

# Demand side participation in the National Electricity Market

Australian Institute of Energy seminar, Sydney, 28 April 2014



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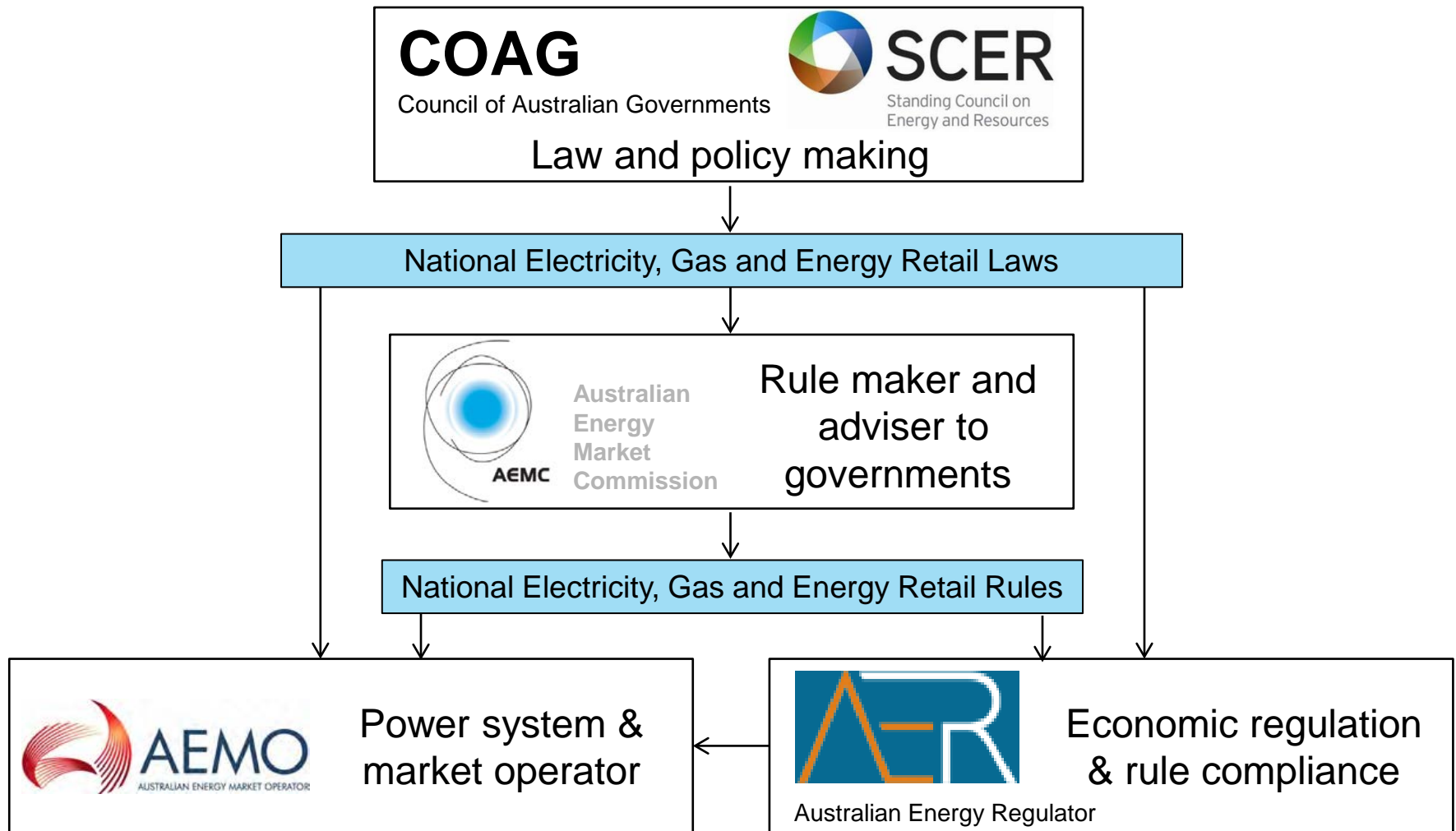
# THE AEMC

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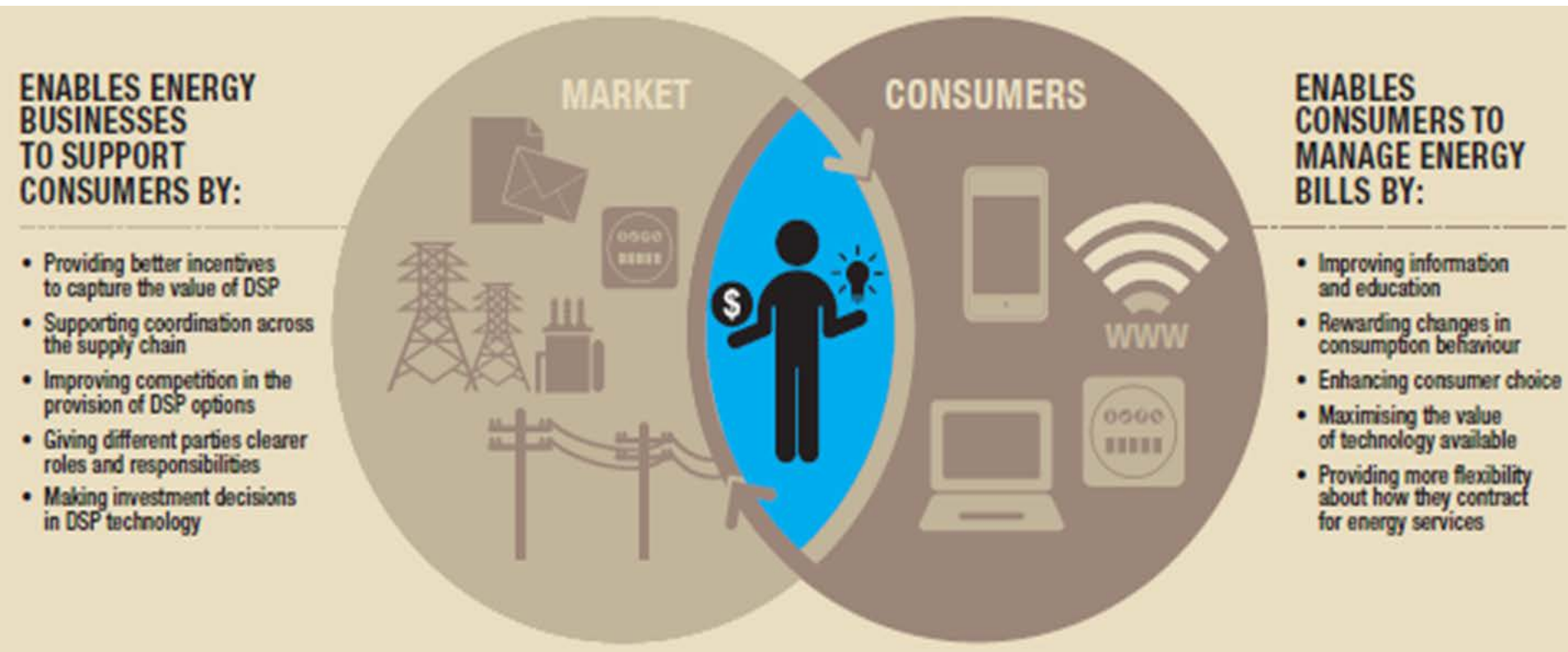
- Makes rules for national electricity, gas and retail markets
- Conducts independent reviews of specific energy market issues
- Provides advice to governments on energy issues
- Based in Sydney
- 3 Commissioners; approx. 65 staff



# REGULATION AND GOVERNANCE OF ENERGY MARKETS



# POWER OF CHOICE – INCREASING DEMAND SIDE PARTICIPATION



# POWER OF CHOICE – IMPLEMENTATION WORK PROGRAM

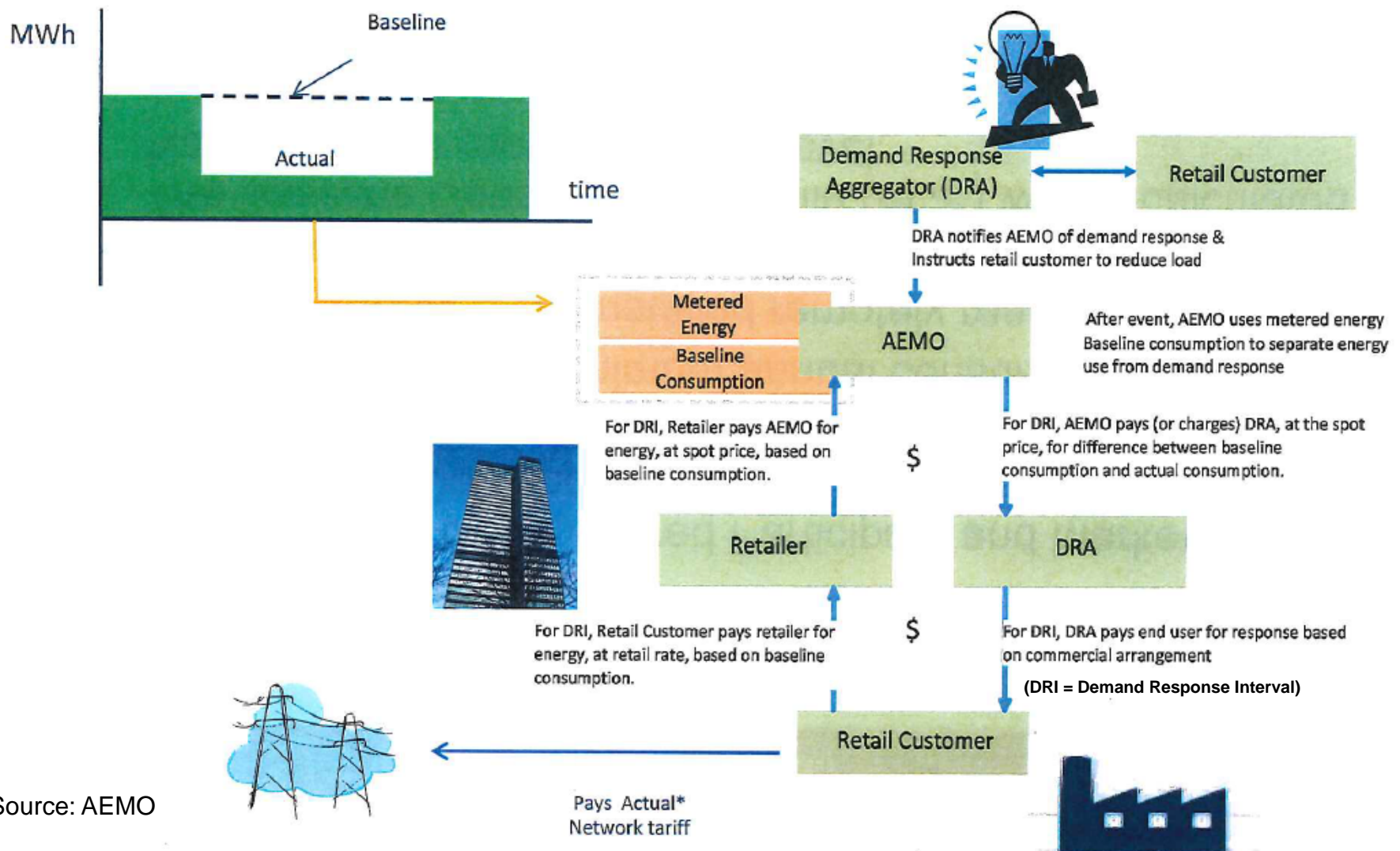
PoC Rule change requests	Status
Distribution network pricing – request from SCER and IPART	Initiated and underway. Expect to complete in November 2014
Expanding competition in metering and related services – request from SCER	Consultation paper published on 17 April 2014
Consumer access to their electricity consumption data – request from SCER	Request received. Expect to publish a consultation paper in May 2014
AEMO obtaining better demand side participation information – request from SCER	Request received. Expect to formally commence in second half of 2014
Reform of demand management embedded generation incentive scheme for networks – request from SCER	Request received. Expect to formally commence in second half of 2014
AEMC Reviews – emerging from PoC	Status
Advice on framework for open access and common communications standards	Published on 10 April 2014
Advice on retail switching timeframes	Published on 10 April 2014

# POWER OF CHOICE – RATIONALE FOR A DEMAND RESPONSE MECHANISM

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- Efficient markets are based on supply and demand being able to respond to price signals
- Customers have limited opportunity to react to spot prices
- Arrangements such as interruptible tariffs, spot pass-through and scheduled demand may be available
  - But these involve greater risk and transaction costs
- Unclear incentives on vertically integrated retailers to facilitate demand response, as generation assets act as a natural hedge
- Therefore, seek to unbundle demand response from retailing

# DEMAND RESPONSE MECHANISM – PROPOSED DESIGN





# DEMAND RESPONSE MECHANISM – CALCULATION OF BASELINES

Based on KEMA advice, AEMO developed the following baseline methods:

Name	Application	Method	Exclusions	Additive adjustment
10 of 10 method  (used in California)	Weekdays	Average of 10 most recent qualifying days for same trading interval over last 45 calendar days	Weekends, public holidays, demand response days	Average difference between actual and baseline of previous 3 hours ending 1 hour before DR interval
Mid 2 of 4 method  (similar to PJM method)	Weekends and public holidays	Average of 2 median days of most recent 4 qualifying days for same trading interval over last 45 calendar days	Weekdays, demand response days	As above

- Variable loads would be excluded from participating, with these being loads where actual consumption is greater than  $\pm 20\%$  of baseline consumption



# DEMAND RESPONSE MECHANISM – BENEFITS

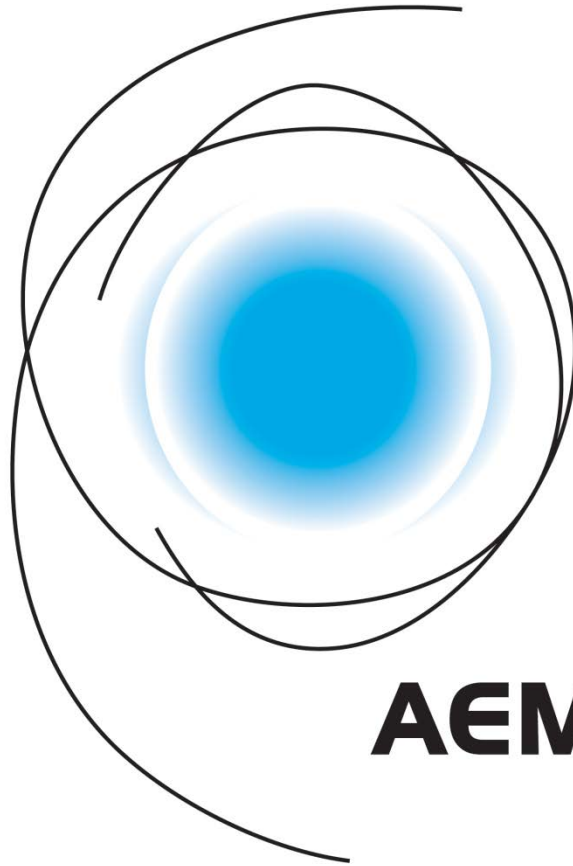
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- Efficient wholesale market outcomes
  - Efficient consumption
  - Increased competition for generation and lower spot prices
  - Deferred generation investment
  - Reduced spot price volatility could reduce hedging costs
- Efficient investment in networks
  - Where there is a co-incidence of peak demand in the wholesale market and at the network level
  - Participation in the DRM may lower costs, and increase take-up, of network support arrangements

# DEMAND RESPONSE MECHANISM – CHALLENGES

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- Implementation costs
  - Suggestions that these could exceed \$100m for retailers
- Potential contract market impacts
  - Generators will not offer hedges above actual consumption, implies DRAs will need to provide hedges up to baseline
- Possible gaming of baselines
  - Residual risk despite learning from US experience
  - Need to understand how enforcement would work



**AEMC**