



CEEM Specialised Training Program

El Restructuring in Australia

Future development of the NEM

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Terms of reference for the COAG Energy Market Review (2002)

- Identify impediments to the full realisation of the benefits of energy market reform
- Identify strategic directions for further reform
- Examine regulatory approaches that balance incentives for new supply investment, demand responses & benefits to consumers
- Assess the benefits for regions & small business
- Assess the relative efficiency & cost-effectiveness of options to reduce greenhouse gas emissions
- Identify means to increase penetration of gas

Deficiencies identified in the report

- Confused governance; excessive regulation; perceived conflicts of interest
- Insufficient generator competition in spot market
- Flawed electricity network operation & investment; poorly defined market regions
- Financial instrument markets illiquid & hampered by regulatory uncertainty
- Insufficient competition in east-coast gas & uncertainty surrounding new pipelines
- Ad hoc & poorly targeted greenhouse response
- Regional areas disadvantaged in the NEM

Report recommendation categories

- Governance & regulatory arrangements
- Electricity market mechanisms & structure
- Electricity transmission
- Electricity financial market development
- Demand side participation & FRC
- Increasing the penetration of gas
- Greenhouse response
- Rural & regional issues

Report recommendations: *Governance & regulatory arrangements*

- Establish National Energy Regulator (NER)
- Federal, WA & NT to join other governments as co-owners of NEMMCO
- NER & NEMMCO decisions reviewable by Australian Competition Tribunal
- Ministerial Council on Energy sole provider of policy direction on electricity & gas
- Improve network regulation:
 - Sharing of savings; performance incentives; distribution price cap, not revenue cap

Report recommendations: *Electricity market mechanisms & structure*

- Further disaggregate NSW & WA gen'n
 - Divest generation once disaggregated
- Gov'ts to address transmission problems
- Abolish:
 - NSW Electricity Tariff Equalisation Fund
 - Queensland Benchmark Pricing Agreement
- Explicit ACCC merger guidelines to control generator market power

Report recommendations: *Electricity transmission*

- NEM-wide planning function in NEMMCO
 - Identify augmentation opportunities & tender
- NEMMCO offer/underwrite firm inter-region FTRs
 - FTRs to provide augmentation benchmarks
- NER to use commercial cost-benefit to approve intra-regional augmentation
- Reliability benefits test to remain as is
- TNSP performance incentives
- Increase number of NEM regions with full nodal pricing in 7-10 years

Report recommendations: *Electricity financial market development*

- Abolish NSW ETEF & Queensland BPA
- All code changes should consider impact on financial markets
 - Including reviews of VOLL
- NEMMCO to review in 1-2 years its role in facilitating clearing for bilateral contracts

Report recommendations: *Demand side participation & FRC*

- NEM dispatch market to pay demand reduction on an “as bid” basis
- Interval meters should be mandated & phased in over 5-10 years
- FRC in all jurisdictions within 3 years

Report recommendations: *Increasing the penetration of gas*

- Allow pipeline developers to seek binding ruling from NER prior to construction
 - 15 years regulation free or pre-determined regulatory parameters
- Review gas code & other arrangements to enhance competition

Report recommendations: *Greenhouse response*

- Cross-sectoral emission trading
- Delete (with grandfathering):
 - MRET: Gen Efficiency Standards; GGAP
 - NSW retailer benchmarks; Qld 13% gas
- Exclude traded sector from emission trading if world's best practice in energy use
- Introduce interval meters

Report recommendations: *Rural & regional issues*

- Improve regional structure of NEM
- Introduce emission trading
- Reform gas industry to enhance competition & coverage of regional areas

COAG Response to the Review

(Ministerial Council on Energy Communique, 1/8/03)

- Recommended the establishment of:
 - A single energy market governance body
 - A new national legislative framework
 - Two new statutory commissions from 1/7/04:
(electricity (& later gas) wholesale market & transmission)
 - Australian Energy Market Commission (AEMC):
 - Rule making & market development, replacing NECA
 - Australian Energy Regulator (AER)
 - Wholesale market & transmission regulation & possibly distribution & retail; partly taking over ACCC role
- Undertake comprehensive transmission review & consider national planning function



COAG Response to the Review, ctd

(Ministerial Council on Energy Communique, 1/8/03)

- Examine options to enhance user participation, including interval metering
- Respond to current Productivity Commission review of National Gas Access Regime
- Review upstream gas arrangements
- Address greenhouse emissions from energy sector on a national basis

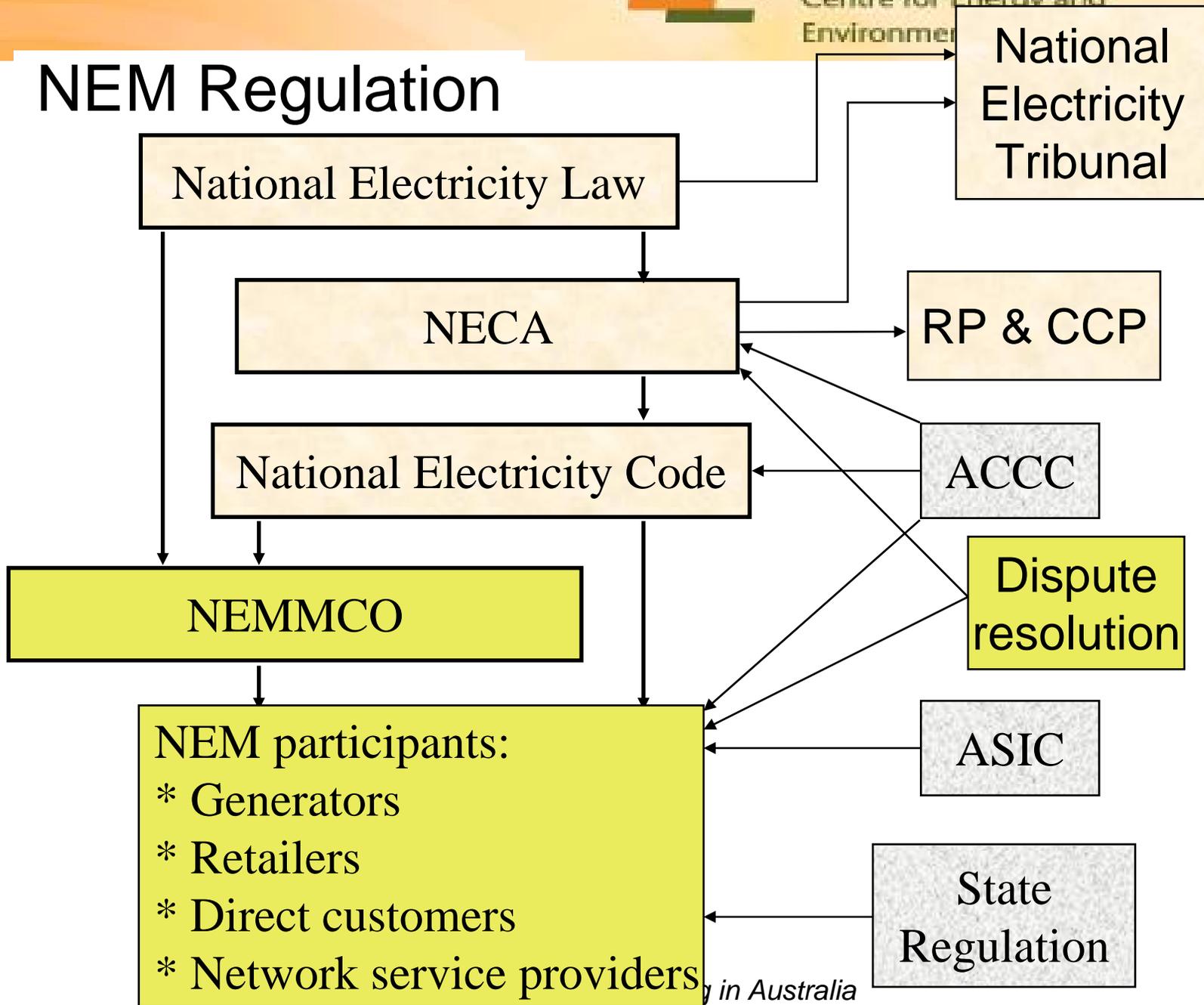
COAG Response to the Review, ctd

(MCE Report to COAG, 11/12/03)

- MCE to be the single energy policy body
- Develop national governance framework
- Establish AER & AEC by July 2004
- Develop national approach to access
- Develop national framework for distribution & retailing
- Improve transmission planning & investment
- Enhance end-user participation
- Increase the penetration of gas

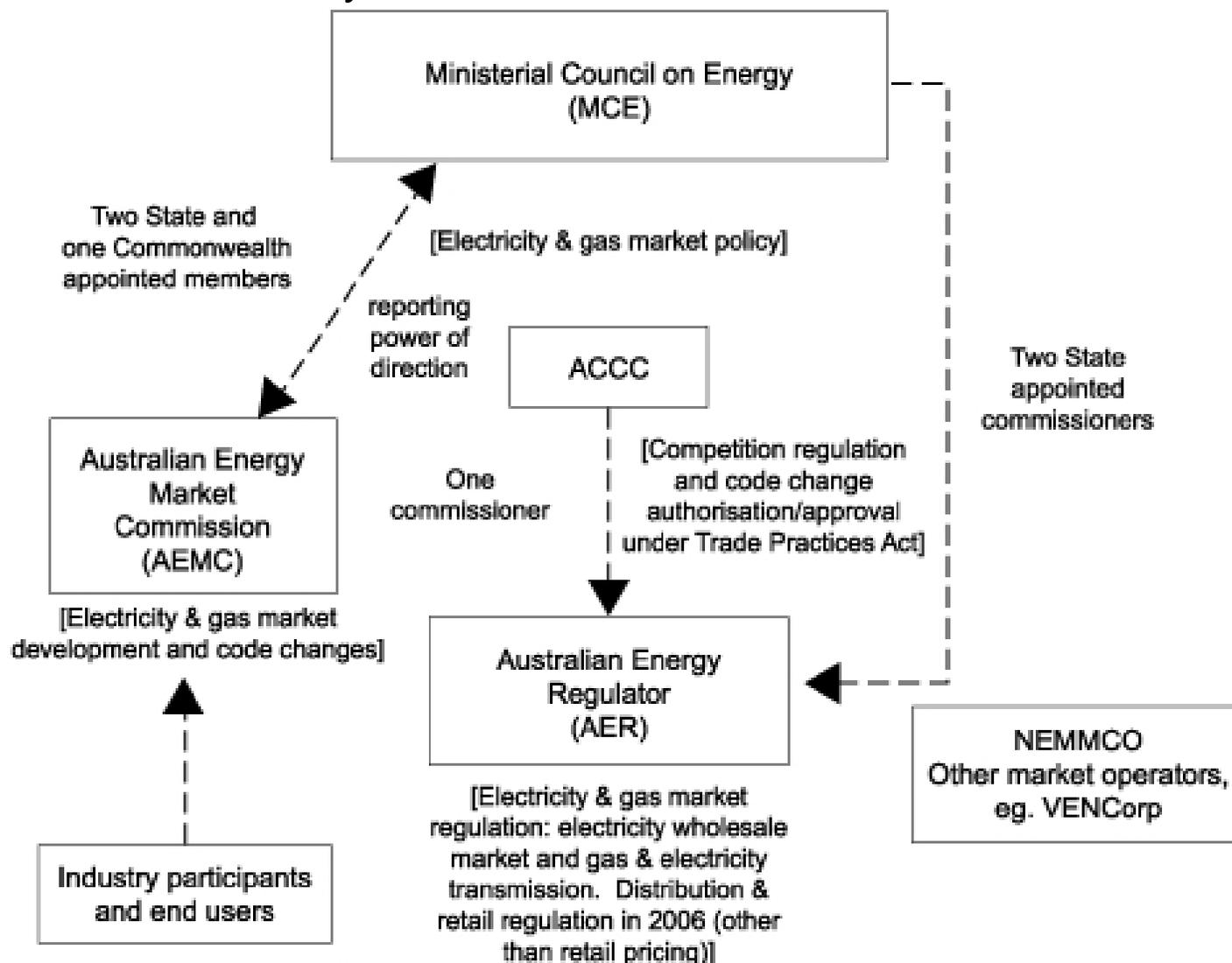


NEM Regulation



Proposed governance & institutions:

as seen by Allens Arthur Robinson, December 2003



Electricity transmission: Principles adopted in MCE report to COAG

- The transmission system provides transportation from generators to loads, facilitates competition and ensures secure & reliable supply
- Central & ongoing role for regulated transmission with some scope for competitive (market) transmission
- Transmission investment decisions should be timely, transparent, predictable & nationally consistent, at the lowest sustainable cost
- Regulatory framework should maximise the economic value of transmission, including through the efficient removal of regional price differences in the operation of the NEM.



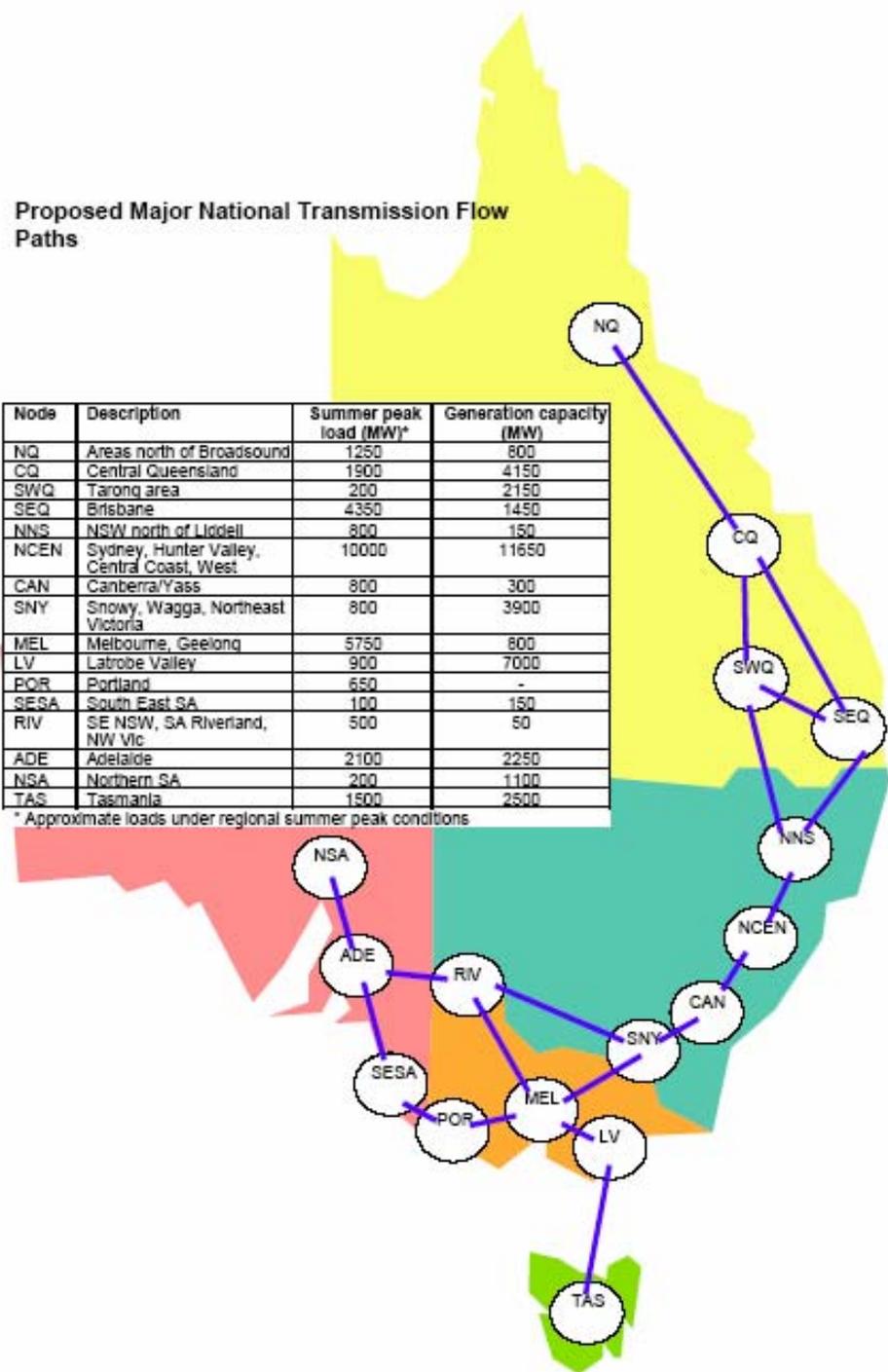
Electricity transmission: ANTS

- An integrated overview:
 - Future constraints on major transmission paths
 - Information on augmentation options
 - Incorporated into SOO & complimentary to projection of supply-demand balance
- (www.mce.gov.au)

Proposed Major National Transmission Flow Paths

Node	Description	Summer peak load (MW)*	Generation capacity (MW)
NQ	Areas north of Broadsound	1250	800
CQ	Central Queensland	1900	4150
SWQ	Tarong area	200	2150
SEQ	Brisbane	4350	1450
NNS	NSW north of Liddell	800	150
NCEN	Sydney, Hunter Valley, Central Coast, West	10000	11650
CAN	Canberra/Yass	800	300
SNY	Snowy, Wagga, Northeast Victoria	800	3900
MEL	Melbourne, Geelong	5750	800
LV	Latrobe Valley	900	7000
POR	Portland	650	-
SESA	South East SA	100	150
RIV	SE NSW, SA Riverland, NW Vic	500	50
ADE	Adelaide	2100	2250
NSA	Northern SA	200	1100
TAS	Tasmania	1500	2500

* Approximate loads under regional summer peak conditions



Electricity transmission - boundary review:

- Challenges in meeting this objective:
 - Must manage power system security as well as provide commercial signals with risk management instruments
 - Security constraints easier to apply between rather than within market regions
 - Location risk is commercialised across boundaries between regions
 - Different wholesale & retail market boundaries could make it difficult to manage risk commercially

Electricity transmission - regulatory test

- The aim of the regulatory test is to identify:
 - The least-cost augmentation if required for reliability reasons
 - The augmentation that maximises (>0) the present value of the market benefit in a majority of reasonable scenarios, when compared to a number of alternative projects
- Distributed resource options are to be considered as well as network augmentations
- *Practical application of the regulatory test has sometimes been contentious*

User participation: demand side response

- NEM options considered:
 - Pay-as-bid (by COAG energy market review)
 - Aggregation facility (based on EUAA trial)
- Aggregation facility preferred & further work to be commissioned on this option
- Also to be addressed:
 - End-use capacity building
- *Improved retail market design not included in this scope of work*

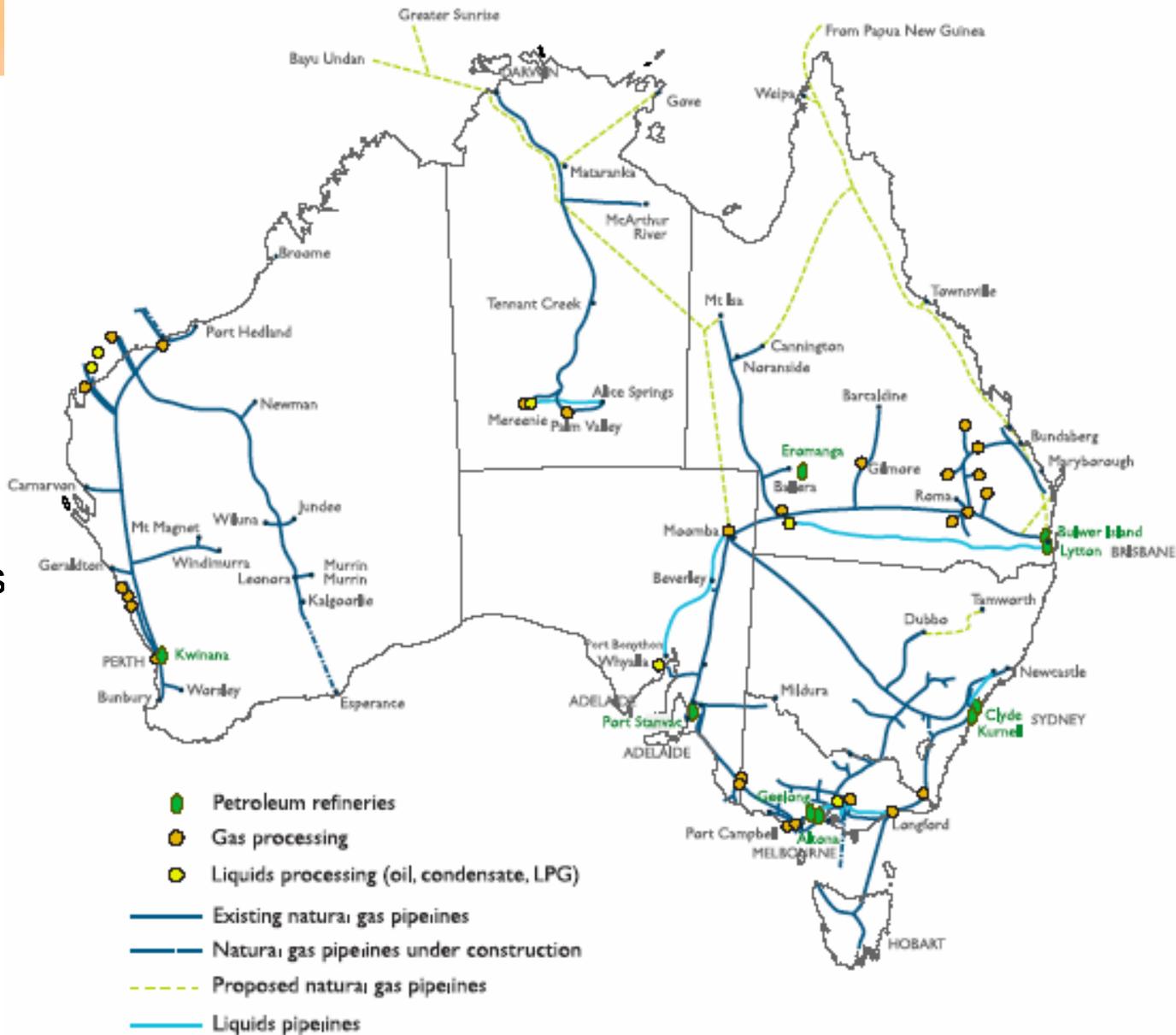
User participation: interval metering

- Interval metering should record:
 - Energy & key measures of availability & quality of supply for each market period
- Interval metering would facilitate:
 - Accountability for end-user decision-makers
 - Operation and investment
 - End-user participation in the provision of ancillary services
 - The transition towards nodal pricing



Natural gas & liquids pipelines in Australia

(Securing Australia's Energy Future, 2004)



Locations are indicative only.

Sources: Energy Networks Association, Australian Institute of Petroleum, ABARE, various sources.

0 200 400 600 800 1000
scale in kilometres

Gas market development: Productivity Comm. gas access review

- Key challenges:
 - Facilitate investment in “green fields” supply infrastructure
 - Efficiently allocate gas when supply constrained with respect to demand
- COAG energy market review recommended initial 15 year regulatory “holiday”

Conclusions

- COAG response has set ambitious targets for further electricity and gas restructuring
- The broad direction appears sound
- However, the outcome will depend on the details
- Challenging tasks for policy makers, regulators & market participants