Report to Government

Interdepartmental Committee on Electricity Sector Reform

May 2013

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INTRODUCTION

By 1 July 2013, electricity prices will have doubled for the average consumer compared with seven years ago. The sharp increase in electricity costs has left many households and businesses struggling to pay their bills.

While the Queensland Government froze retail electricity prices (Tariff 11) to stem pressures on domestic customers in 2012-13, longer term reform is required to resolve the underlying problems facing the electricity sector.

In May 2012, the Queensland Government established the Inter-departmental Committee on Electricity Sector Reform (IDC), tasking it to ensure:

1. Electricity in Queensland is delivered in a cost-effective manner for customers
2. Queensland has a viable, sustainable and competitive electricity industry
3. Electricity is delivered in a financially-sustainable manner from the Queensland Government's perspective

With these terms of reference , the IDC led a substantial review of the electricity sector, in consultation with industry and supported by an independent review panel (IRP) which provided expert advice and analysis on network issues.

This report from the IDC:

- explains the key features of the state's electricity sector today
- details the outcomes of the review, including the IDC's response to the IRP's recommendations
- provides a set of recommendations
- proposes a strategy to reform Queensland's electricity sector

Important Note

The IDC, as per its terms of reference, reported to government on a number of issues during 2012 and early 2013, resulting in a number of recommendations having been considered and implemented prior to the delivery of the final IDC report. These included:

- **2013-14 pricing**
- **Red tape reduction measures (removal of Queensland Gas Scheme and restrictions on new coal fired generation)**
- **matching Ergon Energy's retail load with government generators.**

The IDC's findings on these issues are included in the report for completeness.

Items highlighted in yellow will be removed from the public version of the report.

EXECUTIVE SUMMARY

The Inter-departmental Committee on Electricity Sector Reform (IDC) was established in May 2012 with the objectives of ensuring:

i. Electricity in Queensland is delivered in a cost-effective manner for customers

ii. Queensland has a viable, sustainable and competitive electricity industry

iii. Electricity is delivered in a financially-sustainable manner from the Queensland Government's perspective

To achieve these objectives, the IDC undertook a review of the electricity sector, in consultation with industry stakeholders.

The review included an investigation of the factors impacting Queensland's network prices by an independent panel appointed by the IDC (referred to in this report as the "IRP").

This report sets out the IDC's recommendations resulting from the review.

If adopted, the recommendations will contribute to the government's 30 year electricity strategy and establish a pathway to deliver the short, medium and long-term reforms that are imperative for the sector.

Overview of Recommendations

Reform of the electricity sector is required. In the short term, recommendations focus on:

- relieving immediate cost pressures
- building a platform for future reform
- reducing risks for customers, industry and government

In the longer term, recommendations propose reform measures that:

- reduce price pressures
- empower customers to engage effectively in the market
- increase safety-net protection for vulnerable customers
- reduce red tape
- increase industry and government certainty
- ensure any government intervention in electricity supply adds value

Implementation of the reforms will improve the performance of Queensland's electricity sector and put downward pressure on rising electricity costs.

2012-13 Status

Household electricity prices in Queensland have risen by over 100 per cent since 2007. This increase and similar increases affecting businesses have been difficult for customers to absorb.

On taking office, the government froze retail Tariff 11 for domestic customers for 12 months, commencing 1 July 2012. This action was taken as an interim customer support measure, while an investigation of the underlying issues was carried out and the path forward determined.

Current Issues in the Electricity Sector

The Queensland system is under pressure from a long-term accumulation of issues, including:

- unsustainable retail price shocks – by 1 July 2013, prices will have doubled for the average consumer compared with seven years ago
- a tariff and pricing structure that has not evolved with material changes to usage and costs that have occurred over the last 30 years
- limited understanding of the sector by customers
- high disconnection rates as a result of unpaid customer bills
- a poorly-designed concession framework
- problematic, multi-layered state and Australian Government regulation, adding cost to the system for limited benefit
- a lack of investment certainty, resulting in sub-optimal market participation
- changing business models that will place pressure on long-term investment in the sector

Key Findings

The three most significant drivers of current price rises are:

- networks[1] – network costs account for over 50 per cent of residential bills and have grown by more than 100 per cent from 2007-08 to 2012-13. While population growth and high reliability standards have been a substantial driver of cost increases, there is also a concern that the underlying regulatory framework has not provided the right incentives for efficient capital expenditure[2]
- peak demand growth[3] – capital expenditure to accommodate peak load in the distribution network accounts for approximately 45 per cent of approved total expenditures.[4] Increased expenditure to meet peak demand projections has been a key contributor to falling productivity in the electricity sector because it drives network expenditure
- climate change policies – solar and renewable energy schemes, together with carbon policies, added around 16 per cent to residential bills in 2012-13 and are projected to increase

[1] "Network" refers to the transmission and distribution network, largely comprised of poles and wires.
[2] In some cases, requirements for capital expenditure in the underlying regulatory framework have driven costs. Other factors have included regulatory allowances for financing costs (i.e. the Weighted Average Cost of Capital) which had a large impact on costs for the 2010-15 regulatory period for distribution businesses and considerable capital expenditure for the 2005-2010 regulatory period for distribution businesses.
[3] "Peak demand" refers to maximum electricity demand that occurs on the hottest days of the year.
[4] AEMC cited in Productivity Commission 2012, *Electricity Network Regulatory Frameworks*, Draft report, Canberra, page 303

The impact of these drivers has been exacerbated by: (i) a tariff and pricing system that has not kept pace with changes in the sector and is not reflective of underlying cost; and (ii) a planning framework that does not promote the most efficient development of new electricity infrastructure.

To achieve real change, it is critical that these matters are addressed.

Strategies for Reform

Reform of the electricity sector involves complexity and difficulties. There may be community concerns with proposed changes. However, failure to commence a comprehensive and coordinated reform process will perpetuate the cost pressures throughout the system and lead to further price rises.

Reform needs to be comprehensive. The interconnected nature of the system means that changes in one part impact throughout. Reform in only one part of the system, such as the network businesses, would provide only limited relief. It will also be important to ensure customers are protected and engaged along the pathway.

The IDC proposes three strategies for reform:

1. Stop building unnecessary infrastructure and improve the efficiency of network businesses
2. Maximise the benefits of competition while protecting customers
3. Develop a more effective role for government

Strategy 1: Stop building unnecessary infrastructure and improve the efficiency of network businesses

In recent years, a number of factors including very high reliability standards have meant that network businesses have built more poles and wires and associated infrastructure than may have been necessary to meet the community's requirements. This infrastructure adds to the cost for all customers but its full capacity is not required for large parts of the year. Change is needed to create a cost-conscious culture within network businesses, a more outcomes-driven set of reliability standards and network regulation that drives prudent spending on infrastructure, better planning and a pricing system that reflects underlying costs.

The key recommendations to implement this strategy include:

- Implementing the supported IRP reform proposals that reduce network businesses' costs (section 3.2). For example:
    - Replacing prescriptive security and reliability standards that drive network overinvestment with a more economically derived, outcomes-based approach that better reflects customer expectations and values.
    - Pushing for national reform to improve customer outcomes, including:

- removing issues in economic regulation that do not recognise the importance of the long-term interests of customers
- reducing risk for customers in poor demand forecasting

- Establishing a holding company model for Energex and Ergon Energy to drive a low cost culture for Queensland's distribution poles and wires businesses

The IRP estimates that its recommendations could deliver around $5 billion in savings by 2020 in nominal terms, including:

- reductions in total expenditure across the network businesses of approximately $3.6 billion when compared with the current five-year regulatory expenditure programs approved by the Australian Energy Regulator (AER).
- savings of $1.4 billion in indirect costs alone in the distribution network businesses over the five years from the end of the current regulatory period (i.e. 2005-2015)

The $3.6 billion reduction compared with AER approved expenditure includes $2.6 billion in savings identified via the Electricity Network Capital Program review that occurred in late 2011 and operational and capital expenditure savings identified through the businesses' own efficiency programs.

This work will be complemented by IDC recommendations to address pricing structures (section 4.5) and planning issues (section 3.5), by:

- giving customers the power to choose contracts that reward electricity use with a low impact on the network (e.g. time-of-use and flexible pricing)
- reducing network stress caused by periods of very high electricity use by developing and implementing strategies to:
  - gradually reform network price structures, including through capacity and critical peak pricing
  - give homes and businesses innovative options to benefit from reducing electricity use at peak times
- incorporating energy into the state planning policy to support better decisions about what and when new network infrastructure is built.

Strategy 2: Maximise the benefits of competition while protecting customers

Retail competition can offer significant benefits to customers in terms of service, choice and price discounts. In Queensland, the benefits of retail competition since 2007 have been limited by price increases from monopoly-owned poles and wires businesses. These increases are passed on to customers, giving the impression that competition and privatisation of the retail sector has led to price increases. Network costs are being addressed under Strategy 1.

The benefits of retail competition will not be properly realised by customers unless businesses have the flexibility to meet customer needs and customers are appropriately protected and engaged in the market. A staged approach to achieving a more mature market and engaged customers is required.

The key recommendations to implement this strategy include:

- Removing price controls in south-east Queensland by 1 July 2015 if consumer protection and engagement in the market are sufficient in order to stimulate investment and competition for the benefit of customers (section 4.6)

- Strengthening safety-net support for vulnerable customers and reducing red tape by adopting nationally harmonised laws for customer protection, subject to variations to:
    - boost customer engagement
    - detail information about the cost of poles and wires on electricity bills
    - examine fees and charges in retail contracts (section 5.3)

- Improving consumer engagement to help customers benefit from discounts and more tailored products in a competitive market (section 5.4)

- Developing a clear, effective and affordable hardship and concession framework informed by public consultation (section 5.2)

- Addressing barriers to the growth of retail competition in regional Queensland, including moving towards a network-based Uniform Tariff Policy Community Service Obligation within three years in conjunction with the structural reform of Ergon Energy Retail (section 5.5)

An important principle underlying the reform is that the benefits of competition should flow to customers wherever possible.

The move from a regulated price setting to a price monitoring approach within south-east Queensland does not mean that regional Queenslanders will need to pay more for their electricity. Subsidies for the electricity costs of regional Queenslanders can still be provided while moving to price monitoring in south-east Queensland.

Strategy 3: More effective government

Government intervention has driven costs into the sector and consequently to electricity bills. This has included green schemes such as the Australian Government carbon price mechanism, Renewable Energy Target and the State Solar Bonus Scheme. The role of the Queensland Government in the sector needs to be examined, together with that of the Australian Government, so that opportunities to reduce unnecessary costs of intervention can be realised. A number of recommendations in this report support using the national electricity reform agenda as a tool for change.

The Queensland Government also faces significant costs and risks from its participation as an asset owner and retailer in the electricity sector.

It is important that the government's energy investments are managed to mitigate the risks of operation in a competitive market. Since the establishment of separate, government-owned, retail and generation businesses in the mid to late 1990s, the private retail market has moved towards a more vertically integrated model. The emergence of vertically integrated energy suppliers has implications for the government's energy portfolio.

The current cost of the Uniform Tariff Policy, which requires the government to subsidise regional electricity users through Community Service Obligation payments to Ergon Energy's retail business (herein referred to as 'Ergon Energy Retail' should be reviewed to ensure affordability for the state is achieved. For 2012-13, the cost of the Community Service Obligation to Queensland tax-payers is budgeted to be $620 million. Over the next five years, the CSO it is projected to cost over $3 billion.

Several national reviews conducted in 2012 call on governments to consider benefits of private ownership of energy assets. The government response to the Queensland Commission of Audit Final Report supported public discussion on the continued ownership of electricity generation and retail assets.

The key recommendations to implement this strategy include:

- Publicly consulting on the merits of continued government ownership in relation to generation and retail (section 6.2)[5]
- Addressing the ongoing cost impact of the Solar Bonus Scheme (section 4.5)
- Developing more effective subsidy arrangements for regional Queensland through reviewing the Uniform Tariff arrangements (section 5.5)
- Determining the long term future of Ergon Energy Retail (section 5.5)

Pathway to Reform

Customer Engagement

As is emphasised in part 5 of this report, early and sustained customer engagement is an essential feature of the reform proposals. Experience shows that if customers do not understand the need for reform and/or fail to engage, the prospects of success are almost zero.

A key recommendation of the IDC to support further reform is public consultation on options to increase customer engagement in the electricity sector, including through the development of a customer engagement strategy and the use of market research to improve communication efforts with customers.

[5] Note: the Government response to the QCoA rules out public consultation on the merits of continued ownership of network assets. The response supports public discussion on generation and retail asset ownership.

The directions paper for the 30-year electricity strategy, which was issued on 17 December 2012, outlines an engagement model that should be at the centre of the reform proposals. The model emphasises the importance of joint responsibility between customers, industry and government in any reform proposal and provides for extensive consultation with industry and customer groups as part of the development of draft policy positions during 2013.

To incorporate the benefits of this consultation and to facilitate timely implementation of the reform agenda for the electricity sector, the IDC recommends a staged approach to delivery of its three objectives.

Timetable

Major reform takes time, commitment and courage. Sustainable reform will require government, industry and customers to work together.

The IDC makes over 60 recommendations in this report, including recommended responses to the IRP recommendations.[6] A number of these recommendations need further analysis and detailed planning prior to implementation. The government's proposed 30-year electricity strategy presents a unique opportunity to develop this work and engage both the community and industry on the direction of reform.

[6] The IDC does not support two of the IRP's 45 recommendations.

Recommendations

Section	No.	Recommendation
Generation issues		
2.2 Generation issues		The IDC recommends the government:
	2.2.1	Continue to monitor the operations of the generation sector, including the impact of both market and external factors.
	2.2.2	Consult on the conditions for future generation investment and emerging generation technologies.
	2.2.3	Monitor any emerging issues and support long-term security of supply in the north-west.
	2.2.4	Close the Queensland Gas Scheme. [7]
	2.2.5	Remove restrictions on new coal-fired power stations. [8]
	2.2.6	Publicly rule out any future government investment in the generation sector except as a last resort.
Network issues		
3.2 IRP Report Response		The IDC recommends the government:
	3.2.1	Replace prescriptive security and reliability standards that drive network overinvestment with a more economically derived, outcomes based approach that better reflects customer expectations and values. Support the direction of the IRP recommendations relating to improving network planning and reliability standards, noting implementation is subject to the outcomes of overlapping national reviews (IRP recommendations 1 to 10).
	3.2.2	Support: • IRP recommendations 11 to 20 to improve efficiency of indirect cost activities; and • IRP recommendations 21 to 29 to improve the efficiency of direct cost activities noting the IDC recommends further work for recommendations 25, 26, 27 and 28.
	3.2.3	Establish a holding company to drive a low cost culture for Queensland's distribution poles and wires businesses (IRP recommendation 30).
	3.2.4	Support IRP recommendations 31, 34, 35, 36 and 38 relating to Network Regulation and Planning noting the IDC recommends further work in relation to streamlining easement acquisition processes (IRP recommendation 37).

[7] Note: the Government has already announced the termination of the Queensland Gas Scheme
[8] Note: the Government has already removed the restrictions on new coal-fired power stations.

Section	No.	Recommendation
	3.2.5	Do not support IRP recommendations 32 and 33(a) relating to Network Regulation due to lack of clarity regarding expected benefits from the proposed recommendations.
	3.2.6	Push for national reform to improve customer outcomes, including reducing risk for customers in poor demand forecasting. Support IRP recommendation 33(b) in relation to the Weighted Average Price Cap proposal subject to further work confirming customer benefits by end September 2013.
	3.2.7	Support IRP recommendation 39, relating to Demand Forecasting and recommendations 40, 41 and 42 relating to Managing Peak Demand.
	3.2.8	Support IRP recommendations 44 and 45 relating to the development of an implementation plan for IRP recommendations.
	3.2.9	Push for national reform to improve customer outcomes, including removing issues in economic regulation that do not recognise the importance of the long term interests of customers. Endorse the recent network regulation rule change and continued efforts to ensure the national regulatory system's calculation of Weighted Average Cost of Capital does not lead to perverse outcomes.
3.3 Demand side response	The IDC recommends the government:	
	3.3.1	Develop a strategy to encourage energy conservation and demand management in Queensland.
	3.3.2	Develop in conjunction with Energex and Ergon Energy new options for discounted tariffs for appliances that distributors can load control to reduce peak demand.
	3.3.3	Encourage Energex and Ergon Energy to pursue cost-effective demand-side measures as alternatives to network investment.
	3.3.4	Maintain requirements on Energex and Ergon Energy to: • prepare and publish annual Demand Management Plans and report on performance; and • undertake five year demand forecasting.
	3.3.5	Support national reform measures aimed at making demand management cost-effective for Queenslanders.
	3.3.6	Investigate options for government departments to measure and lower electricity costs.

Section	No.	Recommendation
3.4 Metering Reform		The IDC recommends the government:
	3.4.1	Support national reform processes to speed up the roll-out of more advanced metering (such as smart meters to support tariff reforms), subject to: • the outcomes of Queensland-specific cost-benefit investigation; and • consumer protection and privacy issues being addressed.
3.5 Planning reform		The IDC recommends the government:
	3.5.1	Endorse that DEWS and DSDIP develop a submission on planning issues affecting the electricity sector for consideration by Cabinet.
	3.5.2	Incorporate energy into the state planning policy to support better decisions about what and when new network infrastructure is built.
	3.5.3	Encourage stakeholders to continue trialling Total Energy Planning practices for new developments.
	3.5.4	Ensure government departments are made more accountable for their requirements for network connections.
Pricing and Retail Issues		
4.2 Setting Regulated Retail Electricity Prices from 2013/2014		The IDC recommends the government:
	4.2.1	Endorse a "cost-reflective" approach to setting retail prices over a three year delegation under the N+R methodology.[9]
	4.2.2	Direct DEWS to investigate and advise on the likely impacts of the QCA Pricing Determinations on consumers and retail competition.
	4.2.3	Encourage the QCA to undertake a robust and credible stakeholder consultation process and take action if consultation is considered inadequate.
4.3 Very large customers in the Ergon Energy Distribution Region		The IDC recommends the government:
	4.3.1	Develop a strategy to transition very large electricity customers onto cost reflective electricity prices.
	4.3.2	Consider removing notified prices for very large customers in tranches, starting with the largest customers first.[10]
4.4 Streetlights		The IDC recommends the government:
	4.4.1	From 1 July 2014, pass through 10 per cent of non-energy street lighting charges to Ergon Energy customers whose street lights are owned and

9 Note: this recommendation has already been agreed to by Government and is currently being implemented.
[10] Note: the Government response to the QCoA report re-iterated the Government's election commitment to ensure the UTP continues.

Section	No.	Recommendation
		maintained by Ergon Energy.
	4.4.2	Develop a price path to recover non-energy street lighting charges over time from customers whose street lights are owned and maintained by Ergon Energy, giving consideration to individual customer needs.
4.5 Tariff reform		The IDC recommends the government:
	4.5.1	Reduce network stress caused by periods of very high electricity use by developing and implementing strategies to: • gradually reform network price structures, including through capacity and critical peak pricing; and • give homes and businesses innovative options to benefit from reducing electricity use at peak times. Develop a long-term tariff reform strategy to deliver more flexible pricing including stronger time-of-use signals, capacity charges and options for vulnerable customers.
	4.5.2	Give customers the power to choose contracts that reward electricity use with a low-impact on the network (e.g. time-of-use, flexible pricing). Require Energex and Ergon Energy to better support Time-of-Use options for customers and take a proactive view to reducing peak demand.
	4.5.3	Improve tariffs over time to support more demand and/or capacity based charging approaches.
	4.5.4	Address the ongoing cost impact of the Solar Bonus Scheme. Reduce the impact of the Solar Bonus Scheme and the 44 c/kWh feed-in-tariff on network costs consistent with the QCA review.
4.6 Retail competition		The IDC recommends the government:
	4.6.1	Commit to increased retail competition as a key energy policy goal.
	4.6.2	To stimulate investment and competition for the benefit of customers, remove price controls in south-east Queensland by 1 July 2015 if consumer protection and engagement in the market are judged to be adequate. Agree to replace price controls with price monitoring in south-east Queensland by 1 July 2015, subject to the outcomes of recommendation 4.6.3.
	4.6.3	Consult on a pathway to remove price controls in south-east Queensland, including: • the pre-conditions that would need to be met to ensure customers benefit: • a timetable to achieve the conditions; and • the development of alternate customer safeguards (such as the power to re-regulate under certain conditions).

Section	No.	Recommendation
	4.6.4	Investigate options, including consultation, on how to improve retail competition outside of south-east Queensland.
Customer issues		
5.2 Customer Assistance and Hardship		The IDC recommends the government:
	5.2.1	Develop a clear and effective hardship and concessions framework informed by public consultation.
	5.2.2	Work with retailers to improve customer participation in retailer hardship programs and improve products to help customers to avoid hardship.
5.3 National Energy Customer Framework		The IDC recommends the government:
	5.3.1	Strengthen safety-net support for vulnerable customers and reduce red tape by adopting nationally harmonised laws for customer protection.
	5.3.2	Implement the National Energy Customer Framework with a target start date of early to mid 2014, subject to SCER agreeing to State-specific variations to support customers outside south-east Queensland.
	5.3.3	Push for national reform processes that improve customer outcomes, including measures that: • boost customer engagement; • put information about the cost of poles and wires on bills; and • examine retailers fees and charges.
5.4 Customer understanding and engagement		The IDC recommends the government:
	5.4.1	Improve consumer engagement to help customers benefit from discounts and improved products in a competitive market. Publicly consult on options to increase customer engagement in the electricity sector and develop an effective customer engagement strategy.
	5.4.2	Note that additional work including market research may be required to identify the most effective options to maximise customer engagement.
5.5 Community Service Obligation and Uniform Tariff Policy		The IDC recommends the government:
	5.5.1	Develop more effective subsidy arrangements for regional Queensland through reviewing the Uniform Tariff Policy (UTP) arrangements, including: • the UTP objective; • how large and very large customers are treated in the UTP; and • how State and Australian government agencies are treated in the

Section	No.	Recommendation
		UTP. The review should also consider arrangements to manage the removal of retail price controls in south-east Queensland.[11]
	5.5.2	By July 2013, decide on the scope, process and terms of reference for the review of the UTP recommended at 5.5.1.
	5.5.3	Address barriers to the growth of retail competition in regional Queensland, including moving towards a network based UTP Community Service Obligation (CSO) within three years, in parallel with reform of Ergon Energy Retail. In the short term revise the CSO arrangements to Ergon Energy's retail business to: • replace the Long Term Energy Procurement deed; and • improve monitoring and reporting of CSO cost inputs.
	5.5.4	Consider options to align Ergon Energy's retail business with a government-owned generator.[12] Considerations to occur in conjunction with a longer term structural reform objective for Ergon Energy's retail business.
	5.5.5	Investigate options for the long term future of Ergon Energy Retail including the feasibility of creating a vertically-integrated entity.
	5.5.6	Treat the isolated CSO as a separate budget item from 2013-14 to improve transparency.
	5.5.7	Initiate an open tender or call for expressions of interest to supply the isolated systems in 2014-15.
	5.5.8	Introduce additional customer service performance measures to assess Ergon Energy performance.
Government issues		
6.2 Role of Government in the Energy Sector	The IDC recommends the government:	
	6.2.1	Publicly consult on the merits of continued government ownership of energy assets for generation and retail.
	6.2.2	Publicly consult on the government's proposed future role and objectives in the electricity sector, including principles to guide decision making.
6.3 State Government / national issues	The IDC recommends the government:	
	6.3.1	Use the 'Principles for Commonwealth – state / territory intergovernmental activities' as a framework to guide Queensland's ongoing participation in the

[12] Note: on 22 May 2013, the Queensland Treasurer announced that the majority of Ergon Energy's retail load would be aligned with government-owned generators, CS Energy and Stanwell.

Section	No.	Recommendation
cross over		national energy market.
6.4 Aggregation of government electricity purchases		The IDC recommends the government:
	6.4.1	Investigate options to measure and lower government electricity purchasing costs.
	6.4.2	Direct the Queensland Government Chief Procurement Office to investigate the viability of establishing a whole of government small sites electricity procurement strategy.
6.5 Telecomms assets		The IDC recommends the government:
	6.5.1	Investigate the potential to reduce government telecommunications spend by leveraging Ergon Energy's fibre communications network.

PART 1 OVERVIEW

1.1 QUEENSLAND'S ELECTRICITY SECTOR

How it works

The key components of the electricity sector supply chain are:

- **Generation**: Power stations that transform energy sources like coal, gas and renewables into electricity
- **Transmission**: High voltage power lines that carry electricity long distances from power stations to local distribution areas and some large customers
- **Distribution**: Low-voltage power lines that carry electricity from the transmission system lines to end-use customers
- **Retail:** Customer services (including billing and payment services and energy price risk management).

Together, these interlinked components operate to deliver electricity to customers (Figure 1.1).

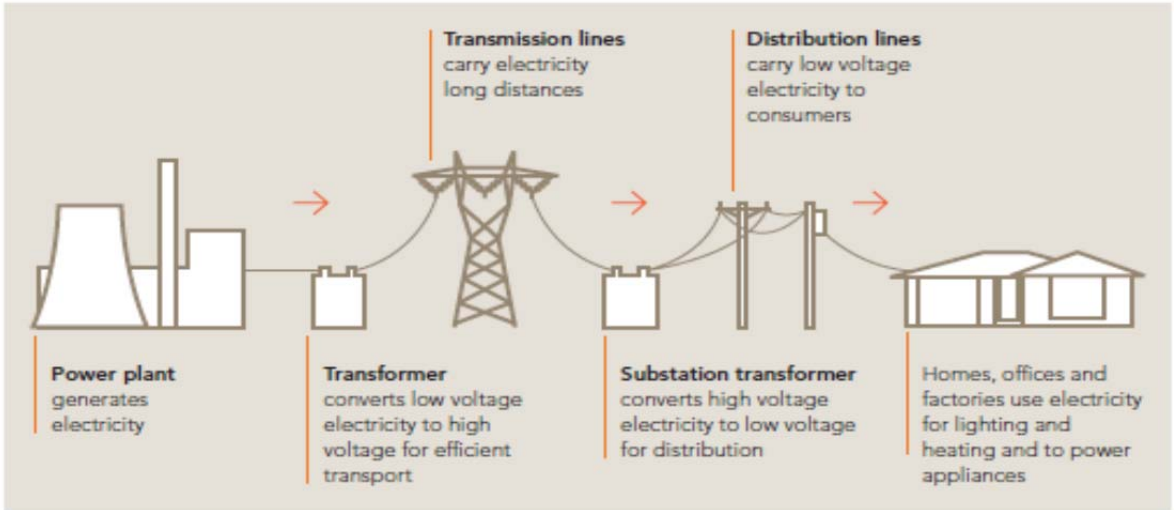


Figure 1.1: Source Australian Energy Market Operator (AEMO) 2010

Who participates?

The following industry and consumer segments participate in Queensland's energy market.

GENERATION

Role: producing electricity at power plants from various energy sources

Market features: competitive market, mix of government and private

Proportion of bill: approx 35% (including carbon and green scheme costs)

Challenges: fuel prices, supply/demand balance, intense competition

Role of Qld Govt: generation company owner, regulator of licences, policy maker on the Queensland energy mix (e.g. nuclear prohibition)

NETWORKS

Role: transport energy from generators to customers

Market features: natural monopoly. Powerlink is the sole provider of transmission, Ergon Energy (regional) and Energex (SEQ) are the sole providers of distribution.

Proportion of bill: approx 54%

Challenges: infrastructure upgrades, decline in average consumption mixed with rising peak demand, meeting safety and reliability standards and managing customer expectations regarding cost and reliability

Role of Qld Govt: owns the three network businesses, regulator of licences, policy maker on reliability standards

RETAIL

Role: purchase of electricity in bulk, billing and recovery of electricity costs from customers

Market features: competitive market. 27 licenced privately owned retailers

Proportion of bill: approx 11%

Challenges: moving to cost-reflective pricing, impact of regulated price setting on competition

Role of Qld Govt: owns Ergon Energy Retail, regulator of licences, policy maker on price setting and consumer protection

CUSTOMERS

Role: consume electricity

Features: approx 2.06M customers

Key challenges: affordability issues, engagement in the market, changing role, concessions targeted

Role of Qld Govt: provides concessions and rebates, maintains the Uniform Tariff Policy, regulates industry to protect customers.

GOVERNMENT

Key Challenges: ongoing financial sustainability of role in industry; setting and communicating vision for sector; adopting certain approach to intervention in market; sharing policy responsibility with Commonwealth Govt & other states under national arrangements

Under the Australian Energy Market Agreement, the Australian Government and state governments largely share policy and regulatory responsibility for electricity supply. Queensland retains distinct responsibility for setting retail prices, deciding on its community service obligation policy, paying concessions and rebates to vulnerable customers, and setting reliability and safety standards. The majority of other requirements are subject to cooperative national requirements.

How electricity works

When we flick the switch on our electric jug, here's what we don't see …

After a generation plant produces electricity, a transformer converts it from low to high voltage—allowing it to travel swiftly along the transmission system.

When the electricity arrives at the location it's needed, a substation transformer changes the power back from high-voltage electricity to low-voltage for distribution. At close to the speed of light, distribution lines then carry the low-voltage electricity straight to our appliance.

Once the electricity leaves the generation system, it is impossible to identify which generator produced it. One unit of electricity is the same as any other.

Electricity can't be stored, so electricity providers must supply power to meet dynamic and constantly changing demand.

To manage consumer demands, a pool—where the output from all generators is aggregated and scheduled to meet demand—takes the electricity from producers to consumers.

Elaborate information technology systems allow the electricity market to run efficiently. These systems balance supply and demand, ensure we have supplies in reserve, determine which parts of the electricity system operate at any one time, set prices, and seamlessly run both the functional and financial operations of our electricity system.

This complex, intricately linked system powers our state non-stop, making sure our coffee is always one flick of a switch away.

1.2 KEY CHALLENGES FOR QUEENSLAND'S ELECTRICITY SECTOR

Rising electricity costs

Over the past six years, Queenslanders' electricity bills have risen significantly (Figure 1.2).

Family budgets stretch to meet the increased prices, and some households and businesses across the state struggle to pay their bills. Since 2010, power companies have been disconnecting around 25 000 homes and small businesses each year as customers fail to keep pace.[13]

The toll on business and industry speaks to the wider impacts on Queensland's economy—increases in the price of power increases the cost of goods and services and the cost of doing business in Queensland.

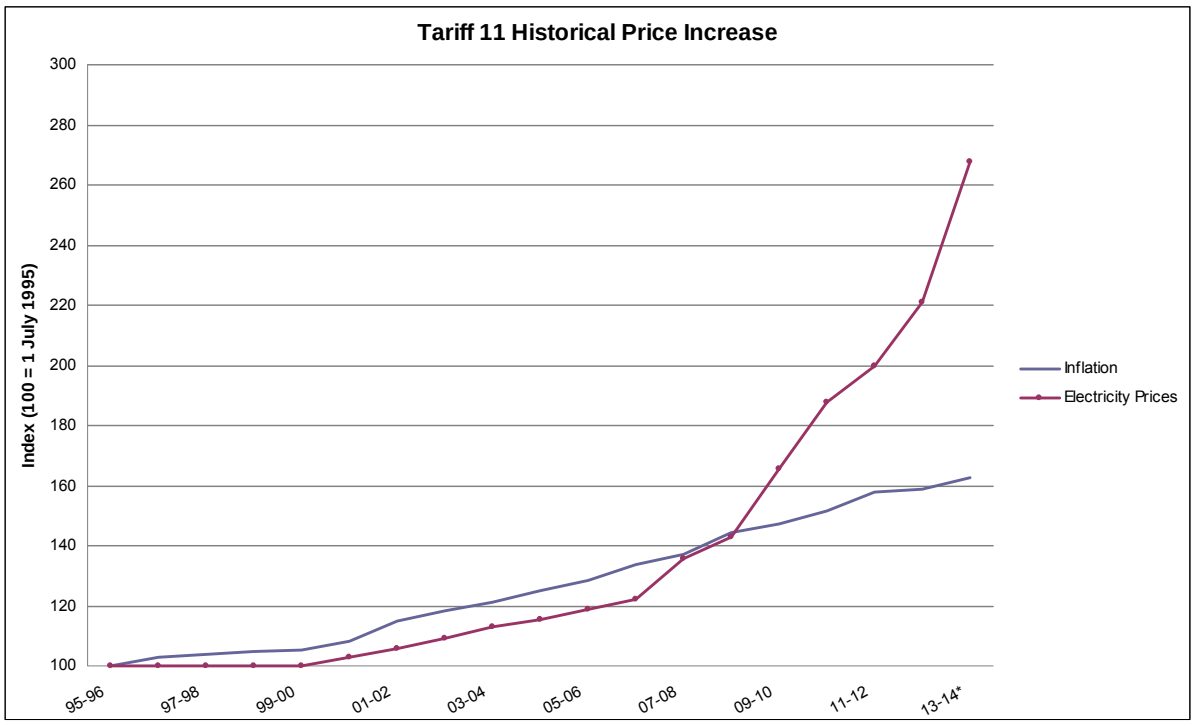


Figure 1.2

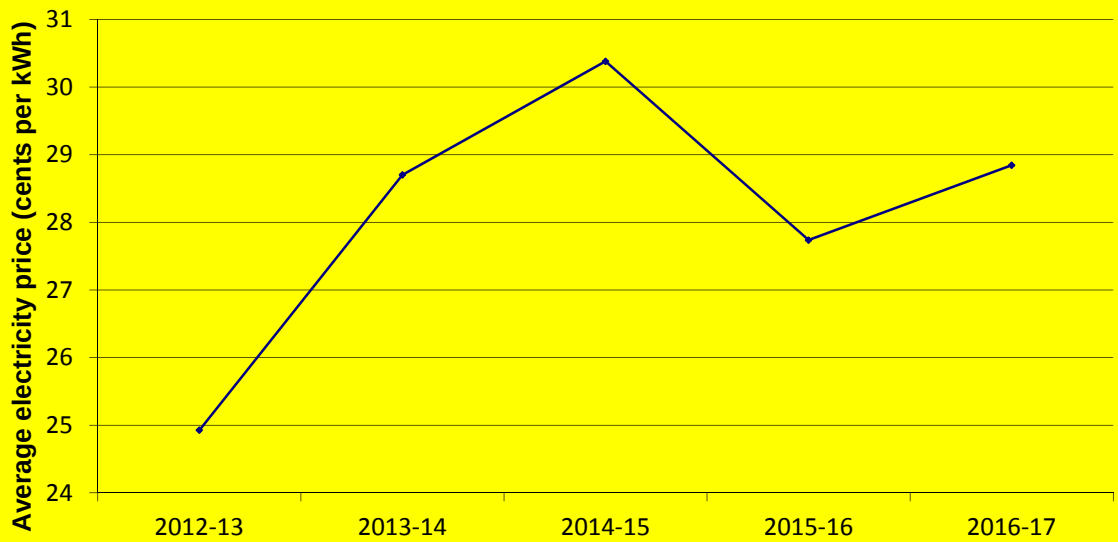
The IDC engaged Queensland Treasury Corporation to help model future electricity price trends if no action is taken. This will help to benchmark the impact of proposed reforms on prices, noting that many elements of electricity prices are outside the control of government. However, by using the forecasts as a benchmark, or baseline, the government will have a key data set to determine how the reforms have impacted on customers. In particular, the impact of reforms on elements of the supply chain in which the government has greater control (such as network

[13] Source: QCA

costs) will be important to monitor over time. On 22 May 2013, the Cabinet Budget Review Committee agreed to undertake forecasting of network revenue on an annual basis. It further agreed to pass through savings from energy reform measures direct to customers.

Figure 1.3 outlines base case price projections.[14]

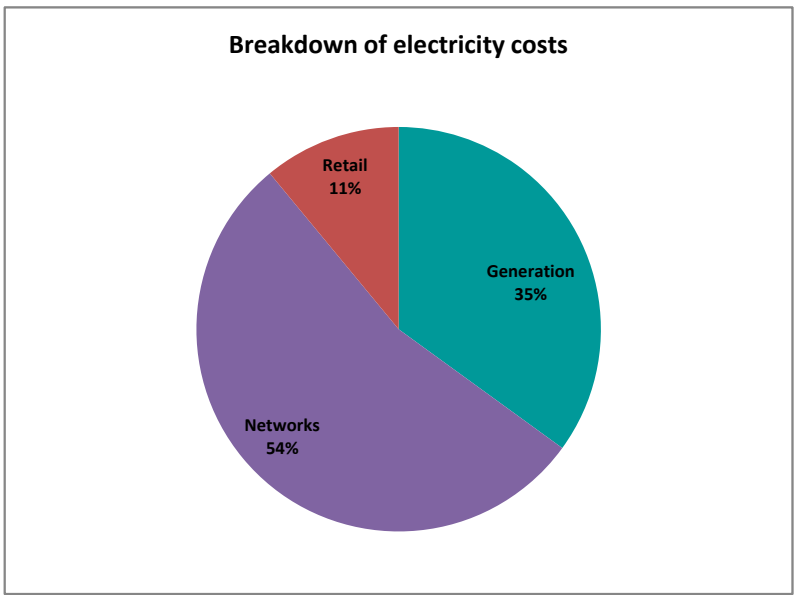
Figure 1.3 Outlook for electricity prices (basecase inc FiT allocated to all customer classes)



What is causing rising electricity prices?

By far, the biggest cost increases in electricity supply in recent years have come from network costs. Network costs in Queensland account for approximately 54 per cent of residential bills (Figure 1.4) and have grown by more than 100 per cent between 2007-08 and 2012-13.

These network costs have been driven by capital expenditure on new and replacement assets and the cost of capital, followed by operational expenditure. These costs have a



[14] Note: Based on data from November 2012. More recent Feed-InTariff and under-recovery estimates mean that price expectations may have changed.

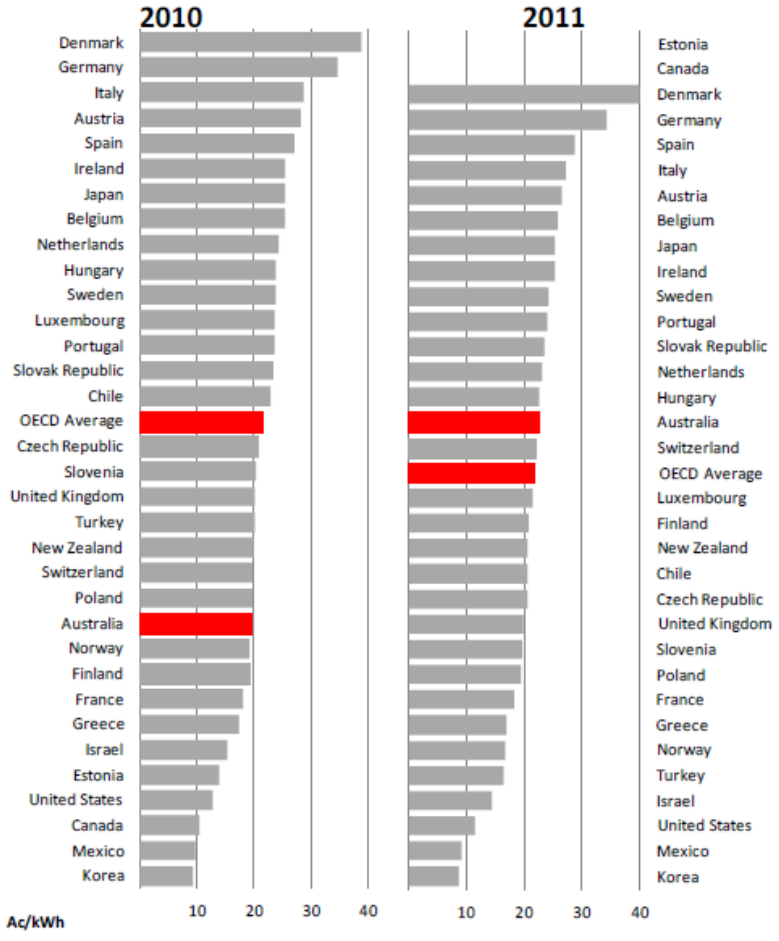
significant impact on prices. Other key impacts on retail electricity price increases in recent years include climate change policies, gas prices (contributing to generation costs) and retail costs.

International comparisons

For many years, electricity prices in Australia (and Queensland) were considered low when compared with other OECD countries. However, this is changing with prices in both Queensland and throughout Australia increasing sharply over recent years.

The following comparison of Australia's household electricity prices with other OECD countries was undertaken by the Australian Government Bureau of Resources and Energy Economics (BREE) for the Senate Select Committee on Electricity Prices held in the second half of 2012 (refer to Figure 1.5).[15]

BREE found that between 2010 and 2011, Australia's international standing dropped such that household prices measured in AU$ per kilowatt hour increased, resulting in Australia becoming more expensive than the OECD average. If the same analysis is undertaken in 2013, it is expected that this position would worsen.



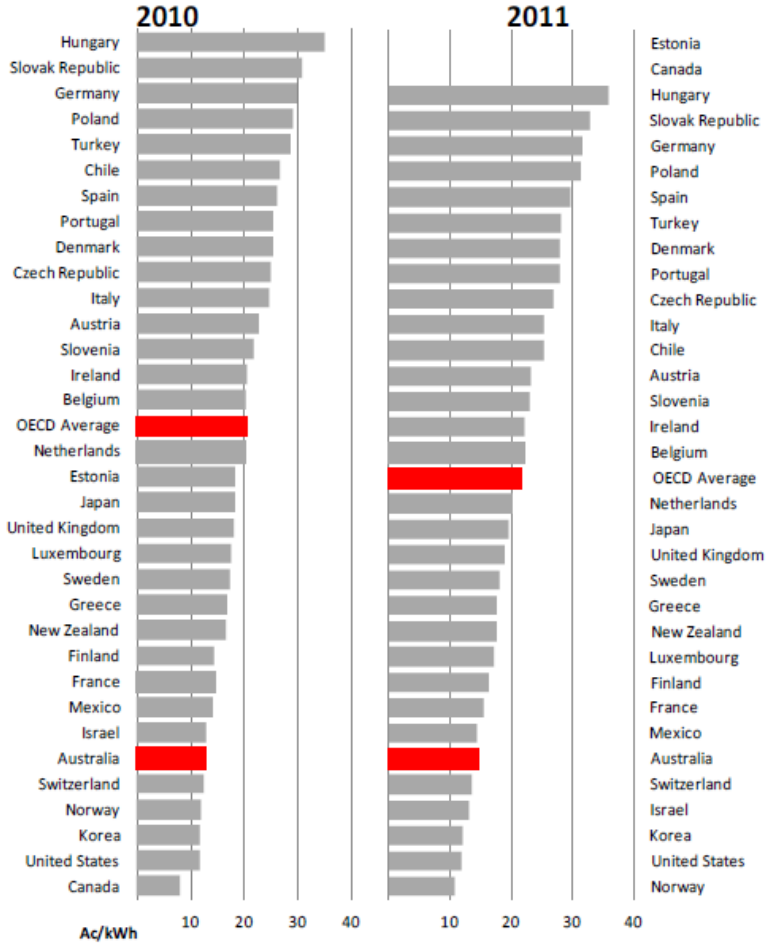
Sources: BREE; Australian Energy Market Commission (AEMC), Future Possible Retail Electricity Price Movements: 1 July 2010 to 30 June 2013 and *Possible Future Retail Electricity Price Movements: 1 July 2011 to 30 June 2014; International Energy Agency (IEA), 2012 Electricity Prices and Taxes*[2].

However, when Australian electricity prices are compared with other countries on the basis of purchasing power parity (PPP) exchange rates, then Australia, including Queensland, improves considerably in the rankings (refer to Figure 1.6). This is because a PPP measure more effectively represents what can be purchased within one country compared with another. BREE calculated that on this basis, residential electricity prices averaged 14.20 US cents PPP per kilowatt hour.

While this goes some way to explaining the relative impact of electricity prices, Australian (including Queensland's) electricity prices are continuing to increase sharply when compared

[15] Department of Resources, Energy and Tourism - Answers to questions taken on notice (from public hearing, Sydney, 25 September 2012) for the Senate Select Committee on Electricity Prices http://www.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=electricityprices_ctte/electricityprices/submissions.htm Page 2-4 viewed 28 February 2013

to other countries, and it is important to determine why this may be happening. Some of the possible reasons are outlined below.



Sources: BREE; Australian Energy Market Commission, Future Possible Retail Electricity Price Movements: 1 July 2010 to 30 June 2013 and *Possible Future Retail Electricity Price Movements: 1 July 2011 to 30 June 2014; International Energy Agency (IEA), 2012 Electricity Prices and Taxes; OECD.Stat.*[3]

Figure 1.6 Household electricity prices, OECD economies, PPP

Generation:

The type and age of generation assets and fuel source may influence the cost of electricity supply. Countries with a secure, stable and inexpensive fuel supply may be better positioned to deliver a lower wholesale cost of electricity to their customers. While Queensland residential customers currently have high retail bills, the generation component of electricity bills is currently a smaller proportion when compared to network costs.

Networks:

Network charges currently account for over 50 per cent of a residential customer's bill in Queensland. This is significant compared to some other jurisdictions. For example, in 2012, residential customers in Texas were paying approximately 11.22 US cents per kilowatt hour of which approximately 26 per cent was attributed to network charges. At the same time, residential customers in California were paying around 45 per cent of their bill toward network charges.

There are many factors that affect network costs. The rate of return that an asset owner recovers significantly influences the cost, as does the capital investment cycle. In Queensland,

network businesses are allowed a return on their assets which is included in the Maximum Allowable Revenue calculation.[16] In North America[17] however, the way that the rate of return is regulated varies between jurisdictions. In Texas it is based on the cost of service which includes expenses (and depreciation) plus a return on capital investment. Some United States jurisdictions determine a representative cost of service based on a historical test year while others base it on the expected costs in a future test year. These rates are typically reviewed through administrative proceedings before an administrative judge or regulatory agency to test the assumptions and cost inputs, following which a decision is made. This decision is often the subject of judicial review.

Ownership structures also affect prices in the United States. For example, electric cooperatives and municipal utilities access lower cost debt and are not subject to income tax. In addition, municipal utilities are not subject to property taxes. These factors result in lower expenses.

Network investment to upgrade, expand and replace aging assets is also often cyclical. For example, a network business may embark on a five to ten year period of heavy increased investment followed by 10-15 years of reduced investment. These cycles are reflected in network charges. For example, Figure 1.7 (below) demonstrates that since the late 1990s Australia (including Queensland) has had substantial growth in electricity network capital expenditure. A similar period of growth occurred during the late 1970s to mid-1980s. The latest period of growth has been exacerbated by the take-up of more energy- intensive appliances, and higher network reliability standards. This has led to higher and more steeply increasing electricity prices.

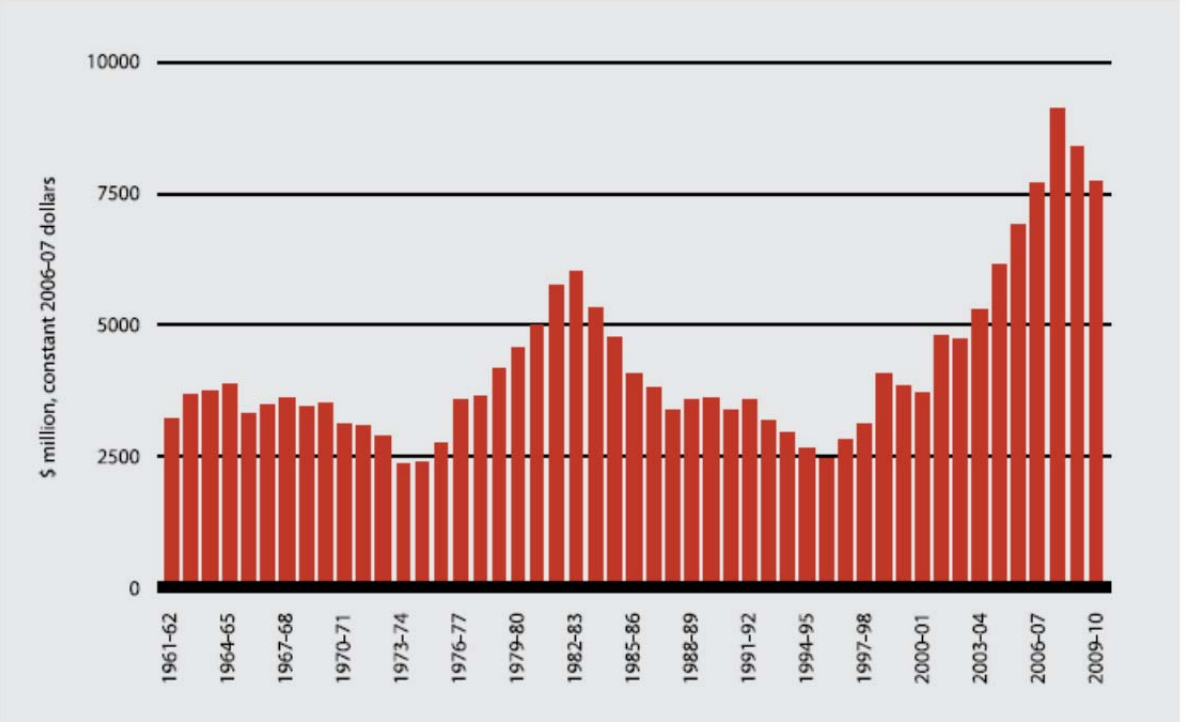


Figure 1.7: Electricity supply - Real capital investment, 1961-62 to 2009-10

[16] Regulated by the AER

[17] The following information in this paragraph was provided through personal communication with J.Totten, Stratus Energy Group - Texas, 6 March 2013

Where countries are within their investment cycles to undertake upgrades and replace aging infrastructure (or deal with extreme weather events) is often not transparent in electricity prices, nor is information available on the reliability of their networks. In addition, there can be significant differences between jurisdictions in the cost of key inputs, including labor and land. This makes it difficult to judge the performance, or costs and benefits, of one jurisdiction's network over another purely based on electricity price.

Efficient network utilisation can play a significant role in containing network costs. Network charges are recovered using a combination of fixed and variable rates (including demand and consumption charges). Flattening the demand profile and increasing the amount of electricity delivered through the network without increasing peak demand means that each unit of electricity sold requires a smaller proportion directed toward network investment. For example, in Energex's distribution area, 16 per cent of the network capacity is only used for one per cent of the year, resulting in a large proportion of the network sitting idle and severely underutilised. By limiting demand spikes through demand management activities (see section 3.3), more electricity can be delivered through the existing network, decreasing the pressure on network charges.

The number of customers supplied by the electricity network, the size of the network (length of line and area serviced), and the average customer consumption also play a significant role in its level of utilisation. This then influences the structure and cost of network tariffs. For example, while residential customers in Texas pay less than half the rate for electricity as Queensland residents, Queensland is 2.5 times the size of Texas with less than one-fifth as many electricity customers. The Texas network also connects approximately 10 times the amount of electricity generation, and electricity consumption by residential customers in Texas is more than double that of similar Queensland customers. This economy of scale, coupled with improved network utilisation, helps drive down the unit price of electricity in Texas, despite some significant network investments, including the roll-out of advanced meters and transmission lines to connect wind generation in renewable energy zones.

The circumstances of one country or jurisdiction, where electricity prices are comparatively low, cannot necessarily be replicated in another jurisdiction. In analysing Queensland's, and Australia's, ranking against other countries it is important to consider the differences in regulatory environments, levels of reliability and security, level of network utilisation, geographic implications, customer numbers, consumption and consumption behaviour. Understanding the impacts of these factors will enable the determination of the most appropriate solutions to place downward pressure on network and associated customer costs.

For Queensland, this means ensuring:

- the lowest cost mix of generation to meet demand;
- the rules around network regulation are effective, ensuring that regulated monopoly network businesses receive a fair (but not excessive) rate of return, and that there is no incentive to spend unnecessarily on infrastructure; and
- improved asset utilisation and a move towards a 'flatter' load profile, potentially by encouraging consumers to shift consumption out of peak periods.

This process is not a simple undertaking, however the recommendations contained in this IDC report set in motion a strategy, tailored for Queensland, that is aimed at achieving cost efficient outcomes for Queensland's electricity supply chain. By considering the experience of other countries when implementing Queensland's electricity sector reforms, we will be in a stronger position to achieve the necessary improvements across generation, network, and retail activities. This will lead to better outcomes for Queensland Queensland's households and businesses.

Cost drivers and challenges for the sector

Numerous factors complicate the supply of electricity. Each part of the supply chain has its own issues and challenges. Issues that affect operations and overall costs in one part of the sector and can have flow-on impacts across the supply chain.

Changing external influences such as climate change polices have also affected the sector. It is likely that the market will need to adjust further in the future to respond to emerging pressures and influences such as new technology and changing consumption patterns.

The three most significant drivers of current price rises are:

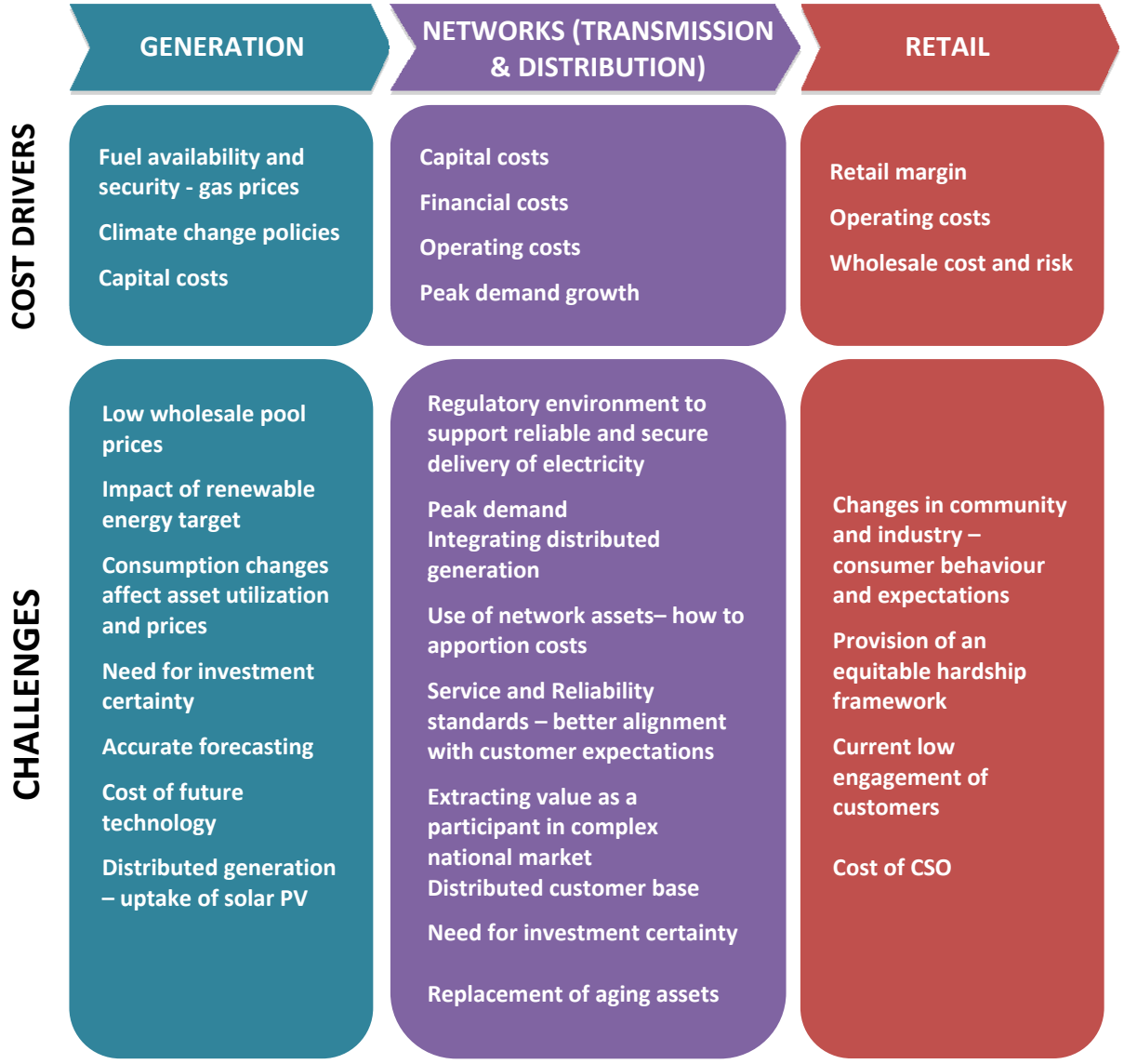
- networks[18]–network costs account for over 50 per cent of residential bills and have grown by more than 100 per cent from 2007-08 to 2012-13. While population growth and high reliability standards have been a substantial driver of cost increases, there is also a concern that the underlying regulatory framework has not provided the right incentives for efficient capital expenditure;
- peak demand growth[19]–capital expenditure to accommodate peak load in the distribution network accounts for approximately 45 per cent of approved total expenditures.[20] The industry has spent heavily on the network to keep pace with projected growth in peak demand to satisfy growth on multiple development fronts, leading to asset underutilisation and lowering productivity in the electricity sector; and
- climate change policies–solar and renewable energy schemes, together with carbon policies, added around 16 per cent to residential bills in 2012-13 and are projected to increase.

The impact of these drivers has been exacerbated by: (i) a tariff and pricing system that has not kept pace with changes in the sector and is not reflective of underlying cost; and (ii) a planning framework that does not promote the most efficient development of new electricity infrastructure.

The complexity of the system and inter-relationships between its component parts pose challenges to achieving the IDC's three objectives. The following diagram summarises key cost drivers and challenges.

[18] "Network" refers to the transmission and distribution network, largely comprised of poles and wires.
[19] "Peak demand" refers to maximum electricity demand that occurs on the hottest days of the year.
[20] AEMC cited in Productivity Commission 2012, *Electricity Network Regulatory Frameworks*, Draft report, Canberra, page 303

Figure 1.8 CHALLENGES ACROSS THE SUPPLY CHAIN



1.3 STRATEGY FOR REFORM

This report organises its analysis and final recommendations under the main stakeholder group affected by each issue: energy suppliers (generators), network providers, retailers, customers and government. In practice, most issues are linked to multiple recommendations and impact more than one stakeholder group.

These linkages reinforce the need for a coordinated reform program. Reform in one part of the system, such as the network businesses, would provide only short-term relief. To be successful, the reforms must be implemented progressively and customers must be protected and engaged along the pathway.

The IDC proposes three strategies for reform:

1. Stop building unnecessary infrastructure and improve the efficiency of network businesses
2. Maximise the benefits of competition while protecting customers
3. Develop a more effective role for government

Strategy 1: Stop building unnecessary infrastructure and improve the efficiency of the network businesses

This strategy targets the biggest contributor to electricity prices—infrastructure costs. There are significant costs associated with physically producing electricity and supplying it to homes and businesses. Even the most efficient electricity system carries considerable infrastructure costs associated with poles, wires and power plants and, in a state as big as Queensland, electricity infrastructure costs are immense.

Instead of minimising these costs to the greatest extent possible, more poles and wires and associated infrastructure than are needed have been built. Operational costs are also high. Combined, they have had a considerable impact on prices. This strategy focuses on:

- changing the culture and decision-making processes of network businesses to reduce spend on poles, wires and associated infrastructure. This involves recommended changes to business processes and the regulatory environment (detailed at section 3.2) including:
    - Replacing prescriptive security and reliability standards that drive network overinvestment with a more economically derived, outcomes-based approach that better reflects customer expectations and values.
    - Pushing for national reform to improve customer outcomes, including:
        - removing issues in economic regulation that do not recognise the importance of the long-term interests of customers
        - reducing risk for customers in poor demand forecasting
- driving a collective approach to performance in the distribution network businesses by establishing a holding company model.
- changing how customers use electricity so there is less need for new infrastructure in the future. This involves recommended changes to price signals, including:
    - giving customers the power to choose contracts that reward electricity use with a low impact on the network (e.g. time-of-use and flexible pricing) (detailed at sections 4.2 and 4.5)
    - reducing network stress caused by periods of very high electricity use by developing and implementing strategies to:
        - gradually reform network price structures, including through capacity and critical peak pricing

- give homes and businesses innovative options to benefit from reducing electricity use at peak times

This work will be complemented by IDC recommendations to address planning issues (section 3.5), by:

- incorporating energy into the state planning policy to support better decisions about what and when new network infrastructure is built

Strategy 2: Maximise the benefits of competition while protecting customers

Between the late- 1990s and 2007, major sections of the Queensland electricity market (i.e. power generation and retail) were opened to competition in order to boost productivity, innovation and service quality. The benefits of competition in the generation market are already apparent, with downward pressure placed on wholesale energy prices and greater diversity in fuel sources. This has boosted the overall sustainability of the sector.

However, real, widespread benefits of retail competition are yet to be realised for many customers.[21]

Strict retail price controls, poor customer understanding and engagement and the payment of Community Service Obligation subsidies only to Ergon Energy Retail outside south-east Queensland have all constrained the growth of retail competition. Strategy 2 aims to boost the benefits of competition, while still ensuring customers are protected. Key elements include:

- Moving from a regulated price-setting approach to a price-monitoring approach in south-east Queensland by 1 July 2015, if consumer protection and engagement in the market are sufficient, in order to stimulate investment and competition for the benefit of customers (section 4.6).
- Strengthening safety-net support for vulnerable customers and reducing red tape by adopting nationally harmonised laws for customer protection, subject to variations to:
    - boost customer engagement
    - put information about the cost of poles and wires on bills
    - examine fees and charges in retail contracts (section 5.3)

- Improving consumer engagement to help customers benefit from discounts and improved products in a competitive market (section 5.4)

- Developing a clear and effective hardship and concession framework informed by public consultation (section 5.2)

- Addressing barriers to the growth of retail competition in regional Queensland, including moving towards a network-based Uniform Tariff Policy Community Service Obligation within three years, in conjunction with the structural reform of Ergon Energy Retail (section 5.5)

[21] Similarities can be drawn with other electricity markets around the world,

Strategy 3: More effective government

The Queensland Government has a number of different and, at times, conflicting roles in the electricity sector. There is no clear overarching objective, role or principle(s) to guide participation.

As an example, government ownership in the competitive generation and retail sectors creates financial risk for the state. Changes in the market, such as the move to more vertically integrated business models, place pressure on government-owned businesses to adjust their approaches to operating in the market. Several national reviews conducted in 2012 have called on governments to consider benefits of private ownership of energy assets, particularly network assets, to achieve better economic efficiencies.

Further, the efficiency and effectiveness of the government subsiding the electricity supply of all customers in regional Queensland—particularly big business and government agencies—could be reviewed. It may be possible to deliver the policy in a better way.

Strategy 3 aims to make sure that every state government intervention in the electricity market (including its ownership of assets) can be justified. Key elements include:

- Publicly consulting on the merits of continued government ownership ,with respect to generation and retail (section 6.2)
- Addressing the ongoing cost impact of the Solar Bonus Scheme (section 4.5)
- Developing more effective subsidy arrangements for regional Queensland through reviewing the Uniform Tariff arrangements (section 5.5)
- Determining the long term future of Ergon Energy Retail (section 5.5)

GENERATION

Role: Producing electricity at power plants from various energy sources

Market features: Competitive market, mix of government and private

Proportion of bill: Approximately 35% (including approximately 9% carbon price mechanism and 5% green energy scheme costs)

Key challenges: Fuel prices, supply/demand balance, and intense competition

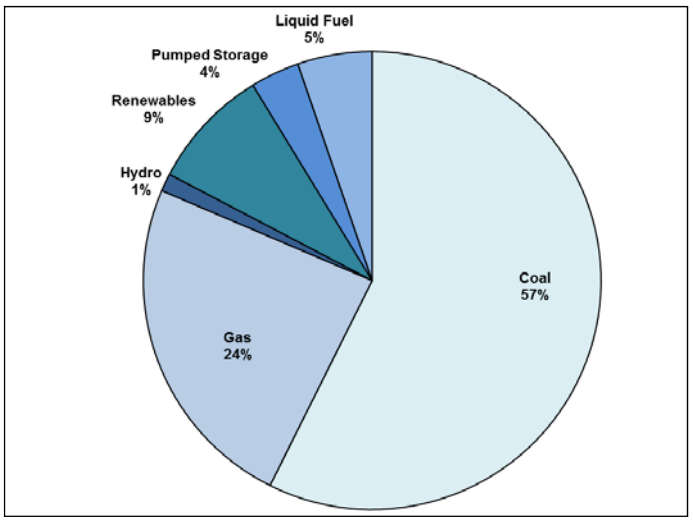
Role of Queensland Government: Owns generation company, regulates licences, policy maker in the Qld energy mix (e.g. nuclear prohibition)

PART 2 GENERATION

2.1 INTRODUCTION

In Queensland, the main source of electricity supply is coal-fired generation. However, on the back of government policies, there has been an emergence of gas-fired generation and, more recently, rooftop solar photovoltaic (PV) generation has risen to more prominent use in the state. Figure 2.1 shows the share of total capacity in Queensland by generation type as at 31 December 2012.

Figure 2.1 Share of Total Generation Capacity in Queensland by Type, as at 31 December 2012



Source: AEMO with DEWS estimates for non-NEM (total generation 14,420 MW).

Market

The generation market is competitive, with a mix of private and government-owned operators. The two government-owned corporations, CS Energy and Stanwell Corporation, own or operate more than 60 per cent of Queensland's capacity.[23] Of the private sector entities that own and operate the remaining capacity in Queensland, Origin Energy and Intergen are the dominant participants.

22 QCA Regulated Retail Electricity Prices 2012-13 determination 2012-13

23 Based on nameplate capacity of NEM connected plant, percentage includes total capacity of Gladstone Power Station (1,680MW) and Tarong Power Station (1,400MW) of which 700MW is currently in cold storage but available for re-deployment should market conditions improve.

Operating environment

As one of six participating jurisdictions, Queensland operates within the National Electricity Market (NEM)—a wholesale market through which generators and retailers trade electricity. The key characteristic of the NEM is a competitive wholesale pool where energy demand is matched with the output of generators (supply) in the most cost-efficient manner.

Wholesale trading in electricity is conducted on a spot market, where generators bid their capacity into a central dispatch system managed by the Australian Energy Market Operator (AEMO). Generators bid to supply specific amounts of electricity at particular prices for each half hour of every day and these prices are used by AEMO to direct generation on a five minute basis to meet demand at least cost.

In general, generators that have relatively lower operating costs (such as coal-fired generation) can bid at lower prices and hence, generally get dispatched first. Higher-cost generators are usually dispatched during relatively higher price periods, when demand is typically higher.

To manage the risks associated with the potential price volatility and the degree of variation that can occur in the spot market, participants in the NEM (whether as generators or purchasers) often protect themselves by entering into financial contracts known as derivatives. These transactions provide greater certainty for both parties as to the prices for the supply and demand of electricity in the future. The Queensland market is also becoming more vertically integrated, meaning that some retailers (such as Origin and AGL) own, or have access to, generation assets as well as operating a retail business. This effectively reduces their market exposure and the associated risks and also allows them to extract increased value from the electricity supply chain.

Challenges

The cost of energy generation makes up around 35 per cent of an electricity bill. This consists of around 18 per cent in energy costs, and 17 per cent in other charges, made up of National Energy Market participant fees and compliance costs for carbon and renewable schemes. While the key generation cost drivers have historically been capital costs and fuel prices, in recent times, the cost of compliance with climate-related schemes has materially contributed to the cost of generation. For the government's carbon-intensive generation fleet,[24] the cost of carbon is now the single largest operating cost. The costs associated with government policy, along with factors such as an oversupplied market and fuel price uncertainty (i.e. around gas) pose considerable challenges for the generation sector in Queensland.

IDC Terms of Reference

The Terms of Reference asked the IDC to examine (as covered in section 2.2):

- cost drivers, including capital and fuel costs along with financing considerations, in both the NEM and the north-west Queensland system
- constraints on the competitiveness of the Queensland Government-owned generation businesses and efficiency improvements which may result from the removal of specific constraints

[24] which has a heavy reliance on coal-fired power stations.

- the future of existing state-based polices including the Queensland Gas Scheme and Queensland Government restrictions on new coal-fired electricity generation.

2.2 GENERATION ISSUES

Issue: ***Cost drivers in the generation sector (including capital costs and fuel) and constraints on competitiveness of Queensland Government-owned generation businesses***

The generation component of electricity costs has historically been relatively low in Queensland, on the basis of the state's extensive relatively low-cost coal resources, but this situation is changing. The carbon pricing mechanism and Renewable Energy Target (RET), uncertainty regarding fuel prices (particularly gas) and measures to support the commercialisation and adoption of new technologies in a carbon-constrained world are some of the factors currently impacting or likely to impact in the near future on generation costs and have flow-on impacts to customers.

Climate change policies have particularly impacted on the profitability and competitiveness of the government-owned generators CS Energy and Stanwell, which rely heavily on carbon-intensive fuel sources. At present, two mechanisms contribute significantly – the direct imposition of a cost on carbon dioxide emissions, and the requirement for specified quantities of renewable generation under the RET, which subsidises renewable energy and can suppress wholesale electricity prices as subsidised capacity enters the market.

Other issues affecting the competitiveness and profitability of the government-owned generation businesses include an oversupplied market and the increased presence of vertically-integrated competitors—both of which have contributed to low market prices. While these factors impact on the generation sector in general, the government-owned generators have additional constraints that further impede their operations in the current market, including a policy of no new investment in Queensland, legacy agreements and workforce restrictions.

[Note: the government has already made decisions in relation to a number of the issues raised below, including removal of the Queensland Gas Scheme and restrictions on new coal-fired generation and public consultation on the ownership of generation assets. The IDC's findings on these issues are included in this report for completeness.]

Findings

An oversupplied market

As reported in its *Electricity Statement of Opportunities 2012*, AEMO's current expectation is that Queensland will not need new generation until after 2021–22. This reflects factors such as subdued demand growth expectations in the state associated with a slower economy, demand-side responses including energy efficiency, consumer response to higher retail tariffs and investment in small-scale solar PV.

The current oversupply in the market has subdued wholesale prices. While this is benefiting customers in the short term, the combination of increasing costs and low returns presents real challenges for the generation sector, including Queensland's government-owned generators which currently provide the bulk of Queensland's base load (i.e. day-to-day) electricity needs through coal-fired power plants.

Impact of climate change policies

There are a number of Australian Government and Queensland Government energy-related policies that affect the generation sector. In more recent times, the policies that have had the most significant impact on the generation sector are those designed to promote energy efficiency (both the demand and supply side), encourage reductions in greenhouse gas emissions and promote or support the commercialisation of alternative technologies. These policies materially impact on the generation sector and will likely shape the mix of technologies providing Queensland's electricity supply in the longer term.

Australian Government climate change policies have created significant pressure by increasing the costs of operations and contributing to oversupply. While the carbon pricing mechanism has increased operating costs, particularly for carbon-intensive, coal-fired generators, the RET has exacerbated the oversupply in the market, by promoting and subsidising the commissioning of new renewable generation despite falling or static consumption levels. These factors are expected to affect the Queensland market, as well as shareholder value relevant to the state's current fleet of carbon-intensive generation assets.[25]

From a State perspective Queensland generators have had to comply with state based policies such as the Queensland Gas Scheme. The primary intent of this scheme was to encourage investment in gas-fired generation in Queensland, however, it also aimed to reduce greenhouse gas emissions. With the introduction of Australian Government schemes such as the carbon pricing mechanism and the RET, some of the objectives of the Queensland Gas Scheme are now duplicated thereby creating unnecessary compliance and administration costs. In addition, the primary objectives of the scheme are now met without the need for the associated subsidies.

Removing state-based policies that duplicate or overlap with the objectives of Australian Government schemes should relieve some pressure from Queensland generators. In particular, the Queensland Gas Scheme is no longer required. In addition, Queensland's carbon capture readiness policy and standards associated with new coal-fired power stations are no longer required given that the Australian Government's policies have the practical effect of making new coal-fired power stations viable only if utilising modern lower emissions technologies. On 8 March 2013, the government has announced the termination of the Queensland Gas Scheme at the end of 2013 and the immediate removal of the conditions applying to new coal-fired generation.

[25] The 2013-14 Commonwealth Budget identified a significant downward revision of carbon prices from the beginning of the floating price (2015-16 onwards). It is estimated that the carbon price will drop to around $12 in 2015/16. In the short term, this will reduce the impact of the carbon price on Queensland's generators. However, it is still expected that carbon pricing will have a significant impact on coal-fired generation over the longer term.

Capital requirements associated with new infrastructure

While the costs associated with building new generation may not be a pressing concern at the moment for Queensland given the current oversupplied market, understanding and supporting the optimal environment for new investment will be important when the demand-supply balance tightens and new generation is required.

As a first step to support the future investment climate, and in recognition of the particular impact of climate change policies on generation businesses, Queensland should consider:

- the likelihood that climate change policies will accelerate the development and deployment of lower emission technologies
- greater transparency around the costs and benefits of how the various government energy-related policies and funding work together.

Renewable and emerging energy technologies should have a place in the electricity sector where they offer clear net benefits. However—to ensure the market develops efficiently—stakeholders need further discussion on the future role of these technologies in the sector. This is particularly relevant when considering whether continued mandating and/or subsidisation of these technologies is necessary. More clarity around the implications of various policies and programs—particularly the RET, the carbon pricing mechanism, the Australian Renewable Energy Agency and the Clean Energy Finance Corporation—may encourage investment certainty in the generation sector.

Fuel costs

Along with the costs associated with carbon emissions, fuel represents one of the largest generation supply costs. One of industry's key concerns is the expected shift in gas prices toward international price parity as the market responds to industry consolidation and the export of Liquefied Natural Gas from Queensland. With gas-fired generation comprising around 24 per cent of Queensland's current generation capacity, and gas providing the most obvious lower emission alternative to cost in the short-medium term, increasing gas costs will potentially be a major cost driver in Queensland's future generation sector and pose a risk to future private sector investment in generation. Fuel prices, including gas market developments, should continue to be monitored.

Impact of vertically integrated businesses

Vertically integrated retail and generation businesses create challenges for government-owned generation companies and other stand-alone market participants. Figure 2.2 explains how the business model for a vertically integrated entity differs from 'stand-alone' participants.

Figure 2.2 Vertical integration in the generation and retail markets

A generation entity will try to maximise revenue through the spot market as well as through selling forward contracts. Forward contract market provides stability and certainty in revenue.	A retail entity will try to minimise costs and risks associated with the purchase of energy in the spot and forward market. Entering into forward contracts provides greater certainty of costs and minimises risk associated with a potentially volatile spot market.	This model has the ability to derive value across the supply chain through ownership or control of generation as well as the retail market. Model provides more flexibility to manage risks, lower trading cost and capture margins internally, to realise and maximise profits.

Vertically integrated entities have incentives and the means to suppress high price events and volatility in the spot market. This makes it harder for stand-alone generators to gain adequate returns from the generation market alone. In addition, increased vertical integration can reduce demand for market contracts, reducing market liquidity and contracting options[26]. With channels to the market reduced, non-vertically integrated generators may also carry additional contract risk because remaining retailers or counterparties to the contracts may have lower credit ratings.

As noted at section 5.5, on 22 May 2013 the government announced that it would align Ergon Energy's retail load with government-owned generators, CS Energy and Stanwell.

Competitiveness of government-owned generators in Queensland

Adding to pressures created by low demand, climate change policies and increasing vertical integration, the Queensland Government-owned generators face additional constraints on their competitiveness. These include the impacts of legacy agreements, government policies (such as no new government investment in generation assets) and workforce restrictions associated with industrial relations agreements and policies.

Legacy agreements affecting these generators include water contracts and the Gladstone Interconnection and Power Pooling Agreement (IPPA). These agreements are often regarded as onerous contracts and can affect the way the government-owned generators operate. These agreements are government-imposed and in some cases, such as the IPPA, span long timeframes.

26 Australian Energy Regulator, State of the Energy Market 2011

Following the Shareholder Review of Government Owned Corporation Generators (Genco Review) in 2010, the former government committed to a policy of committing no new government investment in generation. This policy aimed to encourage private sector investment in the sector and to develop a more competitive electricity industry. Because the market is oversupplied, this policy does not currently constrain government-owned generator initiatives. However, the policy would pose financial and operational constraints on these generators in the longer term as market conditions change and the businesses look to renew their portfolios.

The IDC recommends the Queensland Government seek public views on the costs and benefits of privatising its generation assets (also discussed at section 6.2).[27] Should there be no change to ownership of electricity assets, the IDC recommends the policy of committing no new government investment in generation, except as an investor of last resort, in order to support the most efficient energy cost outcomes for customers and minimise government exposure to the market and financing requirements. It is proposed that further consultation will occur with the public in the 30 Year Strategy Discussion Paper.

To provide transparency and private sector investment certainty, it will be important to consult on and clearly establish the circumstances in which 'last resort' options may be considered by government, including key factors and timeframes. This should occur through the government's 30 year electricity strategy process.

North-west Queensland energy supply

Additional power is scheduled to be delivered to the north-west system (Mt Isa and surrounds) in 2014, following the completion of a competitive process in 2010-11 for supply to the region.

Based on current conditions, the Diamantina and Leichhardt power stations are expected to provide a reliable electricity source in the medium term to the north-west system. Nevertheless, there is potential for further growth in the region. Noting the Queensland Government's 2012 election commitment to secure energy supply for the region, it will be important to understand the potential for development in this region and its longer term energy requirements. This will be best managed through the government's 30 year electricity strategy, which will provide a long term vision for the electricity sector throughout Queensland.

Recommendations

Delivers on:
- *Strategy 2*
- *Strategy 3*

The IDC recommends the government:

2.2.1 Continue to monitor the operations of the generation sector, including the impact of both market and external factors.

2.2.2 Consult on the conditions for future generation investment and emerging generation technologies.

[27] Note: this recommendation also aligns with outcomes from the Government's consideration of the Queensland Commission of Audit Report.

2.2.3 Monitor any emerging issues and support long-term security of supply in the north-west.

2.2.4 Close the Queensland Gas Scheme.[28]

2.2.5 Remove carbon capture ready restrictions on new coal-fired power stations.[29]

2.2.6 Publicly rule out any future government investment in the generation sector except as a last resort.

Benefits

- Reduced administrative burden of duplicative government policies
- More transparent environment for future private investment in generation
- Generation sector better positioned to respond to emerging requirements
- Promotion of cost-effective investment

Costs and risks

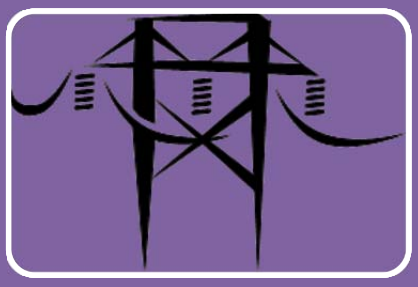
- Risk of climate change policies causing further uncertainty and delaying investment decisions

[28] Note: the Government has already announced the termination of the Queensland Gas Scheme
[29] Note: the Government has already removed the restrictions on new coal-fired power stations.

PART 3: NETWORK'S

3.1 INTRODUCTION

The transmission and distribution networks carry electricity from power stations to customers. Transmission networks transport large volumes of power often over long distances (similar to highways between cities). The distribution networks then transport smaller volumes of power to homes and business (similar to local road networks). Due to their physical and cost characteristics, networks in any given service area or on any given route are not amenable to competitive provision and as a result are provided by single operators operating as regulated monopoly businesses.



NETWORKS
Transmission and Distribution

Role: Transporting energy from generators to customers via long distance, high voltage (transmission) and shorter distance, lower voltage (distribution) networks

Market features: Natural monopoly. Powerlink is the sole provider of transmission, Ergon Energy (regional) and Energex (SEQ) are the sole providers of distribution

Proportion of bill: Approximately 54 per cent

Key challenges: Infrastructure upgrades, decline in average consumption mixed with rising peak demand, meeting safety and reliability standards and managing customer expectations regarding cost and reliability

Role of Queensland Government: Owns Queensland's three network businesses, Regulator of licences, policy maker in reliability standards, network planning and connections

Market Structure

Transmission (high voltage network)

Powerlink is the Queensland Government-owned company that develops, operates and maintains Queensland's high-voltage electricity transmission network, which transmits bulk quantities of energy over a 1,700 kilometre (km) geographic spread, from north of Cairns to the New South Wales border.

The $5 billion network incorporates 330 kilovolt (kV), 275kV, 132kV, and 110kV elements and transports electricity from the power generators to 23 customers including the distribution networks (Energex and Ergon Energy) and large industrial customers.

Powerlink also transports electricity to and from New South Wales via the Queensland/New South Wales Interconnector (QNI), which is the major connection of Queensland to the National Electricity Market (NEM)[30].

Distribution (low voltage network)

The Queensland Government owns two distribution monopoly entities—Energex, which operates in south-east Queensland and Ergon Energy Corporation Limited (Ergon

[30] Directlinc is also a lower capacity privately owned interconnector.

Energy), which operates outside of south-east Queensland.

Energex builds, manages and maintains a distribution network that covers approximately 25 000km^2, [31] bordered by Gympie to the north, Gatton to the west and Coolangatta to the south. Approximately 54 000 kilometres of overhead powerlines and underground cables are used to service this area. The Energex network is valued at $9.8 billion[32] and incorporates 110/132kV, 33kV, 11kV and low voltage elements that distribute electricity to 1.32 million residential, industrial and commercial customers across a population base of around 3.1 million.

Ergon Energy supplies electricity to approximately 700 000 customers across an area of more than 1 million km^2—or around 97 per cent of the state[33]—from Cooktown in the north, Mount Isa to the west and to the New South Wales border. Its 150 000 kilometres of powerlines and one million power poles, along with associated infrastructure such as major substations and power transformers are valued at $10 billion.

Most of Ergon Energy's customers are connected to the national electricity grid—a single network running down the east coast of Australia, and extending into Tasmania and South Australia. However, some customers in very remote areas fall outside the national electricity grid and are served by isolated (stand alone) networks. There is a major network centre at Mount Isa and 34 small isolated networks in the Torres Strait islands, all Cape York, Mornington and Palm Islands and sever centres in the far west. In all but one of these small networks, Ergon Energy also operates location generation, generally diesel but also incorporating some wind and solar generation.

Some customers located in southern Queensland are serviced by Essential Energy, a NSW distributor, formerly known as Country Energy, whose supply area extends over the border near Goondiwindi.

Operating environment

The networks are subject to a mix of regulation set at the state level (covering matters such as reliability standards) and under national-cooperative arrangements (that establishes the rules around how much revenue networks are able to recover from customers).

Challenges

The total costs of transmission and distribution networks services are a function of several key cost drivers Powerlink, Energex, and Ergon Energy are subject to economic (revue) regulation by the Australian Energy Regulator. The table below (Figure 3.1) describes how these companies manage network costs and the key challenges going forward.

[31] Electricity Network Capital Program Review 2011, page 15
32 ibid
[33] Ergon Energy Annual Stakeholder Report 2011/12 page 3

Figure 3.1 Network cost drivers and challenges

Network planning (CAPEX)	Cost drivers
This process determines the level of network capital expenditures (CAPEX) to meet the following objectives: 1. Ensure that network capacity meets the current and foreseeable demands of existing network customers. 2. Ensure that network infrastructure is adequate to meet the demands of new customers. 3. Provide additional network capacity / reliability at lowest cost.	Cost drivers include: 1. Demand, particularly peak demand. 2. Customer density (number of customers per km) (distribution only). 3. Government policy on reliability, quality and security of supply. 4. Distributor policy on system utilisation (at what point is an upgrade in capacity required). 5. Age profile of existing assets. 6. Generator and customer initiated capital works. 7. Price of capital inputs (assets, direct labour costs, indirect costs and allocated overheads). 8. Financing costs - cost of debt and required return on equitys (weighted average cost of capital)[34].
Network operations and maintenance (OPEX)	**Cost drivers**
This represents the level of expenditure to operate networks and to maintain network assets (e.g. costs of inspections, maintenance and repairs). The expenditure should meet the following objectives: 1. Provide a safe and reliable network, transporting energy as required by generators and end users. 2. Maintain and operate the network in the most cost-efficient manner. 3. Meet regulatory requirements for network availability and reliability.	1. Asset maintenance strategies (i.e. time/condition, frequency). 2. Maintenance cost efficiency (i.e. defects/backlogs, job scheduling, in-house versus contractors). 3. Customer density (number of customers per km) (distribution only). 4. Government policy on reliability, quality and security of supply. 5. Age profile of networks assets (maintain versus replace asset). 6. Frequency of faults and emergencies (severe weather condition). 7. Price of OPEX inputs (direct labour and materials, indirect costs and allocated overheads).
Key challenges	
1. Managing community expectations about the reliability and cost of electricity is needed to increase awareness that there is a strong relationship between costs and reliability. 2. Improving the accuracy of demand forecasts. 3. Rising peak demand needs to be brought under control as, with falling electricity consumption the cost of an expanded network is spread across a lower overall consumption level thereby increasing prices. 4. Integrating embedded renewable generation technologies including battery storage into distribution networks will require cost effective and proven smart technology which is currently immature. 5. Introducing new regulatory incentives for demand side projects in order to address an industry engineering culture with a bias towards expanding network infrastructure. 6. Addressing skills shortages with the electricity industry determining training requirements and the government directing education and training funds towards areas of critical shortages.	

[34] This does not affect CAPEX, but does affect related revenue requirements.

IDC Terms of Reference

The Terms of Reference asked the IDC to engage an independent review panel (IRP) to make recommendations in relation to network costs. The scope of the IRP included:

- the optimal structures of the distribution network businesses (Energex and Ergon Energy)
- the efficiency of current network capital and operational expenditure within the network businesses (Powerlink, Energex and Ergon Energy) and innovative options to:
    - address peak demand increases
    - improve efficiency of capital and operating expenditure
    - incorporate the value to customers of network security and reliability in network planning and the setting of performance standards
    - improve demand forecasting.

- current and future issues in relation to national regulatory reform for the network businesses, with particular reference to areas that Queensland should influence in order to improve outcomes for network costs.

As well as responding to the IRP recommendations in section 3.2, the IDC considered:

- peak demand issues (section 3.3)
- metering reforms (section 3.4)
- land use and infrastructure planning requirements for the network businesses (section 3.5).

3.2 RESPONSE TO THE INDEPENDENT REVIEW PANEL ON NETWORK COSTS FINAL REPORT

Issue: ***More cost-effective delivery of electricity network services***

Network costs account for more than 50 per cent of residential bills and have grown by more than 100 per cent in the six years to 2012-13. Increasing capital investment (particularly in distribution)—to meet high reliability requirements and peak load demands—has driven network costs. Increases in regulated costs of capital following the global financial crisis have also contributed.

In addition to these pressures, the underlying regulatory framework incentivises capital expenditure and has compounded government-owned monopoly businesses' spending[35]. These businesses have increased expenditure, limited capital constraints and efficiency drivers.

Recognising the impact of rising network costs on electricity prices in Queensland in recent years, in May 2012 the IDC established an independent panel of electricity industry experts to support the IDC's review of cost drivers across the supply chain by examining the costs and operations of the network businesses in detail.

The Independent Review Panel (IRP) on Network Costs has reported to the IDC on the impact of network costs on Queensland's electricity prices and made 45 recommendations to the IDC on ways that network costs can be reduced. It identified that the network businesses contribution to rapidly rising network tariffs, have been driven by:

- excessive standards-mandated redundancy in system development increasing capital programs
- a corporate culture geared to expanding network infrastructure and enlarging the capital base of the businesses—driving inefficient expenditure
- a deficient commercial model with no rigorous capital rationing guiding investment decisions
- a regulatory model that does not allow the Australian Energy Regulator (AER) to drive the networks to deliver efficient capital and operating programs
- capital expenditure for Energex, Ergon Energy and Powerlink that has increased at an average annual rate of more than 13 per cent over the past 10 years. Operating expenditure has also increased sharply from 2001-02.

[35] As at the end of 2012. On 29 November 2012, the Australian Energy Market Commission announced changes to the National Electricity Rules to address many of these incentives – with revised arrangements to commence at the end of 2013.

Findings

The IDC has reviewed the IRP's recommendations and supported all but three recommendations, with five recommendations requiring further work. The IDC's assessment was based on the IDC review objectives, information provided by the IRP and extent of impact of the recommended actions on electricity prices.

Key outcomes of the IRP report

The IRP recommendations focus on the following key areas to reduce upward pressure on network tariffs:

- Reforming the regulatory framework under which investment decisions are made—specifically reliability standards and escalating capital spending driven by demand overestimations
- Increasing the accountability and transparency of network business operations
- Addressing the functions that affect the efficiencies of the network businesses, such as planning, asset management and supporting functions and technologies
- Incorporating points of reference and reporting standards to improve network performance comparable with other jurisdictions

The IDC was particularly concerned about the IRP's reports of a noticeable cultural disregard for costs within the distribution network businesses. As a result, the IRP makes recommendations aimed at fundamentally improving the businesses' operations and efficiency.

The IRP recommendations recognise the potential to achieve significant cost savings through internal efficiency programs driven by the boards and the new chairs of the network businesses.

The IRP suggests that its recommended structural change would drive the cultural changes needed to achieve all of the potential savings, which the IRP considers is not likely to occur under the current structure.

The IRP also identified as key a currently perverse regulatory framework that incentivises capital expenditure on infrastructure and programs. The IRP proposes a number of reforms to the existing regulatory mechanisms and calculations for assessing expenditure allowances and making revenue determinations for the distribution network businesses.

The IRP estimated the three network businesses can reduce total expenditure by $3.6 billion within their current regulatory determination periods, compared to the revenue allowances determined by the AER for those periods. It identified a further $1.4 billion reduction in distribution network indirect costs for 2015 to 2020.

The IDC notes that these expenditure reductions do not only relate solely to IRP recommendations. The $3.6 billion includes previously identified reductions in capital expenditure programs due to a revision of planning standards and falling demand identified in a previous review in 2011 (Electricity Network Capital Program Review).

Although the IRP report highlights potential savings in network expenditure, the nature of the cost build up of electricity prices means that any significant impact on electricity prices is likely to be realised from 2015 onwards.

Summary of IRP recommendations

The IDC supports 42 of the 45 IRP recommendations (with 5 requiring further work) on the basis of expected efficiency gains where there is:

- a direct link to achieving operational efficiencies and therefore, an expected flow-on to cost reductions for customers
- consistency with national reforms resulting in a clear benefit to Queensland
- evidence of costs and benefits provided to support a decision to implement
- improved services to customers and/or benefits to industry
- potential efficiency gains for the network businesses
- consistency with IDC objectives.

Supporting information provided by the IRP, and a priority to identify the best sustainable impacts on electricity prices, also heavily shaped the IDC's decisions.

The IRP grouped its recommendations under ten main headings and cost areas. A summary of the IDC response to the recommendations is outlined below.

Efficiency of indirect cost activities

The IRP made 10 recommendations regarding the distribution businesses' indirect costs—which have grown rapidly in recent years. In summary the key recommendations, which are supported by the IDC, relate to:

- the distributors continuing to implement efficiency programs with a potential benefit of up to a $484 million reduction in annual spending by Energex and Ergon Energy (IRP recommendation 11)
- focus on core information and communication technology service requirements and improve their delivery (currently by SPARQ Solutions) (IRP recommendations 12 to 16)
- refocusing the businesses on core business activities and reducing external contractors and consultancies (IRP recommendations 17 and 20).

These recommendations are supported by the IDC but with further implementation work to be completed in relation to IRP recommendation 11.

Efficiency of direct cost activities

The IRP made nine recommendations (IRP recommendations 21-29) to improve direct cost efficiencies. These are consistent with the IDC's objectives and largely supported by the IDC, although some further work is required to confirm the implementation approach. Addressing underlying performance issues is critical to realising the maximum potential benefits from other reforms.

Network security and reliability standards

In relation to system development standards for transmission and distribution, the IRP recommends a shift from overly prescriptive redundancy-based standards (e.g. N-1) to outcome-based reliability standards. A less deterministic standard would provide scope for reducing capital expenditure and increasing the utilisation of existing assets while still meeting customers' expectations for reliability and cost of supply.

The IDC supports the broad intent of these 10 interlinked recommendations (IRP Recommendations 1 to 10), recommending the future direction for Queensland takes into account ongoing national activity on developing a best practice national framework for network reliability standards.

Further assessment to weigh up costs and benefits of specific standards in line with customer preferences and analysis of the impacts for Queensland is needed. The IDC notes work is under way nationally on this question and recommends that these issues be considered through consultation on the 30-year electricity strategy Discussion Paper.

Network regulation and planning

The IRP reported that Queensland could improve regulatory and governance arrangements to further alleviate the compliance requirements imposed on the businesses and subsequent costs.

The IRP made nine recommendations (IRP recommendations 31-39) regarding either Network Regulation. The IDC supports the majority of these.

The IDC does not support two recommendations (IRP recommendations 32 and 33) regarding network regulation governance issues at the national level, as the IDC has assessed that these actions would create short-term uncertainty for industry with no clear, additional benefit.

With respect to the part of IRP recommendation 33 recommending support for the selection of a Weighted Average Price Cap control mechanism, the IDC believes there may be merit in this approach. The IDC recommends government works with the businesses over the next six months to examine this proposal and confirm that the change will generate benefits to customers.

Structure and ownership

The IRP suggested that maximising efficiency improvements will require a structural change to the distribution network businesses. In particular, the establishment of a holding company for Ergon Energy and Energex has potentially significant efficiency gains.

In addition to the proposed structural reform (IRP recommendation 30) the IRP also recommended the government consider privatising the network service providers as, on its analysis, private ownership will very likely unlock further cost savings for the benefit of customers (IRP recommendation 43). The government's response to the Queensland Commission of Audit Final Report clearly ruled out consideration of privatising network businesses.

Impact on electricity price rises

Although the IRP report highlights potential savings of up to $100 per annum for customers from 2015 onwards, and the impact on electricity prices to 2015 will see a lower rate of increase for household prices, both these statements need qualification. Firstly, while there will be impacts of continuing efficiency improvements and CAPEX reductions, the step price reductions for household customers, in 2015 is to an extent dependent on expected changes to the regulated Weighted Average Cost of Capital (WACC).

The relatively high WACC for the 2010–15 regulatory period, resulting from financial market turmoil after the global financial crises was a key factor in the distributor revenue increases for this period. This increase has flowed through to prices and highlights the impact the rigid nature of the regulatory framework can have on end prices. Industry anticipates the WACC will moderate and return to more sustainable levels from 2015. This is the key factor in the projected savings for customers, not the IRP recommendations.

The IDC notes the role of the WACC has been examined through a recent network regulation rule change and through a Productivity Commission Report on network regulation. The IDC supports the intent of the network regulation rule change made in late 2012 and recommends the Queensland Government continues to monitor how the AER implements this rule change to ensure the calculation of WACC does not in future rest solely on a point in time calculation as was the case for 2010-15.

The **WACC** for a *Network Service Provider* is the return on capital calculated in accordance with Chapter 6 or 6A (transmission and distribution respectively) of the National Electricity Rules.

The **regulatory asset base (RAB)** for a system owned, controlled or operated by a Network Service Provider is the value of those assets that are used by the provider to provide standard control services, but only to the extent that they are used to provide such services.

Maximum allowable revenue and revenue cap
The maximum allowable revenue (MAR) formula used in determining the regulated revenue to recover is set by the AER in the network business's final determination.

The revenue cap is based on a building block approach, which includes each of the regulated cost components, namely:

- depreciation
- return on capital
- operating expenditure
- tax allowance.

What this means is that the network is an asset and the owner is allowed to make a set (capped) return on the asset from the customers the asset serves.

So the allowable return on capital = the asset value (the RAB) x the return on capital (WACC).

This is the largest single component of the networks' allowed revenue, representing 65 to 70 per cent of the Queensland distributors' 2010–2015 determination.

Secondly, the work of the IDC and IRP builds a platform for pricing reform but will not flow directly to prices and will not have significant impacts in 2013–14 because:

a) allowable network revenues and prices are set at the start of a regulatory period and, in general, are not varied during the period.

b) a large proportion of the projected increase in 2013–14 arises not from underlying costs or inefficiencies in the network businesses but from state and national policy settings and adjustments required or allowed under the National Electricity Rules as they relate to network price determinations. These costs have largely already been incurred and were not within the terms of reference of the IRP to address.

c) Changes to underlying network costs, particularly CAPEX, take time to flow through to prices. Those costs are built on forecasts of the requirements for long-lived assets. The cost of these assets is recovered across their 30 years plus lifetime and these investments cannot be unwound once they are made (i.e. efficiencies can only target new CAPEX).

Operational expenditure (OPEX) savings can be realised by businesses in any targeted year. However, the network businesses are bound by law to act in their commercial interests within the limits of the regulatory framework. With a regulated revenue, OPEX savings manifest as increased profit and the businesses will not generally pass such savings through to prices without direction to do so from their owner, the Queensland Government (such a direction was given in relation to the savings identified in the 2011 Electricity Network Capital Program review). In the absence of such a direction, OPEX savings will accrue as profits, and will result in increased dividend payments to the Queensland Government.

On 22 May 2013, the Cabinet Budget Review Committee agreed to pass through future savings from energy reforms to customers in the form of lower prices, rather than retain them to improve the state's financial position.

Recommendations

Delivers on:
- *Strategy 1*
- *Strategy 3*

The IDC recommends the government:

3.2.1 Replace prescriptive security and reliability standards that drive network overinvestment with a more economically derived, outcomes based approach that better reflects customer expectations and values.

Support the direction of the IRP recommendations relating to improving network planning and reliability standards, noting implementation is subject to the outcomes of overlapping national reviews (IRP recommendations 1 to 10).

3.2.2 Support:

- IRP recommendations 11 to 20 to improve efficiency of indirect cost activities.
- IRP recommendations 21 to 29 to improve the efficiency of direct cost activities, noting the IDC requires further work for recommendations 25, 26, 27 and 28.

3.2.3 Establish a holding company to drive a low cost culture for Queensland's poles and wires businesses (IRP recommendation 30).

3.2.4 Support IRP recommendations 31, 34, 35, 36, 38 and 39 relating to Network Regulation and Planning noting the IDC requires further work in relation to streamlining easement acquisition processes (IRP recommendation 37).

3.2.5 Do not support IRP recommendations 32 and 33(a) relating to Network Regulation due to lack of clarity regarding expected benefits from the proposed recommendations.

3.2.6 Push for national reform to improve customer outcomes, including reducing risk for customers in poor demand forecasting.

Support IRP recommendation 33(b) in relation to the Weighted Average Price Cap proposal subject to further work confirming customer benefits by end September 2013.

3.2.7 Support IRP recommendation 40, 41 and 42 relating to Managing Peak Demand.

3.2.8 Support IRP recommendations 44 and 45 relating to the development of an implementation plan for IRP recommendations.

3.2.9 Push for national reform to improve customer outcomes, including removing issues in economic regulation that do not recognise the importance of the long term interests of customers.

Endorse the recent network regulation rule change and continued efforts to ensure the national regulatory system's calculation of Weighted Average Cost of Capital does not lead to perverse outcomes.

3.3 RESPONDING TO PEAK DEMAND

Issue: ***Under-utilising energy networks***

Capital expenditure to accommodate 'peak load growth' in the [National Electricity Market] distribution network accounts for around 45 per cent of approved total expenditures, and slightly more than half of transmission spending. AEMC

The network directs significant network expenditure toward meeting peak demand which occurs less than one per cent of the year (88 hours). Energex calculates that approximately 16 per cent of its network is used only during this period, while Ergon Energy calculates that approximately six percent of its network capacity is used for only 0.1 percent (less than nine hours) of the year.

The cost of meeting this demand is enormous, with Energex estimating that the cost to deliver energy during this time at more than $7.50 per kilowatt hour (kWh). This compares with the average cost to deliver electricity for 99 percent of the time at approximately four cents per kWh. Managing peak demand is therefore critical to achieving greater efficiency and improved use of electricity sector infrastructure, in turn helping minimise electricity price rises over the long term.

Findings

Peak demand

The change in electricity consumption patterns—which has arisen from increased air conditioning penetration across the state and great numbers of energy hungry appliances—is creating significant peak demand events on the electricity network. This peak demand is a key driver of network investment, increasing network charges that flow to customers' bills.

However, electricity tariffs do not yet provide the signals necessary to communicate to consumers the cost of electricity consumption at peak times. This results in a cross-subsidy with customers using less electricity during peak times subsidising those who use more. To compound this impact, total annual electricity consumption across Queensland has softened over the last couple of years, causing the networks to increase their prices in order to recover their allowed revenue.

What is peak demand?
During summer, between 4 pm and 8 pm, thousands of us do exactly the same thing. We turn on the TV, make dinner, turn on the air-conditioner, use the computer, put on the dishwasher, the dryer, and more. All that combined energy use creates daily peak demand.

What is network peak demand?
Network peak demand occurs only a few times a year, usually when we experience extreme temperatures.

That's when a much higher number of people use high-energy appliances—such as air-conditioners and pool pumps—at the same time as other everyday appliances such as computers, laptops, TVs, cook tops, ovens, dishwashers, washing machines and dryers.

Millions are spent on extra electricity infrastructure to cater for these peak times. Network peak demand periods are forecast to grow each year, driven by a growing population and a growing number of appliances in use.

Demand management in responding to peak demand

Demand management projects have been a key focus of efforts to reduce, or limit the growth of, peak demand by the distribution network businesses. In its review of network costs, the IRP focused on the efficiency of these projects, recommending:

- demand management projects proceed only where a rigorous commercial assessment has been completed (IRP recommendation 40)
- projects and activities associated with emerging technologies that will not be commercialised or provide benefits within the medium term be discontinued[36] (IRP recommendation 41)
- resources be adjusted to match changes in activity consequent to the above two recommendations (IRP recommendation 42).

The IDC supported these recommendations, which go to the efficiency of resource allocation. The IRP also acknowledged the value of demand management, stating the distributors *…should be responsible for delivering the network in the most cost-effective manner and should have processes in place to determine whether network or non-network solutions are the most appropriate in individual cases.*

A number of contemporary studies attest that demand management can provide a cost-effective solution for networks and identify the need to promote greater customer awareness of and response to peak demand and raise community awareness of the costs it places on all consumers.

In particular, the *Power of Choice* review completed in November 2012 by the AEMC found that reducing peak demand growth will avoid a combination of network infrastructure, generation investment and generation fuel costs estimated at between $4.3b and $11.8b nationally over the next 10 years. The AEMC recommended that to achieve these savings, customers should be rewarded for reducing demand by receiving appropriate information, price incentives (eg. new tariff structures) and technology. In addition, the AEMC recommended that appropriate frameworks be implemented to enable network operators, electricity retailers and other third-party operators to offer improved incentives and information to support customer choice on how and when to use electricity.

Types of demand management

There are a number of opportunities for demand management to play a role in achieving supply/demand balance while alleviating the need for investment in network infrastructure—and providing lower cost energy solutions for customers. Sending clear price signals to encourage customers to adjust electricity use behaviour and manage costs more effectively is a key measure to achieve this.

[36] excluding projects covered by the AER's Demand Management Incentive Scheme, which is intended to support innovation and testing.

Demand side responses include:

- conservation—where consumers opt to consume less of an energy-enabled service
- efficiency—where less energy is required to provide a particular service
- load shifting—where consumers opt, in response to price signals, to reduce consumption in potential peak demand periods.

Load shifting may be relatively passive, where consumers agree to interruption of supply for specified periods in return for lower prices or other reward—for example, the current water heating tariffs from which large numbers of consumers are already benefiting. Alternatively, the consumer may become involved in near to real time energy consumption decisions, in response to time varying prices.

Demand management in Queensland

Energex and Ergon Energy are actively delivering demand management programs throughout Queensland to both residential and commercial customers, with significant results. For example Energex advises that at the time that the AER approved the Energy Conservation and Demand Management (EC&DM) work program for the 2010-15 determination, the cost to deliver network capacity was a long run marginal cost of approximately $2.09 million per megavolt ampere (MVA) over 10 years[37]. More recent cost calculations by Energex put the cost to deliver network capacity at approximately $2.7M/MVA[38] ($2,700/kVA), strengthening the case for demand management solutions. In comparison, most broad-based commercial and industrial (C&I) demand management initiatives are delivering load reduction results for under $500/KVA, with residential initiatives achieving between $500 and $1 000/KVA, (assuming demand management product lifespan of 10 years). These costs are expected to continue to decrease over the determination period as customer participation increases. This is because most of these programs, particularly residential, have up-front costs to develop and deliver, and the savings accrue in subsequent years.

Holistic approach needed

Peak demand reductions help reduce costs right across the supply chain. However, there is no single market participant in a position to aggregate those benefits in a way that allows for the funding of any necessary capital or operating costs and allows parties to share the benefits equitably.

A holistic approach to address peak demand—including government, distributors, retailers and the demand management industry—has the best chance of success. This may involve further

[37] Energex submission to the IRP; 120903_Energex Demand Management Request 20-9.pdf, p1. Figure based on Energex's own data for demand driven spend (corporate and customer initiated capex - $m) and demand growth (MW)

[38] Energex Submission Paper, Network Pricing Working Group Response to Request for Information, 20 August 2012, p10; and confirmed in conversation between Peter Casey (Energex), David Wright (DEWS) and Mark Ainsworth (DEWS) on 24 September 2012. Figure based on data for demand driven spend ($m) and demand growth (MW) as agreed in AER Final determination for 2010-2015 determination period.

tariff reform and tariff options such as cost-reflective pricing, and improved load control offerings for appliances including air conditioning, pool pumps, water heaters and electric vehicles (see discussion at section 4.5–Tariff Reform). Providing more information and control options to consumers and/or their service providers may also require more advanced metering solutions (see 'Metering Reform' at section 3.4).

The Standing Council on Energy and Resources (SCER), Council of Australian Governments (COAG) and several recent reviews into the increasing cost of electricity are progressing a significant reform agenda, identifying demand management as a key policy platform. Numerous reviews during 2012 supported the expansion of demand management as a tool to limit the growth in peak demand and dampen electricity price rises—including the AEMC's *Power of Choice* review, the Australian Government's Energy White Paper, the Senate Inquiry on Electricity Prices, and the Productivity Commission inquiry into Electricity Network Regulation.

SCER is driving the national demand-side participation agenda and is responsible for delivering on the objectives of the demand-side participation work plan. The plan's policy objectives are to improve pricing and incentives, inform customer choice and enable response. Broadly, the work program is addressing issues in retail pricing, network incentives, wholesale markets, consumer information (including options to manage consumption), enabling technology, standards and skills. In part, this work will help address the need for a holistic approach, as identified above.

The Queensland Government has a role in limiting the growth in peak demand through complementary measures such as building codes and appliance efficiency standards, where it can be shown that such action provides net benefits to the community and customers in particular.

There may also be scope to ensure that energy efficiency and better peak demand characteristics are engineered into new residential and other developments. This may require mandating certain approaches to planning new developments for the long-term gain of the community. Approaches such as Total Energy Planning for new developments are discussed at section 3.5-Land Use Planning.

Potential benefits for Queensland Government electricity spend

The Queensland Government currently spends directly more than $150 million per annum on electricity in government buildings, not counting the additional Community Service Obligation (CSO) support for government buildings in regional areas. The state has a significant opportunity to reduce electricity consumption and implement demand management initiatives in Queensland Government operations—slowing growth in electricity costs and improving network use. Areas for specific focus include the initial design and further retrofitting of hospitals and health facilities, schools and other education facilities, emergency services, correctional centres and public and employee housing. Significant direct and indirect opportunities for savings exist in rural and remote areas of the state where the uniform tariff CSO is paid.

Queensland will need broad community understanding and buy-in to ensure it identifies and delivers demand management opportunities in a timely and cost-effective manner. This should be a theme in the Discussion Paper which will shape the 30-year electricity strategy. Subject to

the consultation process, the state can then develop a long-term energy conservation and demand management plan as a key element of future electricity sector policy.

Recommendations

Delivers on:
- *Strategy 1*

The IDC recommends the government:

3.3.1 Develop a strategy to encourage energy conservation and demand management in Queensland.

3.3.2 Develop in conjunction with Energex and Ergon discounted tariffs for appliances that distributors can control to reduce peak demand.

3.3.3 Encourage Energex and Ergon Energy to pursue cost-effective demand-side measures as alternatives to network investment.

3.3.4 Maintain requirements on Energex and Ergon Energy to:

- prepare and publish annual Demand Management Plans and report on performance; and
- undertake five year demand forecasting.

3.3.5 Support national reform measures aimed at making demand management cost-effective for consumers.

3.3.6 Investigate options for government departments to measure and lower electricity costs.

Benefits

- Avoids, or delays, the need for costly infrastructure upgrades
- Greater choice of tools and products for customers to self-manage electricity consumption and costs

Costs and Risks

Potential for expenditure on equipment or programs which do not deliver anticipated demand reductions, and net cost increases

See also

Section 3.4 Metering reform
Section 3.5 Land use planning
Section 4.5 Tariff reform
Section 5.5 Uniform Tariff Policy and Community Service Obligation
Section 6.4 Aggregation of government electricity purchasing

3.4 METERING REFORM

Issue ***Limitations of existing meters in Queensland***

The energy retail market is changing. Smart appliances and smart meters will provide opportunities for consumers to better control and manage their electricity use. Australian Energy Market Commission (AEMC) Report, Power of Choice

Queensland's existing metering stock is comprised predominantly of accumulation meters, a basic metering technology which measures the total volume of electricity consumed at a premises. These meters are read manually on a monthly or quarterly basis and support billing based on flat rate tariff structures. Accumulation meters have no additional functionality, e.g. no remote capabilities.

In a future expected to feature greater demand side participation from consumers and businesses, metering reform is fundamental to enable a range of reforms, including tariff reform, and to facilitate engagement with consumers through increased information on their consumption patterns.

Findings

Metering is a key enabler for electricity sector reform, providing opportunities for enhanced information provision to suppliers and consumers which can contribute significantly to meeting broader objectives of energy market reform.

However, the limited functionality of Queensland's current stock of meters is a key barrier, particularly to:

- demand side participation—there is limited information available to customers to understand their energy usage and make informed decisions
- tariff reform—there is no ability to determine the timing of consumption and implement flexible tariff structures.

This limited functionality also impacts on:

- network costs— costs associated with manually reading meters, and costs to arrange onsite disconnection and reconnection
- retail competition—limits the product choice retailers can offer customers, and inhibits product innovation
- affordability—quarterly billing cycles can create 'bill shock' for customers, particularly those with low-incomes (though other payment options are available to manage this issue).

Metering reform needs to be considered in the context of the broad objectives for electricity sector reform in Queensland, and how metering functionality can meet specific ends in relation to these objectives. This is not simply a choice between accumulation meters, interval meters

and smart meters. Rather, it is the selection of functions that support market reforms in the most cost-effective manner.

Small customer meter types

Accumulation meter 1st gen meter 1950 – 90's+	Accumulation reading only	• Only measures consumption on a single tariff • Need a separate meter for each tariff (eg general supply Tariff 11, off peak T33, etc) • Off peak control is via a separate time clock or ripple control relay in the meter box • Can't support time of use or remote reading • Read manually by reading the dials
Interval meter 2nd gen meter 2000s +	Electronic electricity interval meter, generally read as an accumulation meter Cost between $60 and $200 ea, depending on type, plus installation. Mobile phone comms add-on approx $200	• Has an internal time-of-day clock • Capable of recording consumption in time intervals (30 mins) and storing into internal memory, up to 90 days of readings (depending on model) and other functions • Set up to measure accumulated consumption, but can be programmed in the field to calculate and display time of use consumption (tariff 12, tariff 22, etc), peak demand, solar feed-in, etc • Can include an integrated off-peak control relay or time clock with second metering element to provide control and metering for off peak tariffs Tariff 31 and 33 • Meter reading is usually manual, although communications can be added to allow limited remote reading capability • Interval data may be retrieved either by a direct data connection probe to the front of the meter or through remote communications (if installed)
Smart meter 3rd gen meter 2010+	Electronic interval meter with enhanced features, including integrated comms Cost approx $300 - $400 plus installation and radio infrastructure	• It is a 2nd generation meter plus added inbuilt functionality and features • Two-way communications device – (in Victoria, UHF radio) – to allow: ➢ Regular downloading of interval and other data to a central point (remote read) ➢ the application of variable pricing, such as critical peak pricing and public holiday off-peak ➢ Uploading remote updates to the meter remotely ➢ remote disconnection / reconnection of supply ➢ Connection to other local functions including: in-home displays of consumption and data, remote disconnection, multiple remote or time clock controlled load circuits,

		tamper alarm. • Requires extensive data and control communications infrastructure

Since 2000, Queensland's metering stock has been updated incrementally with 2nd generation meters under a 'new and replacement' approach. This approach has minimised the upfront costs but has delayed the accrual of benefits until a sufficiently large proportion of new meters are installed to deliver whole of system benefits for customers, distributors and retailers.

Distribution businesses currently have an effective monopoly over the management of the metering stock and include metering costs in the Distribution Use of System (DUOS) charges. This has limited opportunities for commercial deployment of alternative metering. However, the AEMC has recommended reforms to facilitate greater competition in metering and metering services. A rule-change proposal for this matter is currently under development.

The replacement of accumulation meters with more advanced metering, in tandem with other reforms, is expected to provide long term benefits to consumers and industry. However, metering reform will require significant upfront investment, both in metering infrastructure and in communications and information systems to support the additional metering functionality. Further, these benefits are spread across all parties and are difficult to value and therefore attribute costs accurately.

Recent national energy sector reviews have identified two key options to enable advanced metering. These are: opening metering arrangements to competition to enable a market-led implementation (recommended by the AEMC); and implementation of advanced metering by distributors in constrained network areas (recommended by the Productivity Commission). Neither approach has been fully costed, however, commercial business cases would be required to support both deployment models.

Metering reform features a number of key technical and cost considerations. These include:

- specification of meter functionality;
- cost of advanced meters and installation costs;
- choice and cost of communications technology; and
- cost of supporting information technology systems (e.g. meter data management and network management systems).

Cost estimates for the implementation of advanced metering are difficult to determine and in many cases rely on data and analysis that is out of date, not relevant to Queensland, or based on assumptions which do not necessarily apply today. An economic investigation of metering options is critical to inform future discussion on metering reform in Queensland.

It is also important to consider metering reform not simply as a choice between accumulation meters, interval meters and smart meters, but in the context of the range of functions of available metering technology options and their ability to support electricity sector reform.

Case study – Victorian Advanced Metering Infrastructure deployment "smart meter roll-out"

In 2006, the Victorian government mandated the roll-out of smart meters in that state. The program involved replacing accumulation meters with smart meters in approximately 2.66 million Victorian homes and small businesses. The electricity distributors were tasked with delivery of the roll-out.

Distributors purchased meters and two-way communications network management systems individually rather than through a single provider. This resulted in higher costs than necessary (or forecast) for communications, operations and information technology.

Customer opposition was also a major issue, driven by poor communication aboutthe use of these meters and potential benefits to customers. The identified benefits were also later assessed as being below original estimates, with the main benefits accruing to utilities such as avoided costs compared with accumulation meters, improvements in network operation and benefits from better demand management.

Consumers have opposed metering reform due to an association with time-of-use pricing and the costly and poorly communicated roll-out of smart meters in Victoria (refer to case study above). Experience in other jurisdictions indicates the importance of coupling any roll-out of advanced meters with appropriate consumer protections (particularly access to and use of data collected) accelerating the availability of benefits to consumers, and ensuring that consumers are appropriately engaged prior to and throughout any deployment program. These kinds of protections have been identified under the SCER Smart Meter Work Program and are proposed to be enacted through changes to the National Electricity Rules.

The Victorian Advanced Metering Infrastructure deployment highlights a number of lessons for Queensland, including the need for decision-making process to take a holistic view of impacts across the electricity supply chain. This includes:

- the need for fully costed, robust and defensible business cases for mandated roll-outs
- the importance of an effective customer communication and education strategy to build customer awareness and engagement for benefits realisation
- understanding potential economies of scale in meter and supporting information and communications technology procurement, installation and operation.

Recommendations

Delivers on:
- *Strategy 1*
- *Strategy*

The IDC recommends the government

3.4.1 Support national reform processes to facilitate the accelerated roll-out of more advanced metering (such as smart meters to support tariff reforms), subject to:

- the outcomes of Queensland-specific economic investigation into metering; and
- consumer protection and privacy issues being addressed.

Benefits

- Detailed understanding of technical capability and likely costs for metering, communications and information technology
- Better decisions on changes to metering requirements
- (If installed) better supplier and customer information, the ability to offer more cost-reflective tariffs and promotion of demand-side response.

Costs and risks

- Public opposition to advanced metering (if its purpose and benefits are not communicated).

See also

Section 4.5 Tariff reform
Section 4.6 Retail competition
Section 5.2 Hardship and customer assistance

3.5 LAND USE AND INFRASTRUCTURE PLANNING REFORMS

Issue

There are complex relationships between the provision of infrastructure, the costing of infrastructure services and Queensland's tiered planning schemes and processes.

Decisions about future land use intentions have cost impacts for both the upfront and ongoing supply of energy infrastructure, as do decisions about individual development proposals. The manner in which these decisions are made affects the nature and extent of these cost impacts.

Within the electricity sector, transmission and distribution companies are most affected by land use planning decisions across the state.

Findings

Planning costs and impacts

Queensland has what has been referred to as a market-responsive land development system when compared with interstate systems. The government's planning reform agenda, among other factors, seeks to reinforce and enhance the market responsiveness of the planning and development system.

The repeal of regulatory controls around urban footprints, the return of state planning controls to local governments and the ongoing removal of ineffective and costly planning and development regulation and processes are examples of how the reform program is progressing.

However, a fine balance needs to be achieved in relation to the planning, funding and provision of infrastructure—particularly capital-intensive network infrastructure like electricity.

A decentralised and discretionary development system presents significant challenges for infrastructure providers in ensuring the timely and cost-effective supply of infrastructure for development. There are significant cost risks for Powerlink, Ergon Energy and Energex as a consequence; and energy users ultimately fund these costs through higher electricity prices. Queensland also needs to minimise infrastructure supply issues, such as difficulties in obtaining easements and the construction and holding costs incurred by the energy providers—costs that ultimately contribute to higher electricity prices for customers.

For example, in south-east Queensland, Energex has a total spare substation capacity in its current network of approximately 2,189 MVA (the sum of all spare capacity in Energex substations). This is sufficient to power around 430,000 average homes.There were 18,928 new dwelling approvals in south-east Queensland (SEQ) over the year ending December 2011, a decrease of 19.3 per cent from the previous year (23,469). As a practical simplified example, at 20,000 new dwelling approvals per year Energex has enough spare substation capacity in its existing network to meet new dwelling demand for more than 20 years.

Differing network constraints may further exacerbate this in some cases by requiring additional network upgrades to be made (either up or down the network and by either the distributor or transmission company) before the spare capacity may actually be accessed. While this is a further cost in accessing already existing capacity, such practices are following the standard 'just in time' model

It should also be noted a key factor contributing to this excess capacity is the technical realities of electricity infrastructure and the fact that these assets by nature are 'lumpy'. The equipment comes in standard capacity system sizes, for example substations are typically sized only 80MVA or 120MVW. If an upgrade is required the system capacity of the next sized substation may be sufficient for 80,000 people, whereas the actual demand that needs to be serviced may only be 30,000 homes, leaving surplus capacity that is difficult to avoid due to technical realities.

Planning and development mechanisms and processes

There have been long-term issues relating to incorporating energy planning issues into relevant planning documents, particularly local government planning schemes. The flow-on effect is the risk that relevant electricity infrastructure issues are not considered when development applications are assessed and decided. This is despite the fact there are formal referral requirements in the planning legislation.

There are also significant safety, planning security and cost impact issues associated with easement encroachments and fragmentations from development occurring in areas where there has been inadequate integration of energy planning issues into land use planning processes.

While the basic regulatory planning tools already exist in the system—including Community Infrastructure Designation, infrastructure integration requirements in planning schemes and formal referrals to energy providers of development applications—there are shortcomings in the way the tools are designed, used and integrated that need to be addressed through the planning reform program.

The Community Infrastructure Designation mechanism is an important tool for network infrastructure providers as it removed the need for providers to separately negotiate amendments of each planning scheme affected by a proposed corridor, easement or other network land proposal. However, it appears that the mechanism may require refinement to better achieve its intended purpose.

The proposed single State Planning Policy prepared by the Department of State Development, Infrastructure and Planning (DSDIP) is one regulatory policy initiative that will help better integrate energy planning into both state and local planning processes and instruments.

Single state planning policy

The Department of Energy and Water Supply (DEWS) has been working with the DSDIP as it develops the new single State Planning Policy and updates the matters of state interest. Public consultation is currently occurring and energy infrastructure and its associated requirements

such as corridor easements and land for substations has been included as a State Interest.[39] Local governments will now need to incorporate energy infrastructure needs into their planning schemes in order to protect existing and approved future infrastructure locations.

State Interest Implementation Costs and Energy Market Rules

Better planned development has the potential to reduce costs for both developers and the electricity network businesses, as development that occurs in line with the network will have lower connection charges than out-of-sequence development.

Under the Capital Contributions Policies of both Ergon Energy and Energex, developers are responsible for all costs, both internal and upstream, to connect to the network.

If developers choose they can fund the required infrastructure and as is current practice once constructed it is given to the distribution business to operate and maintain.

Changes to energy market rules[40] for the next regulatory period (2015-2020) mean these gifted assets will no longer be included in the distribution businesses' Regulated Asset Base (RAB) and the Regulated Rate of Return.

Further rule changes were introduced by the Australian Energy Market Commission in November 2012 aimed at ensuring energy network development occurs in the most efficient manner. These include the development of incentives to ensure network businesses' capital expenditure plans are responsive to demand changes and only justified capital expenditure is committed. This will help ensure only capital expenditure that is efficient will be incurred and added to the RAB which determines the revenue to be recovered from consumers in future periods. Additional tools to support this rule change will include a review of past capital expenditure and the ability to preclude inefficiently incurred expenditure, in excess of the regulatory allowance, from being rolled into the RAB.

The achievement of better planned development has resourcing implications for DEWS. Internally, DSDIP has advised that any agency with a nominated State Interest should have an internal resource dedicated to working with DSDIP and local government on planning for State Interest matters. Given planning is, like most sectors, a specialised field, DEWS will need to consider resourcing and whether this can be managed internally or whether an experienced planning expert needs to be funded and recruited.

Government agencies

Government developments (schools, hospitals, prisions, etc) that occur without adequate consultation during the planning phases of projects can result in significant infrastructure costs being incurred by the energy providers.

[39] Electricity infrastructure forms part of the Transport and Infrastructure state interest, see http://www.dsdip.qld.gov.au/about-planning/state-planning-policy.html

[40] This refers to the expiry of transitional rule 11.16.3, National Electricity Rules. R11.16.3 only applies to Energex and Ergon Energy.

Ergon and Energex currently fund the connection and power supply upgrades for development projects by government departments. Present planning frameworks do not provide incentives for government agencies to avoid or minimise energy infrastructure costs by consulting early with distributors to enable a proactive approach to be developed to deliver the most economic development of energy infrastructure.

These additional construction and holding costs are ultimately passed on to customers in higher electricity prices.

Early notification would allow the distributors sufficient time to plan, construct or re-locate required energy infrastructure, or where feasible, to work with agencies on the identification of alternative locations for their projects to avoid or delay the need for costly upgrades. The Minister for Energy and Water Supply is writing to all other Queensland Government Ministers to outline this issue and request all government departments consult with the energy entities at the concept stage of project development.

Total energy planning

Historically the planning and delivery of energy for new developments has not been seriously considered or successful in achieving energy-efficient dwellings. At the same time the energy infrastructure for new development is increasingly adding to developers' costs. This has added to pressure on electricity prices generally, that are increasing at a rate that is no longer acceptable to the community.

Traditionally when a new community development area is planned, the relevant authority or utility plans each of the utilities (electricity, gas, water, sewerage, roads and telecommunications) independently of the others. While each utility may be meeting the requirements of the respective regulator, legislation and standards, there is no unified approach that examines how the needs of the community can be optimally delivered to achieve what the community and our economy needs, which is:

- lowest cost energy delivery
- acceptable reliability standards
- lower carbon emissions.

New development has a unique opportunity to deliver these objectives through energy-efficient solutions with lower demand, particularly at peak, and can support embedded generation. A new approach is required to achieve this, called total energy planning.

Total energy planning can be defined as a holistic set of strategies in specified new development areas that seek to deliver lower energy costs to consumers (estimated annual household bills will be 30 to 40 per cent below the Queensland average) and lower infrastructure requirements for developers and utilities by delivering energy-efficient development and infrastructure. Total Energy Planning trials are currently underway in Townsville and Tannum Sands totalling approximately 1000 homes.

Establishing design guidelines to provide a series of guided standardised choices for constructing and operating new affordable developments is a key to delivering dwelling energy efficiency.

Design guidelines and builder partnerships can also be used to facilitate affordable energy-efficient and peak friendly dwelling design and delivery. These mechanisms also provide an opportunity to innovatively use new building and best-practice approaches to air-conditioning and climate control.

Total energy plans can also allow planning for the aggregation of embedded generation at one or multiple sites under a single umbrella infrastructure master plan agreement with developers providing opportunities for subsequent agreements with other parties as providers of embedded generation. The aims are to ensure a strategic focus by developers and electricity network providers to plan embedded generation which can limit peak demand on the network and to facilitate third party embedded generation providers into a local generation market.

Proposed mapping and information improvements

Providing mapped network capacity and forecasting information to the development industry and energy service providers in a usable form could result in a more efficient allocation of resources. Publicly available mapping of network capacity would enable developers to identify development locations which do not require costly network expansions.

Energex has prepared a prototype mapping tool that may be a first step in providing essential planning information to industry . It would also serve to raise the profile and significance of energy infrastructure planning in the land use planning sector. Western Power in Western Australia in collaboration with the Department of Planning maintains an online interactive mapping tool that sets a benchmark for providing integrated network capacity, land use planning and development forecasting data for public use.

This map or development of a mapping system similar to the Western Power system[41] would provide developers with important information on ideal locations to develop in a logical sequence alongside spare capacity in Queensland's energy network.

Recommendations

Delivers on:
- *Strategy 1*

The IDC recommends the government:

3.5.1 Endorse that DEWS and DSDIP develop a submission on planning issues affecting the electricity sector for consideration by Cabinet.

3.5.2 Incorporate energy into the state planning policy to support better decisions about what and when new network infrastructure is built.

3.5.3 Encourage stakeholders to continue trialling Total Energy Planning practices for new developments.

3.5.4 Ensure government departments are made more accountable for the network connection requirements of their projects

[41] The Western Power Network Capacity Mapping Tool is located at http://westernpower.landgate.wa.gov.au/index.cfm?event=disclaimer

Benefits

- Investigation of options to improve the cost-effectiveness of energy infrastructure augmentation through improved planning systems that promote efficient development.
- Preserving common use infrastructure corridors over the long term to prevent encroachments on easements which supports more economic long term development and may soften pressure on electricity prices

Costs and risks

- Provision of energy capacity information to the open market may influence the value of land and create community concerns in areas identified as requiring additional capacity (despite upgrades likely being planned by the distribution businesses).

See also:

Section 3.2 Response to IRP
Section 3.3 Peak demand

PRICING AND RETAIL

Role: billing and recovery of electricity costs from customers

Market features: competitive market. 27 licenced privately owned retailers, with 17 active providers operating mainly in SEQ, with publicly owned Ergon Energy providing non-competitive retail services in regional Queensland

Proportion of bill: approx 11%

Key Challenges: moving to cost-reflective approach to retail pricing, impact of price regulation on competitiveness of industry

Role of Govt: owns Ergon Energy Retail, regulator of licences, policy maker in price setting and consumer protections.

PART 4 PRICING AND RETAIL COMPETITION

4.1 INTRODUCTION

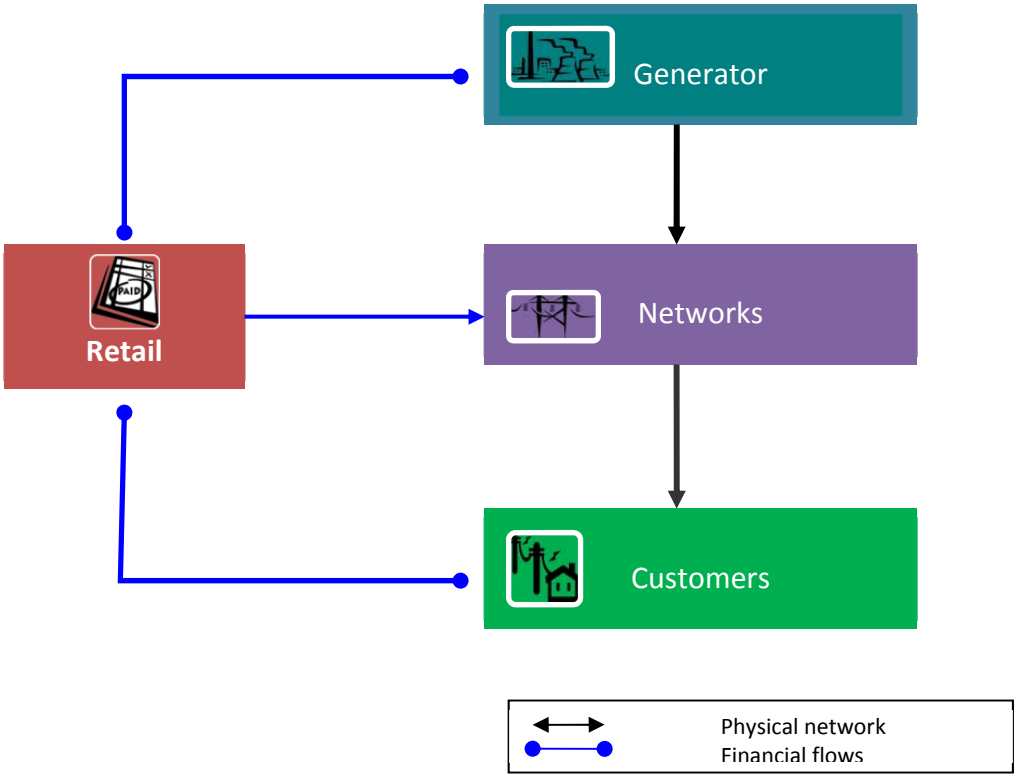
Retailers play a crucial role in the sector by buying electricity from generators and reselling to customers, as well as providing general customer service (arranging connections, disconnections, billing). To manage spot market price risk, retailers enter into contracts (e.g. swaps, caps, options) with generators and other market participants. Along with recovering generation costs, retailers are responsible for recouping network (transmission and **d**istribution) costs from their customers and passing these on to the network businesses. See Figure 4.1.

Market

The retail market opened to full retail contestability in July 2007 for residential and small business customers. Very large energy customers have been able to choose their retailer since 1998.

Before the small customer market was opened to competition, customers bought their electricity from Ergon Energy in regional Queensland and Sun Retail, the retail arm of Energex, in south-east Queensland. In 2007, Energex's retail customer base was split between Origin Energy (taking 840 000 customers south of the Brisbane river) and AGL (taking 390 000 customers north of the river to Gympie). The retail and distribution arms of Ergon Energy were also structurally separated and Ergon Energy's portfolio of market customers was also sold to AGL.

Figure 4.1: Role of retailers



There are now 27 licensed privately owned retailers, with 17 active providers operating mainly in south-east Queensland.[42] Ergon Energy remains the main retailer servicing regional Queensland, but is restricted to providing non-market services at the regulated prices. In south-east Queensland, the majority of customers have remained with Origin Energy and AGL, though retailers such as EnergyAustralia have gained some market share.

Operating environment

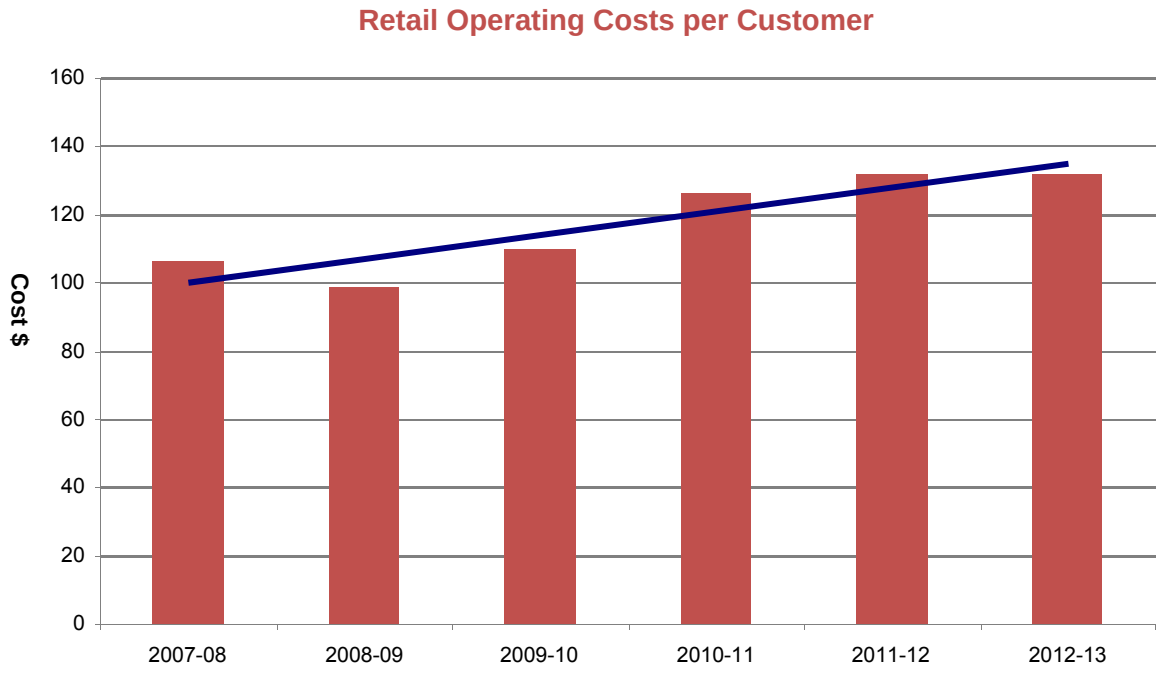
Retailers are generally free to develop and compete on price packages that suit their business and customer needs. This is supplemented by a requirement on all retailers that they also offer their small customers (using less than 100 MWh p.a.) a 'standard' price package, with pre-determined the price and terms and conditions of sale regulated by the government (regulated price setting or notified price requirements). These standard packages are set as the default that is given to customers that don't choose a different deal.

[42] At September 2012: www.qca.org.au

Challenges

Retail operating costs (being mainly administrative expenses) make up a relatively small proportion of electricity bills at around 11 per cent. Costs do not appear to have grown significantly over the past six years (see Figure 4.2).

Figure 4.2: Retail operating costs per customer[43]



Key challenges in the sector are less about the retailer's operating costs and more about:

- the way in which retailers inform and engage consumers, including vulnerable consumers and consumers experiencing hardship
- the sustainability of the retail industry going forward.

IDC Terms of Reference

The Terms of Reference asked the IDC to examine:

- a framework to determine regulated retail electricity prices for 2013-14 (section 4.2)
- an implementation strategy for transitioning large, non-residential customers outside south-east Queensland to new tariff arrangements, including a strategy for dealing with individual legacy billing issues for very large customers (section 4.3)
- an approach to non-energy street lighting costs outside south-east Queensland (section 4.4)
- retail competition in the Queensland market (including south-east Queensland and regional Queensland) and the National Electricity Market (section 4.6).

In addition to these issues, the IDC undertook a review of options for longer-term tariff reform (section 4.5).

[43] Based on the regulated allowance for retail operating costs as determined by the QCA.

4.2 SETTING REGULATED RETAIL ELECTRICITY PRICES FROM 2013–14

Issue: ***Giving customers price signals about efficient electricity use***

Tariffs that are not cost reflective destroy competition and will eventually drive private sector out of the market Energy Supply Association of Australia

Under previous approaches to regulated retail price setting, customers haven't seen the underlying costs of their electricity choices. Costs are cross-subsidised between different price structures and different customer groups. This makes it difficult to encourage behaviour change in response to issues such as peak demand. A further concern is that prices have been set on a year-on-year basis, making it difficult for retailers to make long-term planning decisions.

In August 2012, the government agreed to IDC recommendations to move towards a more "cost-reflective" approach to setting retail prices in 2013–14 as an immediate measure towards giving customers better price signals. Under this approach, regulated retail prices will be made under a new price methodology—Network (N) plus Retail (R)—by the Queensland Competition Authority (QCA), the state's independent economic regulator.

This is a significant change from the previous approach. It will be important to manage the impacts of the decision on those customers currently benefiting from cross-subsidisation. To help manage potential price shocks, as well as to give industry more certainty, the decision also provided for developing a three year price path. This included transitional arrangements where appropriate, for:

- Tariff 11 customers
- farming and irrigation customers
- Ergon Energy large customers.

Findings

The government has already agreed to the recommendations of the IDC in relation to regulated retail price setting for 2013–14 and issued a Delegation and Terms of Reference to the QCA to give effect to the recommendations. The following findings summarise previous advice on this issue and are included in this report for completeness.

A cost-reflective pricing approach—where prices paid by customers are based on a build-up of the underlying cost of supply—acts as an important price signal. The approach is also economically efficient, minimising cross-subsidies between and within tariff types and customer groups and leading to a more efficient allocation of resources. This in turn should give retailers scope to offer more competitive pricing and product innovation to benefit customers in the short to medium term. This is because prices that reflect actual costs should allow retailers more scope to offer different products as compared to prices that do not.

While the approach is expected to benefit all customers over the long term, some customers will face upfront cost increases as their subsidy from other customers reduces. Moving to a cost-reflective regulated pricing methodology will have different impacts on different customers and some of these impacts—both positive and negative—will be significant. Customers likely to face increased costs will need time to adjust, and will need transitional arrangements to limit price shocks in any one year.

Adopting a multi-year pricing period is a key means of achieving this transition. A three year approach to price setting will allow time for transitional arrangements and metering constraints (the inability of existing meters to support cost-reflective pricing) to be addressed, and provide a degree of certainty to retailers to support planning and investment decisions—an important issue for the development of retail competition. This will need to be complemented by a review of customer assistance and hardship measures in tandem with or closely following implementation of the new arrangements to ensure measures are targeting those most in need (refer section 5.2).

Process

Public consultation, for example by giving stakeholders (including customers) multiple opportunities to submit their views to the QCA (as the pricing entity), will be vital to the success of the new cost-reflective pricing approach. A clear explanation by the QCA of expected customer outcomes once it has made its final decision will also help the public understand and respond to the changes.

Appointing an independent expert economic body (currently the QCA) to set prices provides important confidence in the process and avoids the potential for actual or perceived political interference. Public and industry confidence in the price setting body, and its responses to concerns raised, is vital given the complexity involved in determining regulated retail electricity prices, and the economic and energy market expertise and access to data and information required. The IDC notes that industry has raised a number of concerns in the review process about the QCA's previous responses to issues raised in consultation. The IDC has found no reason to recommend an alternative body take responsibility for regulated retail price setting. However, ongoing monitoring of the QCA's approach should occur given the importance of these reforms and the importance of stakeholder support to the reform's success.

The new framework should be coupled with longer-term reforms to network pricing structures (the 'N' component in N+R). This issue is addressed separately in the Tariff Reform section 4.5.

Recommendations

Delivers on:
- *Strategy 1*
- *Strategy 2*

The IDC recommends the government:

4.2.1 Endorse a "cost-reflective" approach to setting retail prices over a three year delegation under the N+R methodology.[44]

4.2.2 Direct DEWS to investigate and advise on the likely impacts of the QCA Pricing Determinations on consumers and retail competition.

4.2.3 Encourage the QCA to undertake a robust and credible stakeholder consultation process and take action if consultation is considered inadequate

Benefits

- Economically efficient
- Supports longer term efficient allocation of resources
- Supports more competitive pricing and product innovation
- Industry certainty from three year delegation

Costs and Risks

- Some customers will pay more under the new framework. The impact will be minimised by the adoption of a price path approach

See also

Section 4.6 Retail competition
Section 5.2 Customer assistance and hardship
Section 5.4 Customer understanding and engagement

44 Note: this recommendation has already been agreed to by Government and is currently being implemented.

4.3 VERY LARGE CUSTOMERS IN THE ERGON ENERGY DISTRIBUTION REGION

Issue: ***Approximately $25 million in Queensland Government subsidies paid to very large customers in 2012–13 to cover site-specific network costs***

108 very large customers of Ergon Energy Retail are on regulated retail prices. Most of these customers do not pay for their own site-specific network costs and are instead subsidised by the Community Service Obligation (CSO). The CSO costs for these customers are estimated to be around $25 million in 2012–13. The customers include mines, large manufactures, dams, hospitals, education and training facilities and large accommodation services (hotels).

These customers consume more than more than 4,000 megawatt hours (MWh), per annum and can consume over 40 gigawatt hours. To put this in perspective, a large customer is defined as one who consumes equal to or more than 100 MWh per annum, whereas the average household on the standard residential tariff (Tariff 11) consumes approximately 4.25MWh per annum. These customers are so large that they have unique 'site-specific' network charges, which are network costs associated with connection arrangements and infrastructure that comes with connecting and supplying such large customers.

The majority of customers in similar situations pay their own site-specific network costs. However, customers of Ergon Energy Retail avoid this by remaining on standard default contract arrangements where prices are set by the QCA.

In September 2012, the Minister for Energy and Water Supply asked the QCA for advice on pricing arrangements for Ergon Energy's very large retail electricity customers. The QCA advised that based on 2012–13 costs, if customers were required to pay their site-specific network costs as part of the regulated price, 94 customers would have been worse off, with 30 of these customers experiencing an increase of more than 100 per cent in their bill. However, 14 customers would have experienced a decrease in their bill, meaning that these customers would be better off on a market contract with a private retailer.

Although further analysis is needed, there is a strong rationale to remove the subsidies provided to these customers over time, either through increasing their regulated tariffs, or by removing access to regulated tariffs altogether and moving these customers onto market contracts.

Findings

The current arrangements—whereby the government subsidises network charges for very large customers—is unique to Queensland.

The QCA has indicated that determining site-specific regulated retail prices would provide more appropriate pricing signals regarding the cost of each customer's usage, rather than the historic charges that have been applied and in many cases do not reflect the actual costs of supply.

However, the QCA also noted that this may be better achieved if access to notified prices was removed and very large customers were required to move to a market contract (as has already

occurred in the Energex distribution area). Currently, Ergon Energy Retail is legislatively restricted from offering any price arrangements other than the regulated retail price. Without any other changes, removing access to the regulated retail prices would also involve removing access to Ergon Energy Retail.

If changes are made, the most appropriate way to manage customer impacts is to give customers time to adjust to the higher price that comes with paying site-specific network costs. This could be done through a 'transition' approach whereby site-specific charges were incrementally increased over a number of years.

Alternatively, customers could be allowed to remain on their current tariffs (taking advantage of the lower price) for a period of time before becoming ineligible to access regulated retail prices. It may be appropriate to start the transition process with the largest customers first.

Recommendations

Delivers on:
- *Strategy 1*

The IDC recommends the government:

4.3.1 Develop a strategy to transition very large electricity customers onto cost reflective electricity prices.

4.3.2 Consider removing notified prices for very large customers in tranches, starting with the largest customers first.

Benefits

- Potential to provide materially better value for some very large customers.
- No strong rationale for very large customers or government not paying a cost reflective tariff and being subsidised through regulated prices.
- Reduce the cost of the CSO to government.

Costs and risks

- Very large customers currently receiving the CSO are likely to strongly oppose reform that would increase prices.
- Removing price regulation would mean that Ergon Energy would lose revenue from of very large customers that are profitable and help to offset the unprofitable customers.

See also

Section 5.4 Customer understanding and engagement
Section 5.5 Uniform Tariff Policy and Community Service Obligation

4.4 STREETLIGHTS

Issue: ***Approximately $30 million in Queensland Government subsidies paid to local councils in 2012–13 to cover streetlight construction and maintenance costs***

Around 50 street light customers (mainly local councils) whose street lights are owned and operated by Ergon Energy pay for their electricity use but not the costs of constructing or maintaining the street lights they use. These costs are instead fully subsidised by the Queensland Government via the CSO. The costs are significant and increasing. The CSO for non-energy street lighting services is estimated to be $29.95 million for 2012–13, and is forecast to rise to $33.66 million in 2013–14 and $34.13 million in 2014–15.

Findings

Street lighting services for many customers in the Ergon Energy region are supplied at below the true cost of supply. This is because the regulated retail price for street lighting customers only covers the cost of supplying electricity and does not cover the costs of constructing and maintaining street lights. The shortfall is made up in CSO subsidies.

This arrangement has significant ongoing budgetary implications for the government.

Requiring street lighting customers to pay approximately 10 per cent of the cost of constructing and maintaining their street lights in 2014–15—with the percentage increasing in future years—would reduce some pressure on the CSO and is consistent with the government's decision in relation to 2013–14 pricing to adopt a transitional approach in moving to greater cost recovery (see section 4.2). The option would:

- mitigate potential price shocks (compared with full cost recovery initially) where around 20 customers would see bill increases of less than $10,000 for 2013–14 and the six largest customers would see sizable impacts of between $200,000 and $595,000, however this is likely to be more manageable given their relative size
- help curb the majority of the forecast growth in the CSO for street lighting in that year
- not increase the risk of customer churn—Ergon Energy Retail has indicated that passing through any more than 10 per cent of street light construction and maintenance costs in 2014–15 would increase the risk of customers switching to other retailers.

This approach would also allow customer needs for financial assistance beyond 2013–14 to be addressed—for instance, based on capacity to pay. If adopted, decision-makers would need to clearly define and justify the rationale used to differentiate customers. Should the government wish to vary the subsidy amount and/or price path beyond 2014–15, the IDC recommends the Department of Local Government and Ergon Energy Retail be consulted to develop an appropriate implementation strategy.

Recommendations

Delivers on:
- *Strategy 1*

The IDC recommends the government:

4.4.1 From 1 July 2014, pass through 10 per cent of non-energy street lighting charges to Ergon Energy customers whose street lights are owned and maintained by Ergon Energy.

4.4.2 Develop a price path to recover non-energy street lighting charges over time, commencing 1 July 2014, from customers whose street lights are owned and maintained by Ergon Energy, giving consideration to individual customer needs.

Benefits

- Reduces pressure on CSO
- Economically and administratively efficient
- Improves customer awareness of costs

Costs and risks

- CSO costs still incurred
- Increases price pressure for some customers, but will mitigate initial impact

See also

Section 4.2 Setting regulated retail tariff for 2013-14

4.5 TARIFF REFORM

Issues: ***Price arrangements provide no incentive to reduce network costs***

"Around 25 per cent of retail electricity bills reflect the cost of system capacity that is used for less than 40 hours a year (or under one per cent of the time)" Productivity Commission

The above quote highlights potentially the biggest issue facing the energy sector and policy makers in attempting to drive down electricity prices, namely massive investment in infrastructure and poor asset use. In part, this utilisation of assets can be attributed to the fact that the true economic value (and cost) of electricity is not reflected in the final price faced by end users. A cost-effective electricity pricing regime should send price signals to customers that reflect the cost of supplying electricity, customers' use of the electricity system and their impact on the electricity network. This will drive the efficient use of electricity sector infrastructure (and more efficient investment), which in-turn will place downward pressure on electricity prices over the long term, particularly through a reduction in peak demand.

There is evidence to suggest that electricity customers will manage their consumption patterns in a way that benefits them financially if they have the capability to respond to price signals and have access to information about the impacts of their consumption decisions. The current pricing framework in Queensland, however, provides customers with little choice or flexibility in the way they use electricity.

Customers should be encouraged to investigate ways to lower their electricity bills—either by shifting their consumption, assuming different prices from peak to off-peak periods by ensuring their maximum demand is not occurring during the peak period, or by behaving strategically as part of their investing in and use of equipment or machinery (this last point is more relevant to businesses than households).

This section examines both the short and longer term measures for tariff reform in Queensland to address these issues. This reform strategy will largely be delivered through changes to the methodology for setting retail tariffs to improve cost reflectivity and the structure of network tariffs to create incentives for customers to shift consumption to off-peak periods.

Findings

Queensland needs a long-term tariff reform strategy to support the best use of the electricity network into the future. Flexible pricing is common in industries where demand or production costs are variable. Without flexible pricing, these industries would not capture the economic benefits available when demand is high. The following examples illustrate this point:

- In the tourism industry, a beach-side hotel will experience higher demand during summer months compared with winter months. Accordingly hotel owners will raise prices during the peak season and lower prices during the off-season.

- During peak periods, where demand for transport is high, providers of transportation will charge higher rates because the supply of transportation is limited. At these times customers are more willing to pay higher prices.

In both of these examples, if the price was the same all through the year, it would be too low during the peak period and too high during the off-peak period. In this situation, owners would be unable to capture the most efficient revenue solution overall, and customers would be unable to secure the most efficient cost solution overall.

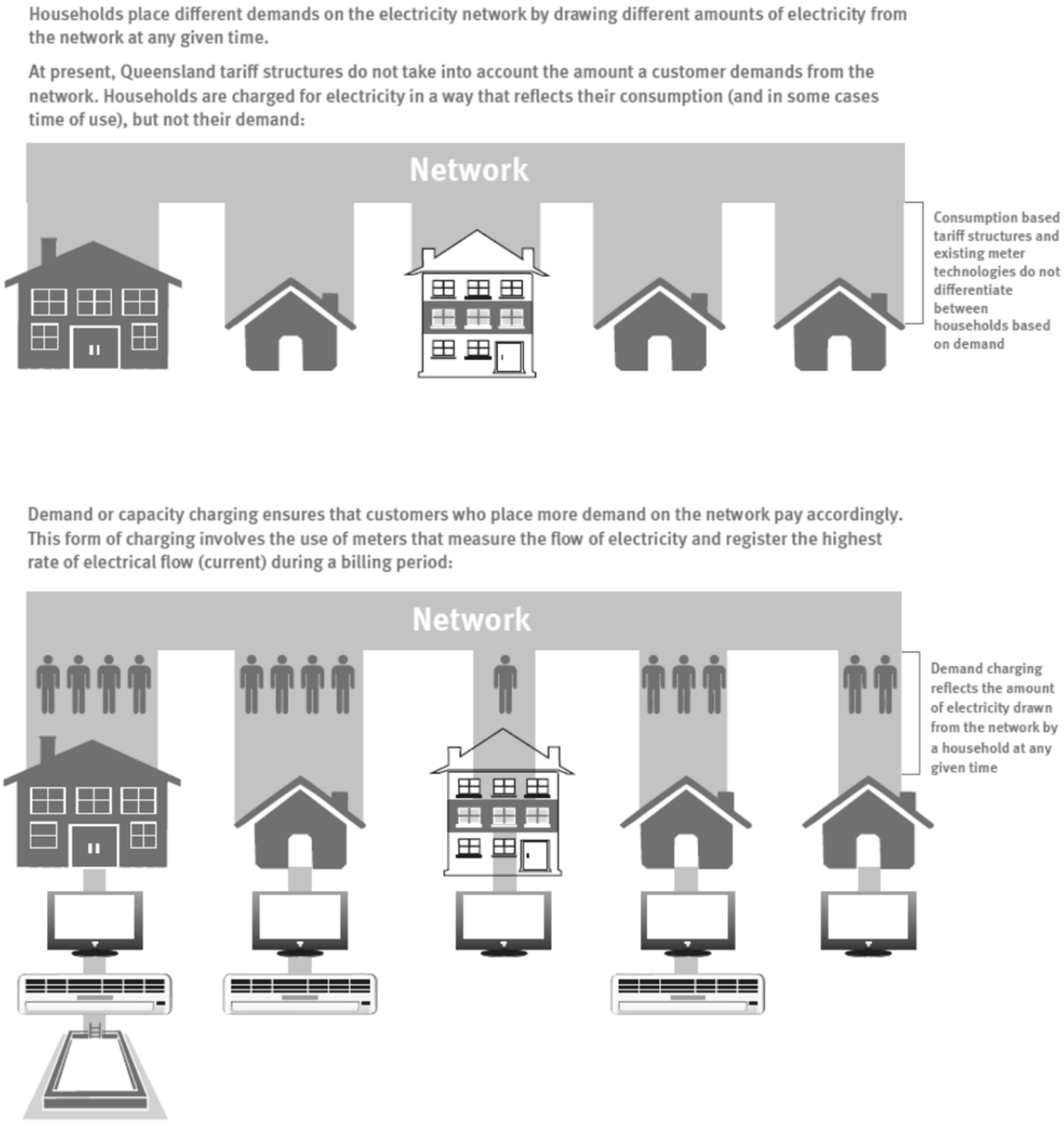
In many respects, the electricity supply industry is not dissimilar to the examples listed above, in that demand for electricity fluctuates in a typically predictable fashion around fairly defined times of the day. As such, a flexible pricing regime that reflects that value of different levels of demand has the potential to yield enhanced economic benefits.

Price structures and rates that reflect the underlying cost of supply (cost-reflective prices) are the key to supporting the best use of the electricity network. Cost-reflective prices promote a more efficient use of resources by helping customers to understand and value the costs of the service they receive and promoting energy use behaviour which minimises those costs. There is evidence to suggest that electricity customers will manage their consumption patterns in a way that benefits them financially and delivers system wide benefits if they have capacity to respond to price signals and have access to information about the impacts of their consumption decisions. Examples of price arrangements that can facilitate change include:

- prices varied according to time, such as:
  - time-of-use tariffs—where customers are charged different rates for usage during different times of the day
  - critical peak pricing—where customers are charged high prices for electricity when demand becomes critical
- controlled load tariffs, under which network businesses have the ability to interrupt supply at times of network stress in exchange for cheaper rates
- capacity charging, under which customers are charged on the basis of demand or capacity, rather than on a volumetric or usage basis.

Figure 4.3 illustrates the limitations of a flat tariff structure, which does not differentiate use based on demand levels. Users may have different demands on the electricity system but those with high demands on the network pay the same rate as those that have lower demand.

Figure 4.3: Tariff structures



The network plus retail price structure (N+R) regulated tariff approach, recommended in section 4.2, is a move towards greater cost-reflectivity. However it does not address costs associated with using the network at particular times.

True network costs are hidden by a number of factors, including:

- the Solar Bonus Scheme (SBS)—payments made to customers under the SBS take no account of the cost their solar photovoltaic panels impose on the network, resulting in inequitable treatment and increased costs for all customers. [45]
- the 'flat', (usage based), network tariffs applied to most customers—even if customers in a particular customer class fully cover the costs they impose on the network, there will be cross-subsidies between individuals and between different times of day.

A long term approach to reforming network price structures will need to take these issues into account, as well as current technology constraints that limit the information that is available to customers and network operators. Access to affordable technology, including more advanced meters that give more information to customers and network operators about usage will be a critical enabler to extending new network price structures such as time-of-use pricing, critical peak pricing and capacity charging more broadly. Improved metering is discussed at section 3.4.

Public understanding and engagement, supported by safety-net support for vulnerable customers, will be equally important to achieving systemic change. Sophisticated tariff structures—including time-of-use pricing, critical peak pricing, or capacity charging—may be difficult to understand for some customers and may not benefit everyone. In particular, customers who use little electricity could be financially worse off under these types of tariff structures. Any long term strategy will need to consider carefully how to cater for this customer segment, which often includes vulnerable customers such as pensioners. Approaches to improving safety-net support for vulnerable customers are discussed in detail in section 5.2. Section 5.4 discusses improvements to general customer understanding and engagement in the electricity sector.

Recommendations

Delivers on:
- *Strategy 1*
- *Strategy 2*
- *Strategy 3*

The IDC recommends the government:

4.5.1 Reduce network stress caused by periods of very high electricity use by developing and implementing strategies to:

- gradually reform network price structures, including through capacity and critical peak pricing; and
- give homes and businesses innovative options to benefit from reducing electricity use at peak times.

Develop a long-term tariff reform strategy to deliver more flexible pricing including stronger time-of-use signals, capacity charges and options for vulnerable customers.

4.5.2 Give customers the power to choose contracts that reward electricity use with a low-impact on the network (e.g. time-of-use, flexible pricing).

[45] Note: the QCA undertook a review of Solar Bonus Scheme impacts in 2012-13. This review was completed after the IDC's review was completed.

Require Energex and Ergon Energy to better support Time-of-Use options for customers and take a proactive view to reducing peak demand.

4.5.3 Improve tariffs over time to support more demand and/or capacity based charging approaches.

4.5.4 Address the ongoing cost impact of the Solar Bonus Scheme.

Reduce the impact of the Solar Bonus Scheme and the 44 c/kWh feed-in-tariff on network costs consistent with the QCA review.

Benefits

- Encourages changes in use that would have impact of deferring or avoiding additional investment in network capacity.
- Downward pressure on overall prices.
- Economically efficient.
- Supports the development of innovative pricing (and competition) in retail sector.

Costs and Risks

- May increase price pressure for some customers – impact and mitigation options to be examined in review process.
- Costs associated with improving customer understanding and engagement and technological constraints – to be examined in the review process.

See also

Section 3.3 Responding to peak demand
Section 3.4 Metering reform
Section 4.2 Setting regulated retail electricity prices from 2013-14
Section 5.2 Customer assistance and hardship
Section 5.4 Customer understanding and engagement
Section 5.5 Uniform Tariff Policy and Community Service Obligation

4.6 RETAIL COMPETITION

Issue: ***Improving customer outcomes from retail competition***

Effective competition offers customers the best form of protection … governments should continue to promote competition in the energy sector and remove regulation where competition exists IPART 2012

With the deregulation of the electricity retail market here in South Australia, we will see a price war that will put further downward pressure on electricity prices. South Australian Premier Jay Weatherill 2012

Once competition is effective, price caps are unnecessary and can be harmful. AEMC 2013

Retail competition in south-east Queensland started strongly when the small customer market was fully opened in 2007. However, indications it has stagnated include:

- the number of customers that are actively changing retailers has fallen 8 per cent over last 18 months, trailing Victoria, New South Wales and South Australia [46]
- the initial incumbent retailers (Origin and AGL) have kept strong market shares
- many small customers are staying on default contract and pricing arrangements despite the availability of contracts offering price savings[47]
- there is more limited variety in customer offerings (e.g. pricing packages) compared with other jurisdictions.[48]

Outside south-east Queensland, competition is very limited, generally confined to the large customer market.

Findings

Strong market rivalry between retailers—combined with active customer engagement—can place downward pressure on prices, improve the quality of choices available to customers and increase levels of customer service. While customers have benefited to some degree from retail competition in Queensland, there is considerable scope to improve outcomes, particularly for small residential and business customers.

The main barriers to improving customer outcomes from retail competition are:

- approaches to regulated price setting
- customer engagement
- vertical integration
- metering constraints

[46] Australian Energy Regulator (AER), *State of the Energy Market 2012*, p.118.
[47] AER, op cit, p.125
[48] AER, op cit, p.132.

- inconsistent regulatory rules.

In regional Queensland, the CSO creates additional issues.

Regulated price setting

Regulated price setting approaches can significantly restrict retailer flexibility and competitiveness. Retailers must charge the regulated price for customers on default contracts and risk not being able to recover any increases in cost inputs (such as generation costs or finance costs) that occur between price setting periods. This restricts retailers' flexibility to offer discounts to entice new customers, which impacts on prices across the entire retail market.

Information asymmetry between the price regulator (the QCA) and retailers also creates the risk of the price being set too low or too high which has negative customer outcomes:

- prices set too low can stop retailers from entering the market or encourage existing retailers to start withdrawing from the market. It can also inhibit private sector investment in new generation.[49] In worst case scenarios, it may encourage overconsumption and lead to retailer failure.[50]
- prices set too high will encourage competition to flourish, but at the expense of customers paying excessive prices.

Moving from a regulated price-setting approach to a price-monitoring approach is one option to address this (see Figure 4.4). Retailers would be able to develop price packages that take into account their own particular cost inputs, risks and customer needs, with the arrangements subject to regulatory oversight. For example, the QCA could publicise where any individual retailer was offering a standard contract package at prices it considered to be outside the norm for prevailing market conditions. The QCA could also advise the Queensland Government on whether standard price offerings across the market are trending too high relative to underlying costs, with the government retaining power to re-regulate if it had concerns about the market.

Figure 4.4: Regulated price controls vs. Regulated price monitoring

REGULATED PRICE CONTROLS		REGULATED PRICE MONITORING
• Price set by regulator based on input from across market • No variation between retailers (standard offers)	***Price setting arrangement***	• Price set by individual retailers based on own circumstances
• Set regulated prices (effective price cap)	***Role of***	• Monitor prices • Publish advice on price levels (*optional*)

[49] Morgan Stanley, *Report to the Owen Inquiry: Securing Private Investment in New Generation in New South Wales* (2007)http://www.dpc.nsw.gov.au/__data/assets /pdf_file/0004/12883/exp ertrep3m organstanley.pdf.
[50] Sweeney, James, *The California Electricity Crisis: Lessons for the Future*, <http://www.stanford.edu/~jsweeney/paper/Lessons%20for%20the%20Future.pdf>.

REGULATED PRICE CONTROLS		REGULATED PRICE MONITORING
	Queensland Government	• Retain ability to intervene in price setting under defined circumstances *(optional)*. E.g. if competition becomes ineffective on a market wide basis, government could intervene to set prices
• Perception of price stability–but driven by underlying market costs	***Benefits***	• Downward pressure on prices from competition, greater product innovation and pressure to improve service levels • Greater iIncentive to invest or participate • Government monitoring of market behaviour • Removesregulation • Multiple players lowers risks • Industry required to manage risks • More incentive for customers to seek out price offers
• High consumer expectations of price controls • Price set too low or high – not as responsive to change rate • Price control maynot lead to lower prices	***Risks***	• Public perception – loss of government safeguards

The price monitoring approach would give retailers greater flexibility to compete for new customers and encourage new retailers to enter the market. Over the longer term, this additional competition should place downward pressure on prices across the market and may help support private sector investment in new or alternative energy generation.

However, it would also create short term risks, in particular risks that large retailers could use market power to price customers unfairly. Evidence suggests this occurred to an extent in Sweden and Great Britain.

However, the experience of the Victorian and New Zealand governments shows these risks are manageable. Options include:

- ensuring competition is effective before reforms are implemented
- developing customer understanding and engagement
- ensuring there is strong safety-net support to help vulnerable customers.

Case study: Retail competition in Victoria

The Victorian Government moved from regulated price setting to price monitoring in 2009 following an Australian Energy Market Commission assessment that retail competition in Victoria was effective. Since that time, competition in the market has grown with new retailers emerging

and gaining market share off large, established players. Victoria is now the most active retail market in the world (based on the proportion of customers who change retailers) and customers have a wide range of pricing packages to choose from.

Victorian customers that actively engage with the market tend to pay less for retail services than active customers in Queensland. They also have a wider range of pricing packages to choose from. However, for customers on standard contract packages (in Queensland, these are the packages that the QCA regulated price applies to), Queensland customers tend fare better.

Despite some concerns over high prices, there are no widespread calls from Victorian customer groups for full regulated price setting to be reintroduced. However, the Victorian Consumer Utilities Advocacy Centre has argued in favour of regulating fixed charges (with competition to occur on variable charges alone), as well as additional regulation of retail conduct (for example, compelling retailers to provide additional information to encourage consumers to engage in the market and search for the best offers available, and removing the ability of retailers to vary prices during fixed term contracts).

The 30-year electricity strategy will provide a good forum for industry and customer groups to work with the Queensland Government to further develop pre-conditions for moving away from regulated price setting, and the terms and conditions of ongoing regulatory price monitoring by the government (including the retention of powers to reintroduce price setting under certain conditions).

Customer understanding and engagement

Experience in retail markets throughout the world shows that active and informed customer engagement with retailers drives both individual benefits (in terms of obtaining discounts or price arrangements that better suit the customer's circumstances) and market-wide benefits (in terms of pressuring retailers to develop better products and operate more efficiently, thereby placing downward pressure on price).

Many south-east Queensland customers could derive price and/or service benefits from the electricity market if they were more effectively engaged. Section 5.4 discusses possible approaches to improve customer understanding and engagement.

Metering and regulatory arrangements

Additional issues dealt with in this report include problems posed by existing metering technology—which is limiting the retail products on offer to customers (see metering section 3.4)—and disparate regulatory requirements between jurisdictions which act as a barrier to new entry to the market by adding operating and compliance costs (see National Energy Customer Framework in section 5.3). DEWS is also undertaking further work and consultation outside of the IDC process to consider metering options that may support improved retail competition in the context of embedded networks.

Competition outside of south-east Queensland

The majority of issues discussed above currently have more relevance to south-east Queensland customers than those in regional Queensland. Competition for the majority of customers in regional Queensland is extremely weak, with many customers unable to even access an offer from a retailer other than Ergon Energy Retail. A key rationale for this is the way in which the Uniform Tariff Policy is delivered. Community Service Obligation payments are only made to Ergon Energy Retail, making it difficult for other retailers to compete on a broad scale.

Regional Queensland needs a separate approach to competition because of the particular issues it faces. This would complement the recommended review of the Uniform Tariff Policy and potential move to a network (rather than retailer) based Community Service Obligation Payment as detailed at Section 5.5, and could be progressed through the 30-year electricity strategy.

Furthermore, a review of regional Queensland issues should not prevent reform in south-east Queensland. While some stakeholders have expressed reservation about the impact on regional Queensland of moving away from regulated price settings in south-east Queensland, in practice this does not need to have an impact. The Community Service Obligation can still continue to subsidise relevant customers and regional customers can still access regulated price settings. This situation already operates for large customers in regional Queensland, as access to regulated prices for large customers in south-east Queensland no longer exists.

Recommendations

Delivers on:
- *Strategy 2*

The IDC recommends the government:

4.6.1 Commit to increased retail competition as a key energy policy goal.

4.6.2 To stimulate investment and competition for the benefit of customers, remove price controls in south-east Queensland by 1 July 2015 if consumer protection and engagement in the market.

Agree to replace price controls with price monitoring in south-east Queensland by 1 July 2015, subject to the outcomes of recommendation 4.6.3

4.6.3 Consult on a pathway to remove price controls in south-east Queensland, including:

- the pre-conditions that would need to be met to ensure customers benefit:
- a timetable to achieve the conditions; and
- the development of alternate customer safeguards (such as the power to re-regulate under certain conditions).

4.6.4 Address barriers to the growth of retail competition in regional Queensland, including moving towards a network based Uniform Tariff Community Service Obligation within three years, including structural reform of Ergon Energy Retail.

Investigate options, including consultation, on how to improve retail competition outside of south-east Queensland.

Benefits

- Downward pressure on price in long-term.
- Supports increased choice and more cost-reflective pricing.
- More economically efficient.
- Provides certain investment climate for retailers and for future generation.

Costs and Risks

- Key risk is potential for unfair pricing if approach implemented without adequate safeguards or before competition effective – risk minimised by developing pre-conditions and safeguards upfront and commissioning independent review of competition in the market by the Australian Energy Market Commission.

See also

2.2 Generation issues
3.4 Metering reform
4.5 Tariff reform
5.2 Customer hardship and assistance
5.3 National Energy Customer Framework
5.4 Customer understanding and engagement
5.5 Uniform Tariff Policy and the Community Service Obligation

CUSTOMERS

Role: demand drives entire electricity supply system**,** pay for electricity supply, moving from passive to more active involvement

Features: approx 2 mil customers

Key Challenges: affordability issues, engagement in the market, changing role, concessions targeted

Role of Government: provides concessions and rebates, maintains the Uniform Tariff Policy and Community Service Obligation, and regulates the industry to protect customers

PART 5 CUSTOMER ISSUES

5.1 INTRODUCTION

Market

There are approximately 2 million electricity customers in Queensland. The vast majority of these customers are classified as 'small' users, with annual consumption of under 100MWh of electricity per year (bills less than approximately $20 000 p.a.).

Figure 5.1 illustrates the residential versus non-residential split of users, while Figure 5.2 analyses their electricity consumption.

Figure 5.1 Classification of Queensland customers at 30 June 2011 (source ESAA)

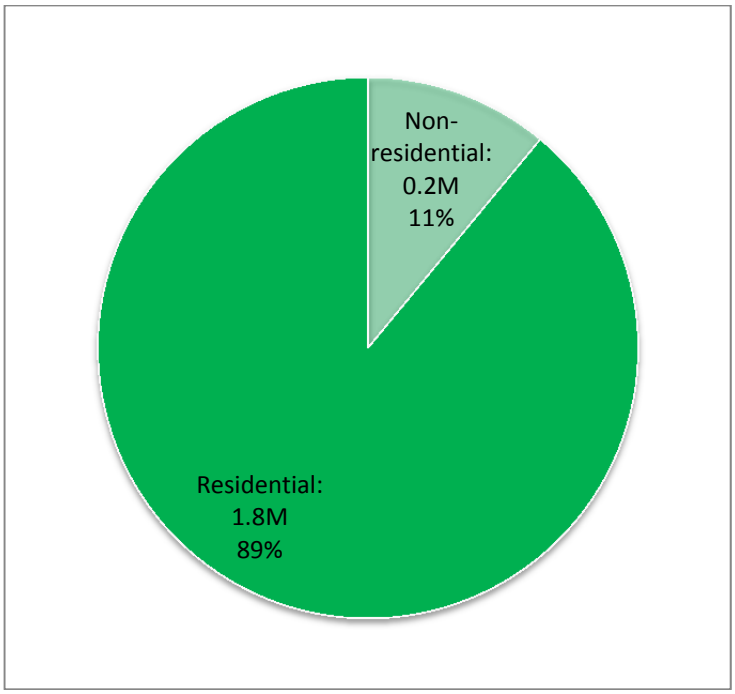
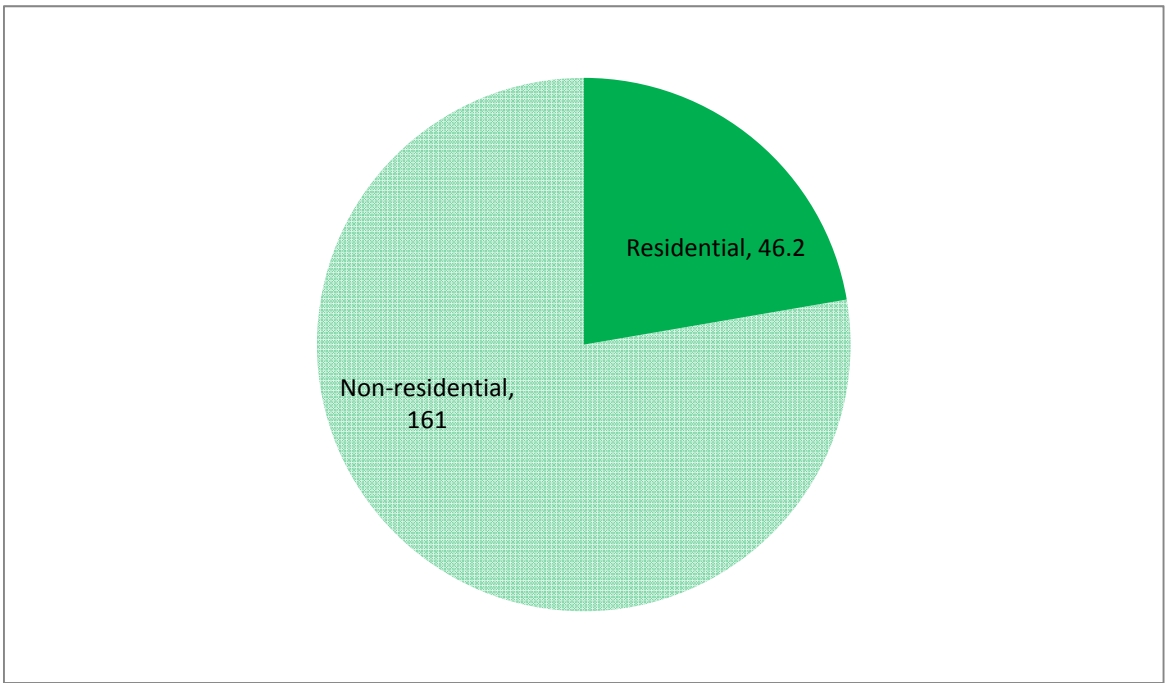
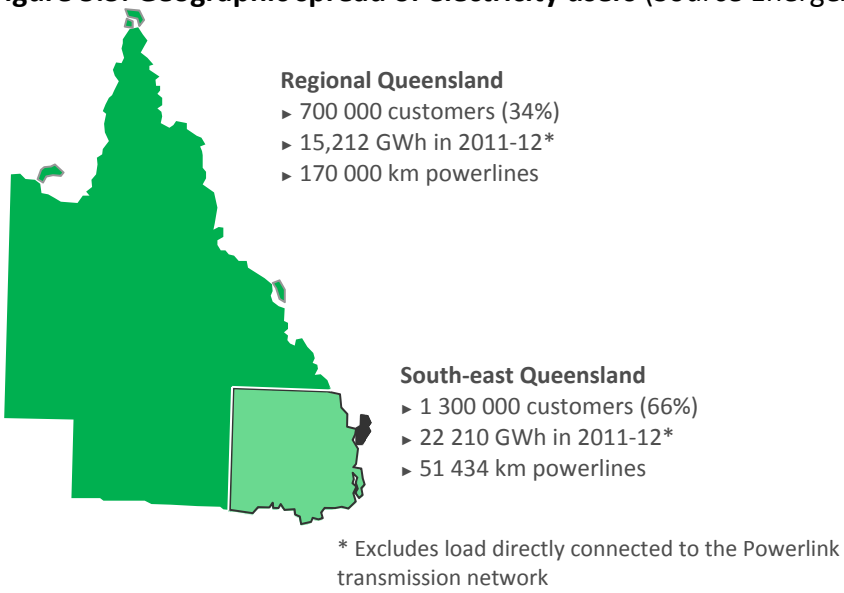


Figure 5.2: Queensland electricity consumption by customer type 2010-11 (in PJ) (source ABARES 2012)



Around 66 per cent of customers are located in south-east Queensland, with the remainder in regional Queensland, see figure 5.3.

Figure 5.3: Geographic spread of electricity users (Source Energex and Ergon Energy)



Customer Environment

The main interaction customers have with the electricity sector is through their dealings with retailers. Small customers enjoy stronger regulatory protections than large customers and households receive more assistance than businesses.

The suite of customer protections and assistance currently includes:

- access to regulated retail prices—all small customers (and Ergon Energy Retail's large customers) can generally access retail prices set by the QCA under standard terms and conditions. These are default arrangements that apply to customers who do not otherwise choose a different deal from their retailer
- access to minimum terms and conditions for small customers who choose a retail deal that is different to the standard or default arrangements
- regulated protections including rules around debt recovery and disconnections
- concessions and rebates funded by the Queensland Government to help with electricity costs for eligible Queensland households. These include the Electricity Rebate, received by more than 25 per cent of households and specialised medical and emergency concessions
- Uniform Tariff Policy (UTP) funding which ensures that most Queenslanders have access to the same cost of electricity regardless of where they live. This is implemented through a Community Service Obligation (CSO) payment to Ergon Energy Retail to meet the difference between the efficient cost of supply and the regulated tariffs. Origin Energy receives a similar payment type for around 5 000 Queensland customers whose electricity is supplied by New South Wales distribution networks.

Challenges

The customer challenges going forward relate to affordability (particularly for vulnerable customers) and the efficiency and effectiveness of regulatory protections compared with other states. Other factors relate to the role customers play in the electricity sector and the need for greater engagement to help reduce pressures on the network, cost pressures on the Queensland Government from rising CSO costs, and the future role Ergon Energy Retail should play in delivering the UTP.

IDC Terms of Reference

The Terms of Reference requested the IDC to examine customer issues relating to the future delivery of the CSO; and the role of Ergon Energy Retail in delivering the UTP (in section 5.5).

In addition to these issues, the IDC also examined customer hardship and assistance measures (in section 5.2) and levels of customer understanding and engagement (in section 5.4), given the importance of these measures to support other reform proposals outlined in this report. An examination was also undertaken of the National Energy Customer Framework (NECF) (in section 5.3), which was referred to the IDC for advice by Cabinet in late 2012.

5.2 CUSTOMER HARDSHIP AND ASSISTANCE

Issue ***Efficiency and effectiveness of arrangements for vulnerable customers***

Queensland energy concessions are regarded as the worst in the country. Energy Supply Association of Australia submission

The Queensland Government currently provides electricity rebate of $230 (2012-13) to Queensland seniors, which is comparable to the rebates provided in NSW ($215) and Victoria ($220, est average). In 2012-13 the Electricity Rebate will be increased by 22.6 per cent to $282.

However Queensland is the only state that does not provide electricity rebates to holders of health care cards. At the same time, the electricity rebate applies to all Queensland Senior's Card holders, regardless of the financial position.

Safety net arrangements put in place to help disadvantaged and vulnerable customers manage their electricity costs (including electricity concessions and regulatory protections) are under considerable pressure. Thousands of Queensland households are disconnected each year because they cannot afford to pay their bills. [51] Without intervention, the situation is anticipated to deteriorate as prices move toward cost-reflective levels, and the fixed component of bills increases.

Findings

Queensland's customer assistance and hardship framework has evolved in a piecemeal fashion over several decades. The electricity market has changed significantly in that time—including absorbing the introduction of full retail competition, increased household use of energy-intensive devices such as air-conditioners used at peak times, and moves towards cost-reflective pricing.

While some adjustments have been made, there has been no long-term clear underlying strategy and targeted policy intent. This has:

- undermined the efficiency and effectiveness of customer assistance measures; and
- contributed to Queensland households experiencing high levels of disconnection for debt compared with other states—despite the Queensland Government providing significant funding for financial assistance programs.

Concession arrangements should be reviewed to consider if there is scope to better target assistance to those most likely to be facing difficulty in meeting their electricity costs (e.g. customers who are not currently eligible for financial assistance but have very low income levels combined with high electricity costs due to their household size or consumption). Similarly, consideration should be given to the flat rebate structure. Under the flat structure, all eligible

[51] Over 25 000 households and small businesses annually in 2010-11 and 2011-12: source QCA. Figures are not yet available for 2012-13.

customers receive the same assistance, regardless of household characteristics, consumption and need. This may be inequitable.

Further, reform of prices and retail competition as proposed under the IDC needs to be supported by a concurrent concessions framework that is consistent with the policy behind these reforms.

Case study—Western Australia (WA) concessional arrangements

Electricity prices in WA have been moving towards cost-reflective levels since 2009. Despite adopting a staged approach (where prices are increased gradually), there was a 137 per cent increase in the number of customers whose power was cut off between 2009-10 and 2010-11.

A 2011 review found the reform was having a disproportionate impact on households that could not change their usage in response to price signals because of their size or other consumption requirements. This was unmanageable for some households already experiencing financial difficulty and, for other households, was enough to push them into financial difficulty.

In response, the WA Government restructured its electricity concessions regime to ensure the arrangements aligned with those most in need, including households with dependant children.[52]

The Western Australian example demonstrates the importance of having a clear, long-term vision for concessional arrangements, together with a strategy to monitor and adjust arrangements so they continue to meet their intended purpose where there are other changes in the market. For Queensland, this will be particularly important in the context of broader reform measures proposed in this report, including the move to cost-reflective pricing and the introduction of new pricing products.

As a longer term strategy for addressing projected price increase beyond the government's immediate response to 2013-14 pricing, it is proposed that the Cabinet Budget Review Committee (CBRC) consider a proposal to develop a comprehensive electricity hardship and assistance framework including a review of current concessions. Public notification of a review of concessions and consultation on hardship and assistance is likely to raise expectations for change to the state's main electricity concessions measure, the electricity rebate. Changes to the electricity rebate will have budget impacts and may set a precedent that stakeholders will use to pursue reform of concessions in other areas.

However, customer engagement in developing the framework will be crucial to its success. It will also help to establish and manage expectations in relation to the overall role of government in the sector, including the interaction between the Australian and Queensland governments in relation to social welfare payments.

[52] Government of Western Australia Tariff and Concession Framework Review, available at: http://www.finance.wa.gov.au/cms/content.aspx?id=14290

Engaging retailers in developing the strategy will also be important. Retailers have the closest connection with customers and their actions, including product offerings and debt-reduction strategies, which can have a direct impact on the likelihood of a customer disconnection. Working with retailers to improve customer engagement will be an important tool in reducing disconnection rates in Queensland.

Section 5.3 of this report recommends adopting the National Energy Customer Framework (NECF) as a further measure to assist customers. NECF provisions for customers experiencing financial difficulties due to hardship are considerably stronger than protections currently available to Queensland households, and are based on successful models in place in other states of Australia. The proposed timing of the development of the hardship strategy will align with the proposed start date for NECF in Queensland in early to mid 2014.

Recommendations

Delivers on:
- *Strategy 2*

The IDC recommends the government:

5.2.1 Develop a clear and effective hardship and concessions framework informed by public consultation.

5.2.2 Work with retailers to improve customer participation in retailer hardship programs and improve products to support customers avoid hardship.

Benefits

- Aims to help customers to better meet the cost of electricity and avoid disconnection
- Indirect cost savings for all customers through minimising debt and default risk for retailers
- May indirectly contribute to increased competition by increasing attractiveness of market entry (by reducing operating risks for bad debt)
- Provides industry certainty
- By targeting assistance to those who need it most, government expenditure in this area will be more prudent

Costs and risks

- May raise expectations for additional government funding
- Framework not expected to be in place in time for start of 2013-14 financial year (when transition to cost-reflecting pricing starts). To address this, the QCA has been directed to consider transitional measures to reduce potential price shocks for some customers

See also

5.3 National Energy Customer Framework
5.4 Customer understanding and engagement

5.3 NATIONAL ENERGY CUSTOMER FRAMEWORK

Issue: ***Efficiency and effectiveness of existing regulatory protections for customers***

The current state-based regulatory regime for retail licensing and customer protection in Queensland has not kept pace with changes in the electricity sector:

- the majority of retailers now operate across borders. Continuing to maintain a State-based regime creates unnecessary expense and acts as a barrier to the expansion of competition
- steep electricity price rises in the past six years has put increased financial pressure on customers (refer section 5.2). However, the specific protections in the Queensland regulation do not provide adequate protection to customers experiencing financial hardship.

To reduce compliance costs on industry and improve retail competition, a package of legislation covering retail licensing, customer protection (but not retail pricing setting), and most customer-focused aspects of distributor regulation has been developed under national co-operative arrangements. The package is known as the National Energy Customer Framework ('NECF'). The NECF started in Tasmania and the ACT in 2012 and is expected to start in South Australia and New South Wales in 2013; and in Victoria by 1 January 2014.

Findings

Aligning Queensland's regulatory regime for retail licensing and customer protections with other states poses a number of advantages, including:

- reduced operating costs—will allow retailers to become more efficient as they will not need to adjust systems and processes to deal with different requirements in each state.
- reduced barriers to the entry of interstate retailers into the market—a single licence regime and regulatory requirements will make it easier for interstate retailers to expand their base to include Queensland, increasing competition in the market.

Applying the NECF regulatory package as Queensland law is the simplest mechanism to achieve these savings and has the additional benefits of:

- improving regulatory protections for customers experiencing financial hardship—retailers would be legally required to develop and offer programs to identify and help customers experiencing financial difficulty to manage their electricity bills on an ongoing basis.
- bringing retailers and distributors into closer, more cooperative relationships and in general delivering more cost-effective protections for Queensland energy customers than existing Queensland energy regulation. The current interplay between national rules and state legislation would not enable this to be achieved through changes to state regulation.

- potentially achieving a net reduction in administrative costs to the Queensland Government—compliance and enforcement responsibilities, together with rule making functions would move to the Australian Energy Regulator and Australian Energy Market Commission (AEMC) respectively. This would incur recurrent costs to government (already reflected in forward estimates), but would be offset by a reduction in Queensland Government responsibilities for Queensland Government staff.
- support from retailers, distributors and customer advocates including the Queensland Council of Social Services and the Queensland Consumers Association.

Assessment of the NECF against the *Queensland Government Principles for Commonwealth State/Territory intergovernmental activities* shows a net benefit to Queensland from adopting the framework. The NECF also aligns with Queensland Government cost of living priorities by placing downward pressure on electricity costs [53]and increasing regulatory support for households experiencing financial difficulty.

While offering considerable advantages, moving to a nationally harmonised regime would reduce the government's ability to intervene independently in response to misbehaviour in the market. However, this is not expected to lower the level of protection to customers because:

- the NECF regime allows for regulatory changes to be made at a national or state level, depending on whether the issue to be addressed has broad impacts or is state-specific; and
- if faced with a state-specific issue, the Queensland Government would be able to adjust the framework as needed, subject to the approval of the COAG Ministerial Council responsible for Energy (Standing Council on Energy and Resources or 'SCER').

Existing Queensland retail issues such as break-fee and carbon on bills legislation would still remain as legal requirements on retailers in Queensland if NECF is adopted.

State-specific variations would reduce the cost-benefit from applying the NECF. However, they would be necessary to address issues facing the customers outside of south-east Queensland due to particularly weak competition in that area (e.g. providing additional obligations on retailers to offer supply to large customers). Measures may also be needed to help the distribution networks transition to new requirements in the most cost-effective manner. These variations can be made while still achieving a net benefit.

However, the strength of the NECF—in supporting customer understanding and engagement with the retail market—is a key issue that requires further investigation. Provisions in the NECF to support customer understanding and engagement are an improvement on current arrangements in Queensland legislation. However, there may be scope for further improvement. For example:

- by requiring retailers to provide clearer information about network costs on bills, consumers may be better able to understand the economic impact of their energy decisions

[53] Through reducing retailer operating expenses and increasing industry competitiveness.

- by requiring retailers to provide information on the full expected costs of energy contracts before customers enter into them (similar to mobile phone contracts), customers may be able to better compare offers
- by examining hidden fees and charges (e.g. late payment fees, contract break fees)
- by examining 'evergreen' or ongoing contracts that are no longer generally available and are higher than the market price.

The most efficient way of doing this would be through current national energy reform processes. Due to cost impacts, use of Queensland-specific legislative derogations is favoured only if the national processes cannot deliver the required level of customer understanding and engagement with retailers.

Recommendations

Delivers on:
- *Strategy 2*

The IDC recommends the government:

5.3.1 Strengthen safety-net support for vulnerable customers and reduce red tape by adopting nationally harmonised laws for customer protection.

5.3.2 Implement the NECF with a target start date of early to mid 2014, subject to SCER agreeing to State-specific variations to support customers outside of south-east Queensland.

5.3.3 Push for national reform processes that improve customer outcomes, including measures that:

- boost customer engagement;
- put information about the cost of poles and wires on bills; and
- examine retailers undue fees and charges.

Benefits

- Improves distributor processes.
- Improves retailer efficiency, more scope for new entrants.
- Improved protections for customers experiencing financial hardship. Protections significantly increased for gas and on-supply electricity customers (e.g. people who live in retirement villages and caravan parks).
- Reduced overall administrative costs for Queensland Government.

Costs and risks

- Costs exceed benefits for electricity distributors but these costs are already largely incurred.
- Significant retail implementation costs, but already largely incurred through implementation in other jurisdictions.
- Without state-specific variations for customers outside south-east Queensland, NECF would reduce protections.
- Recurrent AEMC funding (already reflected in forward estimates).
- Reduces independence of state interventions.

See also

4.6 Retail Competition
5.2 Customer hardship and assistance

5.4 CUSTOMER UNDERSTANDING AND ENGAGEMENT

Issue: ***The capacity of customers to manage and respond to changes in the sector***

Reforms that rely on consumer uptake or consumers proactively responding to price signals will require greater consumer engagement....A comprehensive strategy is required. Queensland Council of Social Services submission

If policies are to influence energy consumption more effectively, they need to reflect a more complex understanding of the many factors that shape or drive individual behaviours. IEA Energy Technology Perspectives 2010.

Electricity customers have traditionally not needed to engage with the electricity market which provided homogenous products with little opportunity for customer choice. However, the role of customers is changing. With the introduction of retail competition and moves to increase demand side participation to manage energy use, electricity customers now receive information on the electricity market from diverse sources.

There is evidence that this information often fails to engage and persuade customers to, for example, change electricity providers or products or change their electricity usage. This is a factor in increasing system costs (from inefficient consumption and increasing peak demand), increasing levels of customer hardship and customers foregoing savings and flexibility from alternative products or suppliers.

Poor customer engagement has also been a contributor to adverse outcomes associated with reforms, including the rollout of smart meters in Victoria and the deregulation of prices for large customers in south-east Queensland.

Findings

Customer understanding and engagement in the electricity market has the potential to drive significant individual and market-wide benefits, notably:

- changes to energy use that increase efficiency and reduce demand can generate cost savings to the individual and drive down overall system costs
- evidence from New Zealand, Great Britain and the United States suggests that meaningful customer engagement with retailers can put downward pressure on retail prices both for the individual and on a market-wide basis where participation is high enough
- customers that are able to engage with retailers and understand offerings are also more likely to select the best product that meets their needs, which can increase their ability to manage their energy costs on an ongoing basis, reducing debt and disconnection levels
- greater customer representation and participation in the policy making process is likely to lead to better informed decision making and improve market-wide outcomes.

Case study—New Zealand's Consumer Switching Fund

In 2010, the New Zealand Government launched a NZ $5M p.a. industry-funded communications campaign aimed at making it easier for customers to shop around for better offers in the retail electricity market. This was premised on the idea that informed and active customers that go through a regular decision-making process to assess the offers available to them will pressure retailers to reduce prices, lower their costs to serve and increase product innovation.

The campaign was preceded by considerable market research and initial results are encouraging. Customers report greater confidence in their ability to compare and assess electricity deals and those households that have changed retailers have saved a reported average nearing NZ$165 p.a.

Overall, the campaign has placed downward pressure on retail prices and the proportion of customers actively changing retailers grew to the second highest in the world in 2011.[54]

At present, electricity customers in Queensland receive information from diverse sources but it often fails to engage and to persuade. Poor customer engagement has also been a factor in the failure or poor outcomes of a number of past reform measures, including the rollout of smart meters in Victoria and the deregulation of prices for large customers in south-east Queensland.

Available information and previous communications campaigns targeting Queensland electricity customers have generally not taken into account customer diversity. Customer attitudes, beliefs and values and other factors can determine how individual customers will respond to the information provided. These factors are likely to influence not just which choices customers will make but how deeply they will engage and commit to their choices.

Engaging customers effectively is essential to the success of a number of the IDC's recommendations and to the reform of the sector, in particular in relation to:

- tariff reform
- customer hardship
- the benefits of retail competition.

Stakeholder feedback supports a concerted effort between government, industry and customer groups to improve customer engagement on electricity choices and ensure the success of reforms. Drawing on international and inter-jurisdictional research, and the lessons from the engagement strategies used in previous programs (for example the now-closed ClimateSmart Home Service) would be beneficial to support the preliminary assessments regarding the diversity of customer needs, though additional market research may also be needed.

Further consultation would help in examining options for developing an engagement strategy including how it should be coordinated, the nature of industry, Queensland Government and

[54] Electricity Authority, Te Mana Hiko, Consumer Switching Fund, Review of the What's My Number Campaign, available at: http://www.ea.govt.nz/consumer/csf/#review

customer advocate involvement, how it should take into account the interaction of factors which determine customer decision-making, and how an engagement campaign would be branded, funded and conducted.

Customer involvement in decision-making is also an important component of understanding and engagement. Queensland has limited advocacy on behalf of customers in the electricity sector, which can reduce the quality of decision making and limit general awareness of consumer related issues in the sector. Ways to enhance the effectiveness of consumer representation in key electricity issues in Queensland also requires further investigation.

The decision to support development of a national customer advocacy body, supported in principle by COAG on 7 December 2012,[55] also has the potential to strengthen the quality of advocacy for Queensland customers—though the governance arrangements will need to be carefully developed to avoid the disproportional representation and bias towards states that already have strong customer advocacy regimes, such as Victoria.

Developing a customer engagement and participation model for decision making through the 30-year electricity strategy process will also be an important step towards improving customer engagement in decision making processes.

Recommendations

Delivers on:
- *Strategy 1*
- *Strategy 2*

The IDC recommends the government:

5.4.1 Improve consumer engagement to help customers benefit from discounts and improved products in a competitive market.

Publicly consult on options to increase customer engagement in the electricity sector and develop an effective customer engagement strategy.

5.4.2 Note that additional work including market research may be required to identify the most effective options to maximise customer engagement.

[55] Council of Australian Governments meeting communiqué 7 December 2012, available at: http://www.coag.gov.au/node/475

Benefits

- Enables customers to take advantage of tariffs and products that are most suited to their needs.
- Customers become more aware of where to go for information on retail offers and contract agreements.
- Underpins recommendations relating to tariff reform, metering and retail competition, and may also support customer understanding and engagement work
- Supported by industry and customer bodies
- Collaboration expected to drive more effective communications and engagement
- Better decision making by Queensland Government

Costs and risks

- Development of a customer understanding and engagement strategy may be a large expense depending on the nature of the strategy (although there would be options for industry funding or cost-recovery where industry shares benefits and where there are clear benefits to customers)

See also

4.5 Tariff reform
4.6 Retail Competition
5.2 Customer hardship and assistance
5.3 National Energy Customer Framework

5.5 UNIFORM TARIFF POLICY AND COMMUNITY SERVICE OBLIGATION

Issue: ***Costs associated with the Uniform Tariff Policy (UTP) and delivery of the Community Service Obligation (CSO)***

The UTP ensures that all Queensland electricity customers of a similar type (not on a market contract) pay the same price for electricity regardless of where they live. For much of rural and regional Queensland, the cost of supply is greater than in the south-east. Paying the true costs of supply would impact on regional Queensland.

The Community Service Obligation (CSO) implements the UTP via subsidy payments to Ergon Energy Retail. The cost is significant ($620 million budgeted in 2012-13), and is estimated at to be over $3 billion over the next five years.

There are a number of ways that current CSO funding arrangements could be improved. This includes increasing transparency around cost inputs, and better managing risk exposure (i.e. in relation to energy trading arrangements).

Over the longer term, the objective should be to develop retail competition in regional Queensland by introducing a network based CSO. A network CSO should only be introduced in parallel with meaningful structural reform of Ergon Energy's retail business and ideally improved targeting of the UTP.

Costs associated with isolated communities are particularly high and also warrant close scrutiny.

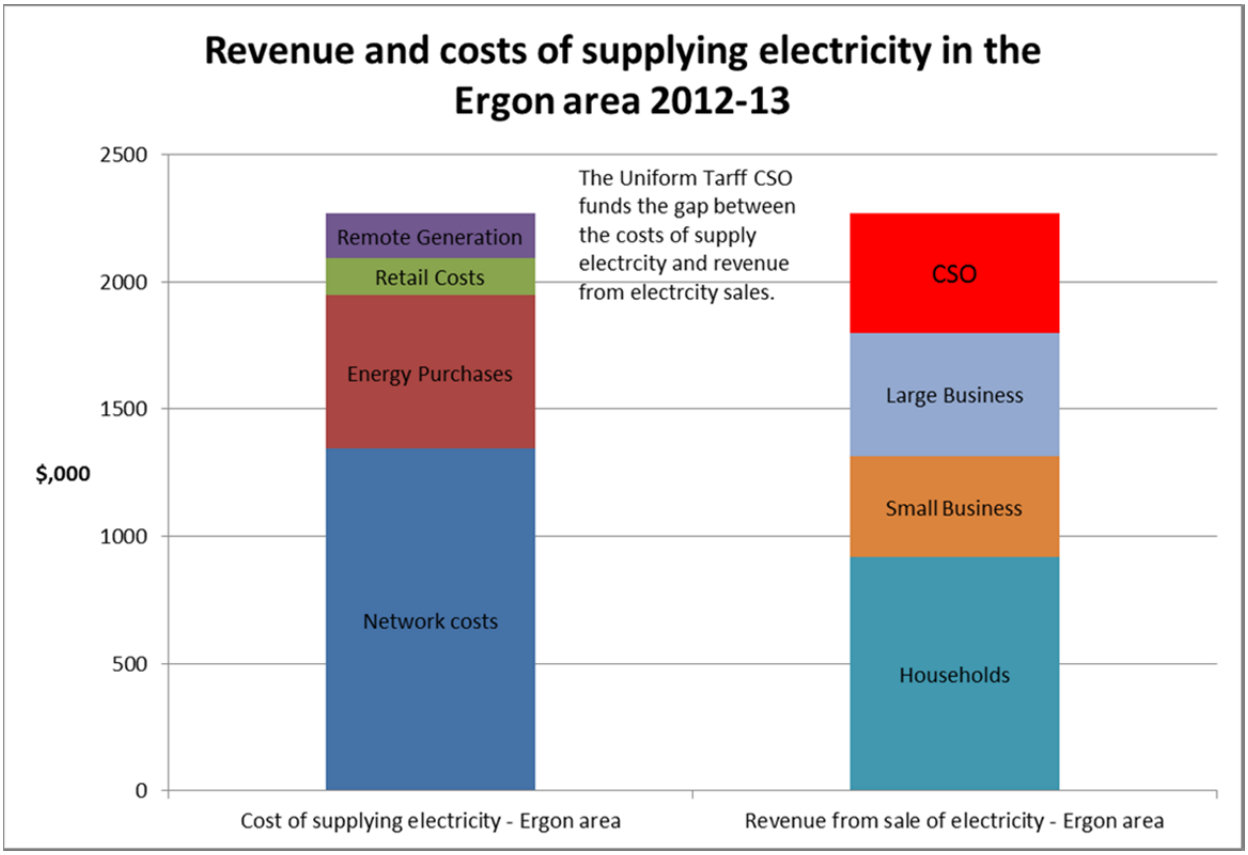
Findings

Queensland is one of only three states that provide a CSO to regional customers and the only state that offers regulated retail prices to large customers.[56] In 2012-13, regional Queensland customers have the cheapest electricity of any regional area of Australia. The IDC has identified a number of options to better manage costs associated with delivering the CSO.

Funding the gap

The CSO is currently calculated by subtracting Ergon Energy's tariff revenues from its costs, with the difference (or gap) being the cost of the CSO.

[56] Note: the Northern Territory also provides CSO support and regulated prices to customers outside metropolitan areas.



This approach is easy to administer but the current arrangements for calculating the CSO are not sufficiently transparent. It is difficult to separate the underlying cost drivers and the performance of Ergon Energy's retail business.

Improving the accountability around costs would create more pressure within Ergon Energy to improve retail performance and more clearly identify the most significant cost driver of the CSO, which is the difference between network costs between Energex and Ergon.

As a minimum, Queensland needs improved CSO calculation, funding and reporting arrangements to would give the government a better understanding of the cost factors underlying the provision of the CSO and a better understanding of the performance of Ergon Energy's retail business. This aligned with findings from the Queensland Commission of Audit.

Energy trading risks

Ergon Energy Queensland is a non-competitive retailer and until recently was the only large retailer in the NEM not aligned with a generator (that is, it does not own or control sufficient generation capacity to manage its wholesale market risk).

In October 2012, the Queensland Government announced it would explore potential electricity supply options for the Ergon Energy retail load, including potential supply arrangements with government-owned generators. On 22 May 2013 the Queensland Government announced new wholesale electricity supply arrangements will be implemented for Ergon Energy's

retail load in Queensland, with Ergon Energy's energy needs to be supplied predominantly through State-owned electricity generators CS Energy and Stanwell.

This decision is part of a short-medium term strategy to improve the asset utilisation of Queensland Government owned generators CS Energy and Stanwell, while ensuring that Ergon Energy is being supplied via the most cost effective means for the State.

The new market-based wholesale energy procurement arrangements will be implemented for a term of up to four years from 2013-14, and will supplement rather than replace existing supply arrangements.

However, longer-term the government should assess the feasibility of other structural options for the government-owned energy portfolio, such as creating a vertically-integrated energy utility similar to other competitive market participants.

Fostering retail competition in regional Queensland

The government objective is to develop retail competition in regional Queensland, but there are a number of steps required before this outcome can be achieved.

The Uniform Tariff CSO is paid directly to Ergon Energy retail to allow the business to provide retail electricity prices at a level well below the cost of supplying the service for most customers – particularly households. On the whole, other retailers do not compete in this market as without direct government support they would supply to most customers at a loss.

Developing retail competition in regional Queensland would mean that the Uniform Tariff CSO would need to be 'unbundled' and paid to Ergon Energy's network (rather than retail) business. This would mean retailers would have access directly to the government funded CSO through subsidised network prices and could then compete for customers profitably.

The implementation of a network CSO should be a medium term objective for the government in order to promote retail competition in regional Queensland. However, this must occur in tandem with structural reform of Ergon Energy's retail business and the UTP to allow Ergon Energy Retail to compete against other retailers.

Over time, a network CSO will be substantially more costly than the current arrangements. This is because all customers (rather than just those belonging to Ergon Energy Retail) will be subsidised. As a result, all customers in regional Queensland will be seen as profitable by retailers and Ergon Energy Retail could lose its customer base as competition expands.

Ergon Energy has been restricted from competing for retail customers since 2007. At the moment Ergon Energy does not have the immediate capacity to operate in a competitive market and would require significant investment in systems to allow large scale retail competition to occur.

Exposing Ergon Energy's retail business to competition without it having the ability to compete would see an immediate and significant erosion of its customer base. From a government ownership perspective, this would reduce the value of Ergon Energy the existing customer base,

increase the cost to serve remaining customers and significantly increase energy purchasing risk (hedging for a shrinking and unknown size of a customer base).

Strategically, the IDC considers Ergon Energy's retail business has the best value for Queensland if it were to become the third large major retailer player in Queensland . However, the IDC has concerns about this occurring if Ergon Energy's retail business continues to be government-owned.

For these reasons, the IDC is recommending the government develop a longer term strategy for developing retail competition in regional Queensland with the structural reform of Ergon Energy's retail business a critical path in this process.

In the short term, anecdotal evidence indicates that some customers are dissatisfied with Ergon's service levels. The government does not formally monitor Ergon's customer service performance, though the Energy and Water Ombudsman Queensland and the QCA monitor and publicly report on some measures of customer service performance.[57] Management would be encouraged to improve customer service if these outcomes were linked to their performance targets.

CSO arrangements for isolated communities

In the isolated system, it costs five times more to supply electricity than in south-east Queensland. Given the scale, technology and distances involved, the cost of supplying isolated areas will always be higher. However the state should pursue greater efficiency for the benefit of regional Queenslanders.

Funding transparency for Ergon Energy's isolated systems is even less than that for Ergon Energy NEM connected systems. This is because distribution costs in the NEM are independently assessed and set by the AER. This provides some indication to government about CSO costs in NEM areas (though, as noted above, information still needs to be improved). However, there is no similar independent assessment of distribution costs for isolated systems.

Given the lack of regulatory scrutiny around isolated supply costs, additional reporting (as recommended earlier in relation to general CSO costs) is not likely to be enough to improve performance. As an initial measure, the isolated CSO should be separated from the overall Ergon Energy CSO and treated as a separate budget item.

In the medium term, consideration should be given to opening the operation of the isolated system up to competition through a tender process. This would give transparency to the cost of supplying the isolated system and ensure it is provided at the most competitive price.

Future of the Uniform Tariff Policy

[57] Some of these functions would be taken over by the AER if Queensland adopts the NECF (discussed at section 5.3)

The IDC did not conduct a broad review of the Uniform Tariff Policy. However, a preliminary review indicates there may be scope to better target the policy to improve overall outcomes. This aligns with findings of the Queensland Commission of Audit Final Report.

As discussed in section 4.3, the QCA has raised strong concerns about providing the subsidy to very large customers and it is recommended that consideration be given to removing subsidies to these very large customers in tranches starting with the largest customers first. Unlike other states with CSO arrangements, large, non-residential customers including mining companies receive the subsidy at an estimated cost of around $50 million. The individual level of subsidy is up to $1.9 million per year. The IDC also has concerns around the benefit and efficiency of providing CSO subsidies to Australian and Queensland government customers. These customers account for an estimated $35 million of subsidies in 2012–13.

A review will need to be undertaken regarding how these arrangements are delivered if the government agrees to move from regulated retail price setting in south-east Queensland to price monitoring by 1 July 2015. The CSO is based on supplying electricity to Ergon Energy retail customers at the same cost as customers on notified prices in south-east Queensland. Without notified prices in south-east Queensland, a new anchor is needed.

A review of the UTP would provide the opportunity to make sure the policy is providing value to the government and taxpayers. While a review should be undertaken to examine these issues further, it is important to note the government's election commitment to maintain a uniform tariff policy.

Recommendations

Delivers on:
- *Strategy 1*
- *Strategy 2*
- *Strategy 3*

The IDC recommends the government:

5.5.1 Develop more efficient subsidy arrangements for regional Queensland through reviewing the Uniform Tariff Policy (UTP) arrangements, including:

- the UTP objective
- how large and very large customers are treated in the UTP; and
- how State and Australian government agencies are treated in the UTP.

The review should also consider arrangements to manage the removal of retail price controls in south-east Queensland.

5.5.2 By July 2013, decide on the scope, process and terms of reference for the review of the UTP recommended at 5.5.1.

5.5.3 Address barriers to the growth of retail competition in regional Queensland, including moving towards a network based UTP CSO within three years in conjunction with the structural reform of Ergon Energy Retail (see 5.5.4).

In the short term revise the CSO arrangements to Ergon Energy's retail business to:

- replace the Long Term Energy Procurement deed; and
- improve monitoring and reporting of CSO cost inputs.

5.5.4 Consider options to align Ergon Energy's retail business with a government-owned generator. Considerations to occur in conjunction with a longer term structural reform objective for Ergon Energy's retail business.

5.5.5 Investigate options for the long term future of Ergon Energy Retail including the feasibility of creating a vertically-integrated entity.

5.5.6 Treat the isolated CSO as a separate budget item from 2013-14 to improve transparency.

5.5.7 Initiate an open tender or call for expressions of interest to supply the isolated system in 2014-15.

5.5.8 Introduce additional customer service performance measures to assess Ergon Energy performance.

Benefits	***Costs and risks***
• Potential to provide significantly better value to targeted customers and government • Manage cost and risk of CSO to government	• Perception that costs could rise for customers

See also

4.6 Retail Competition

PART 6 GOVERNMENT

6.1 INTRODUCTION

Role of Government

The government has a number of roles in the sector spanning generation, networks (transmission and distribution), retail and customers. See Figure 6.1.

Operating Environment

Under the Australian Energy Market Agreement (AEMA), Queensland is committed to a series of national energy market reform measures. In accordance with the agreement, responsibility for the operation of the NEM and the economic regulation of electricity networks is subject to national cooperative legislation and associated rules (the National Electricity Law and Rules). Additional reforms committed to under the AEMA, but not yet implemented are:

- Adoption of the National Energy Customer Framework, which would move regulatory responsibility from local state law to national arrangements. This issue is dealt with at section 5.3.
- Removal of regulated retail price setting arrangements once competition is agreed to be effective. This issue is dealt with at section 4.6.

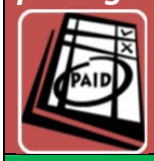
Challenges

There is a natural conflict between the government's various roles and responsibilities in the sector, which makes it difficult to get the best outcome from a public policy sense and as a shareholder.

This mixed role is creating challenges in relation to ongoing financial sustainability, setting and communicating a vision for the sector, adopting a clear approach to intervention in the market, and sharing policy responsibility with the Australian Government and other states under national cooperative arrangements.

Key Challenges: ongoing financial sustainability of role in industry; setting and communicating vision for sector; adopting certain approach to intervention in market; sharing policy responsibility with Australian Government and other states under national arrangements.

Figure 6.1: The Multiple Roles of Government

Sector	Participants	Role of the Government
Generation 	Include CS Energy, Origin, Intergen, Transfield, Stanwell, ERM, AGL, NewGen	• Stanwell & CS Energy Shareholder • Sets policy direction (i.e. generator operating standards & energy mix) • Issues licences • Oversees rules for the operation of the NEM
Networks – (Transmission and distribution) 	• Powerlink (transmission) • Energex (distribution) • Ergon Energy (distribution	• Powerlink, Energex and Ergon Energy Shareholder • Sets policy direction (i.e. reliability standards) • Oversees national regulation for economic regulation, interstate connections and transmission investment decisions
Retail and pricing 	• Large retailers (eg Origin, AGL, Ergon Energy) • Smaller retailers (e.g QEnergy, ERM)	• Ergon Energy Shareholder • Sets policy directions and regulates (e.g. price, retailer conduct) • Monitors compliance and enforcement
End-users (customers) 	• Households • Businesses (small and large) • Heavy industrial	• Is a large customer • Sets policy direction & concession programs • Regulates industry to protect customers • Monitors price equity & industry customer research

IDC Terms of Reference

The Terms of Reference requested the IDC to examine issues relevant to the role of government including:

- regulatory arrangements, the structure of the energy sector, national governance and market operation
- the role of government agencies in monitoring energy government-owned Corporations (GOCs)

Additional work was undertaken on the potential for aggregation of government energy purchases to lower costs and improving the use of telecommunications assets.

6.2 ROLE OF GOVERNMENT IN THE ENERGY SECTOR

Issue *Defining the role of government*

Prior to introducing competition reforms in the mid-1990s, Queensland's electricity production and supply was effectively controlled by the Queensland Government. The Queensland Electricity Commission and regional electricity boards ran large vertically-integrated and publicly owned infrastructure.

Following competition reform, the sector has fundamentally changed. It is now characterised by a mix of government-owned and private sector businesses and a mix of competitive and monopoly markets. Queensland has also physically connected to the National Electricity Grid, and agreed to share policy responsibility for major aspects of electricity supply with other state governments and the Australian Government.

Together, these changes have significantly affected the approach and scope of government in dealing with electricity issues. The government can't make decisions in isolation and has less direct control. However, this is at odds with public perception, which still sees government as largely responsible for and able to control electricity prices.

The multiple and at times conflicting roles of government add to the complexity of the market arrangements. These roles include shareholder of government-owned corporations spanning generation, networks and retail; state-based regulator; policy maker at state level and through national cooperative arrangements; energy customer; and provider of direct financial assistance to customers. There have been a number of calls on the Queensland Government to remove some of these conflicts and improve the effective operation of the sector through the commercial disciplines of the private sector.

Findings

New market environment, old expectations

The new electricity industry environment, particularly the different range of players and interdependencies between them, creates challenges for government to effect change. Old-style policy approaches that try to directly control various outcomes for customers no longer work well. There are too many interests and too many external factors at play. Changes in one part of the market can reverberate throughout, sometimes with unintended consequences outweighing the intended public good.

The changed environment calls for a more effective approach, one in which government intervention in the sector is guided by clearly defined and well understood objectives. Analysis of previous interventions demonstrates this is likely to improve overall outcomes, lower costs and reduce unintended consequences. Case studies of previous government interventions show that targeted interventions, supported by analysis that encompasses the impacts, costs and benefits across the supply chain, are more likely to generate positive impacts for the sector and customers. Intervention with poorly defined goals or where interdependencies are not sufficiently taken into account has a tendency to create unnecessary costs and poor outcomes.

Clearly defined and well-understood objectives and conditions for government intervention would also help manage public expectations. The public largely still views the Queensland Government as responsible for the entire electricity supply chain and price outcomes. This view is reinforced by the government's continued role in regulating retail price setting. However, it no longer aligns with the government's ability to control outcomes.

A range of issues fall outside of the Queensland Government's direct control—including wholesale energy costs (e.g. generation investment, fuel, renewable energy requirements) and national network regulation. This is problematic as public misperceptions about government responsibilities and levels of government control can reduce customers' general willingness to engage in market issues and take responsibility for the impact their electricity use has on prices and their electricity costs. Public education and awareness raising will be critical to the success of a number of recommendations in this report relating to peak demand management, tariff reform, metering and retail competition.

Government ownership of electricity assets

Recent reviews of the electricity sector have questioned the role of and benefits afforded by continued government ownership of electricity assets in Queensland. The key argument in favour of privatisation has focused on claims of better economic performance displayed by private business. For government, risks and threats of continued ownership may be an additional consideration.

The Queensland Government has committed that it will not privatise energy assets without a mandate from the public. However, as part of its response to the Queensland Commission of Audit Final Report, the Queensland Government has agreed to examine the merits of continued government-ownership of its electricity generation and retail assets. The IDC supports a public discussion on this issue.

The government response to the Queensland Commission of Audit Final Report also ruled out consideration of selling the Queensland Government electricity network assets, Energex, Ergon Energy and Powerlink.

The future role of the Queensland Government—Guiding principles

The current situation in Queensland is unsustainable. The sector relies on private investment in generation, but there is lack of clarity regarding the Queensland Government's role and future policy direction for electricity, creating investment risk. A clearly defined role for government in the electricity sector will set an important pathway for long-term sustainable reform.

Much of this report has highlighted the importance of reducing regulatory uncertainty or risk in delivering Queensland a cost effective and competitive electricity sector. The report outlines a clear need for the government to clarify its objectives and policy approach with respect to retail competition (section 4.6), customer hardship and assistance (section 5.2), the Uniform Tariff Policy and Community Service Obligation (section 5.5), Tariff Policy (section 4.5), network businesses (section 3.2) and responding to peak demand (section 3.3).

Key principles to guide the role of the government in the sector into the future and provide certainty to industry could include:

- that the government will act to address any market failure (e.g. as investor of last resort if necessary)

- that government intervention must ensure provision of the public good (e.g. providing policy and regulatory settings for customer protection, either state based or national; providing overarching policy direction for the security and reliability of the transmission and distribution system)
- that the government has a role in addressing equity concerns (e.g. provision of well targeted hardship and concessions policy)
- that the government will work to reduce regulatory risk and uncertainty (e.g. providing long term direction to the market and clearly delineating the role of the state as a separate entity as opposed to shared state-national responsibilities)
- that the government will clearly articulate its objective in any intervention and that intervention measures will be supported by analysis of the impacts, costs and benefits of intervention throughout the supply chain.

The 30-year electricity strategy Directions Paper raised a number of issues critical to the future role of the Queensland Government, including a proposed shared engagement and accountability model and possible mechanisms to gain greater role clarity for government and to guide decision making. Any further consultation on the proposed role, objectives and principles for the government in the 30-year electricity strategy Discussion Paper would benefit from inclusion of the above principles.

Recommendations

Delivers on:
- *Strategy 3*

The IDC recommends the government:

6.2.1 Publicly consult on the merits of continued government ownership of energy assets for generation and retail.

6.2.2 Publicly consult on the government's proposed future role and objectives in the electricity sector, including principles to guide decision making.

Benefits

- Potential to provide significantly better value to customers and government
- Manage risk of government ownership and role for Queensland Government, customers and the market

Costs and risks

-

See also

2.6 Generation issues
3.2 Response to IRP recommendations
3.3 Managing peak demand
4.5 Tariff Reform
4.6 Retail Competition
5.2 Customer hardship and assistance
5.3 National Energy Customer Framework
5.4 Customer understanding and engagement
5.5 Uniform Tariff Policy and the Community Service Obligation

6.3 STATE GOVERNMENT / NATIONAL CROSS-OVER ISSUES

Issue: *Operating within a national framework*

Many significant elements of electricity supply are subject to national cooperative arrangements. Some negotiated decisions made under the national cooperative arrangements will impact on price outcomes in Queensland.

Findings

Overall, Queensland can expect a net benefit from continued participation in national cooperative arrangements, primarily driven by greater market and regulatory efficiencies and a more attractive investment environment. The arrangements generate efficiencies for those who participate across jurisdictions and can create a more stable environment for private sector investment.

The governance frameworks established to support a cooperative national electricity market and policy environment aim to ensure robust evidence-based decision-making to meet shared market objectives. Cooperative decision-making necessarily implies negotiation over these interests. This places the onus on jurisdictions to understand the potential implications, including both benefits and costs, to ensure their individual interests are met.

The Queensland Government has recently reserved its decisions on several key issues currently being considered at the national level until it has received advice from the IDC.

The *Queensland Government principles for Commonwealth – state/territory intergovernmental activities* provides a framework to guide Queensland's participation in the national cooperative arrangements with the goal of delivering positive outcomes. Developing a clear vision for the Queensland Government's role in electricity supply as outlined at section 6.2 will also support engagement in future intergovernmental activities.

Specific recommendations in this report relevant to national decision making processes include:

- recommendations to support changes to economic regulatory arrangements applying to network service providers (dealt with in 'Response to IRP Recommendations' – section 3.2);
- recommendations to consider changes to metering arrangements (dealt with in 'Metering' – section 3.5);
- recommendations to work towards the removal of retail price regulation in SEQ by 1 July 2015 (refer 'Retail Competition' – section 4.6).

Recommendations

Delivers on:
- *Strategy 3*

The IDC recommends the government:

6.3.1 Use the 'Principles for Commonwealth – state / territory intergovernmental activities' as a framework to guide Queensland's ongoing participation in the national energy market.

6.4 AGGREGATION OF GOVERNMENT ELECTRICITY PURCHASING

Issue: ***Efficiency of existing procurement approaches to electricity***

Traditional procurement approaches, under which Queensland Government agencies individually enter into electricity contracts has resulted in significant duplication of effort and high overall process costs. The approach can also hinder efforts to establish mutually beneficially relationships with retailers.

Findings

Following an analysis of suitable options to move toward greater centralisation of government purchases of electricity market testing was undertaken by the Queensland Government Chief Procurement Office (QGCPO). This analysis involved the Queensland Government Chief Procurement Office approaching the retail market through the established Standing Offer Panel of suppliers for large sites in an effort to test whether an aggregated approach to electricity purchases could deliver costs savings or other benefits to government.

The Queensland Government Chief Procurement Office was also requested to investigate matching the government's electricity requirements against a government-owned generator. However, it was identified that matching the government load requirements against a government-owned generator does not support better value for money outcomes from a procurement perspective. This is attributable to current demand and supply conditions (see Generation Issues section 2.2), whereby limiting competition in the wholesale market would result in higher prices for government agencies.

Outcomes from the market testing conducted by the Queensland Government Chief Procurement Office in October 2012, indicates that:

- through aggregation of the government load, a saving of approximately $16,000 across agencies for the period until end December 2013 was achieved when compared to the lowest priced offer submitted for individual agency contracts and pricing for 2013;
- the effect of aggregating the whole-of-government load on energy price and environmental certificates to satisfy the Australian Government's Renewable Energy Target is small;
- there were a number of other benefits realised by approaching the Standing Offer Panel for large sites in an aggregated manner, including: process efficiencies, more favourable terms and conditions of supply and price risk mitigation for agencies with volume variance calculated at a whole-of-government level rather than agency level;
- more available and coordinated data may help identify further operational cost savings. For example, customers could take advantage of discounts for early payment and in some instances reduce late payment penalties and interest charges; and
- changes in the methodology employed by the QCA to calculate retail tariffs has impacted upon margins available to retailers to offer discounts to small site customers on a standing offer basis.

Any further actions to adopt greater centralisation of electricity purchases for small sites needs to consider providing contractual certainty and aligning timing with the release of the QCA's three year determination of retail tariffs to ensure retailers have sufficient certainty regarding their forward cost structures to offer government best value for money.

Recommendations

Delivers on:
- *Strategy 3*

The IDC recommends the government:

6.4.1 Investigate options to measure and lower the cost of government electricity purchases.

6.4.2 Direct the Queensland Government Chief Procurement Office to investigate the viability of establishing a whole of government small sites electricity procurement strategy.

Benefits

- provides opportunity for more innovative pricing models from retailers which may result in more competitive offers and favourable terms and conditions of supply
- improved facilities data may encourage greater consumption efficiencies

Costs and risks

- scope of benefits unclear and requires further testing
- testing and improved data collection will incur some costs

See also

Section 4.2 Setting regulated retail electricity prices– from 2013/14
Section 5.5 Uniform Tariff Policy and the Community Service Obligation
Section 6.2 Role of Government in the energy sector

6.5 TELECOMMUNICATIONS ASSETS

Issue ***Better use of assets***

In looking at opportunities for greater cost reduction and better asset utilisation, the IDC identified an opportunity to enhance the value of government-owned assets.

Ergon Energy's wholly owned subsidiary, Nexium, utilises the Ergon fibre optic network in conjunction with other infrastructure providers to provide high capacity connectivity and retail services throughout metropolitan, regional and remote locations. Nexium is also a wholesale provider of telecommunications services to carriers and carriage services providers.

Ergon Energy Telecommunications (t/a Nexium) has leveraged and commercialised its telecommunication assets and provides commercial services to both wholesale and retail markets (though limited to government agencies only). This could be expanded to other government users.

Findings

Government-owned network businesses own and use telecommunication assets to provide a platform for various business applications. This includes services between 100Mbps to 1000Mbps which are, and can be, made available for other government agencies for data service use including internet services.

Nexium has inter-network relationships with Powerlink, Aurizon (QRN), Southern Cross Broadcasting and other mainstream telecommunications carriers providing geographic reach throughout regional Queensland. Queensland could further extend this arrangement through relationships with others such as Energex, QR, water utilities, Department of Transport and Main Roads and Councils—providing a whole-of-Queensland footprint for use by government agencies.

Queensland has an opportunity to leverage existing government-owned corporation telecommunications assets to provide data services to and for whole-of-government needs, improve the use of existing assets and drive down costs for telecommunication data services to government.

There are multiple telecommunication pathways connecting many regional centres where the network can provide additional capacity. Many of the existing links can have the capacity upgraded through the provision of more equipment modules rather than requiring full site or major equipment upgrades and does not require major capital costs.

An accelerated adoption of this network and use by government for data services would:

- reduce costs to government for data telecommunication services
- increase revenues to government (through Nexium as the commercial carrier—a wholly owned subsidiary of Ergon).

This opportunity be explored in further detail to identify the potential for cost savings, revenue growth and further leveraging of assets.

Recommendations

Delivers on:
- *Strategy 1*
- *Strategy 3*

The IDC recommends the government:

6.5.1 Investigate the potential to reduce government telecommunications spend by leveraging excess capacity in Ergon Energy's fibre communications network.

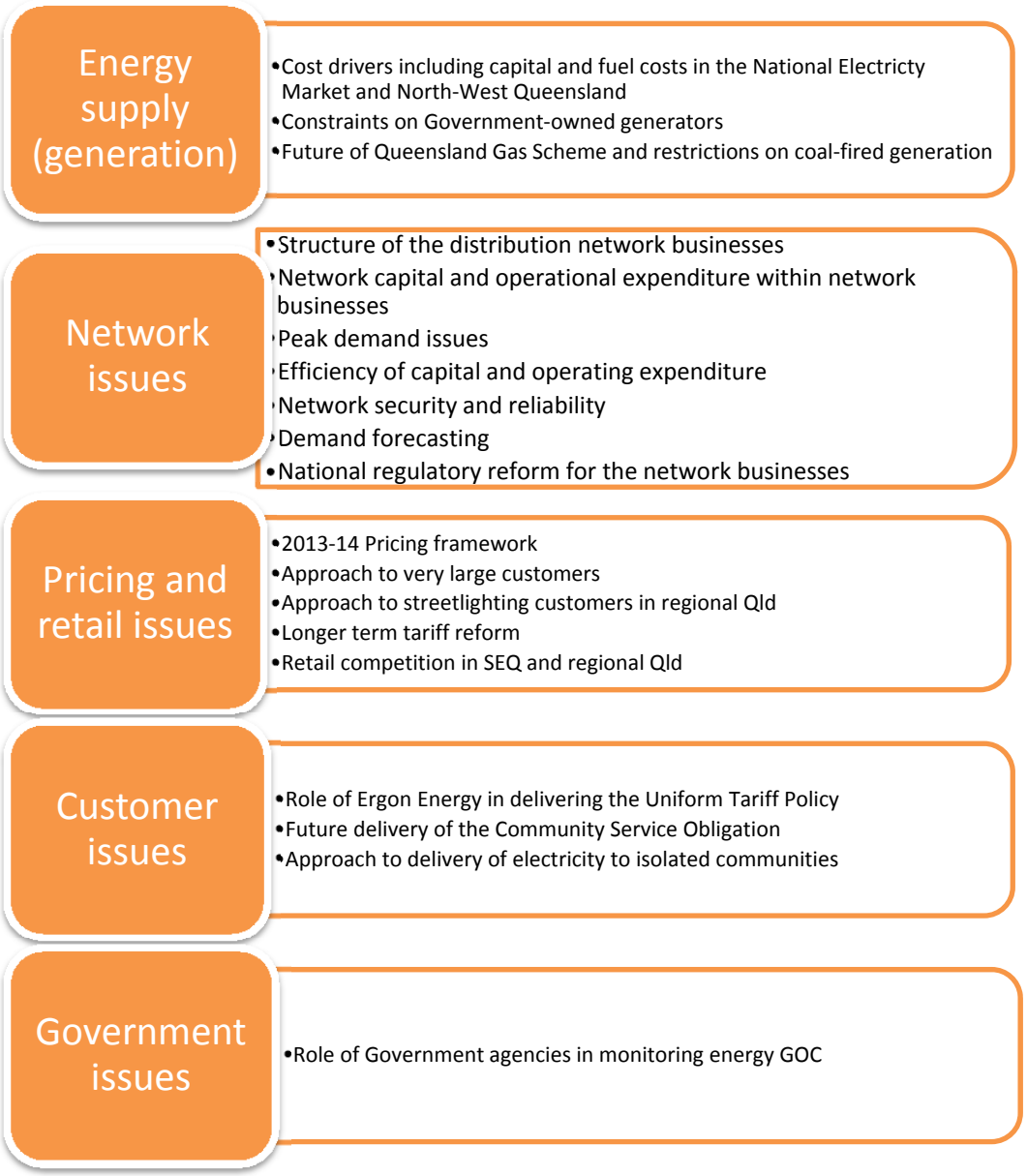
PART 7 THE REVIEW PROCESS

7.1 Terms of reference

The IDC Terms of Reference nominated particular issues for consideration and advice. The figure below summarises these issues, which served as guidelines rather than constraints to discussion.

The recommendations in this report cover these nominated issues, as well as additional matters the IDC considered essential to achieving its objectives. The additional matters include:

- approaches to land use planning, customer assistance and hardship, aggregation of electricity purchasing by government agencies and the role of government in relation to electricity supply
- adopting the National Energy Customer Framework—referred to the IDC for advice by government in late 2012.



7.2 Approach and methodology

The IDC's objectives, outlined in the Terms of Reference, are to make sure electricity is supplied in the most cost-effective and sustainable way for customers, industry and government.

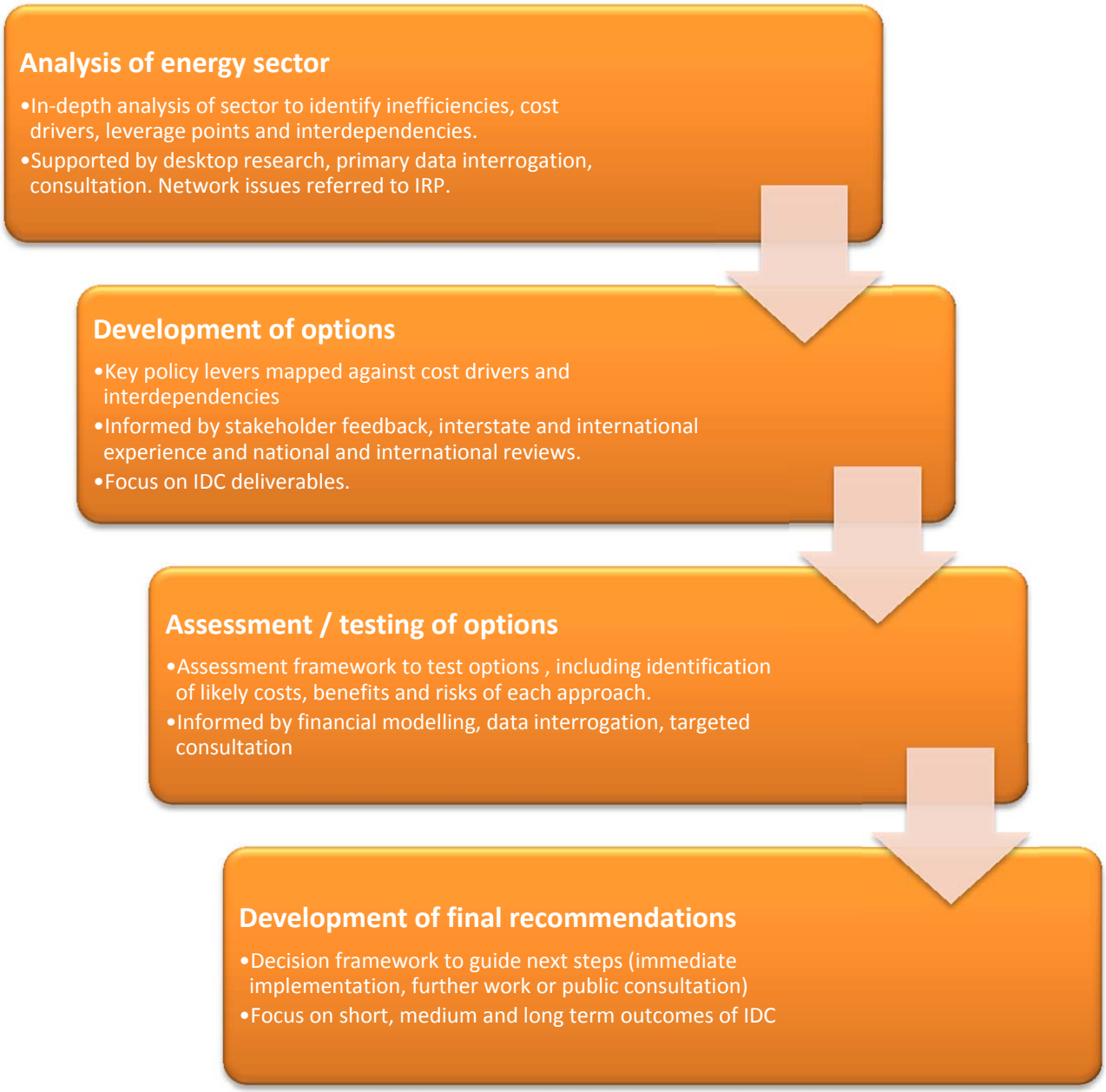
The overlapping interests of all electricity stakeholders produced some tension between the objectives.

For example, costs to customers could be cut by increasing government spending or by lowering industry profits. The IDC recognised that the short-term benefits to customers of lower prices may lead to longer term industry or government pressures that would increase costs across the sector.

So the IDC took a long-term perspective to the review process—recognising the need to ensure sustainable outcomes to customers, industry and government.

The IDC developed a strong project framework that considered all aspects of the Terms of Reference and recognised the interdependent nature of the review's objectives for the electricity sector supply chain. The framework mapped the cause-and-effect links between major cost components and price drivers in the electricity supply chain—gaining a clear understanding of the relationship between wholesale energy costs and capital and operational expenditure by generators and networks.

The IDC instigated the following process to support its review:



7.3 Supporting evidence

Information sources used throughout the review process included:

- primary and secondary data sources from retailers, network businesses, industry regulator and key government agencies
- reports on interstate and international experience in electricity supply and the provision of other utility services (telecommunications, water)
- local, national and international reviews and research into electricity market issues and behavioural economics, including reviews undertaken by the Productivity Commission, the Australian Energy Market Commission (AEMC) and the Senate Select Inquiry into Electricity Prices
- targeted stakeholder consultation with key industry and customer representatives
- financial modelling undertaken by DEWS, with the support of Queensland Treasury Corporation.

7.4 Next steps: 30-year electricity strategy

The Queensland Government has committed to developing a 30 year electricity strategy to set a clear vision for strengthening the resilience of the electricity supply system and ensure it is capable of meeting the changing needs of Queenslanders now and into the future.

The first stage of the 30-year electricity strategy involved the release of a Directions Paper on 17 December 2012—as a precursor to the release of a detailed Discussion Paper in the first half of 2013. A number of proposals in this report recommend using the Discussion Paper process as a vehicle for further work, analysis and issues testing.