

Module 3:

An Overview of the Australian Energy Market

This module will help you understand the key components of the Australian energy market, its stakeholders, and how national regulations impact sales strategies and customer engagement.

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Welcome to the

AWAKEN ENERGY

Employee Learning & Development Program

Welcome to Awaken Energy's Employee Learning and Development Program. This program is designed to equip you with the knowledge and skills needed to succeed within your role at Awaken Energy by maintaining the highest standards of compliance and customer care.

The energy industry plays a vital role in powering homes, businesses, and communities across Australia. Understanding the market landscape is key to navigating its complexities and ensuring customers receive reliable, informed guidance. This module will introduce you to the structure of the Australian energy sector, its key stakeholders, and the broader forces that shape the industry.

Let's get started and awaken your potential in energy sales!

The National Electricity Market (NEM)

Australia operates a National Electricity Market (NEM) covering NSW, ACT, QLD, SA, TAS, and VIC.

The NEM is one of the world's longest interconnected electricity grids, spanning over 5,000 kilometers. It delivers electricity to approximately 10 million customers.

The NEM is managed by the Australian Energy Market Operator (AEMO), which oversees real-time balancing of supply and demand to ensure system reliability by sending signals to generators instructing them how much energy to produce every 5 minutes which ensures production matches consumer requirements.

The NEM operates under strict regulatory frameworks to ensure transparency, competition, and consumer protection.



Australian Energy Market Operator (AEMO)

The Australian Energy Market Operator (AEMO) manages the National Electricity Market (NEM) and wholesale gas markets across Australia, ensuring a reliable, secure, and efficient energy supply.



Forecasting & Planning

- Develops market projections to guide future energy needs.
- Advises on infrastructure investments to support long-term stability.

Real-Time Operations

- Balances supply and demand every 5 minutes to maintain grid stability.
- Coordinates responses during energy disruptions to prevent or manage blackouts.

Why AEMO Matters:

- Ensures grid security and energy reliability
- Supports the transition to renewable energy
- Maintains a fair and competitive energy market



AEMO plays a critical role in keeping Australia's energy market running smoothly—both today and into the future.

Australian Energy Regulator (AER)

The Australian Energy Regulator (AER) oversees compliance with energy market laws and regulations, ensuring that retailers, generators, and distributors operate fairly and transparently. The AER also monitors the retail energy market to guarantee that consumers have access to fair prices and clear information.



Enforcement & Consumer Protections

- Regulates the charges set by distributors and transmission providers to ensure fairness and efficiency.
- Publishes reports on market performance, identifying areas for improvement and enforcing compliance where needed.
- Ensures consumers are protected from misleading practices and have access to affordable energy options.

Network Pricing & Market Monitoring

- Sets guidelines for network pricing to prevent excessive charges.
- Monitors energy market trends and performance to maintain transparency.
- Investigates market behaviours that could negatively impact consumers or market competition.



The AER plays a key role in protecting consumers, promoting competition, and ensuring a transparent and efficient Australian energy market.

Victorian Essential Services Commission

The Victorian Essential Services Commission (ESC) is an independent regulator that oversees the state's energy sector. It ensures that energy businesses operate fairly and transparently, safeguarding consumer interests and promoting a reliable, affordable, and sustainable energy market in Victoria.



Enforcement & Consumer Protections

- Enforces compliance with energy laws, issuing penalties and taking legal action against breaches to protect consumers.
- Monitors retailer practices to ensure customers receive accurate information, fair treatment, and necessary support, especially for vulnerable groups.
- Maintains and updates codes of practice, such as the Energy Retail Code of Practice, to uphold consumer rights and service standards.

Network Pricing & Market Monitoring

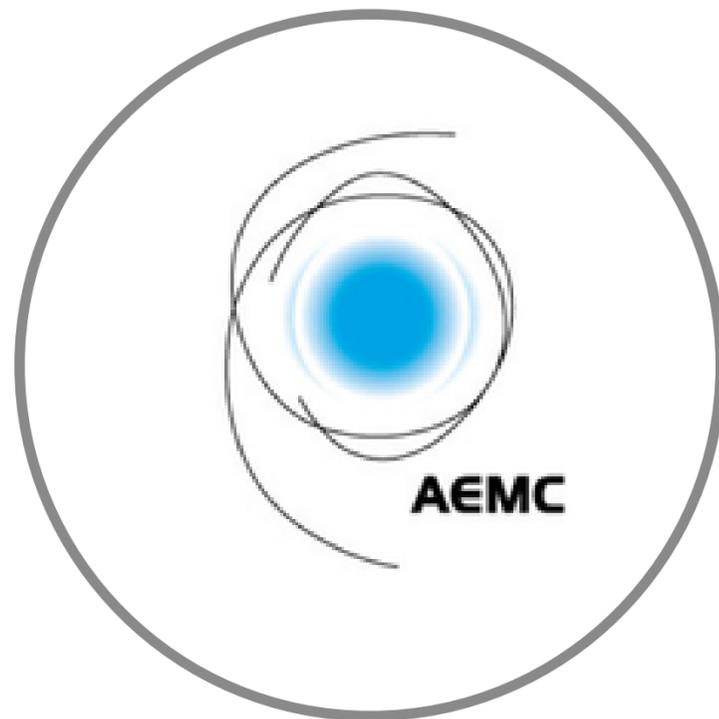
- Sets the Victorian Default Offer (VDO), providing a fair electricity price for customers unwilling or unable to engage in the retail market.
- Monitors energy market performance, publishing reports to ensure transparency and inform policy decisions.
- Regulates network pricing and oversees distribution services to prevent excessive charges and ensure reliability.



The ESC safeguards Victorian consumers by setting fair prices, enforcing energy rules, and ensuring transparent, responsible practices in the state's energy market.

Australian Energy Market Commission

The Australian Energy Market Commission (AEMC) is the official rule maker for Australia's energy markets. It shapes policies and regulations governing the National Electricity Market (NEM) and aspects of the gas markets, ensuring efficiency, reliability, and affordability for consumers.



Roles of AEMC

- **Rule Maker** – Develops and amends the National Electricity Rules (NER), National Gas Rules (NGR), and National Energy Retail Rules (NERR).
- **Market Advisor** – Provides independent policy advice to governments on improving energy markets.
- **Market Developer** – Reviews market performance and recommends reforms for efficiency, reliability, and affordability.
- **Future Planning** – Designs long-term reforms to integrate renewables, new technologies, and demand response mechanisms.

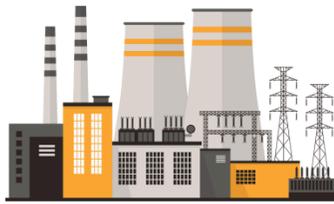
How AEMC Impacts the Energy Industry

- Ensures fair and efficient pricing.
- Promotes competition and market transparency.
- Supports the shift to renewable energy by updating market rules.
- Safeguards reliability and security of electricity and gas supply.
- Collaborates with regulators like the AER and AEMO for cohesive market management.



The AEMC shapes Australia's energy future by creating fair and adaptable market rules, helping the industry transition to cleaner energy while ensuring affordability and reliability for all consumers.

How Electricity Moves: From Power Plants to Plugs



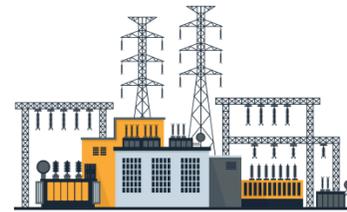
Generation

Coal Power Station, Gas Power Plants, Hydro Energy Generation, Wind and Solar farms.



Substation

A Substation transformer increases the voltage of electricity to allow it to travel long distances.



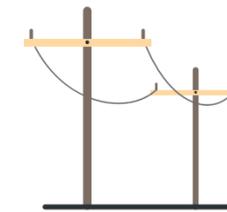
Transmission

High Voltage power lines transport electricity over long distances from the generation asset to the distribution network



Substation

A Substation transformer decreases the voltage of electricity for delivery of every day household use.



Distribution

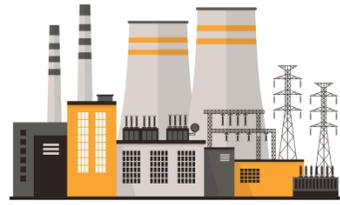
Distribution networks deliver electricity to homes and businesses through lower-voltage power lines.



Retail

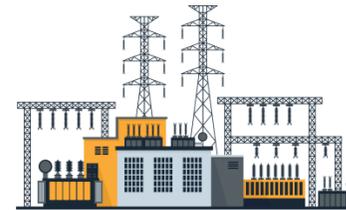
Energy retailers purchase electricity from the wholesale market and sell it to consumers.

Who Runs the Grid? A Guide to Energy Market Stakeholders



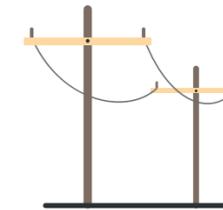
Generation

Generation Assets are owned and operated by a mix of private and government owned entities.



Transmission

Transmission is managed by transmission network service providers (TNSPs) like TransGrid (NSW/ACT), Powerlink (QLD), and ElectraNet (SA).



Distribution

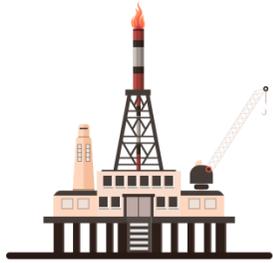
Distributors are regulated to ensure reliable supply and fair pricing. Distributors include Ausgrid, Essential Energy and Endeavour Energy (NSW), Energex (QLD), Evoenergy (ACT) and SA Power Networks (SA).



Retail

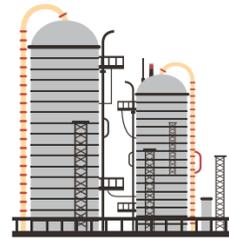
Retailers compete to offer customers the best plan, making energy comparisons essential. Retailers include Origin, AGL and Energy Australia, Red Energy, Alinta, Sumo, 1st Energy, Tango, Momentum, Pacific Blue, Lumo and many more.

How Gas Moves: From Source to Stove



Extraction

Australia's natural gas is produced from conventional (onshore and offshore reservoirs) and unconventional sources (coal seam and shale gas)



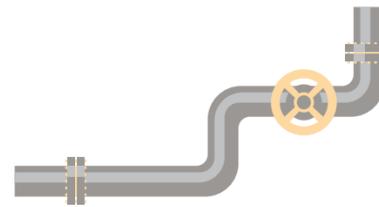
Separation

Oil and water are separated, and the vented gas is directed to the gas processing plant for further treatment.



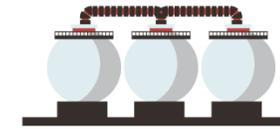
Processing

A natural gas processing plant removes impurities and separates hydrocarbons, water, and other by-products to produce clean, market-ready natural gas.



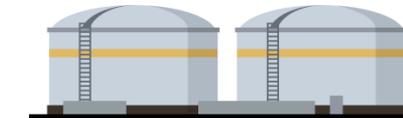
Compression

Natural gas is compressed after processing to increase its pressure for efficient transportation through pipelines and to reduce its volume for easier storage and distribution.



Odorant

Odorant is added to natural gas, which is naturally odourless, to give it a distinct smell (usually like rotten eggs) for easy leak detection and to ensure safety.



Storage

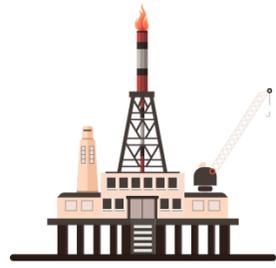
Once fully processed Gas is stored ready for distribution to customers.



Retail

Energy retailers purchase Natural Gas from the wholesale market and sell it to consumers.

Who Controls the Gas Flow? A Guide to Market Players



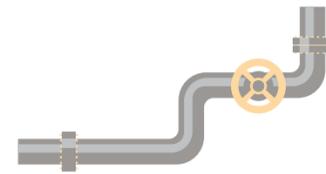
Extraction



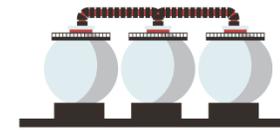
Separation



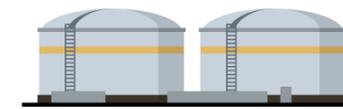
Processing



Compression



Odorant



Storage



Retail

Production

Australia's natural gas extraction and processing industry is led by major companies including Woodside Energy, Santos, Chevron, Shell Australia, Origin Energy, and Beach Energy. These companies operate across key gas basins and large-scale LNG projects, ensuring both domestic supply and international exports. Their activities span from offshore and onshore extraction to advanced processing facilities, playing a critical role in Australia's energy sector.

Transmission

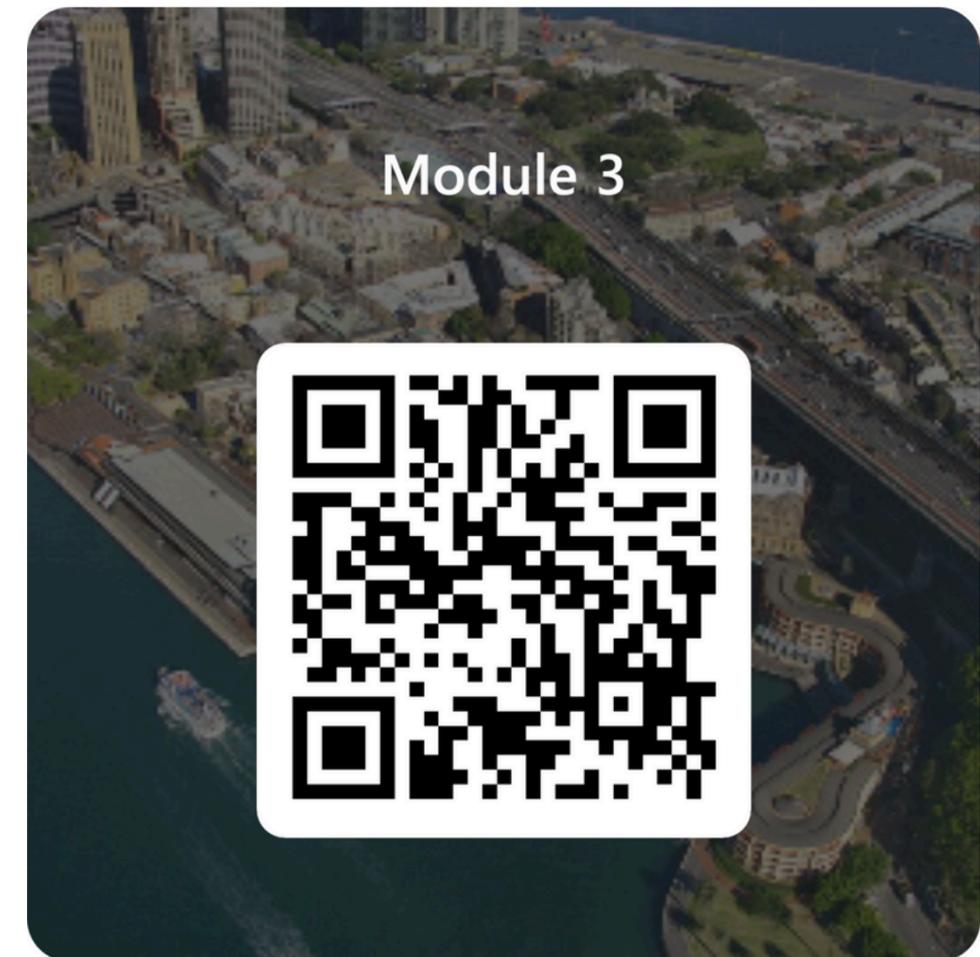
Natural gas transmission in Australia uses high-pressure pipelines, managed by operators like APA Group and Jemena, to transport gas from production sites to distribution networks and major consumers, ensuring efficient flow, safety, and supply reliability.

Distribution

Energy retailers purchase natural gas from wholesale markets or producers and sell it to residential, commercial, and industrial customers. They manage customer accounts, billing, and usage plans, often offering bundled energy services. Key gas retailers include AGL, Origin Energy, EnergyAustralia, Red Energy, and Alinta Energy, which operate across multiple states, providing competitive plans and customer support.

An Overview of the Australian Energy Market

Review what you've learned about the energy industry in Australia, including how it's structured, who's involved, and why regulation matters.





We hope this training has helped to awaken your enthusiasm and energise your potential as you step into your roles in the energy sales industry. Your passion is the spark that will drive our success at Awaken Energy, lighting the way to a brighter, more sustainable future. Embrace the journey and let your energy shine!