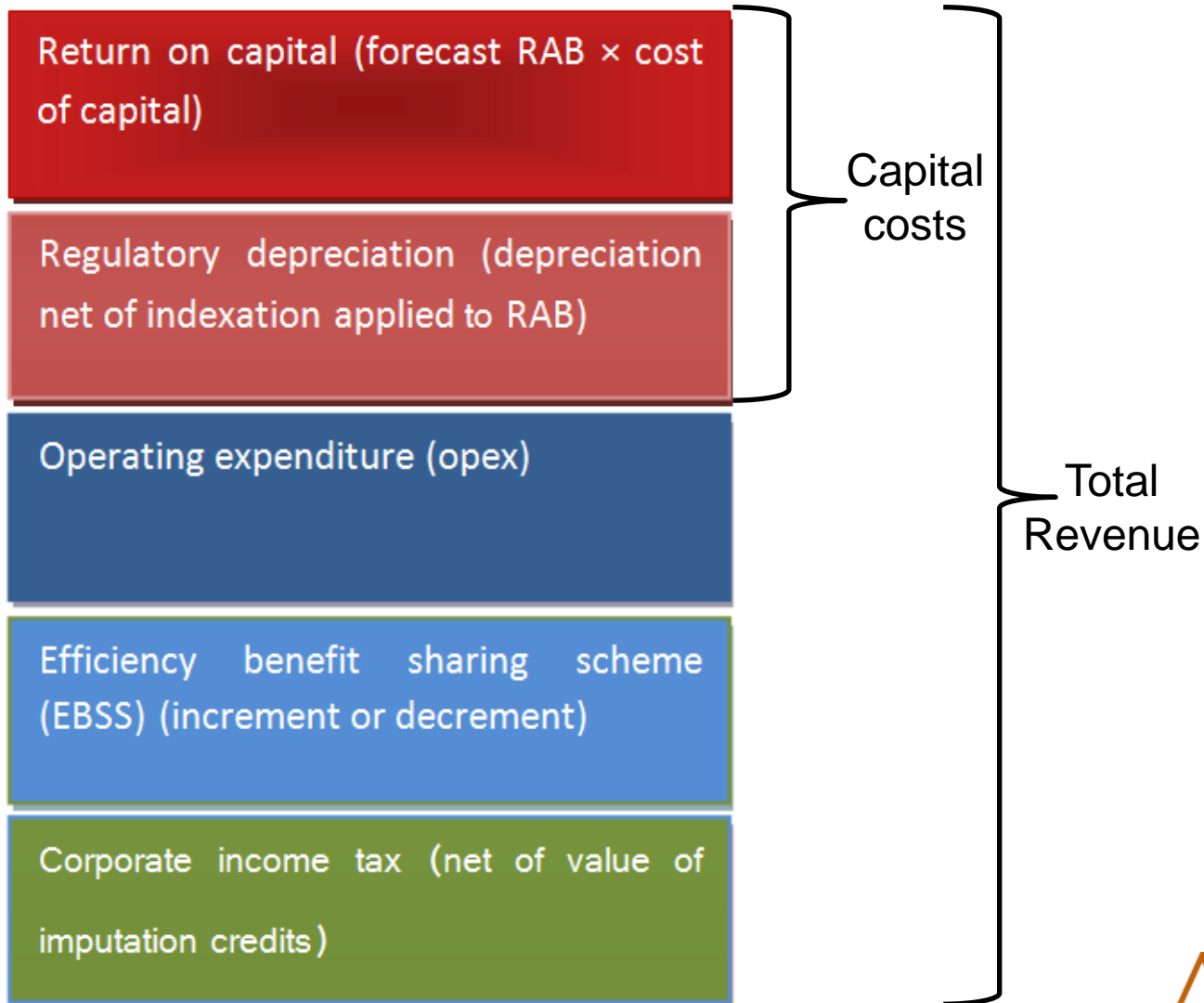
- Historically long term contracts, but duration is getting shorter
- Victoria introduced spot market in 1999
- New spot markets hubs in Sydney (2010), Adelaide (2010) and Brisbane (2011)
- Net markets – used for balancing
- Wallumbilla hub commenced March 2014
- Moomba hub to commenced in July 2016

Networks

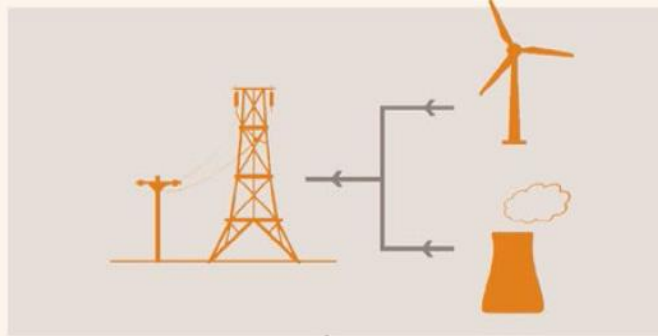
- Network businesses are natural monopolies
- AER sets maximum revenues that businesses are able to recover from consumers



The regulatory building blocks



Retail

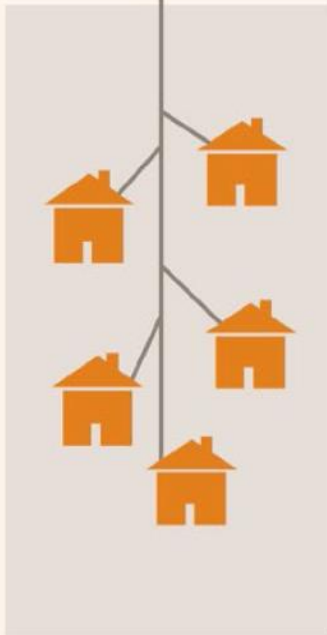
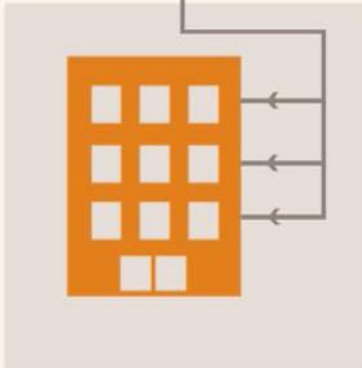


Retailers—buy energy from the wholesale market and sell it to end-users or onsellers.

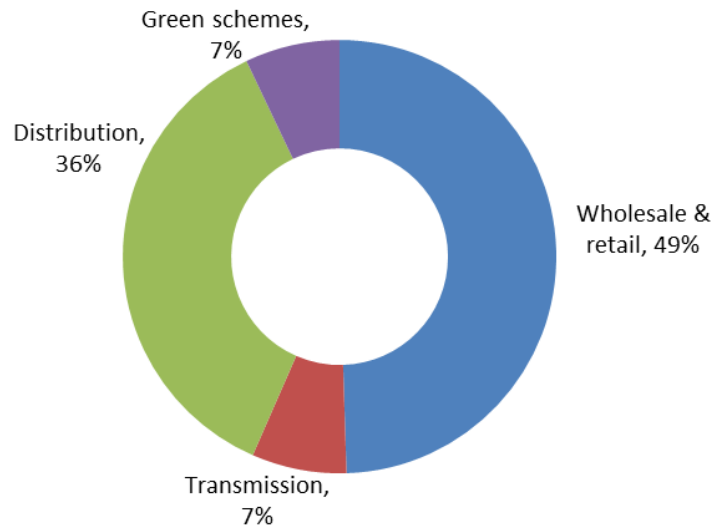
Onsellers—buy energy from retailers and sell it to customers in embedded networks.

Excess energy from customers' generation systems is purchased by their retailer.

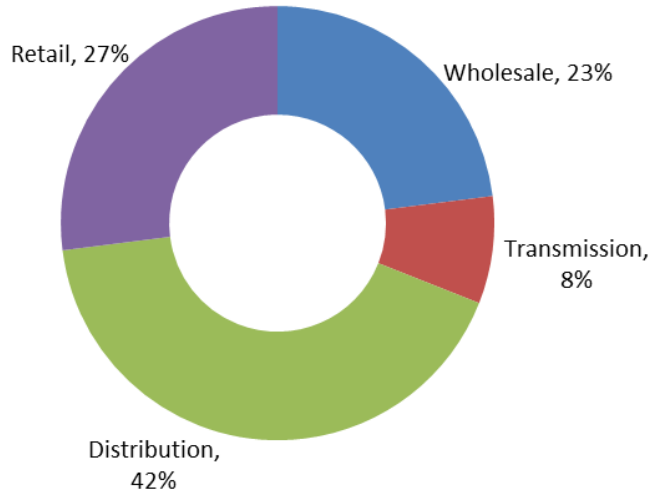
Power purchase agreement providers—install generation at a customer's premises and sell the generation output to the customer.



Composition of retail prices



Electricity



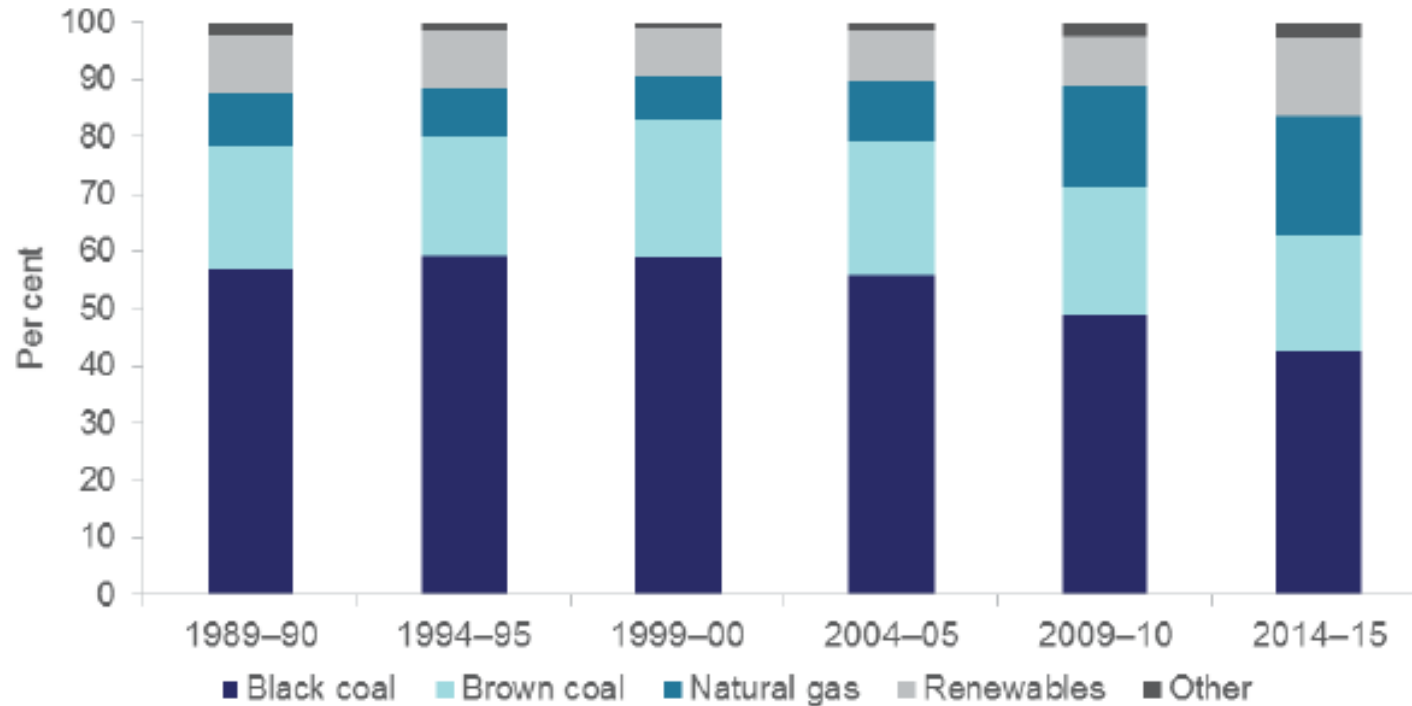
Gas

Energy Market innovation – what does it mean for regulation?



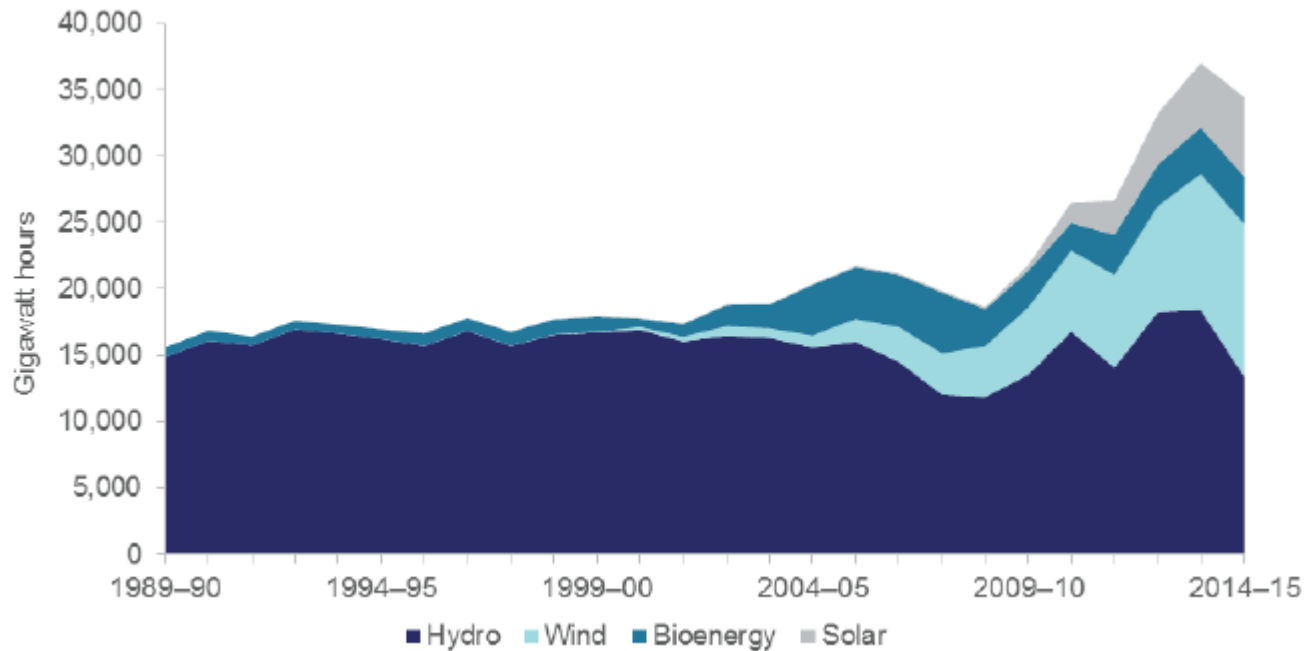
The City of Sydney is Australia's first carbon-neutral government. It has reduced emissions in its buildings and operations by 27 per cent on 2006 levels. Photo: Paul Patterson

Changing generation mix



Source: Australian Energy Update 2016, Department of Industry, Innovation and Science, Office of the Chief Economist, October 2016

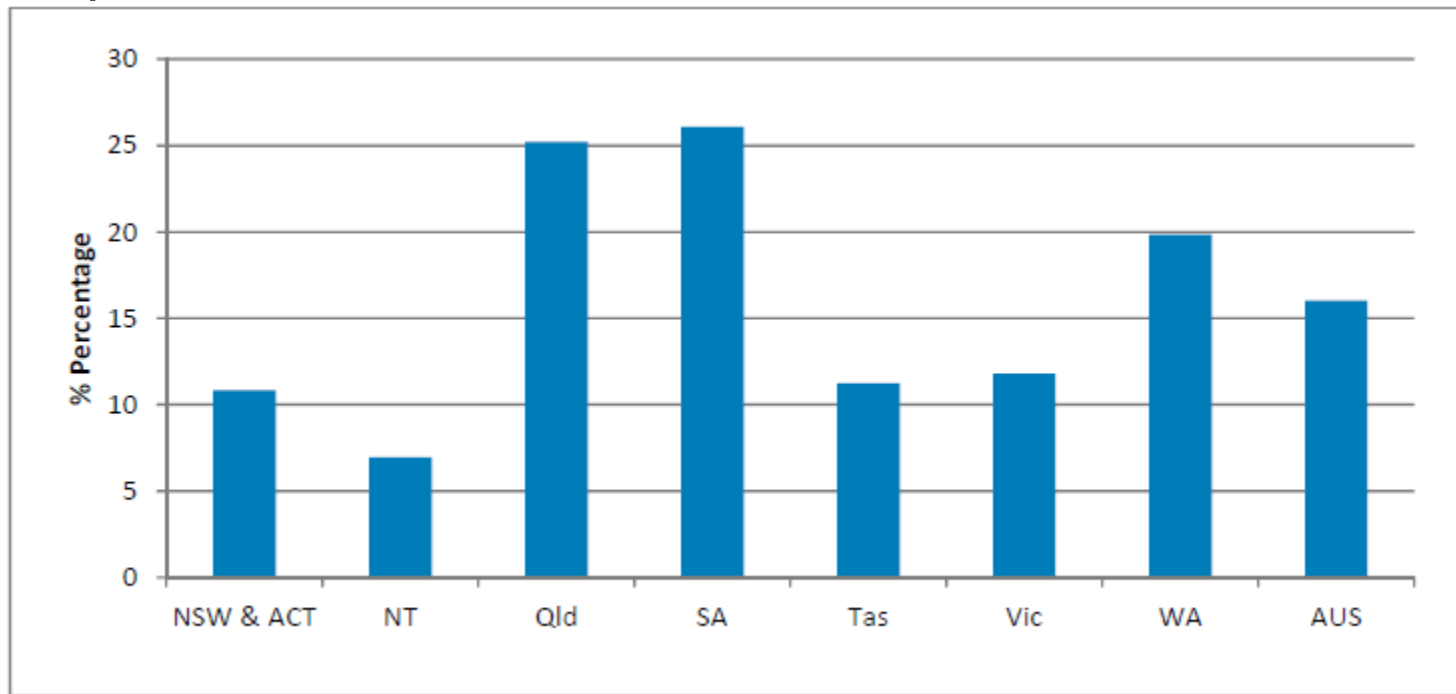
Generation from renewable sources



Source: Australian Energy Update 2016, Department of Industry, Innovation and Science, Office of the Chief Economist, October 2016

Rise of solar PV

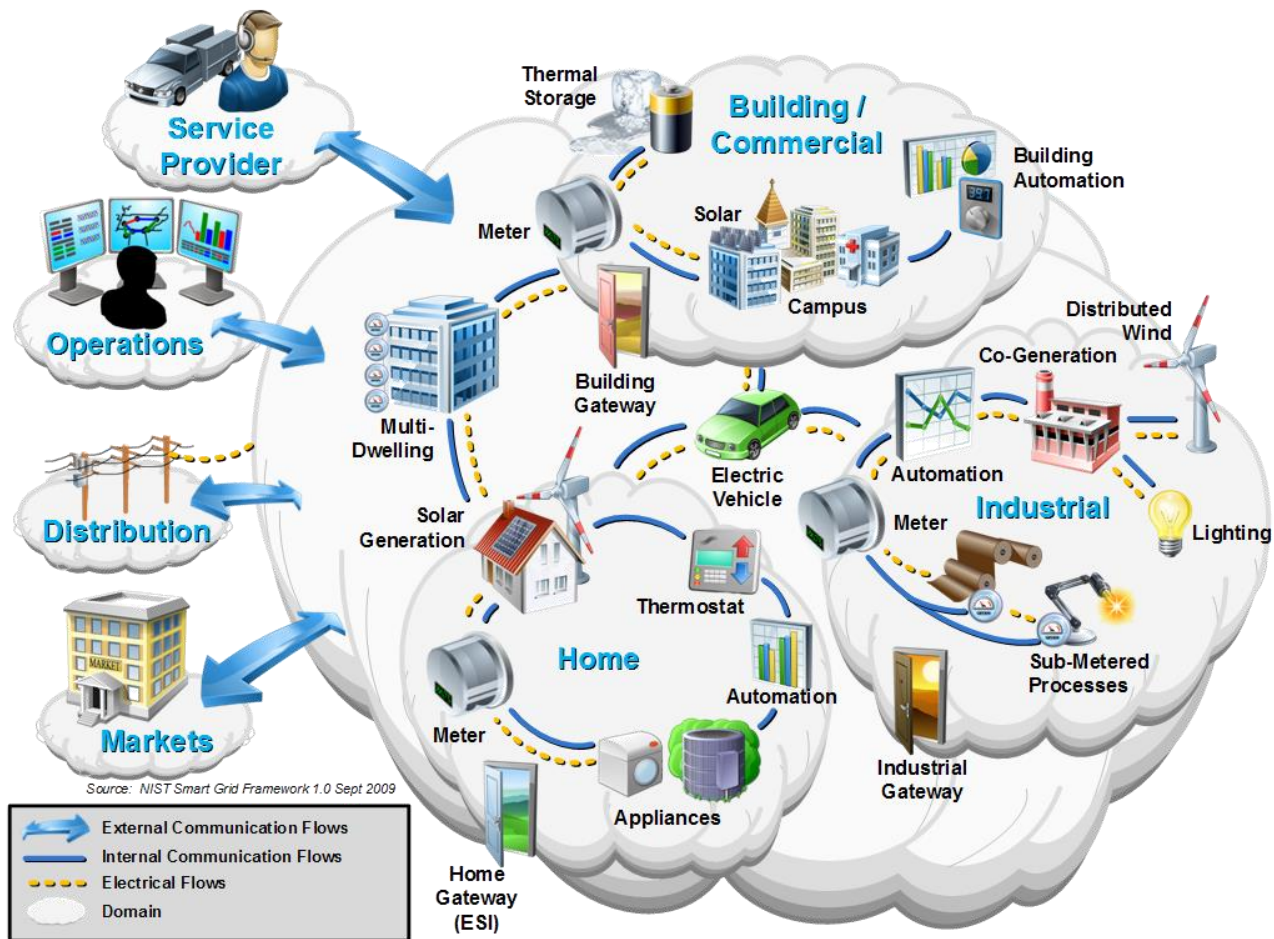
- Over 15% households have installed solar PV (over 1.5 million)



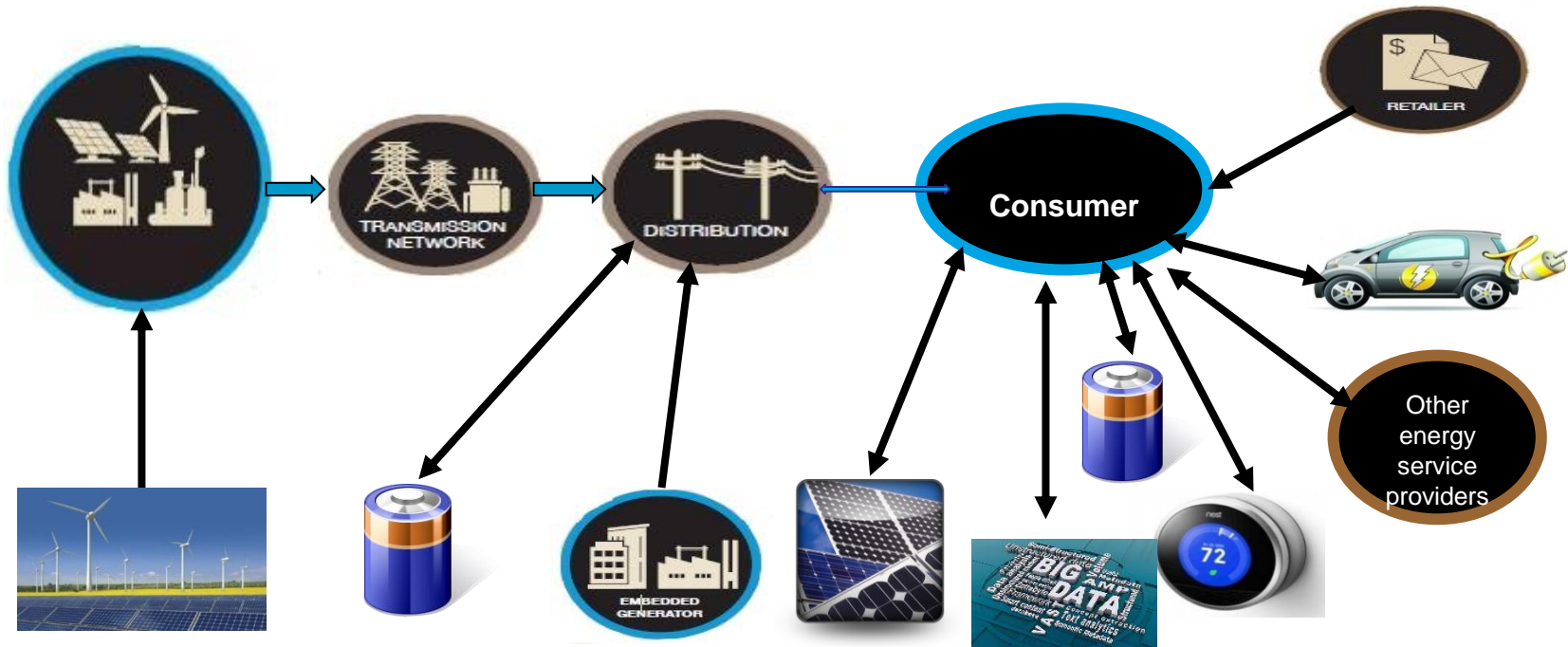
- Forecast to grow by 350% by 2035 (over 7 million)

Source: Australian Energy Market Operator, National electricity forecasting report: for the national electricity market, June 2016

Emerging customer services



New supply chain



AER role in evolving market

1. Competition where possible
2. Incentive regulation
3. Technology neutrality
4. Cost reflective pricing
5. Consumer protection

More information

Data: www.aer.gov.au (click on “industry information” then “industry statistics”).

Energy Made Easy price comparison website www.energymadeeasy.gov.au

Overview of market: *State of the Energy Market Report*