

ONE-PAGE ELECTRICITY MARKET DESIGN SUMMARY

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Entities responsible for electricity market functions

Where the jurisdiction procures capacity separately from energy:

1. Capacity is procured through an auction.
2. The price is set by a central authority rather than an open market mechanism.
3. Retailers/large consumers are obliged to hold contracts or capacity certificates.
4. Retailers/consumers can engage directly with producers to meet capacity obligations.

Risk management mechanisms:

1. Standardised contract forms for bilateral contracting
2. Exchange traded futures
3. Financial transmission rights, settlement residue auctions and the like

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Centrally managed, financially &/or physically firm spot energy markets.

Non-energy services. Also known as as System Support Services or Essential System Services

Retail market characteristics:

1. Whether the market allows at some or all consumers a choice of electricity retailer.
2. Minimum demand required to qualify as a contestable customer.
3. Whether the market allows consumers/retailers a choice of meter equipment and/or data provider.
4. Approach to reconciling meter data and allocating unmetered consumption.

Scheduling and dispatch characteristics:

1. Gross pool: participants offer all generation capability, all generation quantities determined in central dispatch. Net pool: participants nominate self-scheduled quantities, deviation quantities determined in central dispatch.
2. Time granularity for which dispatched quantities are calculated
3. Extent to which facility commitment is managed by the participant vs instructed by the market operator
4. Extent to which market scheduling algorithms account for network and security constraints
5. How the market algorithms treat network losses
6. Dispatch compliance requirements on intermittent generation
7. Extent to which battery storage devices can provide market services

ELECTRICITY MARKET SUMMARY - NEW ZEALAND			
Governance	Dispatch	Settlement	
Policy: Ministry of Business, Innovation & Employment	Gross pool: 1	Final prices: 1	1
Regulation: Electricity Authority (market), Commerce Commission (monopolies)	Net pool: 2	Trading interval: 2	2
Market design lead: Electricity Authority	Dispatch interval: 5 min: 2	Energy price floor: \$0/MWh	3
Rule making: Electricity Authority	Central commitment: 3	Energy price ceiling: \$20,000/MWh	3
Scheduling & dispatch: Transpower	Dynamic loss factors: 4	Reserve price floor: \$0/MWh	3
Power system operation: Transpower	Intermittent held to dispatch: 5	Reserve price ceiling: None	3
Market operation: NZX EMT (FTR), ASX (ETFs)	Full participation of batteries: 6	Scarcity pricing: 3	3
Metering: Vector AMS, IntelHub, SmartCo, + 9 other metering equipment providers	Interconnects: 5	Intervention pricing: 4	3
Network planning: Transpower	Local pricing: 5		
TX owner: Transpower	System-wide pricing: 6		
DX owner: Vector PowerCo, Chon, Wellington Electricity, +25 other regional distributors			
Capacity	Ancillary services		
Auction: 1	Service: Procurement	Cost recovered from:	
Administered price: 2	Contingency Reserve: Instantaneous Reserve 6s & 60s; co-optimised with energy; Over frequency reserve: contracted	IR: generators >60MW pro-rated to injection, HVDC owner; OFR: Tx owner	
Retailer obligations: 3	Regulation: Single service: contracted then cleared ahead of energy	Loads pro-rated to offtake	
Bilateral agreements: 4	Inertia: N/A	N/A	
	Black start: Contracted, availability fee + event fee	Grid owner	
	Network support: Voltage Support considered, but none currently contracted	Affected distributors in relevant zone per peak kVar	
	Real-time: Retail competition: 1	Threshold: 2	Metering competition: 3
		Reconciliation approach: 4	Global settlement: 4

Settlement approach:

1. Ex-ante: prices firm at time of dispatch. Ex-post: prices determined after dispatch
2. Time granularity of settlement.
3. Whether market prices are explicitly adjusted during times of scarcity.
4. Whether market prices can be adjusted where the system operator or regulator has overridden market outcomes.
5. Locational granularity of prices.
6. Extent to which prices include the effects of network congestion.

Version number and release date

Physically connected neighbouring jurisdictions



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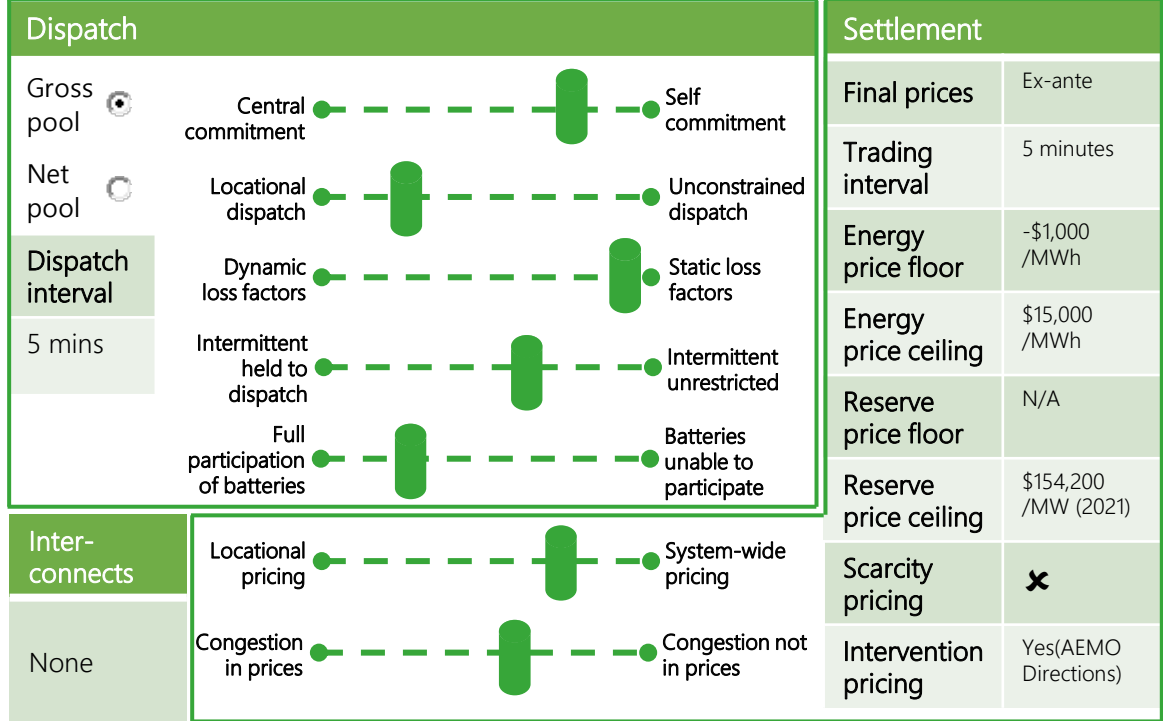
We can provide comprehensive reports on Australia and other Asia-Pacific electricity markets including market design and participation, upcoming policy and regulatory changes, and entry advice. We can also provide detailed price and dispatch forecasts for the market as a whole and for individual generators.

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ELECTRICITY MARKET SUMMARY – AUSTRALIA NEM

Governance	
Policy	Energy National Cabinet Reform Committee, Energy Ministers Meeting
Regulation	Australian Energy Regulator
Market design lead	Energy National Cabinet Reform Committee, Energy Ministers Meeting
Rule making	Australian Energy Market Commission
Scheduling & dispatch	AEMO
Power system operation	AEMO
Market operation	AEMO
Metering	Intellihub, Acumen Metering , and 32 other companies
Network planning	Powerlink - Queensland, TransGrid – NSW and ACT, TasNet - Tasmania, ElectraNet – South Aus, AEMO - Victoria
TX owner	Powerlink, TransGrid, TasNet, ElectraNet, AEMO
DX owner	Energex, Ergon , and 10 others

Capacity	Contracts		Spot	Retail	
	Auction	✗		OTC	✓
Administered price	✗	ETFs	✓	Threshold	✗
Retailer obligations	✓	Locational hedges	✓	Metering competition	✓
Bilateral agreements	✗	Day-ahead	✗	Reconciliation approach	Global Settlement
		Intra-day	✗		
		Real-time	✓		



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