



Market model and Australian experience in regulatory reform

Session 1: Industry Structure and Reform

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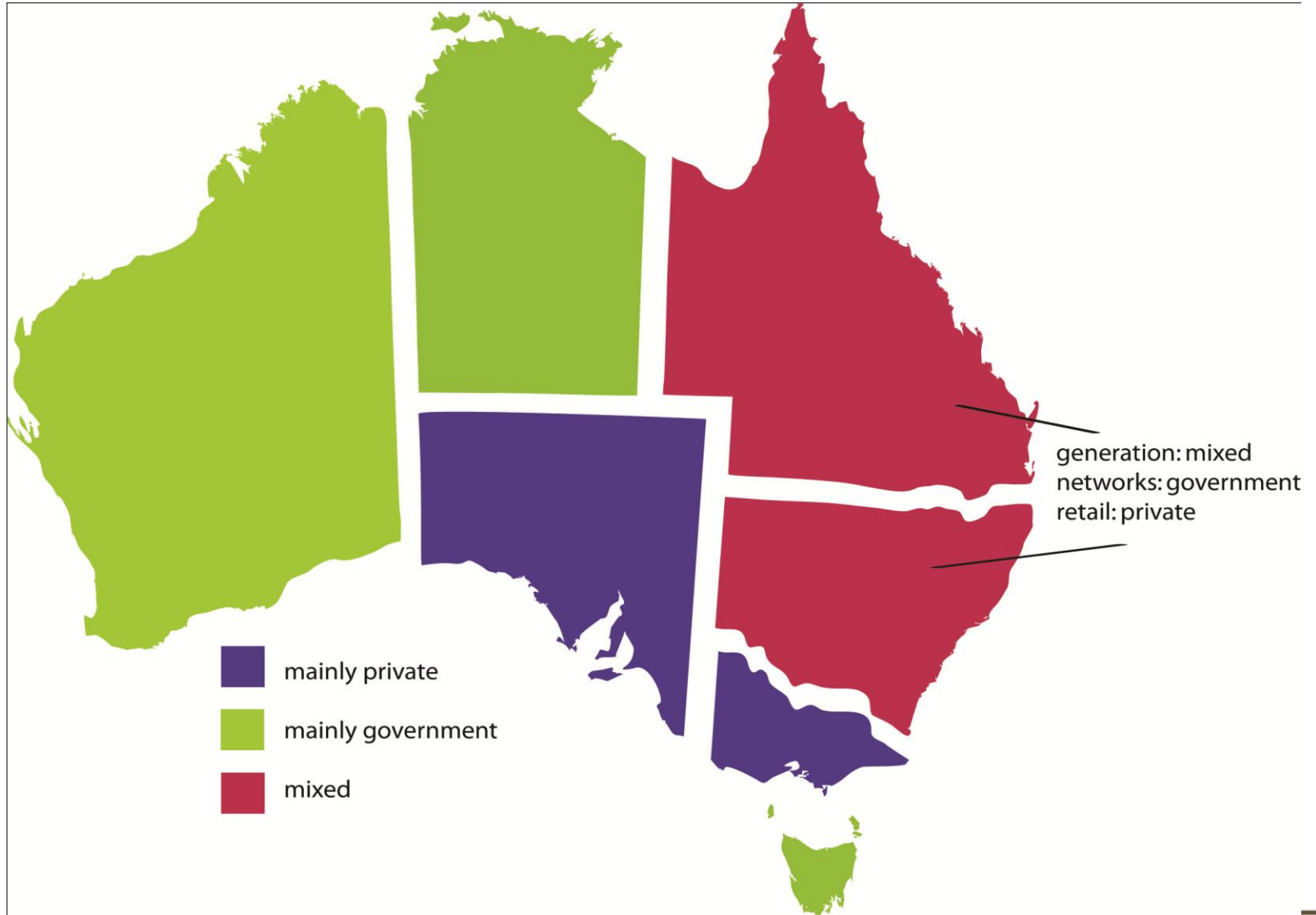
Overview

- 1. Regulatory and market reforms**
- 2. Market/Institutional Governance**
 - Policy maker / regulator / operator separation
 - AER Roles
- 3. Electricity market features**
- 4. Economic regulation**
 - Regulatory approach and models
 - Recent decisions
 - Future reform

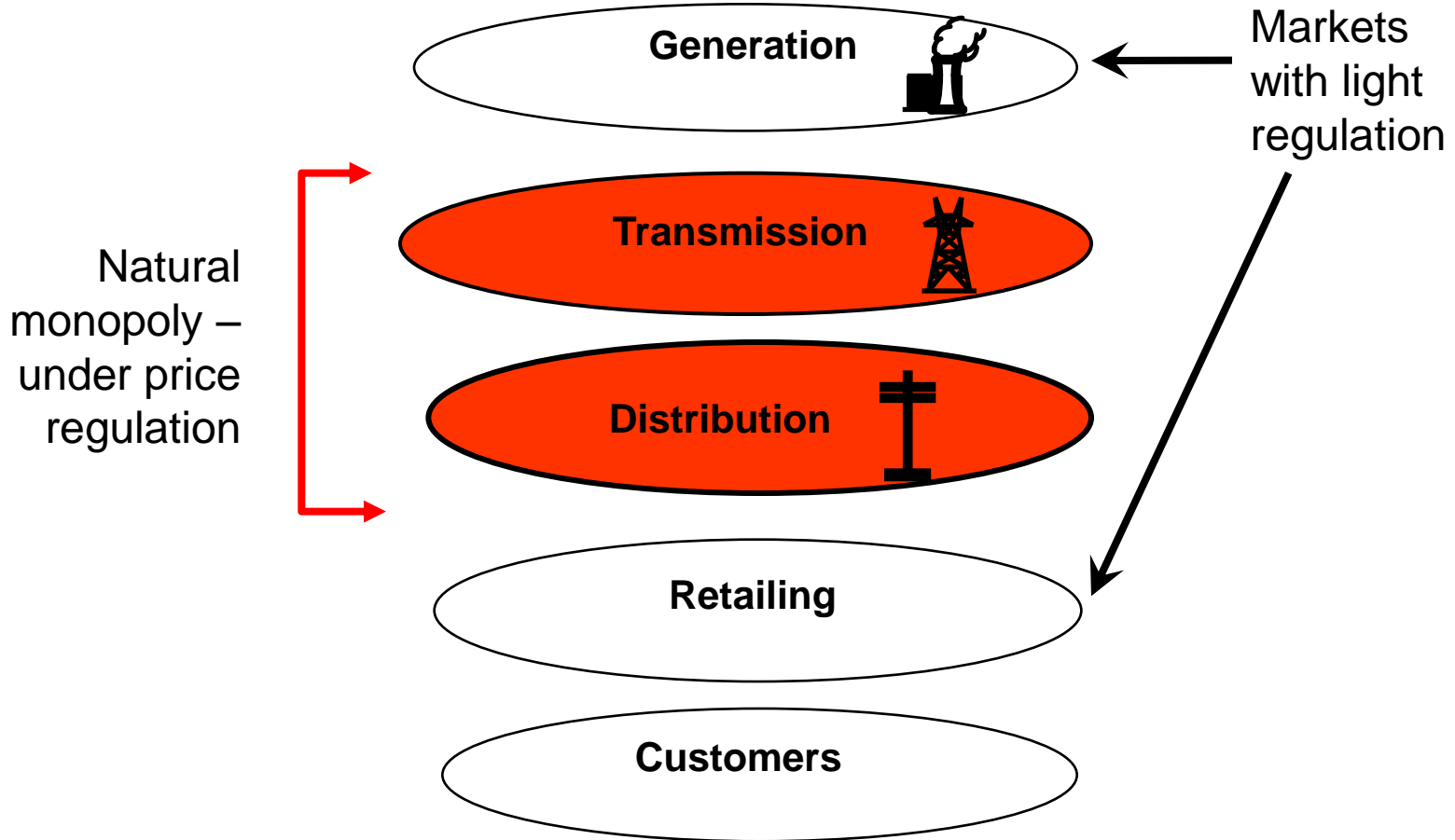
Energy market reform

- National spot electricity market, 1999
- Break-up of integrated energy monopolies late '90s-early 2000s
- separate regulation of networks businesses
- New spot markets in gas from 2010
- National distribution regulation, 2008
- National retail regulation, 2012 (non price)

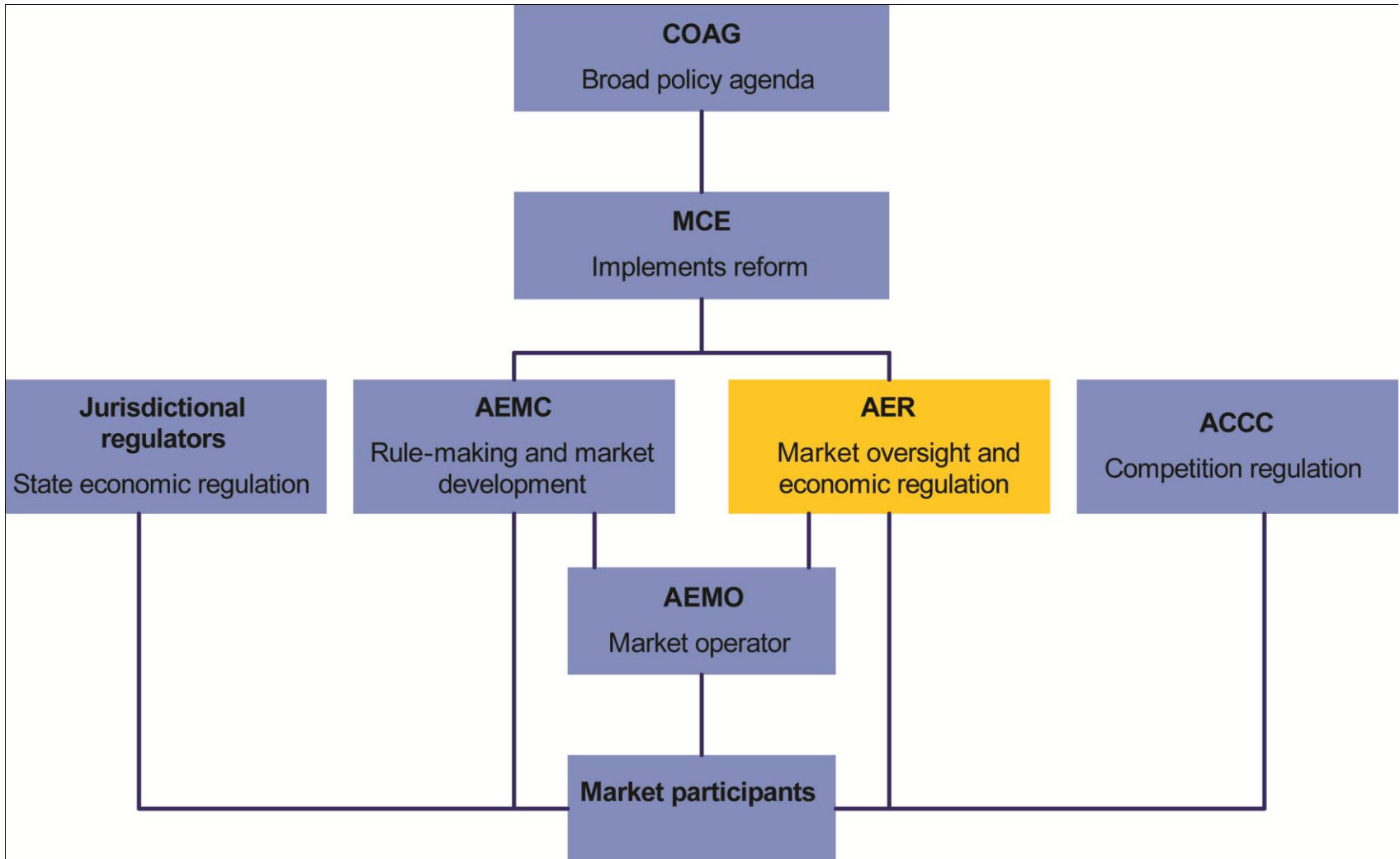
Energy market ownership



Forms of energy regulation



Energy market regulation



Electricity regulatory structure

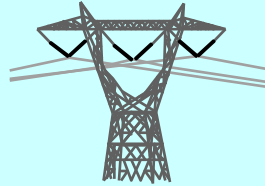
	QLD	NSW	ACT	Vic	Tas	SA	WA	NT
Licensing	Office of Energy	Minister for Energy / IPART	ICRC	ESCV	OTTER	ESCOSA	ERA	UC
Retail Pricing	Office of Energy	IPART	ICRC	DOI	OTTER / GPOC	ESCOSA		
Non-price Retail	Australian Energy Regulator (AER)							
Distribution								
Transmission								
Wholesale								
Competition Regulation	Australian Competition and Consumer Commission (ACCC)							

Overview of AER's roles in energy

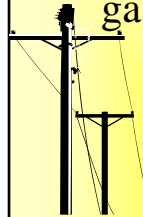
**Wholesale gas
& electricity
markets**



**Transmission
networks &
pipelines**



**Distribution
Networks for
gas/electricity**



**Retail
& other
distribution**



We monitor
wholesale markets
and enforce rules

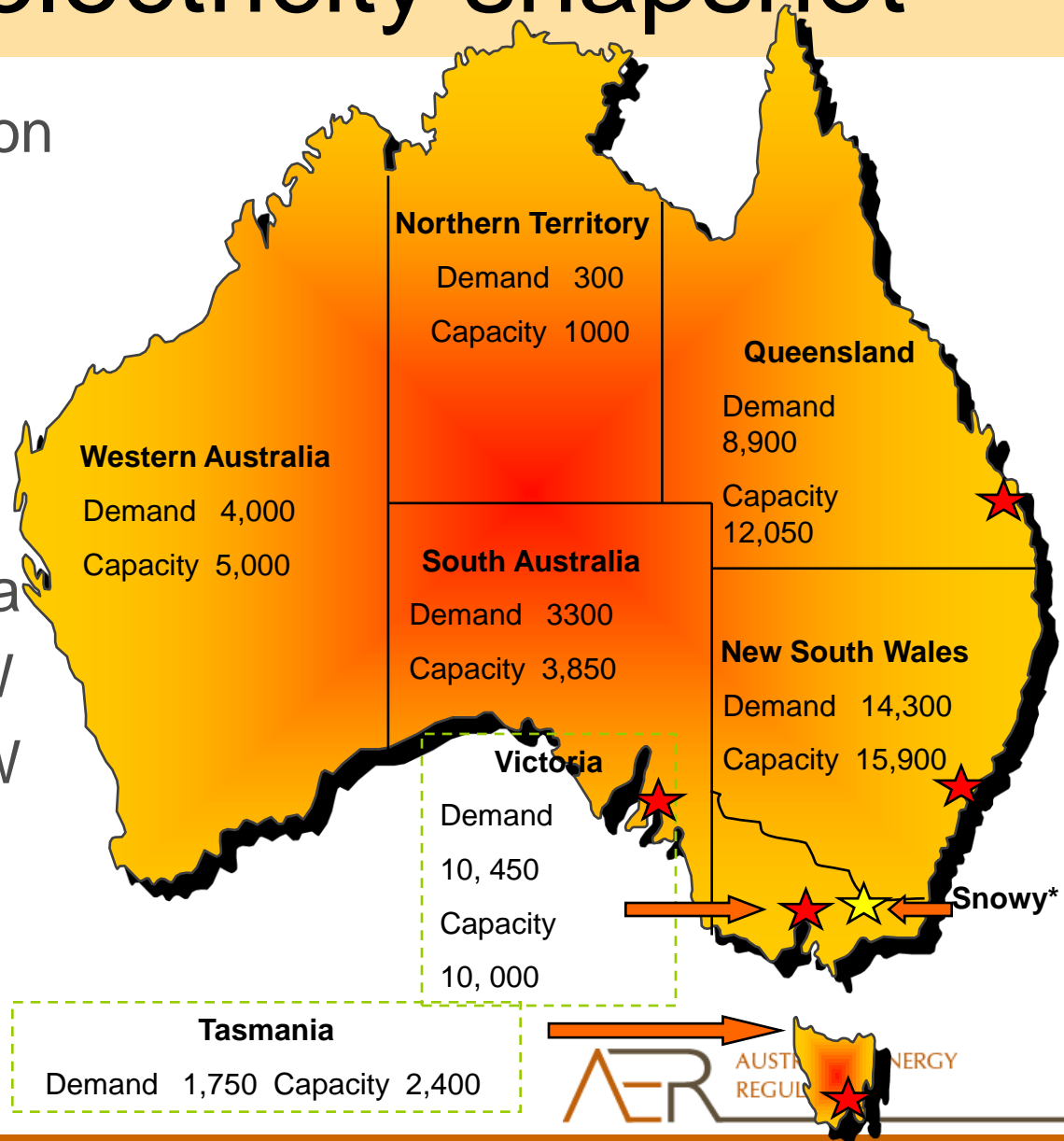
We regulate
revenues of
transmission
businesses

We regulate
revenues of
distribution
businesses

We will regulate
non-price retail
activities

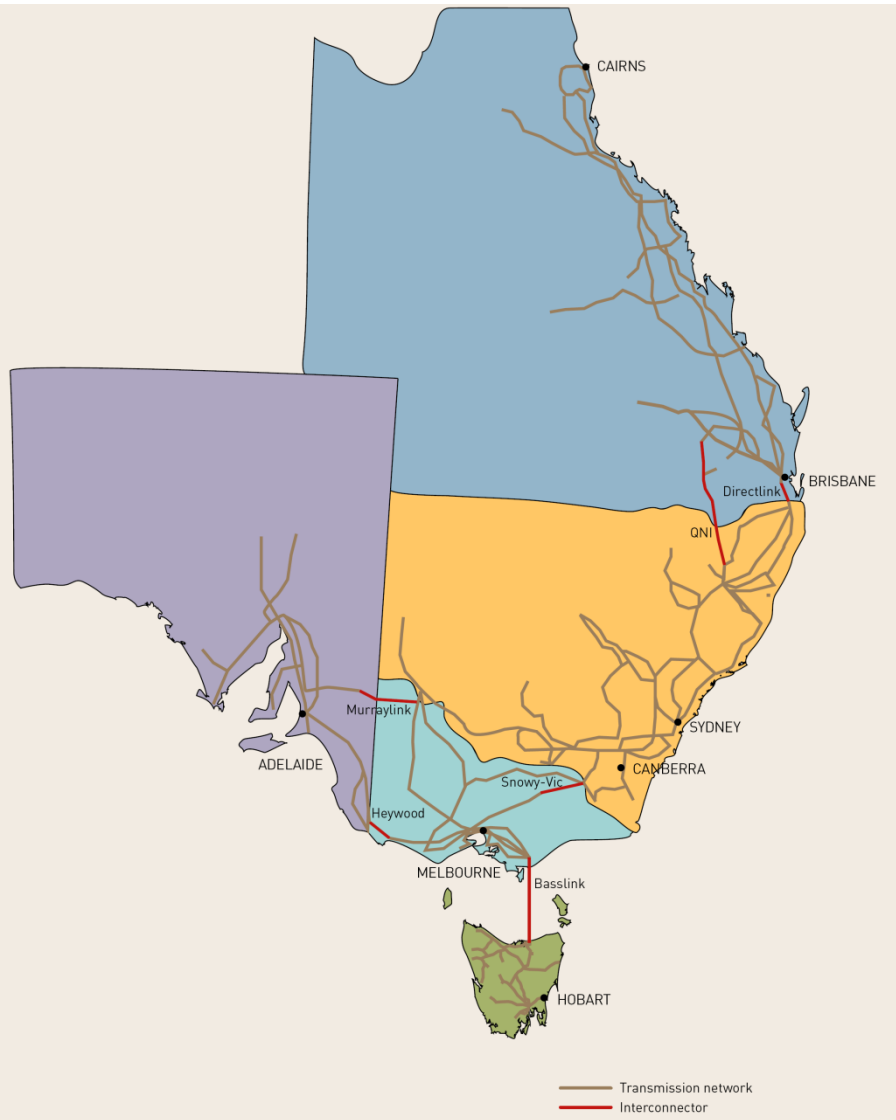
Australian electricity snapshot

- Population ~ 22.2 million
 - 65% in capital cities
 - 90% on east coast
- Electricity
 - energy 213TWh pa
 - peak 38,000MW
 - installed 50,200MW



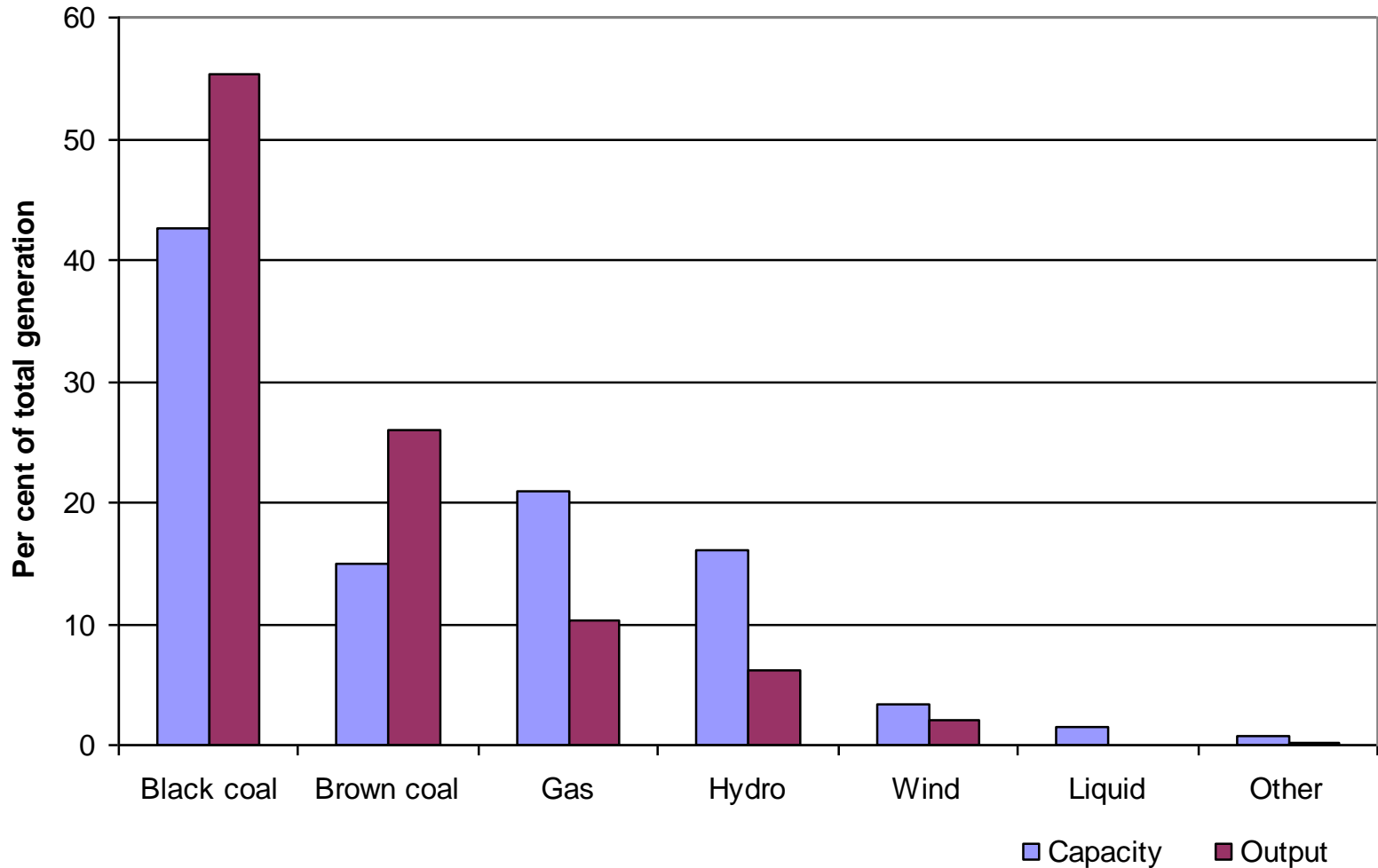
* 3676MW at Snowy gen split between NSW & VIC

National electricity market

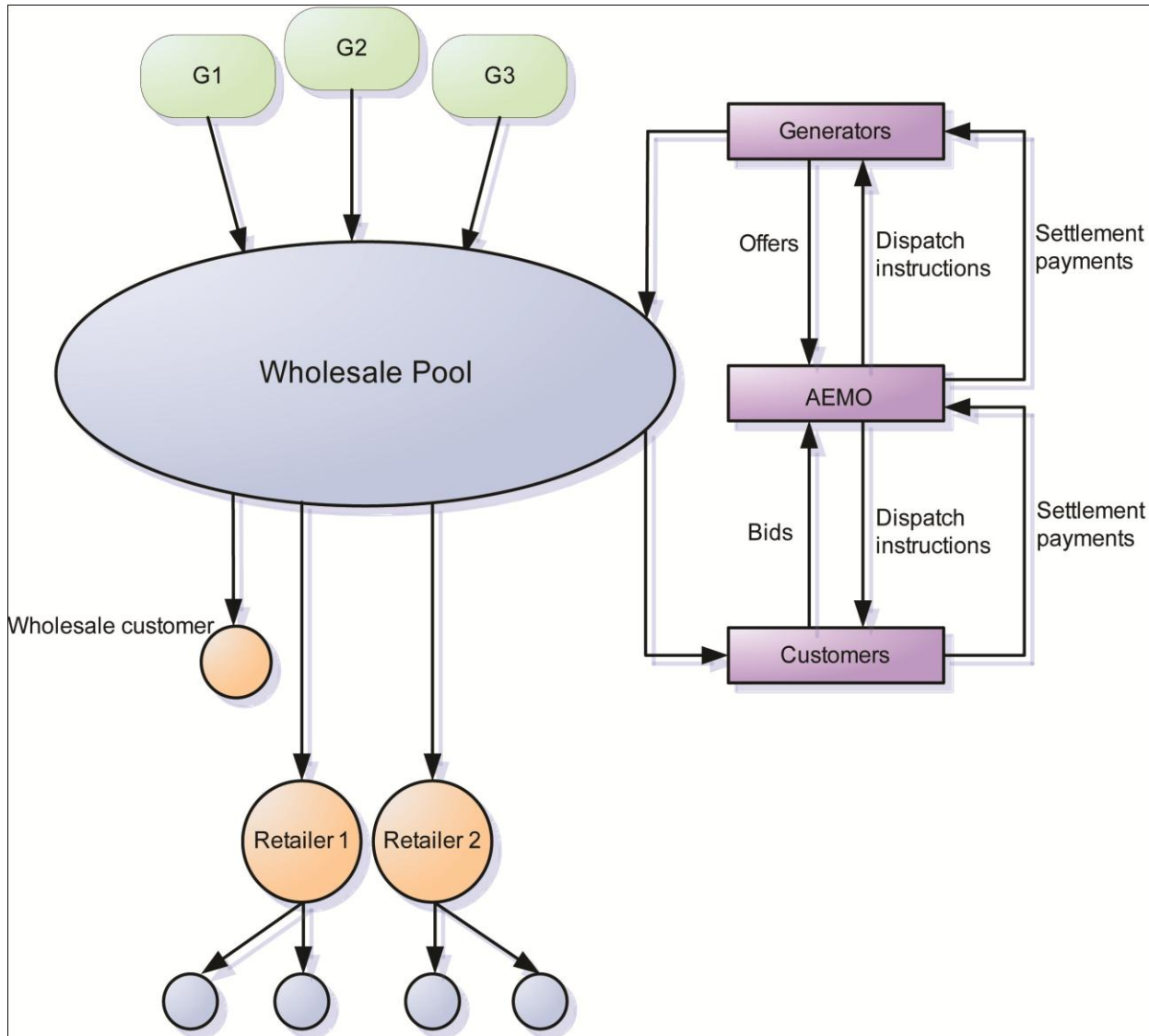


- fully interconnected AC power system
- covers 4500km
- includes 3 DC links
- regional pricing model
- 5 regions
- one market/system operator

Generation mix

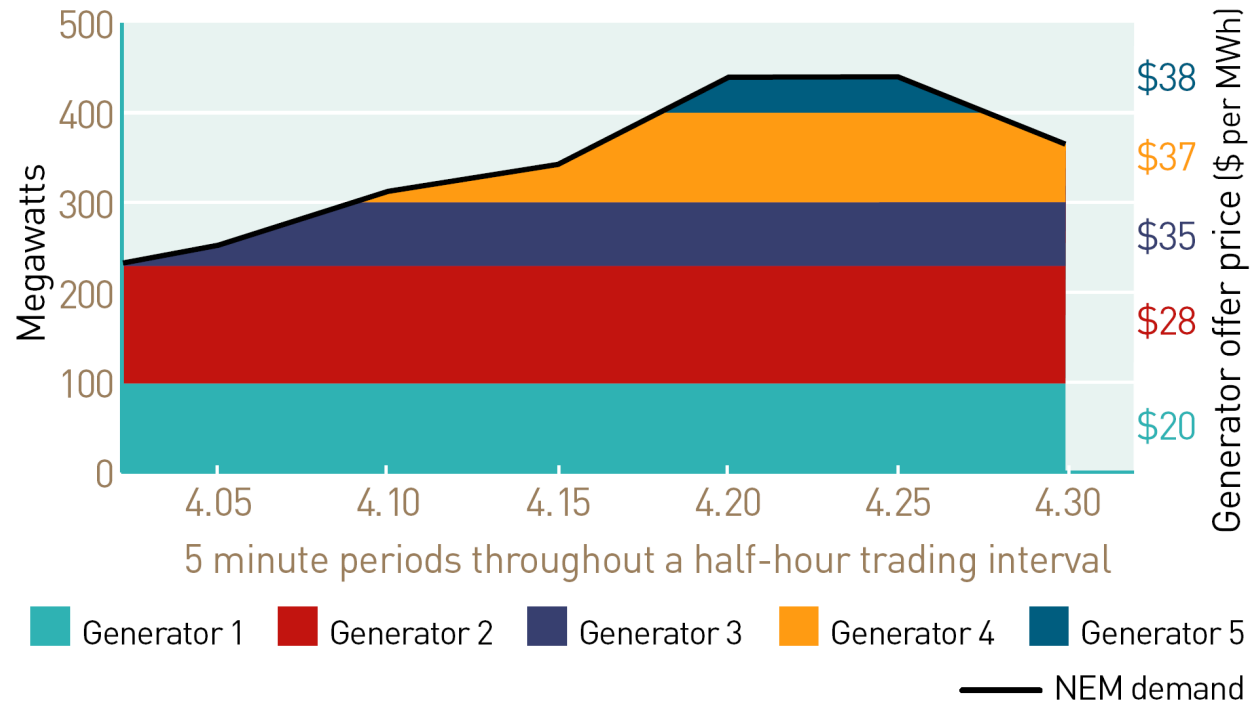


Market arrangements

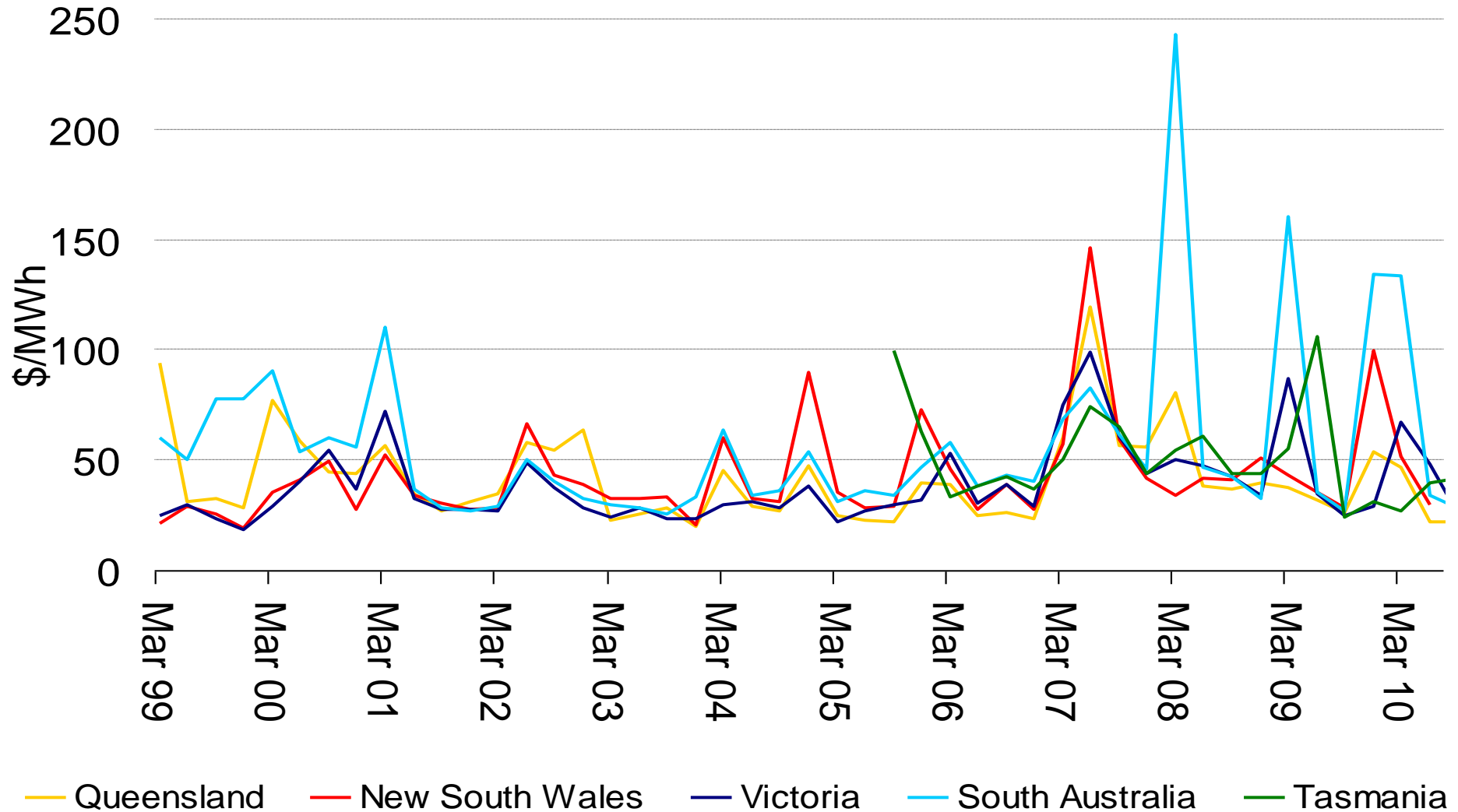


How are prices determined?

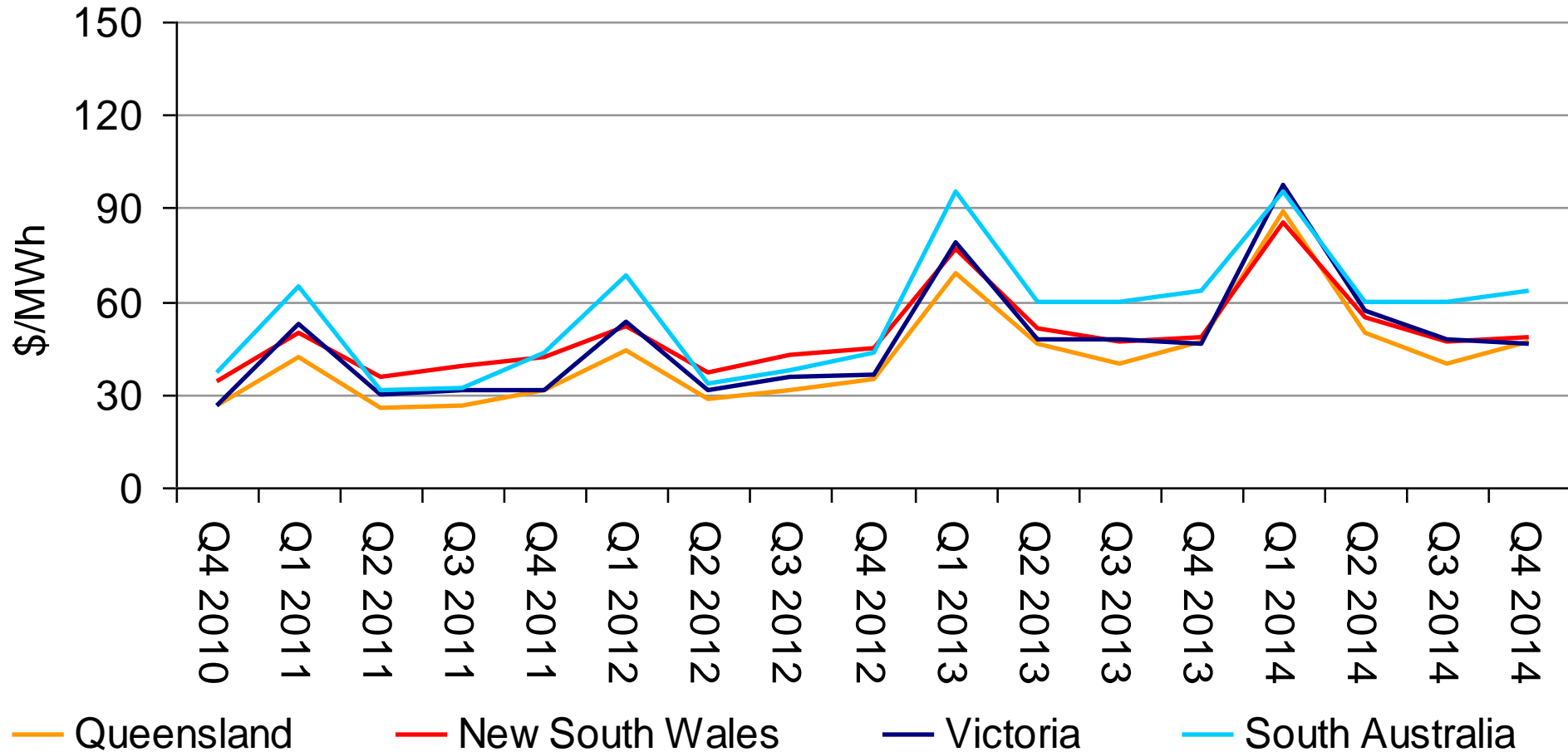
- Generators bid in capacity
- 5-minute dispatch intervals
- Lowest cost generation dispatched first
- Spot price = marginal bid for each 5-minute interval, averaged over ½ hour
- A price is set for each region in the NEM



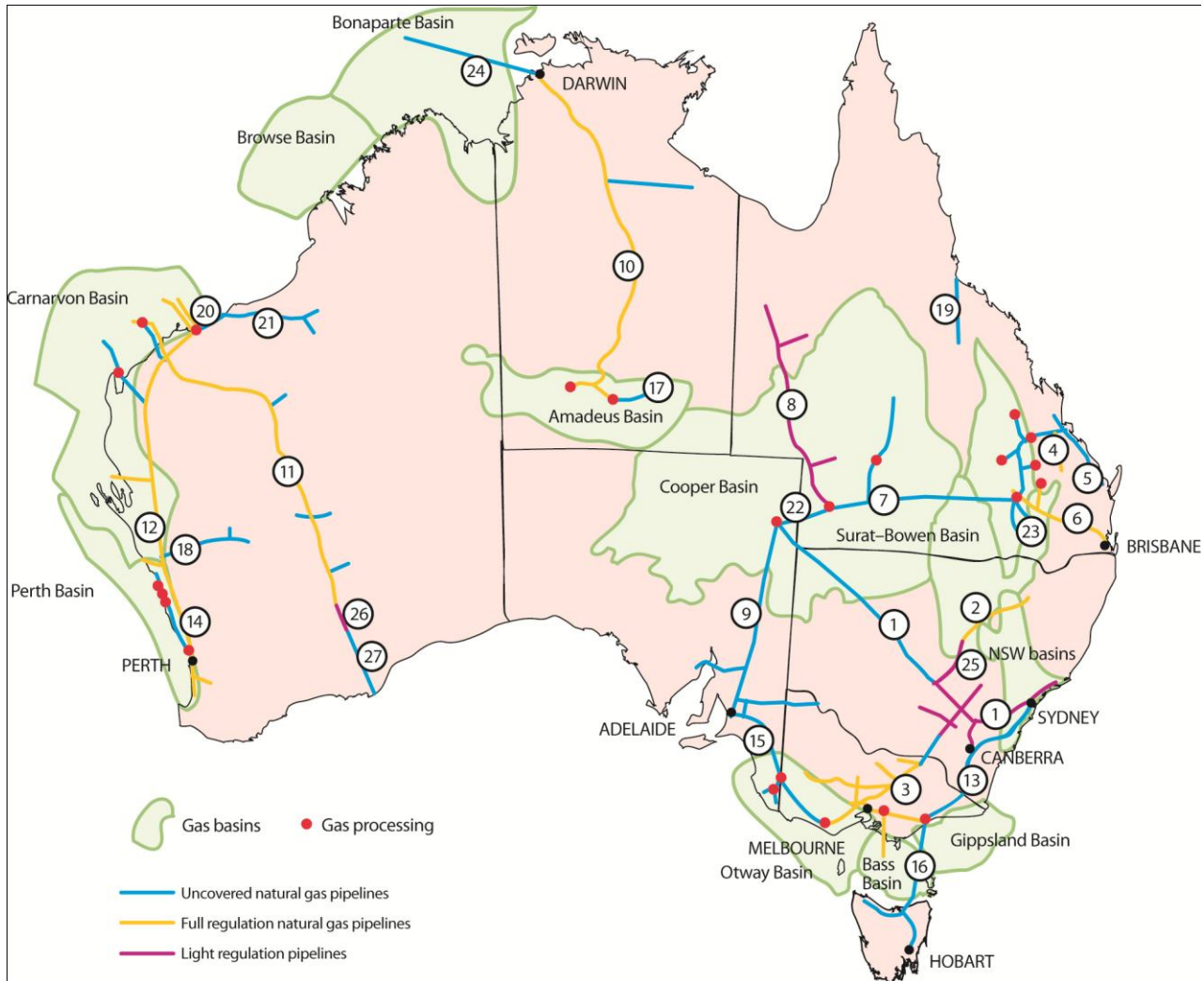
Wholesale electricity quarterly prices



Futures prices - electricity



Upstream gas supply



South east gas markets

- Qld coal seam gas is boosting supply
- rising demand for gas-fired electricity generation
- carbon trading will further increase demand
- LNG exports likely from around 2012
- domestic prices to rise



Market arrangements

- Mostly bilateral contracts
- Historically long term contracts, but duration is getting shorter
- Victoria alone has spot market with transparent pricing
- New spot markets for Sydney and Adelaide in 2010

Reporting on market outcomes

- Weekly report
 - Now produced for electricity and gas
 - market dynamics and forecasts
- Longer-term statistics – website
- Reports on high priced events
- Annual state of the market report
- www.aer.gov.au – market snapshot

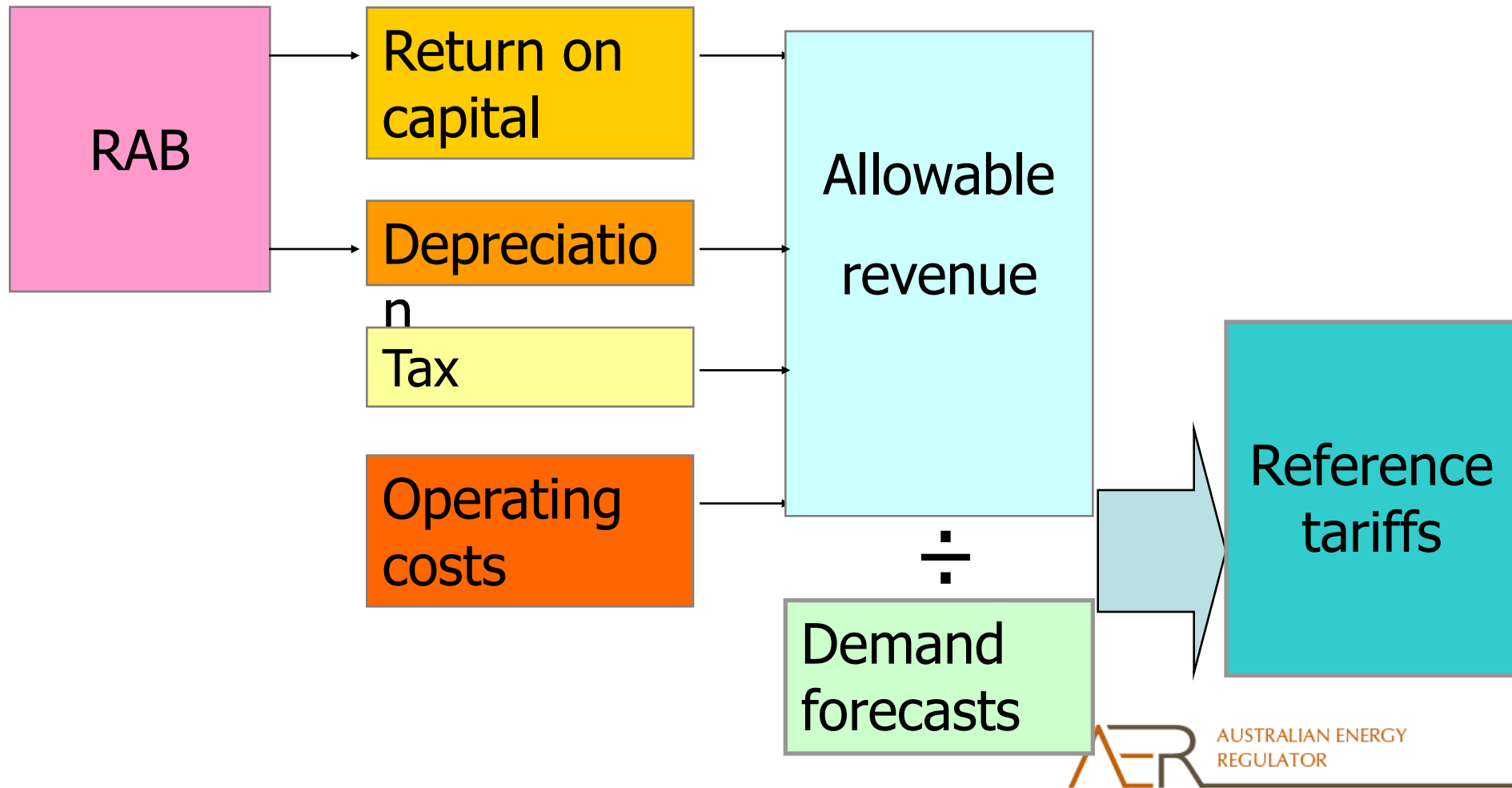
Composition of retail electricity prices

JURISDICTION	WHOLESALE ENERGY COSTS	NETWORK COSTS	RETAIL OPERATING COSTS	RETAIL MARGIN
PER CENT OF TYPICAL SMALL CUSTOMER BILL				
ELECTRICITY				
New South Wales	37	51	6	5
Queensland	42	49	4	5
South Australia	44	43	8	5
Tasmania	43	49	5	3
ACT	45	43	7	5
GAS				
New South Wales	33	47	13	7
South Australia	18	60	17	5

Network regulation

- Revenue model – building block approach
- Control mechanism – revenue cap/price cap etc
- Investment drivers
- Rate of return
- Efficient cost assessment

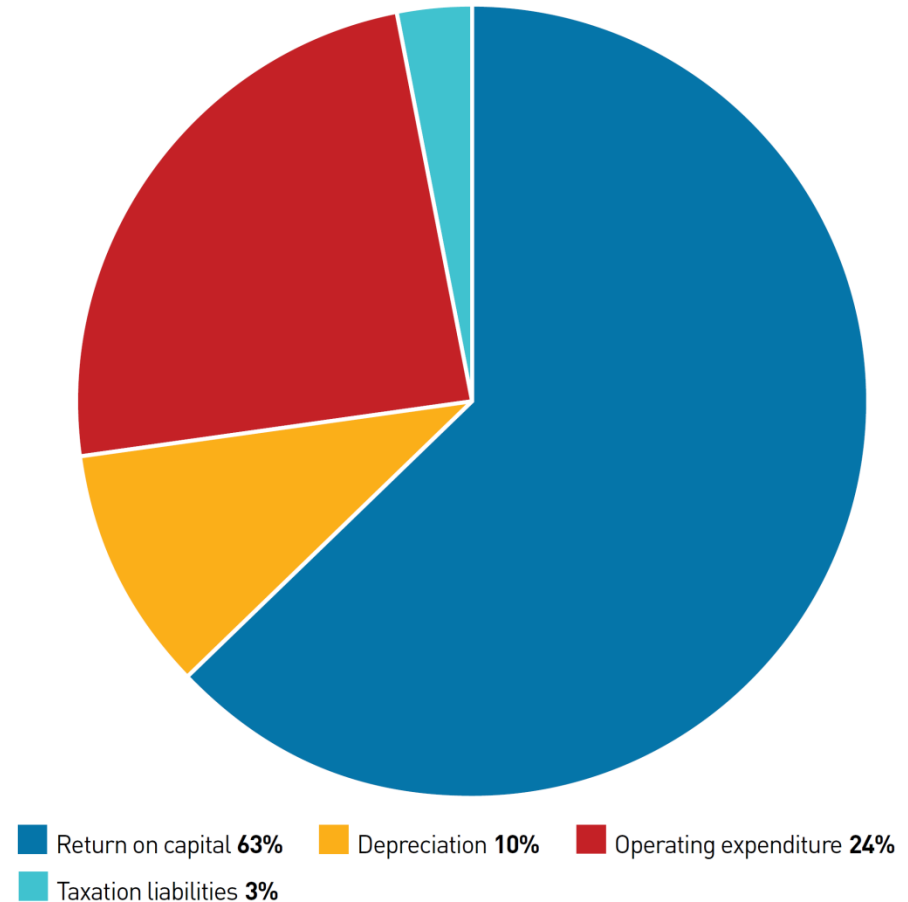
Network regulation - Building blocks



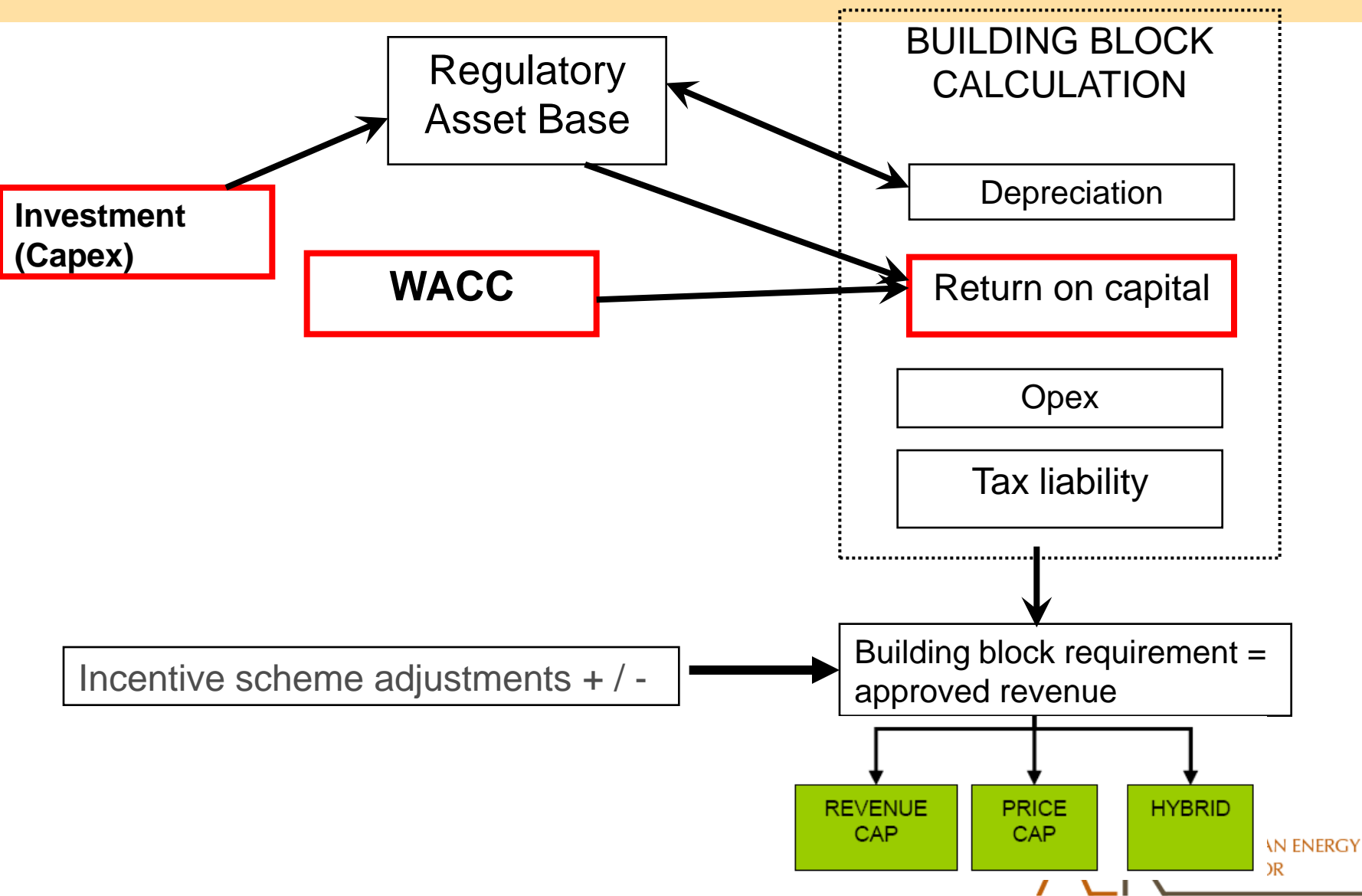
Network building blocks

- Regulated revenues based on efficient costs
- Account for circumstances of the network, as well as market and financial conditions

Composition of TransGrid revenue cap, 2009–10 to 2013–14



Revenues - building block approach



Electricity distributors

- First round completed (except Tas)
 - Approved revenues – \$44 billion*
 - Forecast investments – \$32 billion*
 - Opening asset base – \$43 billion*
- 13 separate distributors
- 8.9 million customers
- 744,000km of distribution lines

* (\$ 2009)

Control mechanism

- Revenue cap – revenues are capped
 - Annual increases (CPI-X)
 - Distributors set tariffs – price not capped only revenue
 - Annual adjustment for under/over recovery of revenue
- Price cap
 - Generally a weighted average of tariff classes
 - Annual price increase capped not revenue
 - CPI –X increases – no annual revenue adjustment
- Hybrid approaches – average revenue, revenue yield etc
- Annual pricing proposals
 - Approved by the AER
 - Compliance with determination and rules
 - Reasonableness of underlying estimates (consumption, tariff class changes)

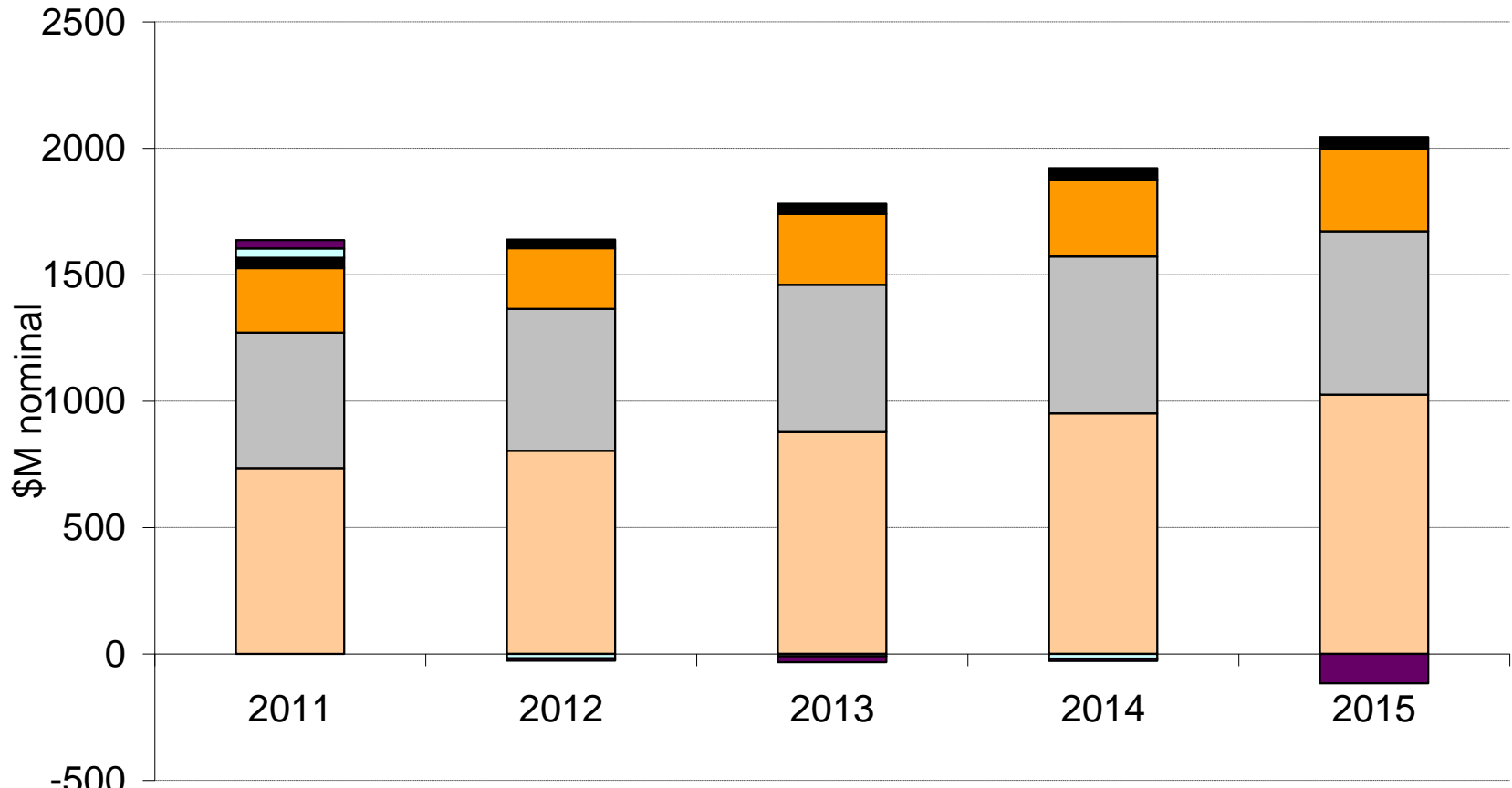
Key investment drivers

- More rigorous licence conditions
 - Network security, safety and reliability
- Load growth and rising peak demand
 - Growth in air conditioning usage driving summer peaks
 - New customer connections
 - Demand management is only emerging
- Replacing ageing assets
 - Most assets installed in 1950 – 1970
- Rising input costs
 - Labour & commodity price rises impact capital expenditure

Rate of return

- Return on capital single largest building block
- Approved WACC around 9.00 – 10.00%
- Previous regulatory period returns around 8.50 – 9.00%
- Difference mainly driven by the debt risk premium (DRP)
- Recent decision on DRP 370-400 basis points
 - Previous regulatory period DRP around 150 basis points
 - Overall WACC around 1.06% above previous period
- AER's weighted average cost of capital review (2009)
 - MRP 6.5
 - Equity beta 0.8
 - Gearing 60%
 - Dividend imputation 0.65
 - Benchmark rating BBB+

Revenue illustration (Vic DNSPs)



Return on capital

Depreciation

Efficiency carryover amounts

Opex

Tax allowance

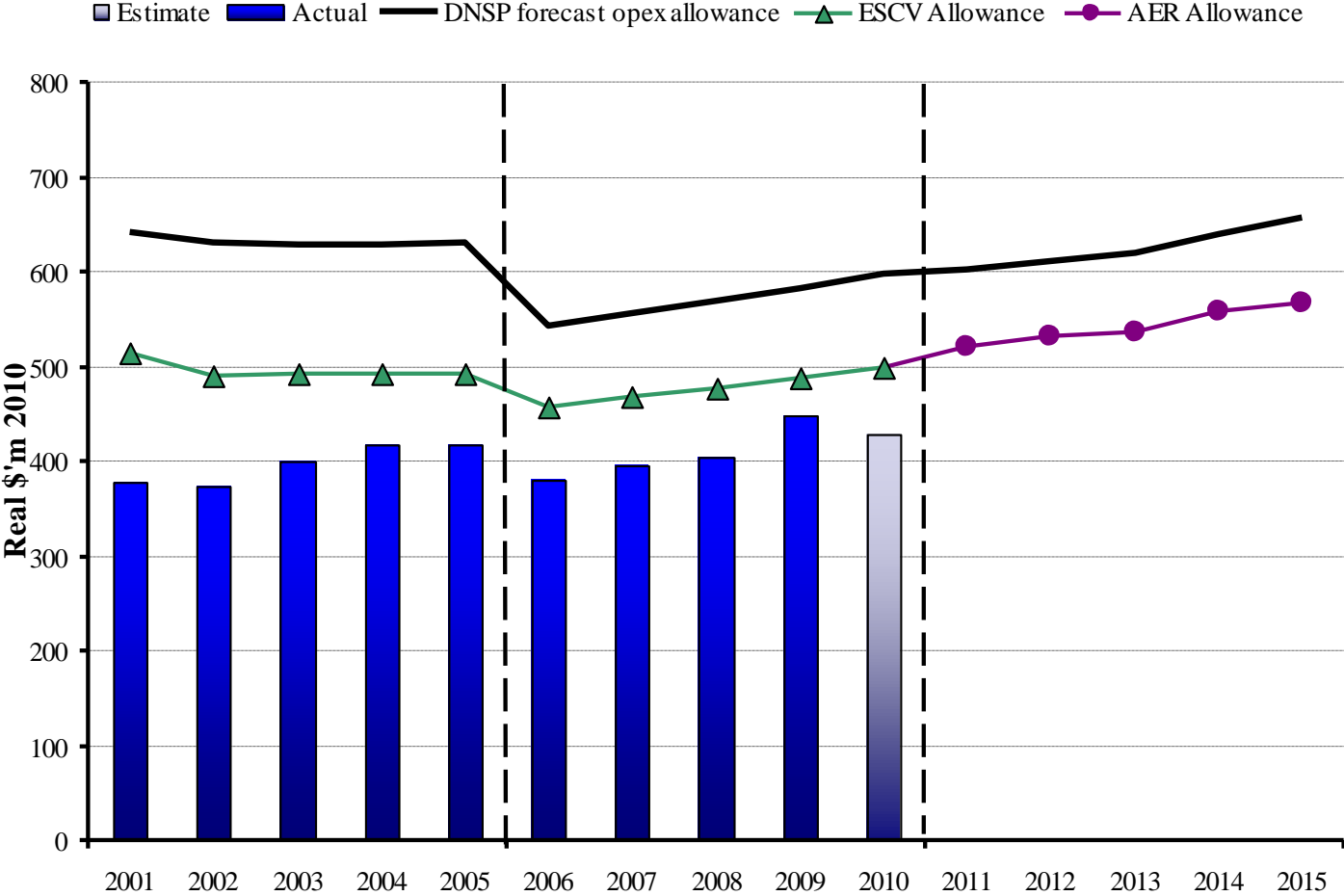
S factor amounts

Assessment of Efficient Cost

- AER adopts number of approaches
 - Bottom-up – examination of objectives, engineering options, and costs of selected projects and programs
 - Benchmark – unit cost comparison
 - Revealed Cost (Incentive Regulation)
- Incentive Regulation
 - Applied under the electricity rules
 - The right incentives motivates firms to operate efficiently
 - Opex and capex allowance set as forecasts for the future period
 - Retain opex under-spend, or bear over-spend (benefit sharing scheme)
 - WACC allowance on forecast capex during the period
 - Retain WACC allowance if underspend or bear overspend WACC
 - Incentive to defer expenditure or reduce costs within period
- Historic cost used to guide next period forecast
 - Next two slides demonstrate this in practice

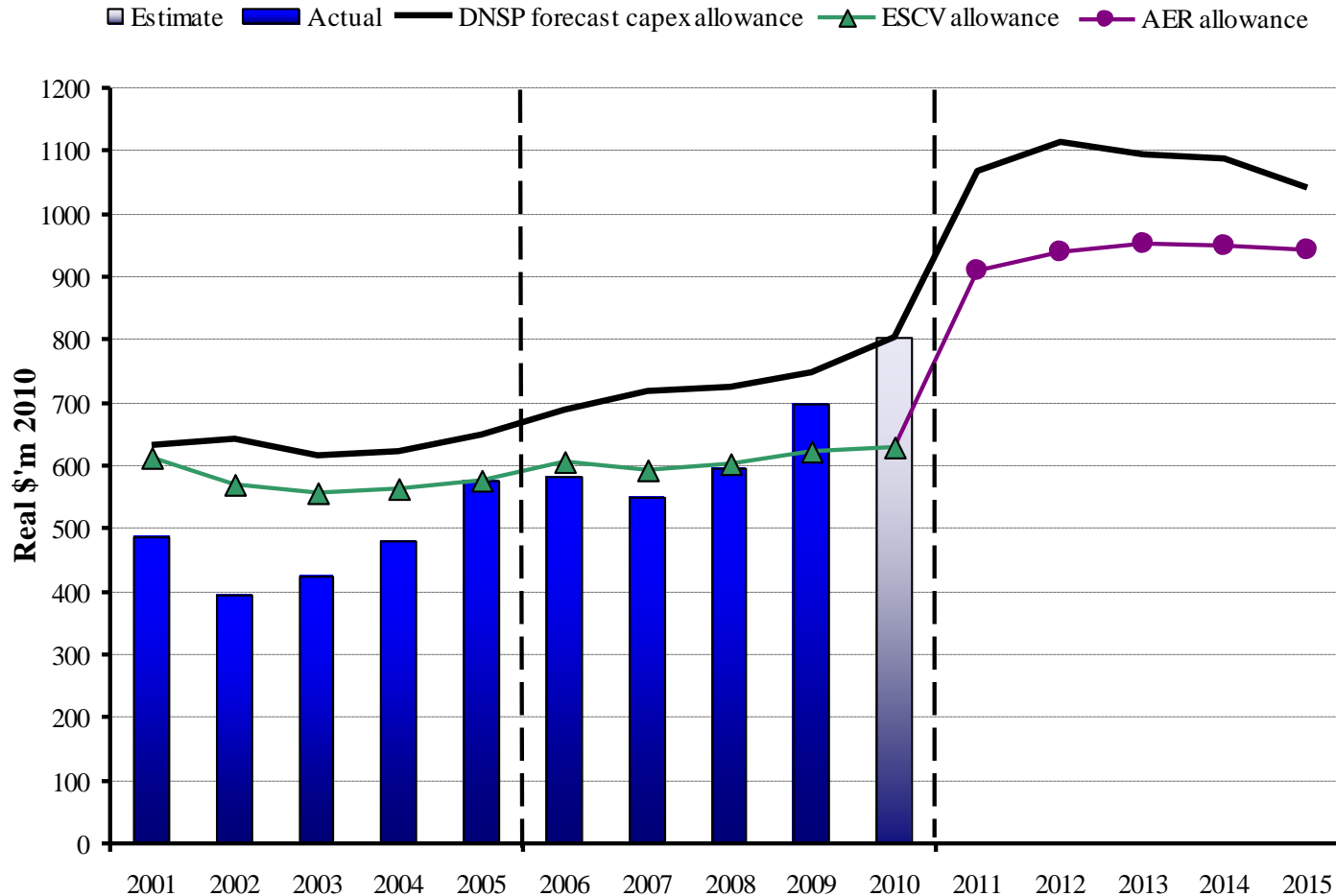
Vic DNSPs opex

AER final decision opex comparison for the Victorian DNSPs

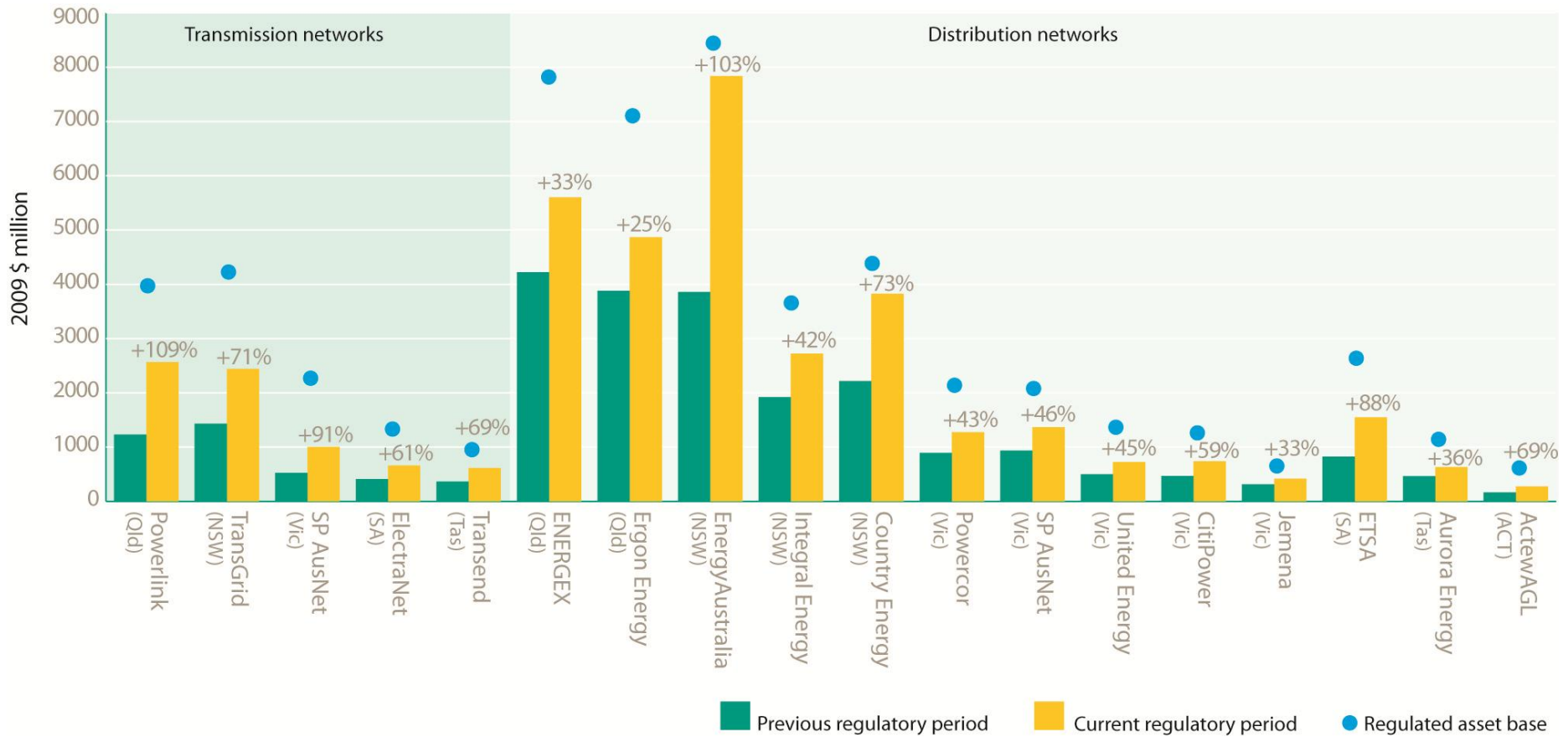


Vic DNSPs capex

AER final decision capex comparison for the Victorian DNSPs

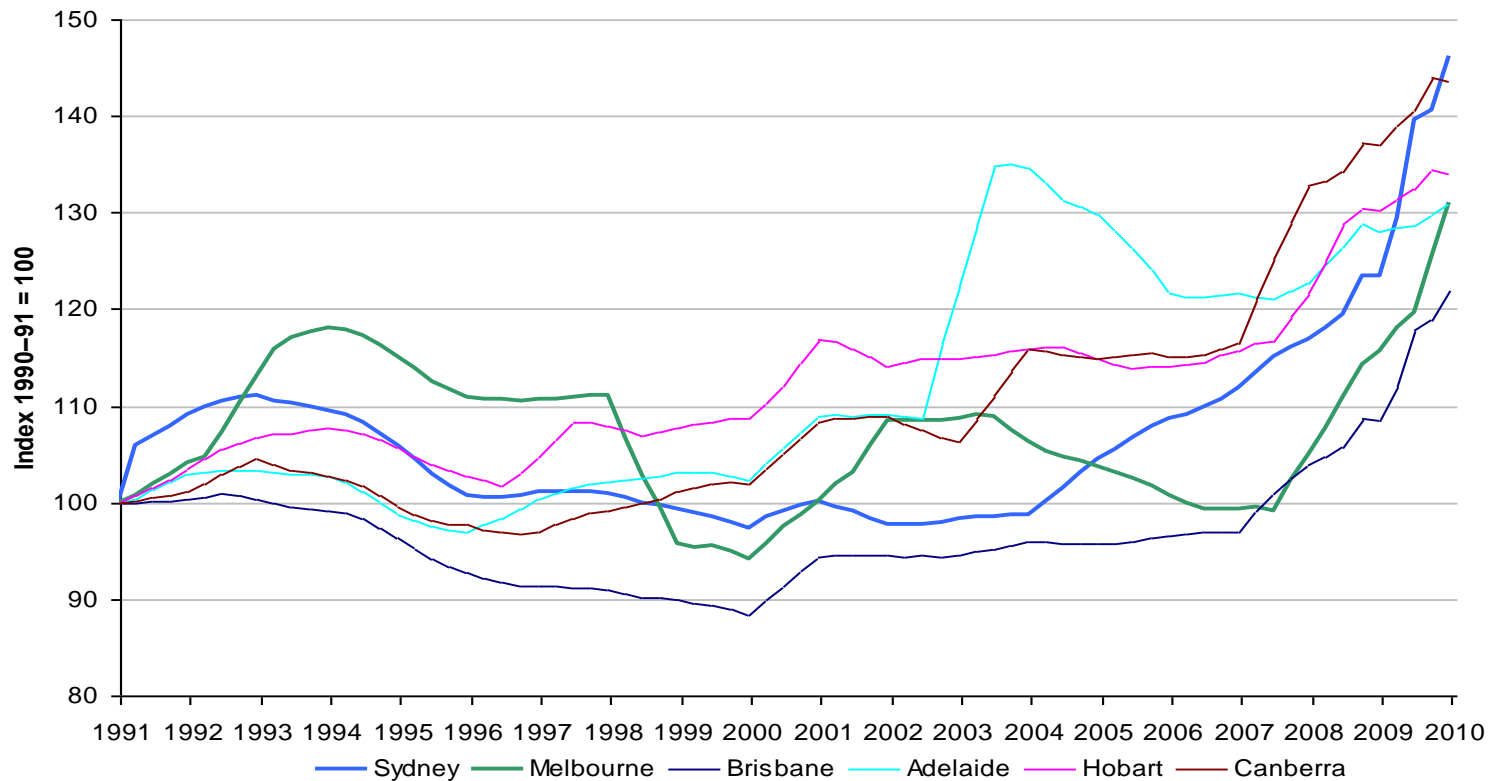


Network investment



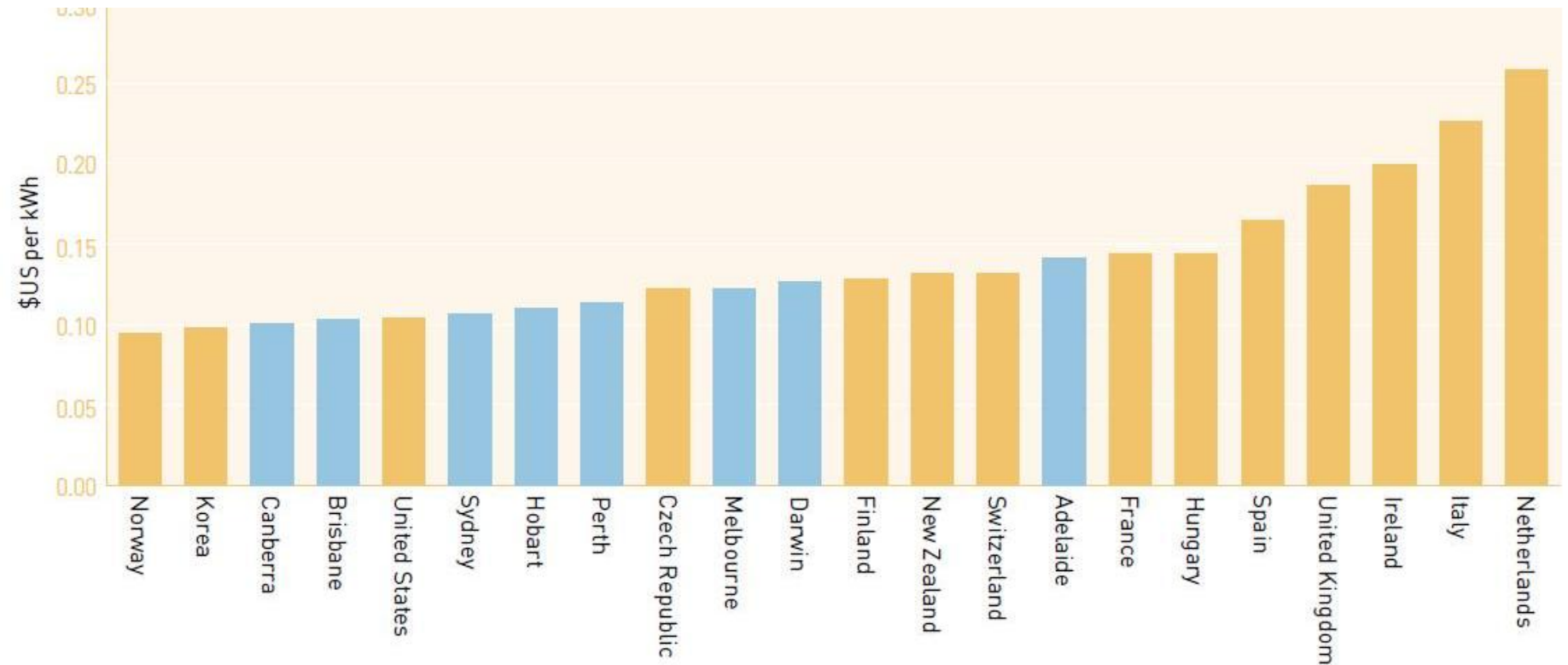
Retail electricity prices

Prices are now rising and are expected to rise further



Retail electricity prices

Historically, Australia has had low retail electricity prices



Distribution revenue determinations

Proposal submitted by business

- Expenditure and investment forecasts
- Application of incentive schemes

Draft revenue decision (AER)

Revised proposal from business

- May only respond to issues raised in draft decision

Final revenue decision (AER)

- Must follow draft decision except for issues raised in revised proposal

Approval of pricing schedules

Public consultations are held in relation to regulatory matters

- The AER is required by law to hold public consultations for certain types of matters.
- Even when not required to do so, the AER will usually adopt a consultative approach
 - helps to ensure procedural fairness — one way in which the interests of all stakeholders can be taken into account in regulatory decision making.
 - helps improve the transparency of regulatory decision making

Formal documentation of decisions

- The AER formally documents all regulatory decisions
- The AER aims to publish written statement of reasons for decisions on its website (subject to requirements of confidentiality)
- The AER also documents the decision making process and keeps records of important correspondence and minutes of meeting

Checks and balances

1. Avenues for review - judicial review
2. Avenues for review - merits review
3. Access to written reasons of decisions
4. Freedom of information
5. Ombudsman
6. Culture at the AER
7. Multiple Commissioners making a decision

New regulatory challenges

- New low carbon generation
- Demand management
- Smart Grid trial
- Smart meter rollout

Market reforms - conclusion

- Overall the reforms since late '90s
 - More competitive generation – but some issues with market power remain
 - More competitive retail sector
 - More consistent regulation of networks under a common national framework
 - Still some way to go to move to full national framework and getting the right balance

Questions

