Transmission Reform

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10 May 2006

Today's Presentation

- Transmission Performance
- Planning and Investment
- NSW Transmission Case Study

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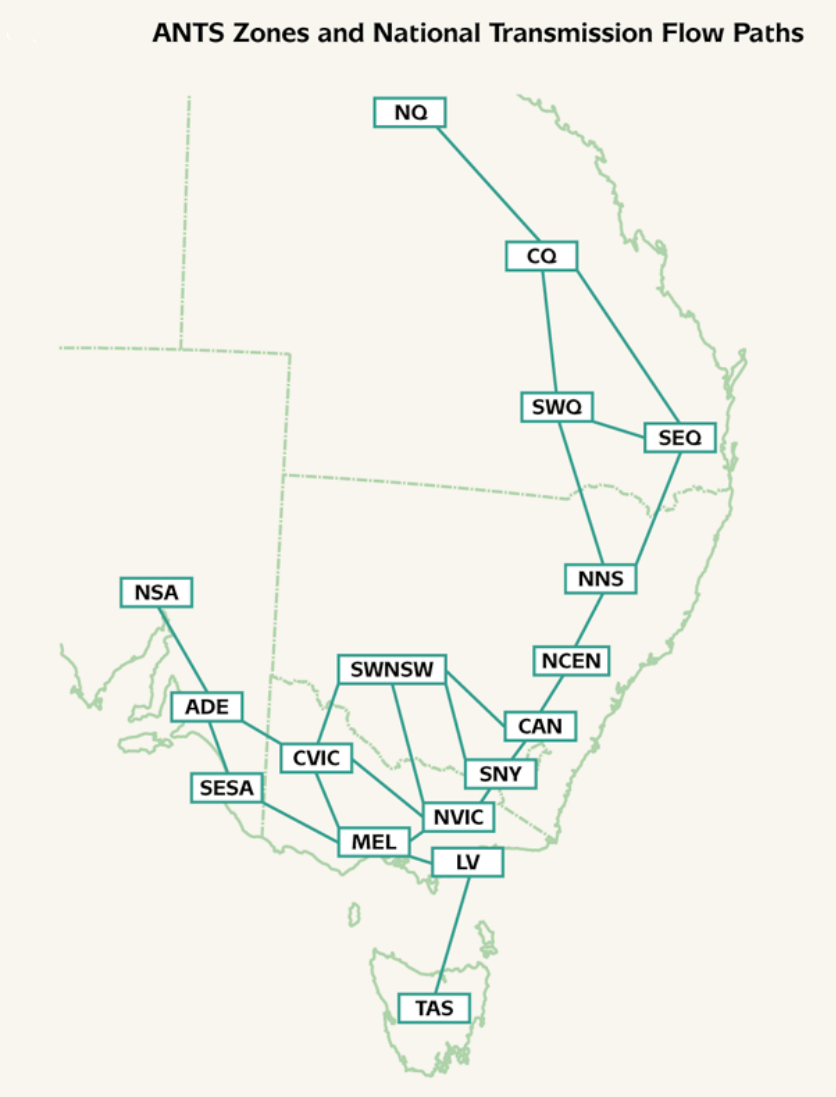
National Electricity Market Objective

- The National Electricity Market objective is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system.

National Transmission Flow Paths



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NSW Transmission Backbone Network

Quality Endorsed Company
ISO 9001 Lic 4067 Standards Australia

Certified Environmental Management
ISO 14001 Lic 0052 Standards Australia

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NSW Transmission Performance

- Reliability – Very Good (Interruptions average less than 1 system minute per year)
- Safety – Very Good (LTI rate 04/05 of 2.1. No impact upon the general public)
- Security – No technical failures that have directly impacted upon system security

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NSW Transmission Performance cont.

- Efficiency – Very Good (Australian TNSPs benchmarked as world leaders in terms of cost and service provision)
- Real reductions in OPEX/Asset Value and OPEX/GWh
- Transmission cost less than 6% of final cost to consumers
- Exceeding regulator service standard incentive expectations

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Views on Transmission

- Unreliable
- Not responsive to market
- Plagued by bottlenecks
- Under investment
- Disregard for non-network solutions

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Under Investment ?

- Network owners expect to need to invest $4 billion - $5 billion in the next 5 years to meet load growth and replace ageing assets. (Asset base of $9.5 billion)
- TransGrid has $1.2billion CAPEX in current regulatory period plus access to $722 million for contingent projects. (Asset base of $3.7 Billion)

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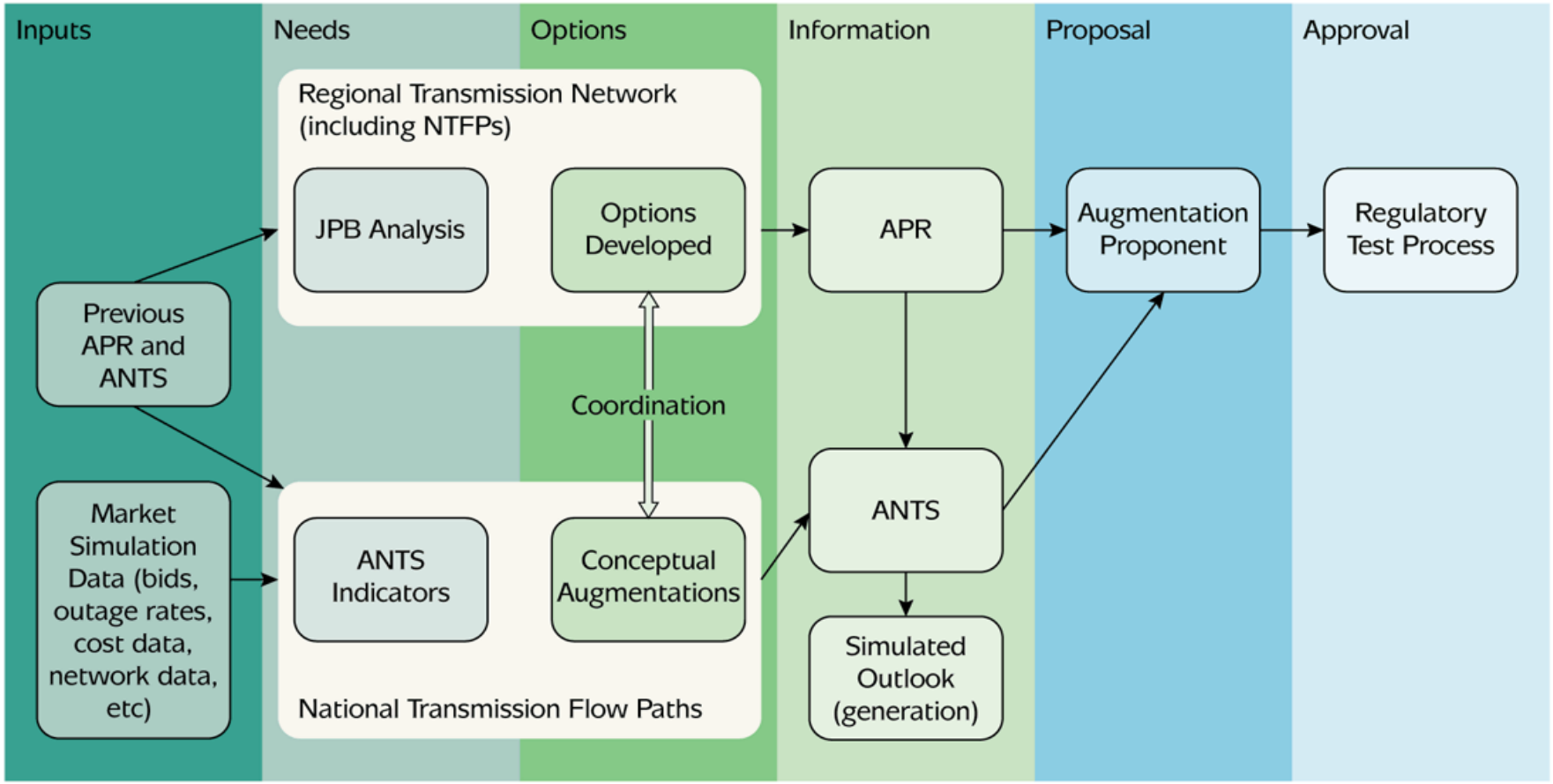
Network Planning and Investment Process

Figure 9 National Transmission Planning Process



[6] Administered by the Australian Energy Regulator.

National Transmission Planning

- Associated with inter-regional interconnectors
- 2005 ANTS Review identified 4 potential future developments of national transmission augmentations that may deliver positive net market benefits
- The ANTS is not a substitute for the regulatory test which proponents are required to satisfy in order for the project to receive regulated funding
- For NSW there was only one potential economically justified interconnection augmentation identified – QNI upgrade.
- Studies underway by TransGrid and Powerlink currently indicate a possible significant increase in capacity in both directions as the most beneficial solution.

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Jurisdictional Transmission Planning

- Driven by jurisdictional reliability obligations
- Requires grid capability to be augmented as demand grows (“keeping the lights on”)
- Drives the vast majority of transmission investment in the NEM. (This investment would happen even if there was no market and/or no interconnections).

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Jurisdictional Transmission Planning

- Open, transparent, accountable process – nationally standardised in NEM Rules
- Annual Planning Statements – identifies upcoming needs – what, where, when
- Open consultation and reports on each major augmentation – justify need, evaluate network vs non-network solutions (including demand side management), identify optimal solution

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Jurisdictional Planning

- 500 kV Development Case Study

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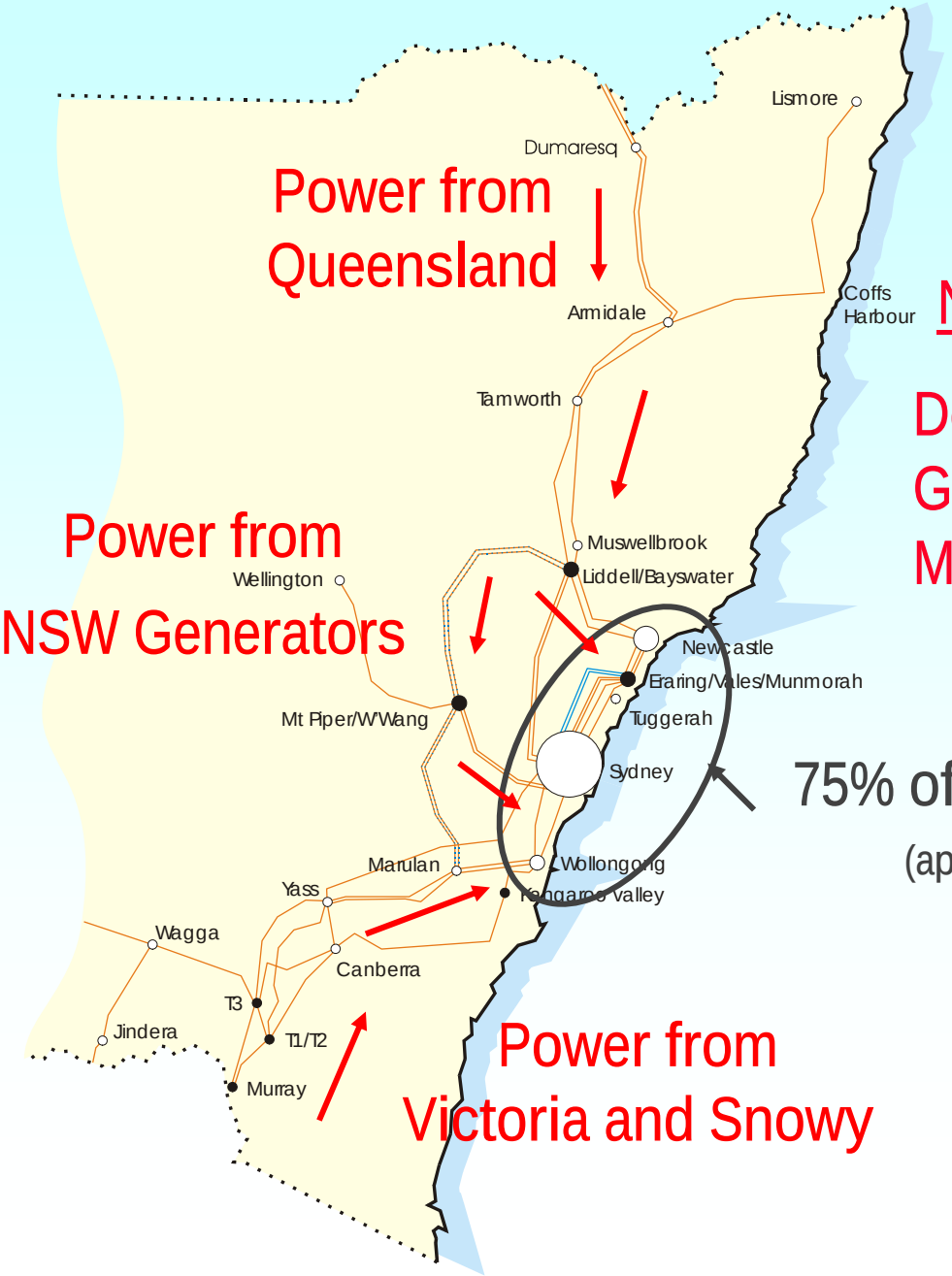

NSW Main Trans. System

Delivers Power from Generation Sources to Major Load Areas

75% of NSW Demand

(approx 9500 MW)

Quality Endorsed Company
ISO 9001 Lic 4067 Standards Australia

ISO 14001 Lic 0052 Standards Australia

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Existing 500kV Development

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Western 500 kV Development

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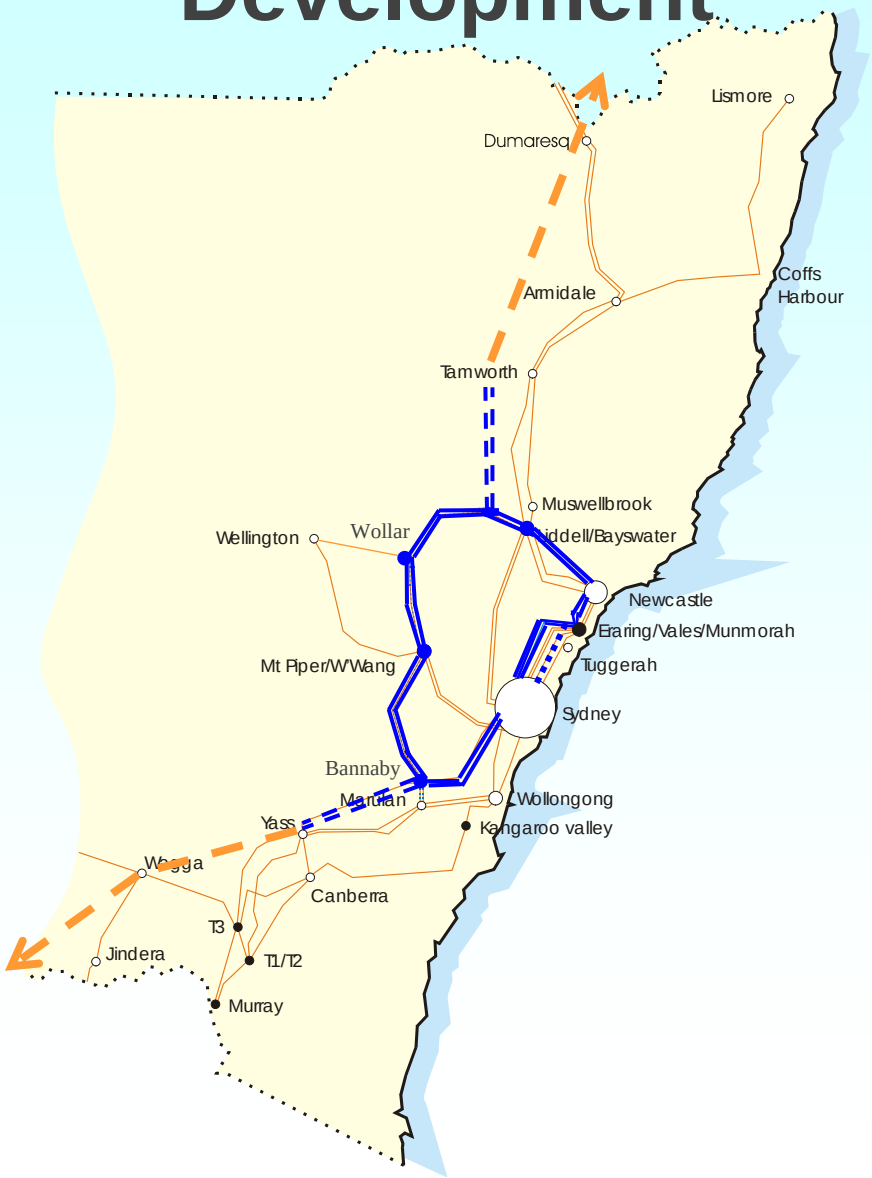
Possible Longer Term NSW System Development



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How Will These Developments Be Determined ?

- Location of new generation a determining factor
- Must pass the regulatory test – options (network and non-network) need to be feasible and meet service obligations
- A transmission solution must be lower cost than non-network options to proceed

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Conclusions

- Jurisdictional Planning has identified opportunities for significant transmission investment
- There is significant and efficient investment occurring in transmission infrastructure
- Transmission investments can only be made if they pass the regulatory test and prove to be a greater benefit than non-network solutions
- National Planning (ANTS) has only identified a limited number of interconnection upgrades that would likely pass the regulatory test

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