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Regulation in the NEM

*Facilitating the PV Revolution:
Mapping the regulatory
frameworks in the National
Electricity Market*

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Abbreviations

ACCC	Australian Competition and Consumer Commission
AEMA	Australian Energy Market Agreement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ASIC	Australian Securities and Investments Commission
CAP	Consumer Advocacy Panel
COAG	Council of Australian Governments
DNSP	Distribution Network Service Provider
ECNSW	Electricity Commission of NSW
ETF	Exchange Traded Futures
ETSA	Electricity Trust of South Australia
FiT	Feed-in Tariff
LGC	Large-scale Generation Certificate
LRET	Large-scale Renewable Energy Target
MCE	Ministerial Council for Energy
NEC	National Electricity Code
NECA	National Electricity Code Administration
NEL	National Electricity Law
NEMMCO	National Electricity Market Management Company
NEO	National Electricity Objectives
NER	National Electricity Rules
NGMC	National Grid Management Council
ORER	Office of the Renewable Energy Regulator
OTC	Over The Counter
PV	Photovoltaic
REC	Renewable Energy Certificate
SCER	Standing Council on Energy and Resources
SECV	State Electricity Commission of Victoria)
SRES	Small-scale Renewable Energy Scheme
STC	Small-scale Technology Certificate
TNSP	Transmission Network Service Providers



Introduction

This briefing paper aims to explore the regulatory frameworks and institutions relevant to the development of the photovoltaic (PV) industry today. This covers both the institutions involved in the current electricity market arrangements as well as regulatory bodies specifically relevant to PV and renewable technologies in general.

The first section provides an overview of the regulatory frameworks in the Australian electricity market, in which the PV industry participates. This overview includes review of the developments and reforms that have occurred in the electricity market over the past two decades, providing important context for the current institutional arrangements.

The remaining sections address the regulatory frameworks and institutions relevant for renewable energy technologies, and in particular, photovoltaic technology. Whilst there are many different schemes and policies across the various jurisdictions, the focus of this discussion is on the federal target based schemes (Large-scale Renewable Energy Scheme and Small-scale Renewable Energy Scheme) and the state based Feed-in Tariff schemes, (for example the now discontinued Victorian Premium Feed-in Tariff Scheme).

The remit of some of the institutions covered is broad, and extends beyond the electricity and PV industries respectively. In the interests of brevity, a full account of all regulatory and statutory functions not related to the electricity or PV industry is avoided. Many of the institutions, for example, have significant roles in the regulation of gas markets, gas developments and the gas industry in general, which are not explored or discussed here.

The focus is similarly directed at developments and frameworks in the National Electricity Market (NEM). There are several other smaller electricity networks in WA and the NT. However the NEM, straddling the eastern seaboard of Australia and including NSW, Vic, QLD, SA, and TAS is the undoubtedly the predominant market and network, delivering around 90% of Australia's electricity.



The Australian Electricity Market

Development and Reform of the Australian Electricity Market

A brief overview of the development and reforms in the Australian Electricity Market is presented below to provide context for the current market arrangements and regulatory frameworks. Over a period of 20 years, the industry has moved from being dominated by protected, vertically integrated state owned monopolies, to a competitive market, with a disaggregated, corporatized and to a degree privatized industry structure.

Pre 1990: State Owned Electricity Monopolies

Electricity supply was historically a state responsibility. The electricity supply chain (from generation through to retail) was owned and operated by vertically integrated state based utilities. There was no wholesale market, and each jurisdiction supplied its own demand¹. With the exception of the Snowy Hydro Scheme (which has supplied Victoria and NSW with electricity since 1959), transmission lines did not cross state jurisdictional boundaries, and there was limit inter-state trade². The overall structure of the electricity sector was straight forward, with each state having its own power authority monopoly, (including the State Electricity Commission of Victoria SECV, Electricity Commission of NSW, ECNSW), alongside the Commonwealth's Snowy Mountains Authority. There was no choice of supplier and governments protected the utilities from competition³: all public electricity utilities were exempt from the Trade Practices Act^{4,5}. The various commissions were established by Acts of (State) Governments, for example *State Electricity Act 1958 (VIC)*, and the *Electricity Commission Act 1950 (NSW)* and the Snowy Authority under the *Snowy Mountains Hydro-electric Power Act 1949 (C'th)*.

1985-1990: Industry Commission and other Inquiries

During 1985, the “*Commission of Inquiry into Electricity generation planning in NSW*” was established to examine and report on the current procedures and planning, guidelines for allocation of resources and the recommended generation plan for NSW⁶. The inquiry found that proposed new baseload investment by the ECNSW could be deferred by alternative options. The inquiry proposed excess capacity would have cost NSW several billion dollars, leading to the inquiry to conclude that the current institutions would ‘inefficiently allocate societal wealth’⁷. A particularly noteworthy finding on was that there was more value in interconnection with Victoria. Alongside the need for “clearly articulated understanding of longer-term objectives, well resourced independent agency with overview role, formal

¹ Australian Energy Regulator, *State of the energy market 2009*.

² Ibid.

³ Allan Fells, *Reforming Australia's Electricity Market*.

⁴ Commonwealth, *Industry Commission Act 1989*, sec. 12.

⁵ Fred Hilmer, *National Competition Policy Review*, pg 86.

⁶ McDonnell, *Commission of Inquiry into Electricity Generation Planning in N.S.W.*

⁷ MacGil, “Electricity Industry Restructuring and Its Implementation in Australia.”



public processes with high transparency”⁸, this inquiry set the scene for the development of more interconnected grid, and more generally market reform.

During 1990 the Industry Commission began an inquiry into electricity distribution and generation, specifically in regards to institutional, regulatory or other arrangements subject to influence by governments in Australia which lead to inefficient resource use. The Commission recommended significant changes to the structure of the electricity and industries, including the separation of ownership of key functions in each industry. A key recommendation included the corporatization of public utilities and the progressive sale of much of the publicly owned generation and distribution assets⁹. Another key recommendation was to increase competition (by disaggregating vertically integrated monopolies).

1990-1995: Competition Policy, the Hilmer Review and Industry Restructuring

From the early 1990’s the Australian governments began to reform the electricity industry. In October 1990, a ‘Special Premiers Conference’ agreed on a broader framework for improving the Australian Federation, with reform directed at a more efficiency and competitive economy¹⁰. A subsequent conference established that “competitive markets would achieve a more efficient allocation of resources within the economy” and acknowledged “the role national competition policy could play in underpinning the effective functioning of those markets”¹¹. There was a focus on micro-economic reform, including (but not limited to) in the areas of electricity generation, transmission and distribution and regulatory reform, with the Premiers endorsing the need for a national competition policy.

Following the discussion at these conferences, and in preparation for a full interconnection between the states, the representatives agreed to establish a National Grid Management Council (NGMC). The role of the NGMC was to encourage open access to the grid, free trade in bulk electricity, coordinate planning and to arrange competitive sourcing of new generation¹² and co-ordinate the most efficient, economic and environmentally sound development of the electricity industry¹³. In 1990, (just prior to the formation of the NGMC) and for the first time in more than 30 years (since the Snowy scheme) the Heywood interconnector between Victoria and South Australia was opened¹⁴.

In 1992, the Prime Minister announced the establishment of a major independent inquiry into competition policy in Australia (the Hilmer Review). This included the establishment of an independent review of the Trade Practices Act to assess its capacity to secure a

⁸ Ibid.

⁹ Industry Commission, *Energy Generation and Distribution*.

¹⁰ COAG, “Special Premiers’ Conference Communiqué - Sydney, 30 July 1991.”

¹¹ Ibid.

¹² Senate Committee, “Reforms in the Electricity Industry.”

¹³ COAG, “Special Premiers’ Conference Communiqué - Sydney, 30 July 1991.”

¹⁴ Australian Energy Regulator, *State of the energy market 2007*.



national competition policy, and to identify alternative models for regulating market behaviour¹⁵, as endorsed by the previous Special Premiers' Conferences.

Later in 1992 the then Prime Minister, Premiers and Chief Ministers agreed to establish the Council of Australian Governments (COAG). The Heads of Government endorsed a NGMC National Grid Protocol in this year. This protocol set out the rules, responsibilities and technical requirements for connection to the National Grid and for participating in trading bulk electricity through market sharing¹⁶. However the NGMC had still not developed the settlement procedures and accounting procedures for when the grid was fully operational. In 1993, the Hilmer Review was delivered to COAG with six major policy proposals. These included (but were not limited to) restructuring of public sector monopoly businesses to increase competition, and extending the reach of the trade practices act to increase competition¹⁷. Subsequently, a National Competition Policy package was agreed to by the heads of government. This included a 'Competition Principles Agreement', in which governments agreed to introduce a fully competitive national market for electricity and restructure their electricity sectors. In 1994 COAG developed a code of conduct for the operation of a national grid consisting of the transmission and distribution systems, and agreed to recommendations for regulatory arrangements for a national electricity market consistent with reforms of competition policy¹⁸.

During this period, disaggregation, corporatization and restructuring of the electricity sector across the different jurisdictions had already begun to occur, with corporatization subjecting government business enterprises to competition law. In 1993-1994 the State Electricity Commission of Victoria was disaggregated and corporatized into three entities, covering mining and generation; transmission and system security; and distribution and retailing^{19,20}. The *Electricity Industry Act 1993 (VIC)* was the basis for this reform of the Victorian electricity industry. The *Office of The Regulator-general Act 1994 (VIC)* established the Office of The Regulator-general, to 'promote competitive market conduct' and prevent 'misuse of market power' within regulated industries, (such as the electricity industry). The functions of the office were stipulated relevant legislation under which a regulated industry operates (in this case the *Electricity Industry Act*).

The Electricity Trust of South Australia (ETSA) likewise underwent substantial restructuring, including disaggregation in 1993²¹, followed by corporatization on 1 July 1995, under the *Electricity Corporations Act 1994 (SA)*. The Electricity Commission of NSW was restructured into six business units (including generation, pool trading, network and services) in 1992. However it wasn't until 1995 the business units were corporatized, under the *Electricity Supply Act 1995 (NSW)*²². The restructuring of Queensland's electricity industry occurred much later than in most other states. The Queensland Electricity

¹⁵ Kain, "Australia's National Competition Policy: Its Evolution and Operation."

¹⁶ Senate Committee, "Reforms in the Electricity Industry."

¹⁷ Commonwealth of Australia, "National Competition Policy Reform - Electricity."

¹⁸ COAG, "Council of Australian Governments' Communiqué 25 February 1994."

¹⁹ Rann, "Electricity Industry Restructuring - A Chronology."

²⁰ Roarty, "Electricity Industry Restructuring."

²¹ Roarty, *Electricity Deregulation Outside the New South Wales and Victorian Markets*.

²² Rann, "Electricity Industry Restructuring - A Chronology."



Commission was disaggregated into two entities in 1995, which were restructured into corporations in 1997²³. The Snowy Mountains Hydro-Electric Authority was also corporatized in 1997 under the *Snowy Hydro Corporatisation Act 1997 (C'th)*.

In this period of transition to a national market, Victoria and New South Wales trialled wholesale electricity markets that used supply and demand principles to set prices. In 1994, the Victorian Whole Electricity Market commenced (VicPool), which was managed by the Victorian Power Exchange²⁴ (a split off from the transmission and system security corporation, *National Electricity*.) Transgrid, a separate statutory authority, under the *Electricity Transmission Authority Act 1994 (NSW)*, was given the authority to operate the NSW electricity market²⁵ and in 1997, QLD passed an amendment act to provide an interim market before interaction with the national market.

1996-2001: The National Electricity Law

In 1996, the state and commonwealth jurisdictions agreed to pass the National Electricity Law (NEL), which provided the legal basis to create the National Electricity Market²⁶, and implemented the competitive proposals outlined by Hilmer. The NEL is the lead legislation, giving effect to the National Electricity Market), and is contained in a schedule to the *National Electricity Act 1996 (SA)*. This is applied as law in other states and territories through application Acts and co-operative legislation²⁷. The NEL provided the legal basis for the market and for the National Electricity Code (NEC), which contained the market rules, and sets out the objectives of the market, and the rights and responsibilities of market participants²⁸. Under the act, the responsibilities of the NGMC were transferred to the National Electricity Market Management Company (NEMMCO), which was established on behalf of the State governments, to manage the wholesale markets on behalf of its participants²⁹. The National Code Electricity Administrator (NECA) was also established to enforce and manage the NEC. The NECA and NEMMCO proposed the NEC, which was approved by Australian Competition and Consumer Commission (ACCC), under *The Trade Practices Act 1974 (C'wth)*. The state regulators retained many of the regulatory functions (for the electricity industry) within their jurisdictions³⁰. The National Electricity Market commenced operation in December 1998, with initially Queensland, New South Wales, Victoria, South Australia and the Australian Capital Territory as participating jurisdictions.

At this stage QLD was not physically interconnected with the market³¹. However, construction of new interconnectors gathered pace with the commencement of the NEM. Two interconnectors between Queensland and New South Wales (Directlink and the Queensland to New South Wales Interconnector) commenced in 2000. This is followed by a second interconnector between Victoria and South Australia (Murraylink) in 2002³².

²³ Roarty, *Electricity Deregulation Outside the New South Wales and Victorian Markets*.

²⁴ Rann, "Electricity Industry Restructuring - A Chronology."

²⁵ Ibid.

²⁶ Australian Energy Regulator, *State of the energy market 2009*.

²⁷ COAG, "Australian Energy Market Agreement."

²⁸ NECA, "National Electricity Code."

²⁹ Rann, "Electricity Industry Restructuring - A Chronology."

³⁰ Ibid.

³¹ Ibid.

³² Australian Energy Regulator, *State of the energy market 2007*.



Tasmania joined the NEM in 2005 and was physically connected with the market in April 2006 with the opening of the Basslink interconnector, a submarine transmission cable from Tasmania to Victoria.

2002: The Parer Review and the current regulatory framework

In June 2001 the COAG established the Ministerial Council on Energy (MCE) to 'provide national oversight and coordination of energy policy development and to provide national leadership so that consideration of broader convergence issues and environmental impacts are effectively integrated into energy sector decision-making' and endorsed the need for a 'national energy policy framework'³³. An independent review of market directions was set up to further energy market development (Parer Review), and presented to the MCE in 2002.

The Parer Review acknowledged the progress achieved by the reforms, but highlighted some 'serious deficiencies'³⁴. These deficiencies encompassed unintended consequences of the reform process, and unaddressed reform areas. The review highlighted many issues, including (but not limited to) those relating to governance and regulatory problems. In particular, the review identified that the responsibilities of the key electricity industry governing bodies' overlap in important areas, and that there were too many regulators. Combined with the differing regulatory bodies across the states, the amount of regulation led to costly inconsistency. It was also found that greenhouse responses to date were ad hoc and poorly targeted. One of the Parer Review recommendations included the creation of a National energy regulator to encompass the energy specific roles of the ACCC, all the state and territory regulatory bodies, and some of the roles of NECA. It also suggested the creation of a statutory end user and industry committee to drive a streamlined process for changes to the National Electricity Code³⁵.

The culmination of the review saw the MCE provide a package of recommended reform proposals called *Reform of Energy Markets* to COAG in 2003. This included recommendations for the formation of two new statutory authorities, the Australian Energy Market Commission (AEMC) and the Australian Energy Regulator (AER), and abolishing the NECA³⁶. The MCE recommended the AER to be a constituent part of the ACCC but operate as a separate legal entity, and the AEMC to also be a separate legal entity, accountable to and subject to the power of policy direction from the MCE³⁷. Other changes were recommended, however no changes were proposed for the structure or function of NEMMCO. The MCE's recommendations were endorsed by all Parties (States, Territories and Commonwealth of Australia) through the Australian Energy Market Agreement (AEMA) in mid 2004, and the MCE responsibilities were agreed on³⁸.

³³ COAG, "Australian Energy Market Agreement."

³⁴ Parer, *Towards a truly national and efficient energy market: Report to the Council of Australian Governments*.

³⁵ Ibid.

³⁶ Ministerial Council on Energy, *Reform of Energy Markets: Report to the Council of Australian Governments*.

³⁷ Ibid.

³⁸ COAG, "Australian Energy Market Agreement."



As a result of the AEMA, the Commonwealth amended the *Trade Practices Act 1974 (C'th)* to establish and enable the conferral of function and powers (in relation to Electricity and Gas) to the AER, as a constituent part of the ACCC. The state of South Australia also submit legislation to establish the AEMC as a South Australian body, through the *Australian Energy Market Commission Establishment Act 2004 (SA)*, with specific provisions in the NEL for judicial review of AEMC decisions³⁹. Each of the participating jurisdictions also conferred power functions and power to the AER and the AEMC.

In April 2007 the COAG agreed to establish a single, industry funded, national energy market operator for both electricity and gas to strengthen the national character of energy market governance; the Australian Energy Market Operator (AEMO)⁴⁰. Prior to the establishment of AEMO, electricity and gas markets were operated by separate market operators, (for example NEMMCO, and the Gas Retail Market Operator and the Gas Market Company).

This broadly provides an outline of the development and reform in the electricity industry. The framework outlined in the AEMA represents the current regulatory framework and is discussed in more detail in the following.

Figure 1 over page illustrates the development of the electricity industry.

³⁹ Ministerial Council on Energy, "Intergovernmental Agreement and Legislative Framework."

⁴⁰ COAG, "Council of Australian Governments' Communiqué - Canberra, 13 April 2007."

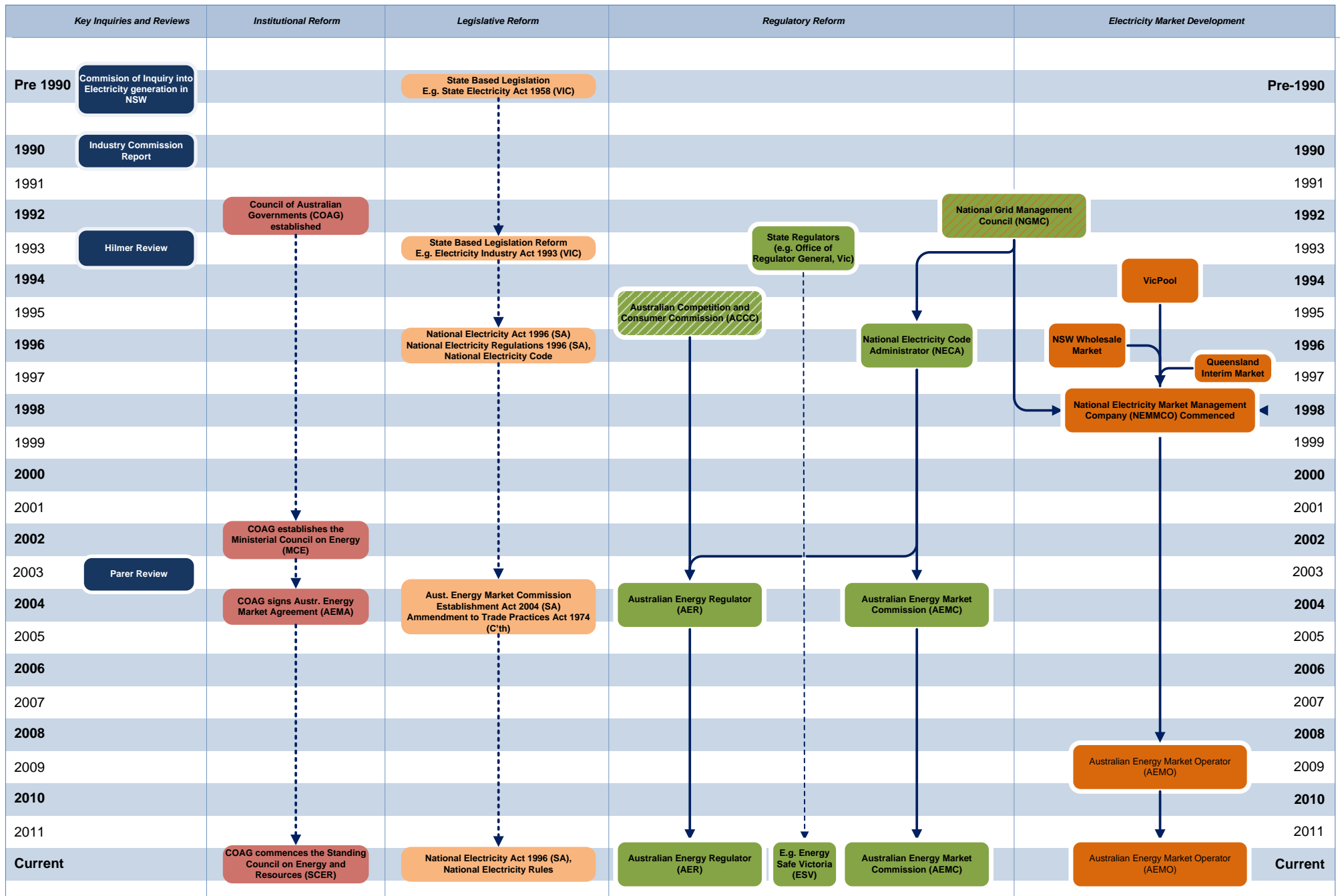


Figure 1: History of Reform in the Electricity Industry



Electricity Supply System - Overview

Basic System

There are a number of participants in the current, disaggregated and privatized electricity supply system. These can generally be divided into three distinct categories; generators, network service providers and retailers.

Large-scale generators dispatch electricity to meet the demand (created by end users). The electricity is transferred to distribution points via the long distance high voltage transmission networks, which are operated by Transmission Network Service Providers (TNSPs). The electricity then travels through the distribution networks to the end user, which is operated by the Distribution Network Service Providers (DNSPs).

In essence, retailers and other end users purchase electricity from generators. Retailers also pay network access fees to the TNSP's and DNSP's for use of the electricity networks. This is bundled up and paid for by the end user, through the electricity bill. Figure 2 below illustrates the flow of electricity and money in the current energy supply system.

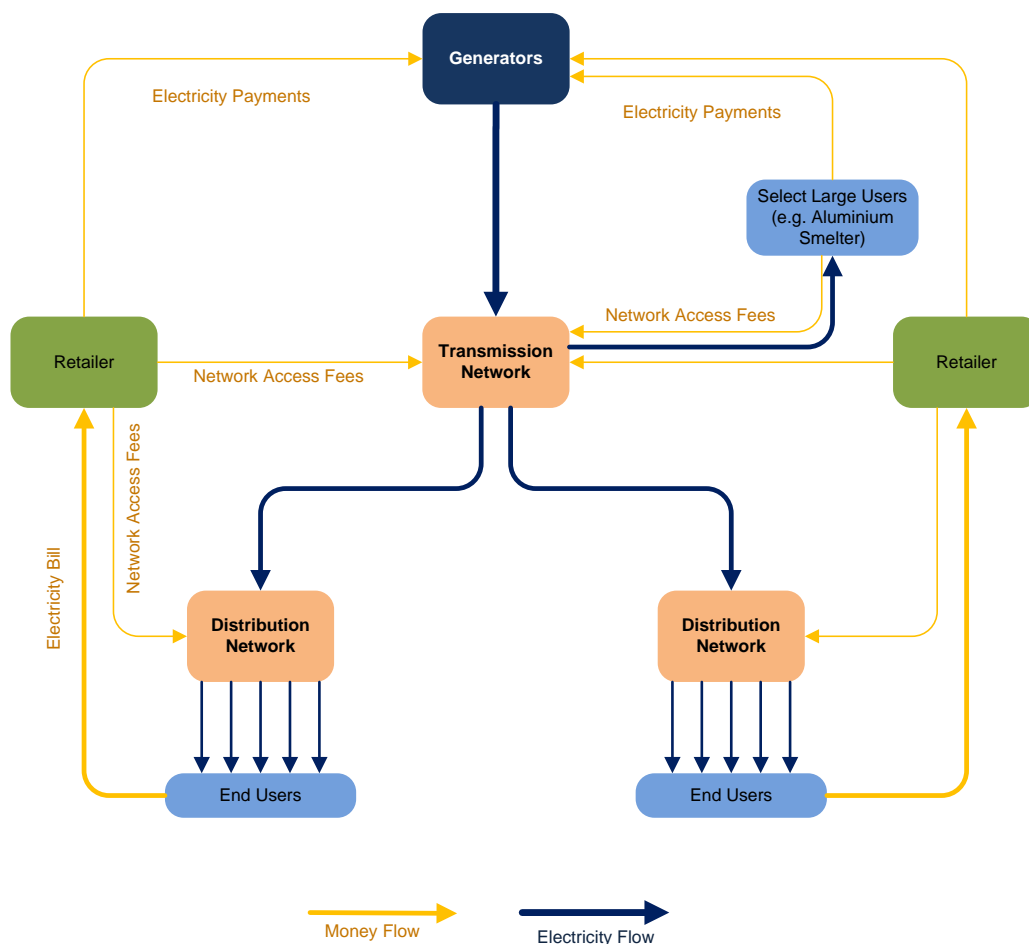


Figure 2: The Basis Energy Supply System



Electricity Supply and the National Electricity Market

In the NEM, electricity is actually sold through a wholesale spot market, rather than directly between generators and end users. The market is administered by the AEMO and is a 'gross pool energy only' market, meaning all electricity generated is sold through the market.

While all transactions are undertaken at the spot price, there is significant use of Over-The-Counter (OTC) and Exchange Trade Futures (ETF) derivative instruments in order to hedge against spot market price fluctuations. Figure 4 illustrates a more detailed flow of money and electricity through the electricity supply system.

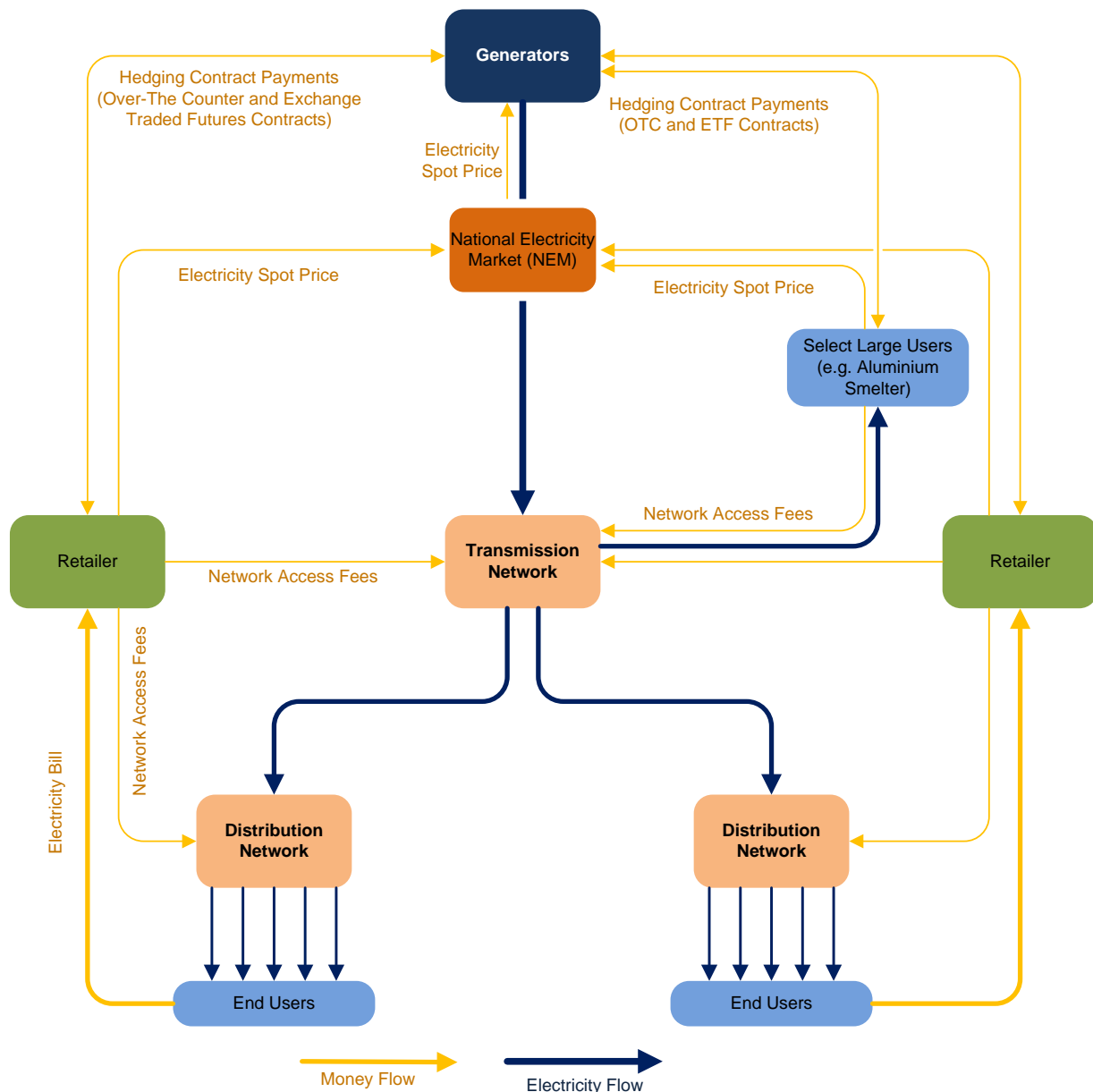


Figure 3: Energy Supply System, including the National Electricity Market and financial Instruments



Current Legislative Framework

The *National Electricity Act 1996 (SA)*, containing the National Electricity Law, is the key legislation with respect to the regulatory framework within the electricity sector. This legislation articulates the National Electricity Objective and establishes the National Electricity Rules for regulation of the electricity industry. The law also confers regulatory function to statutory bodies and other institutions, with respect to rule development, and rule enforcement.

The National Electricity Law

The National Electricity Law (NEL) is contained in a Schedule to the *National Electricity (South Australia) Act 1996*. The NEL provides the legal basis for the market and for the National Electricity Rules, and sets out the objectives of the market.

The NEL is applied as law in each participating jurisdiction of the NEM by application statutes, for example the National Electricity (Victoria) Act 2005.

National Electricity Objective

The National Electricity Objective (NEO), as stated in the National Electricity Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:

- Price, quality, safety, reliability, and security of supply of electricity;
- The reliability, safety and security of the national electricity system.
- These objectives are the highest point of reference for policy setting.

The National Electricity Rules

In accordance with the NEL, National Electricity Rules (NER) are developed for and with respect to regulating the electricity sector. The Rules govern the detail of technical and economic regulation of wholesale and retail electricity markets, and electricity network businesses. Specifically, these rules are for regulation of:

- the operation of the national electricity market;
- the operation of the national electricity system for the purposes of the safety, security and reliability of that system;
- the activities participants in the national electricity market or involved in the operation of the national electricity system;
- and any other matter contained within the NEL



Current Regulatory Framework

The current regulatory framework was established under the Australian Energy Market Agreement (AEMA), signed by the Commonwealth, States and Territories on 30 June 2004. Under this agreement, (and with the aim of to improve and streamline governance arrangements for the nation's energy sector) the current market institutions were proposed and roles defined. These included:

- The Australian Energy Market Commission (AEMC)
- The Australian Energy Regulator (AER)
- The Standing Council on Energy and Resources (SCER), previously Ministerial Council on Energy (MCE)

Whilst the MCE was established prior to the agreement, its role was not formally agreed on until the AEMA. The National Electricity Market Management Company (NEMMCO) existed before the agreement, and it was agreed that this entity would remain responsible for the day to day operation and administration of both the power system and electricity wholesale spot market. AEMC and AER were established in 2005 as a result of the COAG endorsed agreement.

The AEMC is responsible for rule development and making determinations on proposals to amend the Rules. It determines the policy environment and governance structures that shape the development of Australia's energy markets and which set the operating requirements and obligations of market participants. The AEMC is responsible to the Council of Australian Governments (COAG) through the SCER, and provides advice (e.g. Reviews) to the SCER or receives policy direction from the SCER.

The AER oversees economic regulation and compliance with the National Electricity Law and Rules and the National Gas Law and Rules. The AER is accountable to the Commonwealth Government as a constituent entity of the Australian Competition and Consumer Commission (ACCC).

A Memorandum of Understanding between the AEMC, the ACCC and the AER sets out arrangements to promote effective cooperation, communication and coordination between the bodies in performance of their roles.

NEMMCO later merged with other industry bodies into amalgamated and broader Australian Energy Operator (AEMO), which now operates (within this governance structure) alongside the AEMC and AER. The MCE was only recently been replaced with a broader Standing Council on Energy and Resources.

Figure 4 illustrates the current market institutions (and corresponding relationships), as established under the AEMA, and these institutions are discussed in the following section. Other institutions (not covered by the AEMA) are also involved in the basic electricity regulatory framework and are also discussed in the following section.

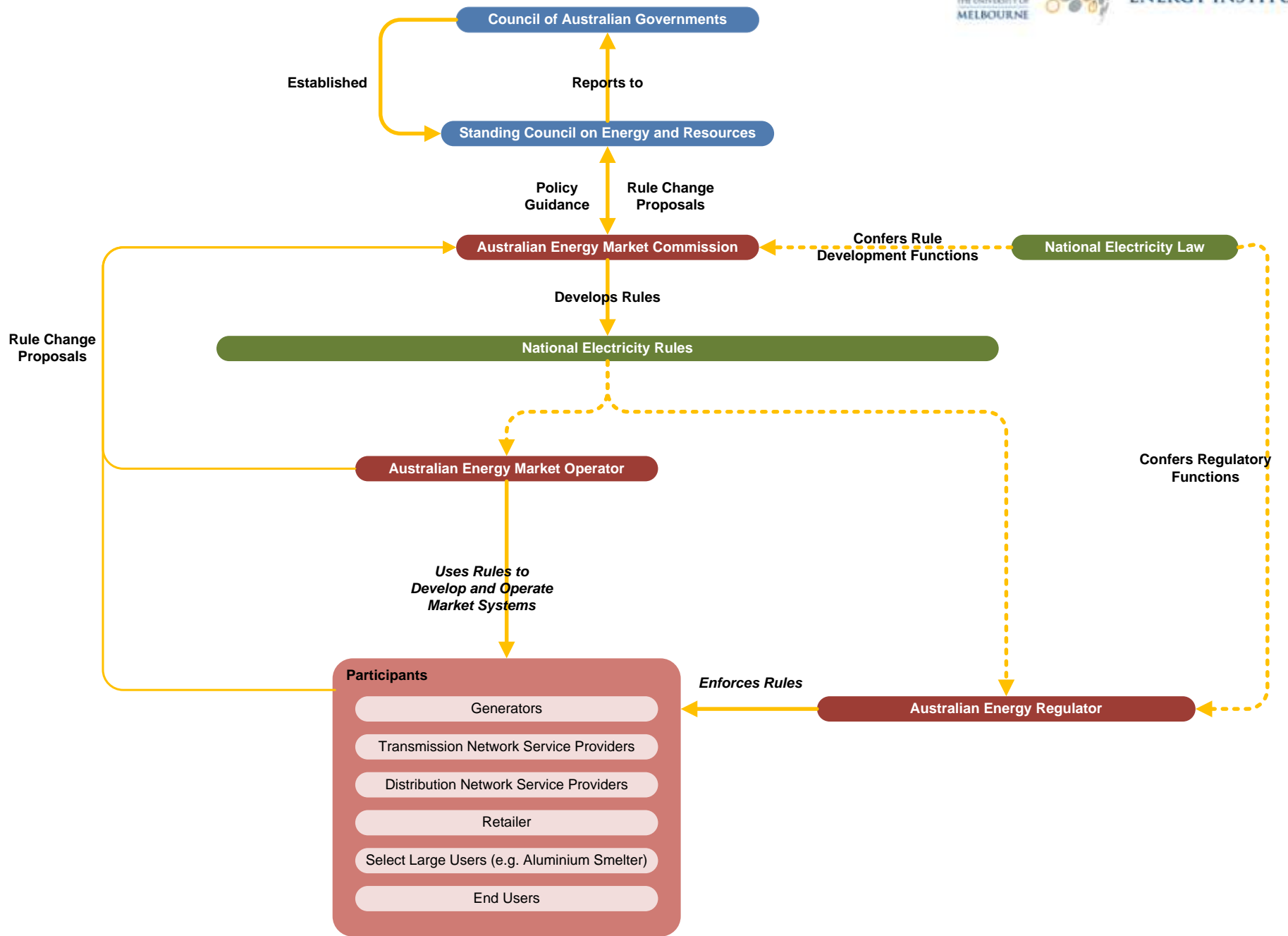


Figure 4: The Current Regulatory Framework, as established in the Australian Energy Market Agreement



National Institutions

Standing Council on Energy and Resource – SCER

(Replacing the Ministerial Council on Energy - MCE)

Overview:

Key Functions: To provide national oversight and coordination of policy development to address opportunities and challenges facing Australia’s energy sector into the future

Relevant Legislation and Agreements: The role of MCE (and SCER) is defined in the Australian Energy Market Agreement (AEMA) originally made by COAG in 2004, and amended in 2009. Responsibilities fall under *National Electricity Act 1996 (SA)*, and the *AEMC Establishment Act 2004 (SA)*

Introduction

The Standing Council on Energy and Resources (SCER) recently replaced the Ministerial Council on Energy (MCE) and the Ministerial Council on Mining and Petroleum Resources⁴¹. The first meeting occurred in December 2011, and the priorities and Terms of Reference were announced in November 2011⁴². With the commencement of the SCER, the remit of the MCE has been withdrawn, with the SCER carrying on the key reform elements of the MCE.

As the SCER has only recently commenced, and SCER will subsume the functions of the MCE, a discussion of the MCE functions and guidelines is included for reference.

Functions of the MCE

The Council of Australian Governments (COAG), established the Ministerial Council on Energy (MCE), in 2001 to implement a national energy policy framework⁴³. Whilst the MCE was established in 2001, the role of the MCE was not fully agreed upon until the AEMA was signed in 2004.

Broadly, it was agreed that the MCE was “the National policy and governance body for the Australian Energy Market, responsible for delivering the economic and environmental benefits for Australia”⁴⁴. According to the AEMA, this included responsibility for:

- The national energy policy framework
- Policy oversight, and future strategic directions for the Australian energy market
- Governance and institutional arrangements for the Australian energy market
- Legislative and regulative framework with which the market operates

⁴¹ Minister for Resources and Energy and Tourism, “Standing Council on Energy and Resources Sets Priorities.”

⁴² DRET, “Terms of Reference: COAG Standing Council on Energy and Resources.”

⁴³ COAG, “Australian Energy Market Agreement.”

⁴⁴ Ibid.



- Longer term systemic and structural energy issues that affect public interest

The MCE reported to COAG on the operation of the agreement and any proposed amendments, and have the power to issue policy directions to the AEMC with respect to its rule making function. It also has the power to recommend appointments of commissioners to and approve funding arrangements for the AEMC and AER.

As previously mentioned, the SCER has commenced and SCER and will continue to carry out the key reforms already underway through the previous Ministerial Council of Energy (and the Ministerial Council on Mineral and Petroleum Resources). The standing council has similar function to the MCE, with its responsibilities also falling under the Australian Energy Market Agreement⁴⁵, (as described above).

More specifically, the SCER seeks to “ensure the safe, prudent and competitive development of the nation's mineral and energy resources and markets to optimise long-term economic, social and environmental benefits to the community”⁴⁶. In regards to electricity, the council has particular responsibilities for oversight of the Australian electricity markets, particularly in terms of energy efficiency.

The SCER has also agreed on priority issues (including developing a nationally consistent approach to clean-energy technology, and promote efficiency and investment in generation and networks).

Legislation and Guidelines

As previously mentioned, the main national agreement under which the MCE, and now SCER, operates is the Australian Energy Market Agreement (amended in 2009). The MCE (and SCER) has responsibilities under the *National Electricity Act 1996 (SA)*, *National Gas Act 2008 (SA)*, *Australian Energy Market Commission Establishment Act 2004 (SA)* and has responsibilities for statutory authorities including the AEMC, the AER and AEMO.

The SCER also has responsibilities under legislation and statutory authorities that previously fell under the Ministerial Council on Mining and Petroleum Resources.

The previous Ministerial Councils will be referred to in the above governing instrument until 2016 at the latest.

Structure

The MCE comprised of the Ministers with the responsibilities for Energy within the Australian Government and all states and territories (with international observers from New Zealand and Papua New Guinea. Similarly, the SCER membership comprises of Commonwealth, State, Territory and New Zealand Ministers with responsibility for energy and resource matters.

⁴⁵ DRET, “Terms of Reference: COAG Standing Council on Energy and Resources.”

⁴⁶ Ibid.



Australian Energy Market Commission - AEMC

Overview

Key Function: The AEMC is responsible for rule making and market development.

Relevant Legislation & Regulations: National Electricity Act 1996 (SA), National Electricity Regulations 1996 (SA), Australian Energy Market Commission Establishment Act 2004 (SA)

Introduction:

The establishment of the AEMC was proposed in the Australian Energy Market Agreement, endorsed by COAG in 2005. Specifically, COAG agreed to establish the AEMC as *“the body responsible for rule making and energy market development at a national level, including in respect of the National Electricity [Rules] and the National Gas Code”*⁴⁷, with the intention of launching a new era of transparent and accountable governance for energy markets.

Functions of the AEMC

The AEMC is the rule maker and rule developer for the Australian Energy markets, making rules which set the operating requirements and obligations for participants and institutions in electricity (and natural gas markets). Currently, the AEMC is responsible for rules and policy advice on how best to develop energy markets over time in relation to the National Electricity Market. The AEMC contributes to the ongoing review and reform of the energy arrangements, to ensure that they maintain the resilience to respond flexibly to the significant changes in market conditions and policy settings. The key responsibilities are to⁴⁸:

- Consider rule change proposals that govern energy markets;
- Conduct energy market reviews for the MCE (SCER);
- Provide policy advice to the MCE (SCER) as requested or on AEMC initiative.

The NEL also requires the AEMC to establish the Reliability Panel which essentially monitors, reviews and reports on the safety, security and reliability of the national electricity system in accordance with the Rules.

The Consumer Advocacy Panel (CAP) was also established in 2008, through an amendment to the *Australian Energy Market Commission Establishment Act 2004 (SA)*. The CAP is an independent statutory body which provides funding to help consumers take part in policy and regulatory decisions on the NEM, natural gas markets and national energy policy.

⁴⁷ COAG, “Australian Energy Market Agreement.”

⁴⁸ Ibid.



Legislation and Guidelines:

The AEMC is an independent, national body which is responsible to the COAG through its MCE (SCER). The AEMC is a statutory body established under South Australian law and recognized in law by all participating jurisdictions.

A main source of statutory powers for the AEMC comes from the National Electricity Law (NEL); the rule making powers are conferred to the AEMC within this law. The AEMC’s decision making is guided by the National Electricity Objective, and the National Gas Objective.

Structure

AEMC has a chairman and two part-time commissioners (appointed by state and territory jurisdictions). Figure 5 illustrates the structure of the AEMC.

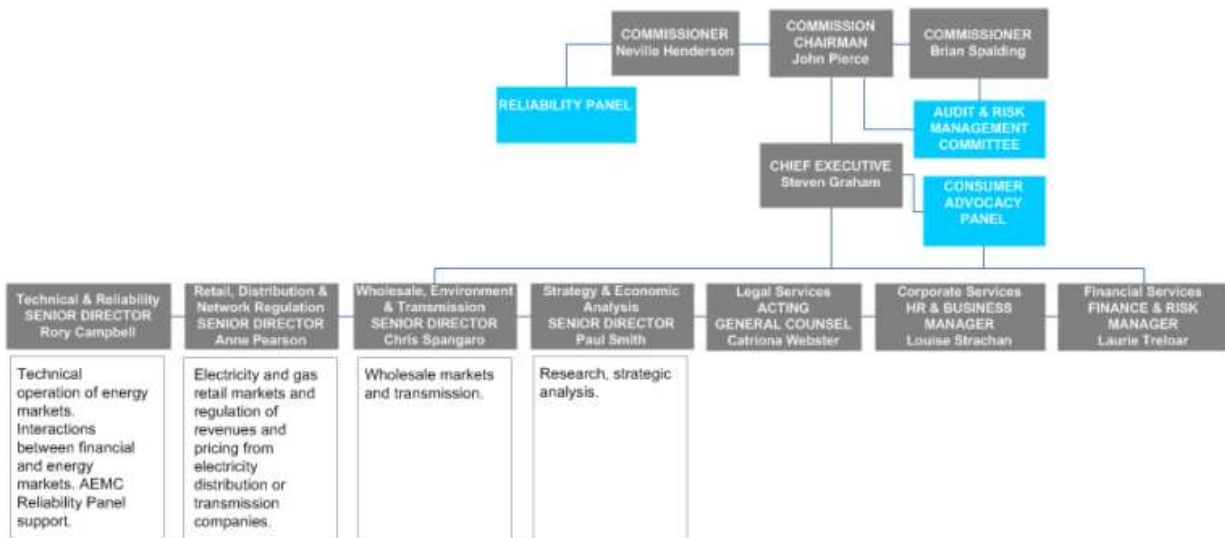


Figure 5: AEMC Structure [source: AEMC⁴⁹]

⁴⁹ AEMC, “Our People and Structure.”



Australian Energy Regulator - AER

Overview

Key Function: The AER performs economic regulatory, compliance and enforcement functions.

Relevant Legislation & Regulations: AER was established under Part IIIAA of the Trade Practices Act 1974 (C'th), and operates under the Competition and Consumer Act 2010 (C'th). The Trade Practices Act has been renamed the Competition and Consumer Act 2010 (C'th).

Introduction:

The Australian Energy Regulator (AER) is Australia's national energy market regulator and an independent statutory authority. COAG agreed to establish the AER (in the AEMA) as the “*body responsible for economic regulation and compliance with the [Rules] of the Electricity and natural gas industries at a national level*”⁵⁰. The AER is a constituent part of the Australian Competition & Consumer Commission (ACCC).

Functions of the AER

The AER performs its regulatory functions under the national electricity law, and the national electricity rules. The functions are set out in national energy market legislation and rules, and include⁵¹:

- Setting the prices charged for using energy networks (electricity poles and wires and gas pipelines) to transport energy to customers
- Monitoring wholesale electricity and gas markets to ensure suppliers comply with the legislation and rules, and taking enforcement action where necessary
- Publishing information on energy markets, including the annual State of the energy market report and more detailed market and compliance reporting, to assist participants and the wider community
- Assisting the ACCC with energy-related issues arising under the Competition and Consumer Act, including enforcement, mergers and authorizations

In regards to the electricity sector, a key focus is on regulating the natural monopoly transmission and distribution sectors of the national electricity market, monitoring the wholesale electricity market and enforcing electricity market rules. Under the national electricity law and national electricity rules, the AER's key responsibilities include⁵²:

- Regulating the revenues of transmission network service providers by establishing revenue caps
- Regulating the revenues of distribution network service providers
- Monitoring the electricity wholesale market

⁵⁰ COAG, “Australian Energy Market Agreement.”

⁵¹ AER, “Australian Energy Regulator - About Us.”

⁵² AER, “Australian Energy Regulator - Responsibilities.”



- Monitoring compliance with the national electricity law, national electricity rules and national electricity regulations
- Investigating breaches or possible breaches of provisions of the national electricity law, rules and regulations
- Instituting and conducting enforcement proceedings against relevant market participants
- Establishing service standards for electricity transmission network service providers

Whilst the AER is “*responsible for economic regulation and compliance*”⁵³, the states and territories are responsible for regulating retail energy prices. The AER will assume new responsibilities in 2012 for regulating retail energy market⁵⁴.

Legislation and Guidelines:

The AER's regulatory functions and powers are conferred upon it by the national electricity law and the national electricity rules. The AER was established under Part IIIAA of the *Trade Practices Act 1974 (Cth)* (now *Competition and Consumer Act 2010 (Cth)*) and operates as a separate legal entity. The AER is funded by the Commonwealth, with staff, resources and facilities, provided from the Australian Competition and Consumer Commission (ACCC).

Structure

The AER has three general managers, which are responsible for Markets, Networks operations and development, and Network regulation.



Figure 6: AER Structure [source: AER⁵⁵]

⁵³ COAG, “Australian Energy Market Agreement.”

⁵⁴ AER, “AER’s Role in Energy.”

⁵⁵ AER, “Australian Energy Regulator - About Us.”



The Australian Energy Market Operator - AEMO

Overview

Key Function: Market Operator and Power System operator of the National Electricity Market

Relevant Legislation and Guidelines: Changes to the National Energy Law *National Electricity ACT 1996 (SA)* were made to confer statutory functions to AEMO. The National Electricity Law and National Electricity Rules govern the operation of the NEM

Introduction

The Australian Energy Market Operator (AEMO) was established in 2009, and assumed NEMMCO's functions as both market operator of the NEM and operator of the power system that underpins NEM operations. AEMO also assumed the functions of other jurisdictional gas and electricity market operators. In total, six industry bodies from both the electricity and gas markets merged to create AEMO⁵⁶:

- National Electricity Market Management Company (NEMMCO)
- Victorian Energy Networks Corporation (VENCorp)
- Electricity Supply industry Planning Council (ESIPC)
- Retail Energy Market Company (REMCO)
- Gas Market Company (GMC)
- Gas Retail Market Operator (GRMO)

Functions

AEMO absorbed the functions carried out by various jurisdictional market organizations. This includes management of the National Electricity Market (NEM) and the retail and wholesale gas markets of eastern and southern Australia and oversees system security of the NEM electricity grid⁵⁷. In addition, AEMO carries out long term planning functions (using demand forecasting data and scenario analysis), and over sees management and development of the transmission network. AEMO's responsibilities also include developing the market to incorporate new rules, infrastructure and participants⁵⁸. Additional functions in Victoria include procurement, connections and reliability services, and in South Australia wind planning.

⁵⁶ AEMO, "AEMO History."

⁵⁷ AEMO, "AEMO Services."

⁵⁸ AEMO, "AEMO Market Development."



1. Market Operations

AEMO's responsibilities include day to day operation of Australian energy markets. For the NEM, this includes operating and maintaining the dispatch system through which electricity prices are set and transactions are carried out. AEMO also acts as the clearing house for the wholesale electricity market transactions that occur through this process⁵⁹.

Other market operations involve market performance reporting, incident analysis and emergency management, and the provision of market data (to participants).

2. Market Development

AEMO manages short term market development, such as new infrastructure, new market participants and changing demand levels. AEMO facilitates these developments by obtaining and publishing input from market participants and other stakeholders, ensuring consistent and practical application of national electricity rules⁶⁰.

Part of AEMO's market development role is to work collaboratively with national policy makers, participants and jurisdictions to identify and develop streamlined rules and more integrated processes.

3. Transmission Services

AEMO is responsible for overseeing the management and development of the NEM transmission (and natural gas transmission) systems, including emergency preparedness and transmission demand forecasting for the NEM (and for the gas systems)⁶¹.

4. Long Term Planning

AEMO is responsible for the long term planning of NEM. AEMO publishes Electricity (and Gas) Statements of Opportunity to assess supply and demand, and review planned developments to transmission system. This provides a basis for existing and potential market participants to develop capital investment plans. A further National Transmission Network Development Plan (NTNDP) outlines the long term, efficient development of the electricity transmission system⁶².

The intention of the long term planning is to guide strategic, nationally focused and efficient development of major transmission flow paths, and infrastructure projects.

⁵⁹ AEMO, "AEMO Services."

⁶⁰ AEMO, "AEMO Market Development."

⁶¹ AEMO, "AEMO Services."

⁶² Ibid.



Legislation and Guidelines

AEMO was established by legislation passed in the South Australian Parliament⁶³. Changes to the National Electricity Law, *the National Electricity Act 1996 (SA)* were made in order to confer functions and powers on AEMO, and functions and powers were also conferred on AEMO by changes to the National Electricity Rules. The legislation applies to all jurisdictions in which AEMO operates and ensures that AEMO has the statutory ability to deliver market operation, planning and system management functions.

AEMO operates in line with National Electricity Rules (and National Gas Rules) under laws developed by the Australian Energy Market Commission (AEMC) and enforced by the Australian Energy Regulator (AER). The National Electricity Law and National Electricity Rules govern the operation of the NEM (which AEMO operates and maintains), with the National Electricity Rules carrying the force of law.

Memorandums of Understanding between the state governments define AEMO's emergency powers for both gas and electricity markets.

Structure

AEMO is a not-for-profit company and operates on a cost recovery basis as a corporate entity limited by guarantee under the Corporations Law. The ownership is comprised of government members (60%) and industry members (40%). Government members of AEMO include the state governments of Queensland, New South Wales, Victoria, South Australia and Tasmania, the Australian Capital Territory and the Commonwealth. Industry members include Australia's major energy generators, wholesalers and retailers⁶⁴.

AEMO is run by a skills-based board of nine non-Executive Directors and the Chief Executive Officer.

⁶³ AEMO, "AEMO Governing Legislation."

⁶⁴ AEMO, "AEMO AEMO Governance."



Other Regulators

There are other (broader) regulators that are relevant to, but not solely focused on, the electricity sector. Two major 'external' regulators include ASIC and the ACCC, and are discussed below.

Australian Securities and Investment Commission - ASIC

Key Functions: ASIC is Australia's corporate, markets and financial services regulator

Key Legislation: ASIC is an independent Commonwealth Government body, set up under and administer the Australian Securities and Investments Commission Act, and operate under the Corporations act.

ASIC regulates Australian companies, financial markets, (as well as a host of other financial services organizations). This includes the supervision of trading on Australia's equity, derivatives and futures markets (which could for example include electricity futures). For example, ASIC removed Enron Australia from the register of facility providers in the national wholesale electricity futures market in 2001⁶⁵. ASIC was "not satisfied that the company had adequate financial resources to continue to trade within the market", after issues with the US parent company.

ASIC granted an exemption to NEMMCO (as a corporation) from the "requirement to hold an Australian Financial Services license for the provision of financial services in relation to settlement residue agreements involving wholesale clients"⁶⁶. This exemption continues to apply to AEMO

The Australian Competition and Consumer Commission - ACCC

Key Functions in the energy market: The ACCC is responsible for competition law matters concerning energy markets.

Key Legislations: The ACCC operates under and enforces the Trade Practices Act 1974 (C'th), now renamed as the Competition and Consumer Act 2010 (C'th).

The AER is a constituent member of the ACCC and a separate legal entity. Whilst the AER is responsible for the economic regulation of the wholesale electricity market and electricity transmission networks in the NEM, the ACCC is still responsible for competition law matters concerning the energy markets.

The ACCC is an independent, national statutory body responsible for promoting competition and fair trading and providing consumer protection to enhance the welfare of Australians. The ACCC enforces the Trade Practices Act 1974 (C'th), renamed the Competition and Consumer Act 2010 (C'th) to promote vigorous and lawful competition, to encourage fair business dealings and to protect consumers from misleading and deceptive conduct⁶⁷.

⁶⁵ ASIC, "ASIC Takes Action on Enron Australia."

⁶⁶ AEMO, "Exemption from Requirement to Hold Australian Financial Services License."

⁶⁷ ACCC, "ACCC - About Us."



Jurisdictional Institutions

Each state also has other jurisdictional regulators. This includes safety and technical regulators, such as Energy Safe Victoria (ESV) and economic regulators, such as the Independent Pricing And Regulation Tribunal (IPART) of NSW.

Safety and Technical Regulators

Example: Energy Safe Victoria (ESV)

Key Function: ESV is the independent technical regulator responsible for electricity, gas and pipeline safety in Victoria.

Key Legislation: Energy Safe Victoria is a statutory body established by the *Energy Safe Victoria Act 2005 (VIC)*. ESV administers several Electricity Safety Regulations (and gas and gas pipeline regulations).

The role of ESV ranges from overseeing the design, construction and maintenance of electricity (and gas and pipeline networks) across the state to ensuring appliances meet safety and energy efficiency standards before it is sold⁶⁸.

ESV also licenses and registers electricians, and issue and audit Certificates of Electrical Safety (e.g. Electrician License)⁶⁹. Most electrical equipment can only be installed by qualified persons who are licensed by ESV. This licensing ensures that electrical work (including Solar Panel Installation) is guaranteed to be performed by a competent and qualified electrician. (Only licensed persons can install most grid-connected solar systems in households in Victoria and Australia).

The ESV conducts reviews and publishes reports (such as the 'Safety of Solar Panel Installation in Victoria' report⁷⁰), in response to incidents or potentially unsafe situations and non-compliance.

⁶⁸ ESV, "About ESV."

⁶⁹ ESV, "Registered Electrical Contractors."

⁷⁰ ESV, *Safety of Solar Panel Installations in Victoria*.



Economic Regulators

Example 1: Essential Services Commission (ESC)

Key Functions: The Essential Services Commission is the independent regulator of the retail energy industry in Victoria

Key Legislation: The ESC was established by the *Essential Services Commission Act 2001 (Vic)*

In the electricity sector, the operations of the ESC have largely been subsumed. Responsibility for the regulation of electricity networks distribution transferred from the ESC to the AER in 2009⁷¹. The AER assumed responsibility for regulation of both economic and non-economic functions of electricity distribution networks that deliver energy to Victorian households and businesses.

Retail prices are also no longer regulated in Victoria (from 2009)⁷². Victoria is further along the energy reform agenda, and is the only state that has unregulated retail pricing. As such, ESC regulation focus' on compliance, performance monitoring and reporting and complaints.

Example 2: Independent Pricing and Regulation Tribunal (IPART)

Key Functions: Independent regulator that determines the maximum prices that can be charged for certain retail energy (and water and transport) services in New South Wales. Also monitors service delivery, audit suppliers and oversee license compliance by retail energy suppliers.

Key Legislation: Established under the *Independent Pricing and Regulatory Tribunal Act 1992 (NSW)*, and is responsible for setting regulated retail tariffs under the *Electricity Supply Act 1995 (NSW)*. Other acts also provide frameworks for IPARTS other regulatory functions.

Under the *Electricity Supply Act 1995 (NSW)* IPART is responsible for setting regulated retail tariffs and charges for electricity, for regulated retailers (in NSW these regulated electricity services are provided by TRUenergy, Origin Energy). There is other 'market offers' for supply of electricity (unregulated), however most receive tariffs provided by the regulated industries, which are regulated by IPART⁷³.

IPART is also required to make various recommendations to the Minister for Resources and Energy. This includes advice on the granting, variation, cancellation and conditions of retail and network energy supplier licenses. IPART also acts as a compliance regulator with regard to those licenses, recommend enforcement or corrective action for non-compliance. It is unclear when retail regulation (price caps) will be removed in NSW (or other states), though it is on the COAG reform agenda (and has been since the Parer review⁷⁴).

⁷¹ AER, "Transfer of Functions from ESCV to AER | Australian Energy Regulator."

⁷² Australian Energy Regulator, *State of the energy market 2009*.

⁷³ IPART, "IPART - What We Do."

⁷⁴ Parer, *Towards a truly national and efficient energy market: Report to the Council of Australian Governments*.

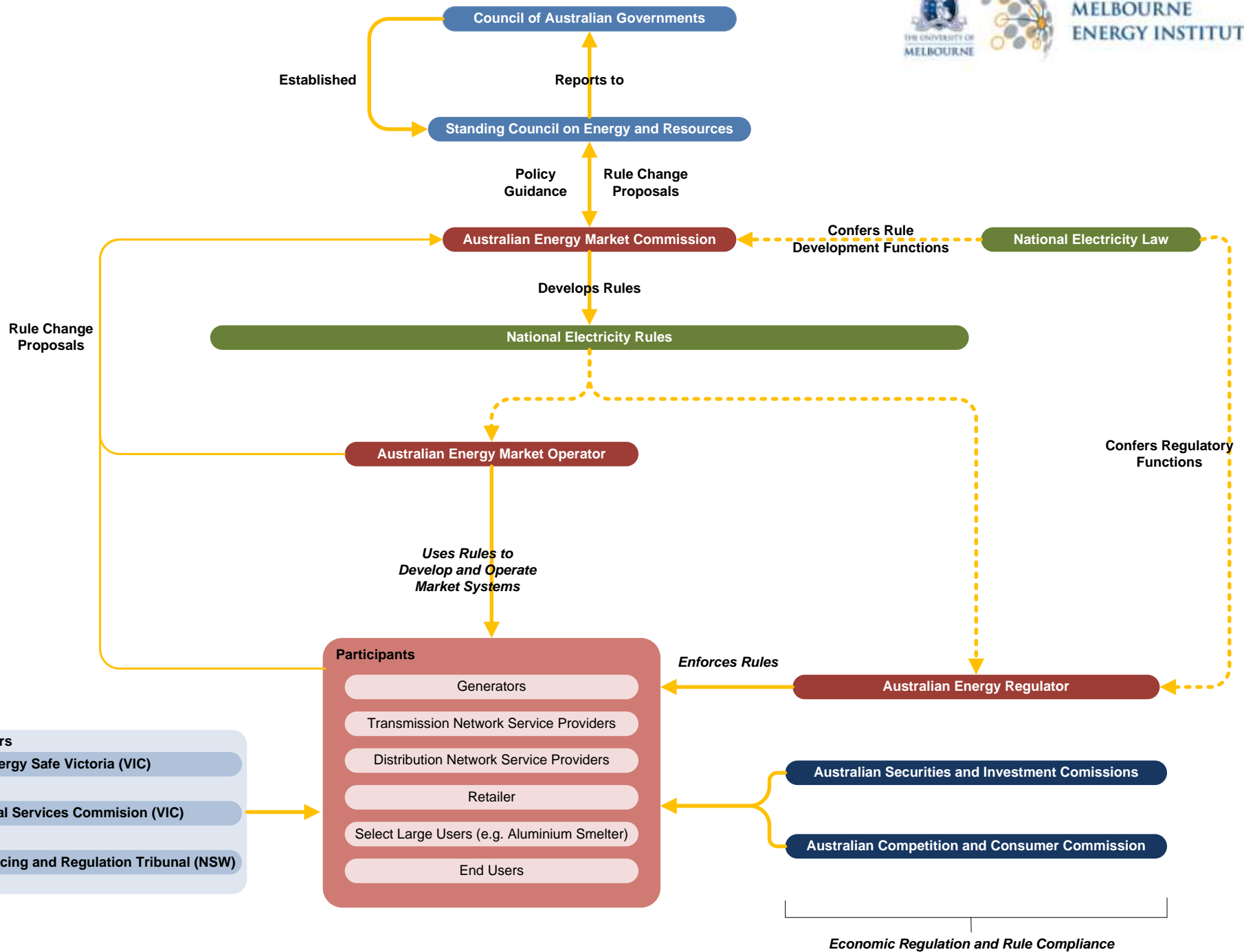


Figure 7: Extended regulatory framework for the Australian Energy Market



Climate Change Policy Developments

During 2009, the MCE directed the AEMC to conduct a review of electricity and gas market frameworks in the light of climate change policies. This review focused on assessing how introduction of the previous Australian Government's Carbon Pollution Reduction Scheme (CPRS) and its expanded Renewable Energy Target may affect Australia's energy market frameworks. The general conclusion from the review was that the energy market framework is generally capable of accommodating the impacts of climate change policies efficiently and reliably⁷⁵. The review also recommended 'Efficient connection of clusters of new generation', which was later proposed as the Scale Efficient Network Extension (SENE). The final version of the rule change required participants and investors to fund any new extensions, (rather than transmission and distribution companies building infrastructure to high renewable resource areas, and passing the cost on to consumers).

There have also previously been reviews on Demand Side Participation (DSP). Solar hot systems and indeed solar PV systems can be considered as forms of demand side participation, as at low penetrations PV effectively acts to reduce demand. At present, there is a limited framework for demand side participation; the demand-side is relatively under-represented. There may be significant opportunities for the demand side (including distributed PV) to the overall efficiency and functioning of the market.

The introduction of the Clean Energy Future (CEF) legislation mid 2011 has moved policy (and public) attention back onto this area, with 'a significant and growing component [the AEMC's] work program directed to addressing the challenges'⁷⁶ currently facing the electricity market. How the CEF will exactly fit in with the current framework is to date unknown, though given the previous review, "the energy market framework [maybe] generally capable of accommodating the impacts of climate change policies efficiently and reliably"⁷⁷.

⁷⁵ AEMC, *Review of Energy Market Frameworks in Light of Climate Change Policies*.

⁷⁶ AEMC, "AEMC Annual Report 2010-2011."

⁷⁷ AEMC, *Review of Energy Market Frameworks in Light of Climate Change Policies*.



Renewable Energy Policies

The Large-scale Renewable Energy Target

Introduction to the Renewable Energy Target

The renewable energy target was established with the Renewable Energy Act (2001), to encourage additional Renewable energy generation⁷⁸. Under this scheme, the government legislated a target for renewable energy generation, and created a legal obligation for liable entities to purchase a certain amount of renewable electricity each year. This scheme was later subsumed by the Large-scale Renewable energy Target (LRET), due to problems with the original scheme.

Under the LRET scheme, there is a legal obligation for 'liable entities' to purchase Large-scale Generation Certificates (LGC's), which represent one megawatt hour of renewable electricity, created by eligible generators. Liable entities typically include electricity retailers. This obligation generates a demand for LGC's, which are can be bought from eligible generators, or traded. The demand creates a financial incentive (market mechanism) for the development of renewable energy projects. The LGC's are traded and transfer through the Renewable Energy Certificate (REC) Registry (though financial transactions occur outside the registry)⁷⁹.

The Office of the Renewable Energy Regulator (ORER) regulates this scheme. Figure 8 illustrates the LGC market, and Figure 9 shows a simplified representation of how the LRET scheme interacts with the wider electricity market.

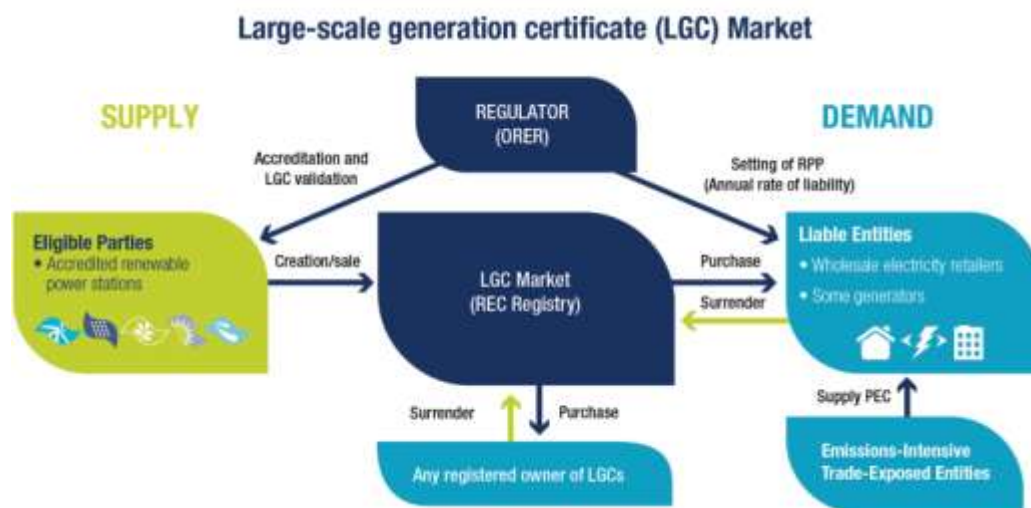


Figure 8: LGC market [source: ORER⁸⁰]

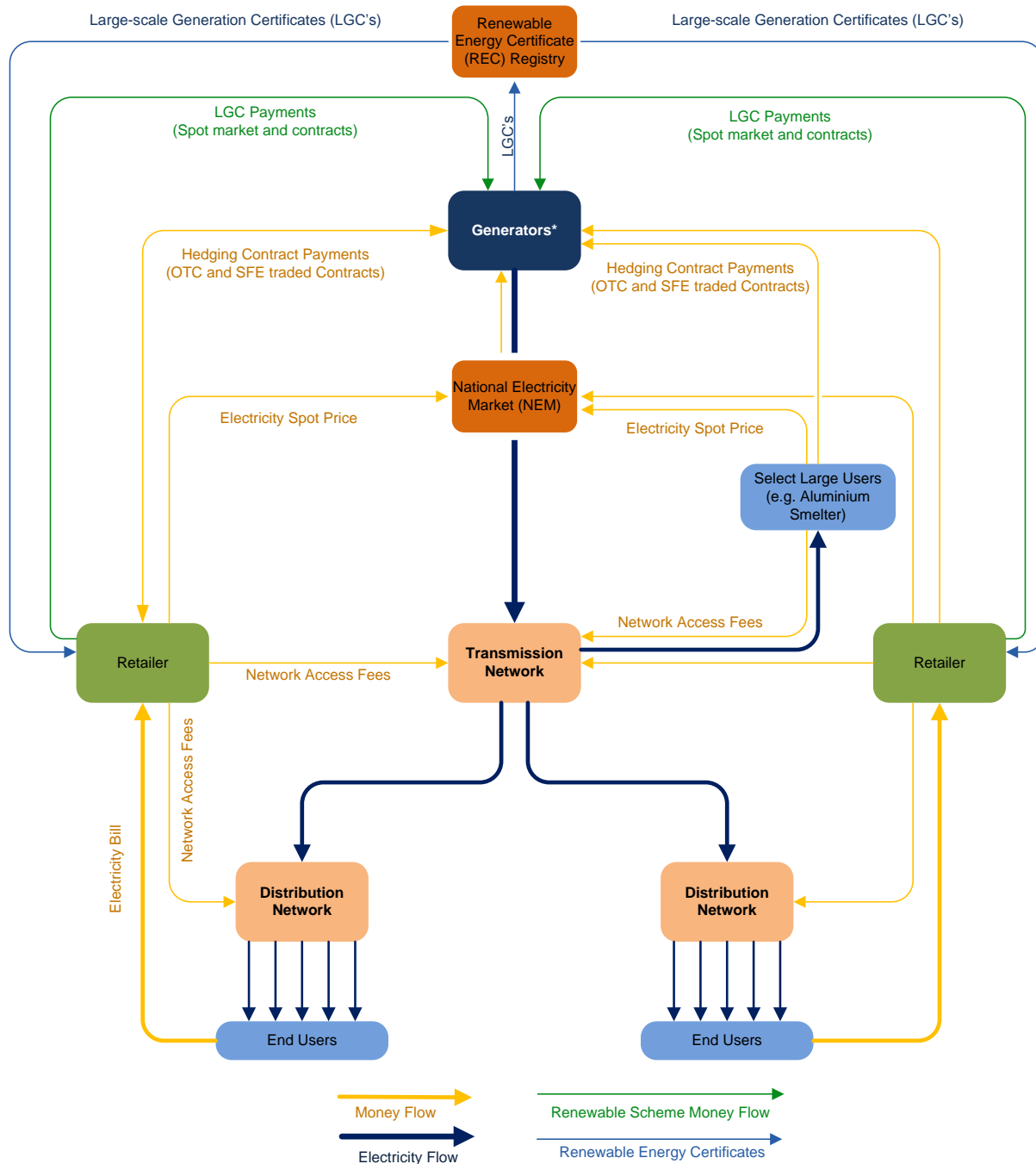
⁷⁸ ORER, "Legislation and Regulations."

⁷⁹ ORER, "The Large-scale Renewable Energy Target (LRET)."

⁸⁰ Ibid.



The Energy Supply System with the Large-scale Renewable Energy Target



* Only eligible generators will create LGC's and receive certificate payments. Cost of payments is levied across End Users (excluding emission intensive trade exposed industries).

Figure 9: LRET and the Energy Market



The Small-scale Renewable Energy Scheme

The Small-scale Renewable Energy Scheme (SRES) creates a financial incentive for owners to install eligible small-scale installations. This scheme is similar to the LRET, and was established when the previous scheme was reformed. However, unlike the LRET scheme, there is no target.

The SRES legislates demand for Small-scale Technology Certificates (STCs), similar to the LGC's. However, unlike LGC's, there is no target: liable entities have a legal requirement to buy all STC's* and surrender them on a quarterly basis. STCs are created for all small scale technologies (according to the amount of electricity they produce or displace). STC's can be sold through the REC registry (like LGC's), and can also be sold through an STC clearing house, operated by ORER⁸².

Eligible small scale technologies include solar water heaters, heat pumps, solar panel systems, small-scale wind systems, or small-scale hydro systems. As with the LRET, the SRES is regulated by the ORER. Figure 10 depicts the STC market and Figure 11 represents the interaction of the SRES scheme and the wider electricity market.



Figure 10: STC market [source: ORER⁸³]

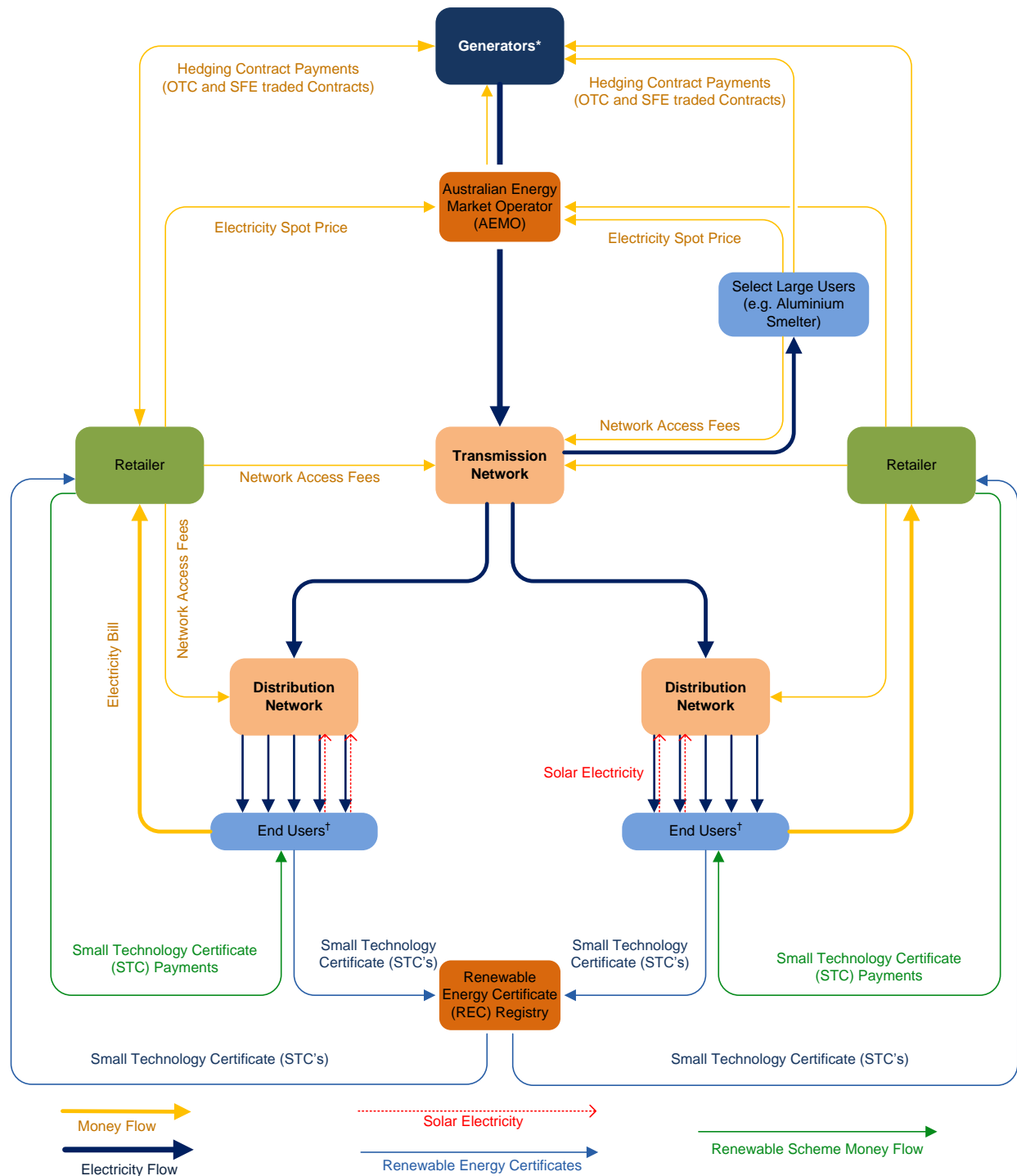
* In a given year, liable entities purchase an amount set by the ORER (the amount set is known as the Small Technology Percentage). The small technology percentage is set by ORER, which is determined by projecting the amount of STC's created.

⁸² ORER, "The Small-scale Renewable Energy Scheme (SRES)."

⁸³ Ibid.



The Energy Supply System with the Small-scale Renewable Energy Scheme



† Only eligible end users will create STC's and receive certificate payments. Similarly, only eligible participants (with PV systems) receive Feed-in Tariff payments. All end users (excluding emission intensive trade exposed industries) are levied through the electricity bill. See residential solar flowchart for more details

Figure 11: SRES and the Electricity Market



The Office of the Renewable Energy Regulator – ORER

Functions of the ORER

The Office of the Renewable Energy Regulator (ORER) oversees the implementation of the Large-scale Renewable Energy Target and the Small-scale Renewable Energy Scheme. The ORER⁸⁴:

- Maintains several registers, which include the register of:
 - Registered persons
 - Accredited power stations
 - Small-scale technology certificates (STCs)
 - Large-scale generation certificates (LGCs)
 - Applications for accredited power stations.
 - Accredits eligible renewable energy power stations
 - Registers LGCs for accredited renewable energy power stations
 - Registers STCs for solar water heater and small-scale solar panel, wind and hydro electricity installations
- Manages and maintains the online REC Registry and the STC Clearing House
- Monitors compliance with the Act
- Communicates the Act and Regulations
- Updates and maintains the Register of Solar Water Heaters
- Manages the partial exemption process for emissions-intensive trade-exposed industries.

Key Legislation:

The Large-scale Renewable Energy Target and the Small-scale Renewable Energy Scheme are implemented through a range of following legislation and regulations, including the *Renewable Energy Act 2000 (C'th)*, and several other acts, regulations and amendments⁸⁵.

The ORER was established to administer the Renewable Energy (Electricity) Act 2000, and oversee the SRES and LRET. The Renewable Energy Regulator is appointed by the Minister for Climate Change and Energy Efficiency⁸⁶.

⁸⁴ ORER, "About the Office of the Renewable Energy Regulator."

⁸⁵ ORER, "Legislation and Regulations."

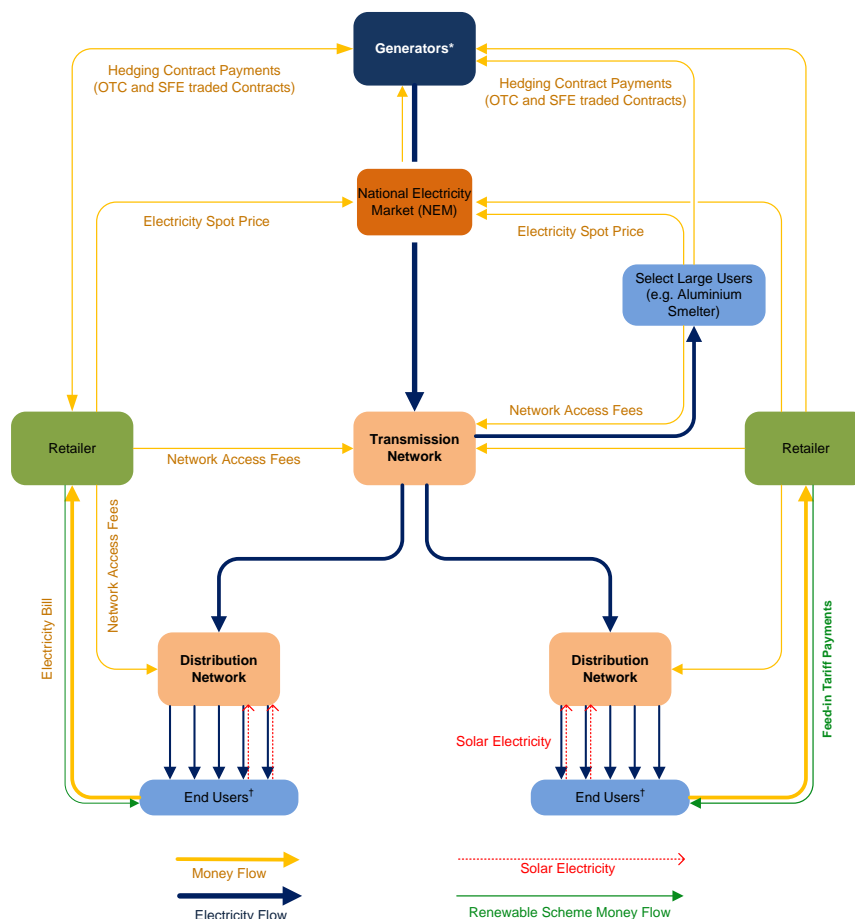
⁸⁶ Ibid.



Feed in Tariffs

Feed-in Tariffs (FiTs) are a key support mechanism for renewables, particularly for small scale solar PV. FiT schemes mandate a tariff rate for electricity fed into a grid by typically renewable generation sources, with the tariff rate ensuring a ‘reasonable return’ an encouraging deployment. There are many different FiT scheme designs, and a popular design in Australia is to set a (constant) tariff rate for electricity exported to the grid (that is, not used onsite). The since collapsed NSW scheme set a constant tariff for all electricity produced (including that used onsite).

FiTs are legislated on a state basis, and as such, the implementation varies between the jurisdictions. In Vic for example, the *Electricity Industry Act (Vic)* prescribes minimum tariff rates. However, the Energy Minister can declare the ‘end day for the scheme’ (the end of the scheme), by notice in the gazette. The end of scheme can be called with the “Minister considers it appropriate to do so”⁸⁷.



† Only eligible end users (with PV systems) receive Feed-in Tariff payments. All end users (excluding emission intensive trade exposed industries) are levied through the electricity bill. See residential solar flowchart for more details

Figure 12: FiTs and the Electricity Market

⁸⁷ VIC, *Electricity Industry Act 2000*, sec. 5.



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