



An Efficient, Productive and Sustainable Electricity Supply for Queensland

**BLUEPRINT FOR DESIGN, PLANNING AND MANAGEMENT OF
QUEENSLAND'S ENERGY SECTOR AND ELECTRICITY MARKET**
AUGUST 2011

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Uninterrupted power supply is critical for the efficient production of products and the employment of labour.”

– *Queensland business operator.*

1. Introduction

- 1.1 The supply and cost of energy is a key issue for Queensland businesses. Businesses rightfully expect a reliable, efficient and cost-effective energy sector.
- 1.2 More specifically, electricity is an essential input into nearly every good or service and accordingly its price is a key influence on the competitiveness of Queensland businesses. Over the past five years the regulated tariff price for electricity in Queensland has risen dramatically under the current price setting methodology. Since deregulation in 2007, electricity prices have risen on average 10.43 per cent each year representing a 64 per cent increase over the five year period.
- 1.3 While the cost of supply is influenced by a number of factors, it remains that significant ongoing price increases of this nature are unsustainable and threaten to erode Queensland's economic competitiveness. Efficient planning and management of the energy sector and emerging issues such as climate change mitigation strategies and energy efficiency are also of critical importance to the business community as they too influence electricity cost and reliability.
- 1.4 Queensland's electricity costs represent a major area where we can either stimulate or suppress ongoing economic growth. As with other 'costs of doing business' CCIQ believes we should champion the need to keep them as low as possible and develop an energy sector that is nationally and internationally competitive.
- 1.5 CCIQ believes the energy sector must deliver greater certainty, operational efficiency, strategic future focused planning and investment, service excellence and be integrated and harmonised with energy efficiency policy. Above all it must be conducive to and support business and economic growth in Queensland.
- 1.6 CCIQ's energy policy framework covers three key issues.
 - i. Our concerns over the impact of ongoing electricity price increases on business and our economy and the need to reform the framework for which energy prices are set and the energy sector is managed in Queensland.
 - ii. Our concerns about the security and cost of supply in the face of emerging economic and environmental challenges and the need to start planning now for future infrastructure, a diversified energy mix and a low carbon economy.
 - iii. The opportunities we see for improved demand reduction and energy efficiency schemes that can deliver significant innovation, productivity and growth opportunities for Queensland if developed and deployed in partnership with the business community.

“There is a need for a more efficient but cost effective system.”

“Energy costs in my business have risen 25% in less than 6 months and I have actually reduced usage. Electricity is too expensive - something needs to be done to stop the rising costs.”

– *Queensland business operator*

2. Context & Background

2.1 Queensland's Energy Market Overview

- 2.1.1 The Queensland electricity sector was restructured in 1997 to introduce greater competition and a more market based operating structure. The single government owned generation corporation was split into three competing generation companies and retail activity was separated from the electricity distribution businesses.
- 2.1.2 This restructuring allowed for Queensland's participation in the National Energy Market (NEM), which commenced operating as the wholesale market for the supply of electricity to retailers and end-users in Queensland, New South Wales, South Australia, Victoria and the ACT in 1998 (although Queensland did not become physically connected to the main New South Wales transmission system until 2001).
- 2.1.3 For some large electricity consumers, the option to choose their electricity retailer commenced in 1998. However, for the majority of consumers, including residential and business customers, the option to choose only came into effect with the introduction of Full Retail Competition (FRC) on 1 July 2007.
- 2.1.4 The Queensland energy sector is now best understood as three distinct, yet interconnected sectors:
- i. Electricity Generation – Queensland's electricity generation is provided by power stations owned predominantly by government owned corporations (GOCs) and a number of private companies. Most electricity generation in Queensland is carried out by coal-fired power stations (with a small degree of gas-fired and renewable sources), located mainly in central and southern parts of the State. The energy generated by these power companies is released into the NEM where it is pooled and bought by electricity suppliers to supply Queensland users.
 - ii. Electricity Transmission and Distribution – Powerlink Queensland, a GOC, manages and operates Queensland's transmission network, transporting electricity from the generators (via the NEM) to the distribution networks. Electricity is then supplied to most customers via the electricity distribution system, which connects the high voltage transmission system to individual premises. The GOCs, Energex and Ergon Energy manage and operate Queensland's distribution system which includes the power poles and wires that physically delivers electricity to houses and businesses.
 - iii. Electricity Retail – The retail sector is responsible for the sale of electricity to customers including connecting and billing customers and managing accounts. This sector is open to full market competition.
- 2.1.5 Queensland's energy sector is regulated at both a national and state level in the following ways:
- i. The **Australian Energy Market Commission (AEMC)** is the body responsible for energy market rule-making and market development at the national level
 - ii. The **Australian Energy Regulator (AER)** regulates the wholesale gas and electricity market and is the economic regulator of the electricity transmission and distribution networks. The AER has responsibility for regulating the revenues of distribution and transmission network service providers and overseeing the wholesale energy prices in the NEM.
 - iii. The **Queensland Competition Authority (QCA)** regulates the Queensland energy market and has responsibility for regulating the monopoly energy GOCs which compete with the private sector and ensuring they do not abuse their market power and ensure essential infrastructure is accessible to all potential users. The QCA also licenses all Queensland electricity suppliers and Queensland gas companies and sets the regulated electricity price for those consumers not on a negotiated market contract.

2.2 Queensland's Energy Management Framework

- 2.2.1 In May 2011, the Queensland Government launched its Queensland Energy Management Plan (QEMP), a plan to manage growing demand and ensure a reliable energy supply. The plan aims to slow the current trend of rapid growth in electricity use and peak demand by implementing a range of energy efficiency and demand management measures targeted for the residential, community and business/industry sectors. Successful implementation of the QEMP is expected to avoid the equivalent of 1000 MW of necessary electricity generation and save the state more than \$3.5 billion in energy generation and network infrastructure.
- 2.2.2 The Queensland Renewable Energy Plan was launched in June 2009. Its primary objective is to increase the deployment of renewable energy infrastructure in Queensland through a range of incentive programs, pilot and feasibility projects, review and simplification of the planning environment, and development of the renewable energy industry through skills and innovation.
- 2.2.3 A range of State Planning Instruments also support the Queensland energy sector by outlining state and regional infrastructure goals and identifying specific infrastructure priorities. The new Queensland Infrastructure Plan, to be released later in 2011, will identify infrastructure priorities to manage population and economic growth in Queensland. This forward plan should in CCIQ's view incorporate planning for the Queensland energy network.

2.3 Queensland's Energy Supply-Demand Outlook

2.3.1 The following tables provide an overview of the Australian Energy Regulator (AER) 2010 Electricity Statement of Opportunities (ESOO) report on the supply-demand outlook for Australia's energy market. Table 1 shows the forecast point (the LRC point) at which a shortfall in electricity supply (reserve deficit) will be experienced for each state in Australia based on different sets of assumptions involving medium, low, and high economic growth. The LRC point represents the shortfall against the regional Minimum Reserve Levels (MRL) which is the minimum generation and supply capacity required to guarantee reliability of supply for all customers.

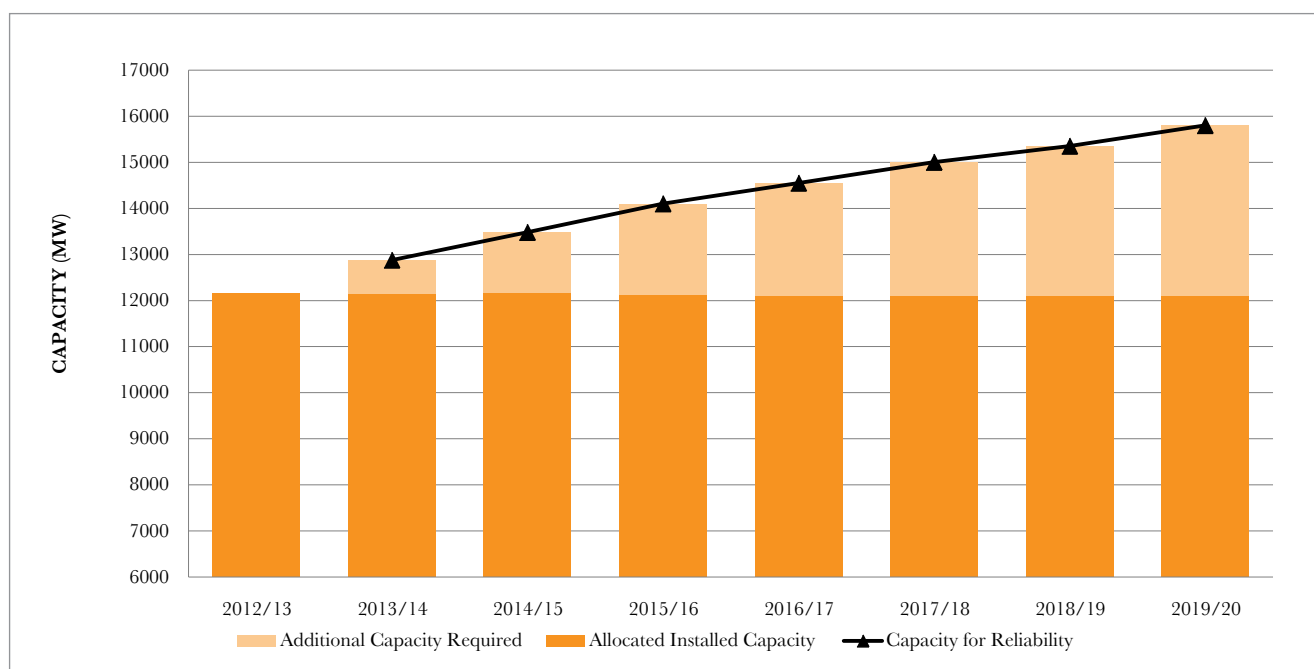
TABLE 1: FORECAST ELECTRICITY SUPPLY						
Region	Low growth		Medium Growth		High Growth	
	LRC Point	Reserve Defecit (MW)	LRC Point	Reserve Defecit (MW)	LRC Point	Reserve Defecit (MW)
Queensland	2015/16	184	2013/14	726	2012/13	716
New South Wales	2017/18	91	2016/17	27	2016/17	285
Victoria	2017/18	135	2015/16	249	2014/15	222
South Australia	2017/18	11	2015/16	50	2012/13	85
Tasmania (summer)	>2019/20	N/A	>2019/20	N/A	>2019/20	N/A
Tasmania (winter)	>2020	N/A	>2020	N/A	>2020	N/A

Source: AEMO 'Statement of Opportunities' 2010

2.3.2 The above table indicates that, with medium economic growth, Queensland will be the first region to experience a shortfall in electricity supply in 2013/14. As Figure 1 further demonstrates, the shortfall in supply capacity required to meet reliability standards will continue to grow steadily in Queensland across the forecast period to 2019/20.

2.3.3 To avoid this shortfall Queensland will require significant new generation or demand-side investment over the next 5-10 years and in particular requires an additional 726 MW of local capacity by 2013/14. This presents a significant challenge given the long lead and development times required for such significant infrastructure developments in the state.

FIGURE 1: QUEENSLAND ENERGY CAPACITY



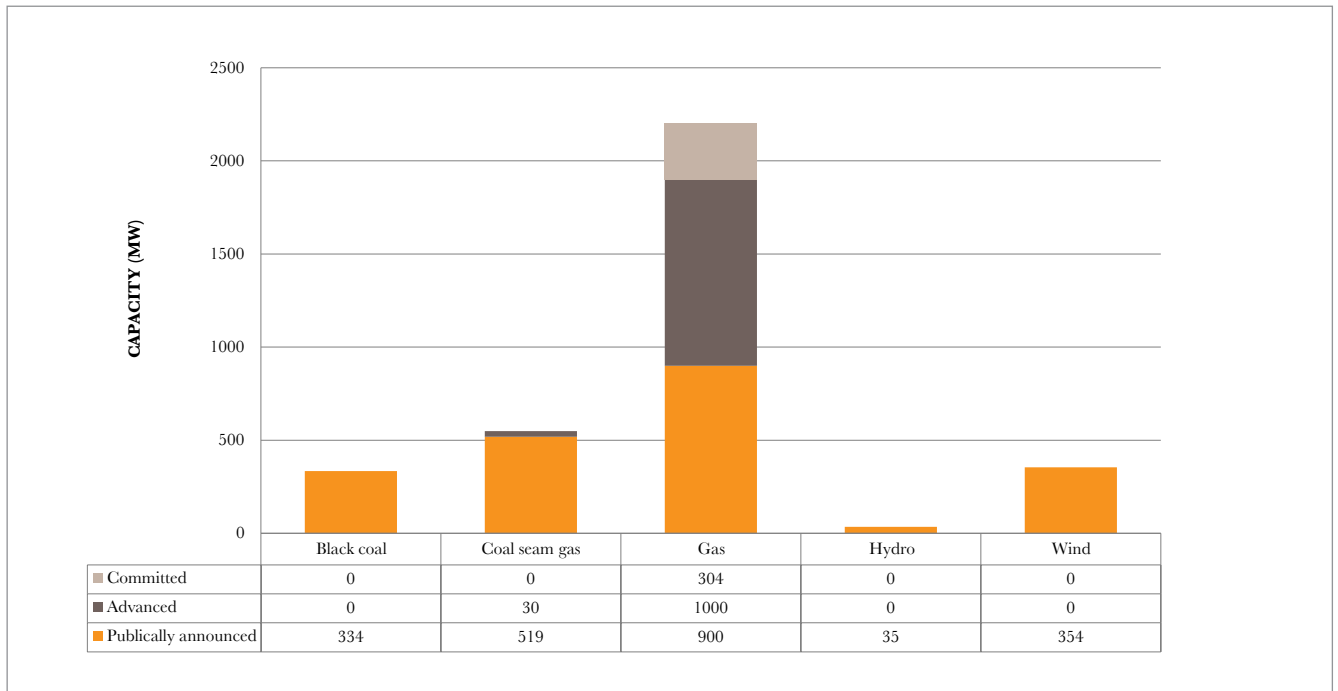
Source: AEMO 'Statement of Opportunities' 2010

2.3.4 The below graph (Figure 2) summarises Queensland's generation projects as 'publicly announced' (early stage of development), 'advanced' (intermediate stage of development), or 'committed' (considered to be proceeding). While significant generation developments are planned for Queensland, only 304MW (160 MW Rio Tinto Yarwun and 144 MW QGC Condamine plants expected to be

commissioned by 2010/11) of additional capacity are committed and considered to be proceeding to development.

Accordingly a shortfall of at least 422 MW of electricity supply is forecast by 2013/14 if additional advanced and announced projects are not fast-tracked for development.

FIGURE 2: QUEENSLAND ENERGY GENERATION PROJECTS



Source: AEMO 'Statement of Opportunities' 2010

** No commissioning dates have been set for Origin Energy's 1,000 MW Spring Gully Power Station and Bow Energy's 30 MW Blackwater Power Station, which are both advanced proposals. Five wind farms totalling 354 MW in capacity have been publicly announced. Stanwell Corporation is proposing the 334 MW Wandoan integrated black coal gasification combined-cycle plant and the 35 MW Burdekin Falls hydroelectric projects, both classed as publicly announced.

“Competition needs to be increased to ensure that energy companies are not monopolising smaller regional areas and increasing prices above what is sustainable for businesses and private consumers.”

– Queensland business operator

3. Business Views on the Electricity Market

3.1 Impact of Rising Electricity Prices

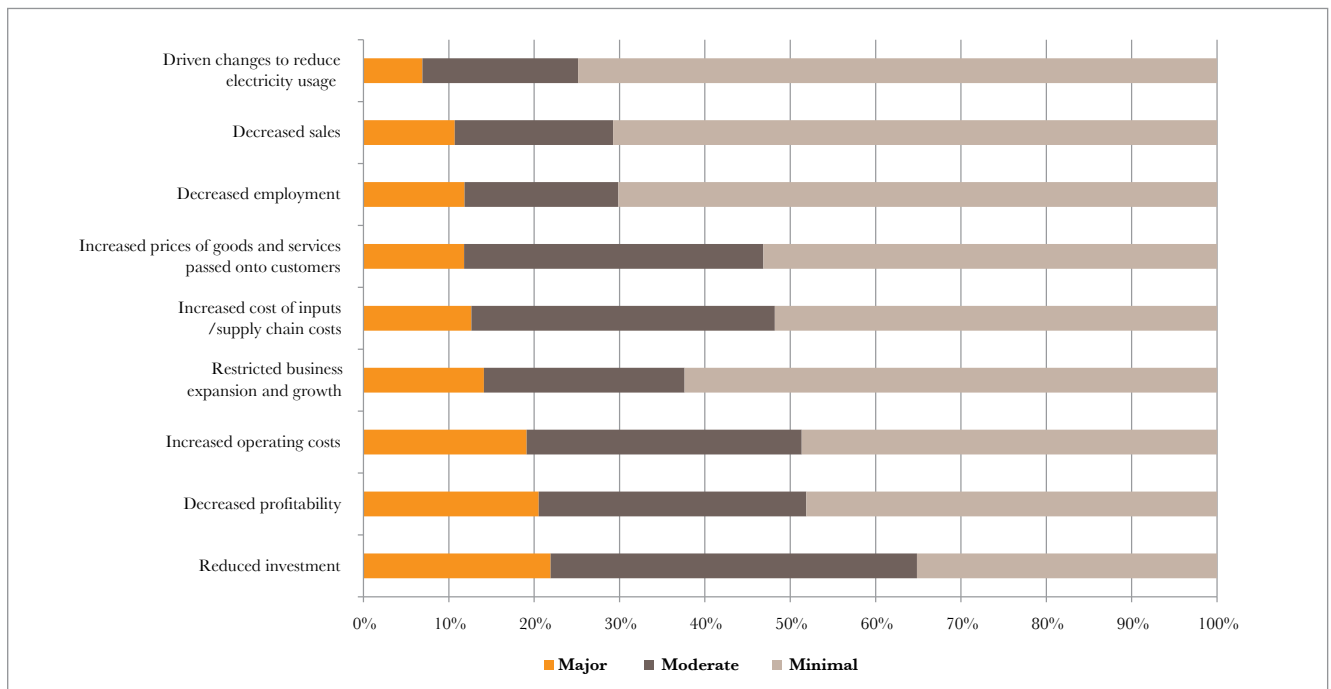
- 3.1.1 CCIQ recently surveyed its members on the performance of the Queensland electricity market and the impact of successive price increases resulting from the Queensland Competition Authority's (QCA) Benchmark Retail Cost Index (BRCI) decisions (see section 4.2). The survey highlighted a high degree of general dissatisfaction with the management of Queensland's energy market and the current cost of electricity.
- 3.1.2 The majority of Queensland businesses have experienced a rise in energy costs of between ten and twenty per cent per year over the past three years since 2008-09. This experience is consistent with the increases provided for under the BRCI process as discussed on page 12

BUSINESS ELECTRICITY BILL INCREASES IN EACH OF THE PAST 3 YEARS						
	0-5%	5-10%	10-15%	15-20%	20-25%	>25%
2010-11	7.6%	19.3%	29.0%	19.6%	10.9%	13.6%
2009-10	11.7%	33.3%	29.2%	13.7%	7.2%	4.9%
2008-09	25.9%	38.7%	19.3%	9.1%	3.8%	3.2%

Source: CCIQ Pulse Survey Hot Topic Question – Jan 2011

- 3.1.3 These cost increases have had a significant impact on business investment and profitability. Notably rising energy prices have also increased the operating costs for business and the costs of supply-chain inputs. Rising business costs have been passed through to consumers where possible through increased prices of goods and services sold. Accordingly Queensland's energy market has indirectly contributed to the inflation and in turn interest rate rises that are currently crippling businesses and householders alike.

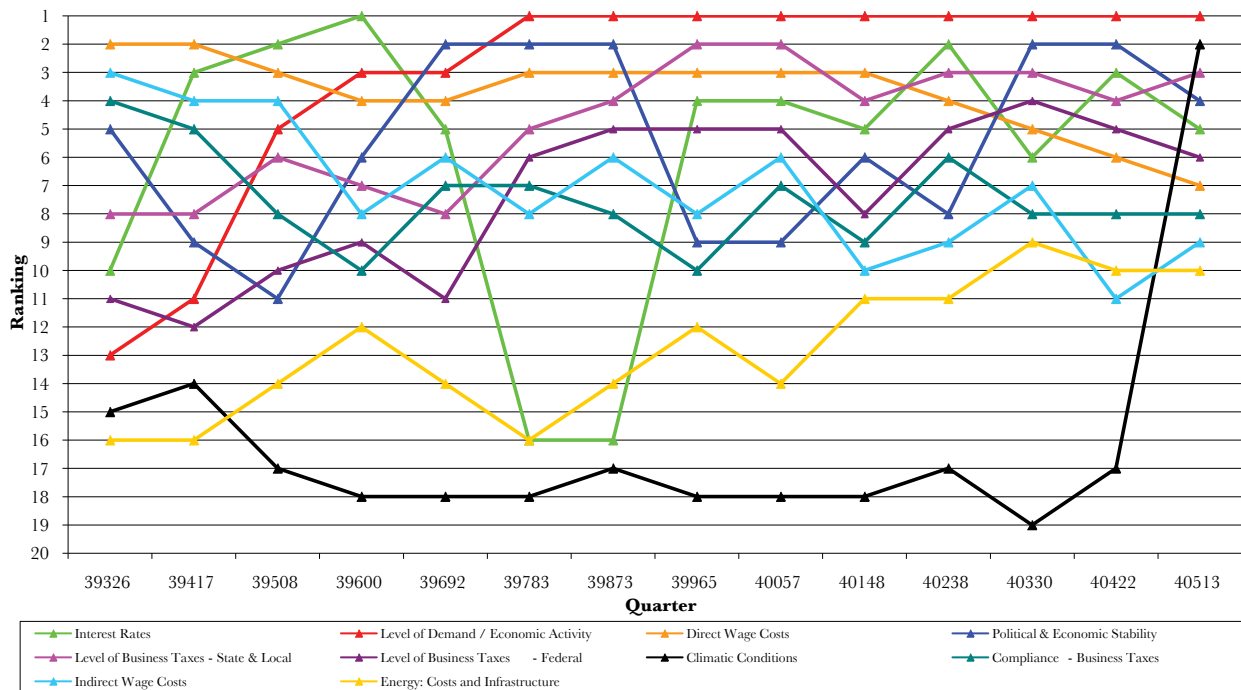
IMPACT OF RISING ELECTRICITY PRICES ON BUSINESS OPERATIONS.



Source: CCIQ Pulse Survey Hot Topic Question – Jan 2011

3.1.4 Energy costs are also becoming a key factor limiting business and economic growth in Queensland. As the Pulse* Major Constrains on Business Growth graph shows, since December 2008 energy costs have been steadily moving up the list as a major constraint reflecting the concern across the business community regarding the effect of five consecutive years of significant energy price rises.

* The Commonwealth Bank CCIQ Pulse Survey of Business Conditions is the largest and most authoritative survey measuring business conditions in Queensland. It provides significant economic data across indicators such as employment levels, business profitability and turnover on a region by region basis.



Source: CCIQ Pulse Survey of Business Conditions – Jan 2011

3.2 Business Rating of the Electricity Supply Industry

3.2.1 Businesses rated the reliability of supply as being good, commenting that there had been minimal interruptions to supply other than as a consequence of weather conditions such as storms and floods and that supply was generally returned within a reasonable period of time.

BUSINESS RATING OF QUEENSLAND'S ELECTRICITY INDUSTRY AND PERFORMANCE						
	1 Very Poor	2 Poor	3 Average	4 Good	5 Very Good	Average Rating
Price	38.6%	29.1%	27.1%	4.4%	0.8%	1 - Very Poor
Service	19.9%	25.7%	31.9%	18.3%	4.2%	3 - Average
Reliability of Supply	7.9%	15.3%	31.0%	33.4%	12.4%	4 - Good
Products	13.4%	23.2%	43.8%	15.7%	3.9%	3 - Average
Planning and Investment (Past)	36.5%	28.2%	26.7%	7.8%	0.8%	1 - Very Poor
Planning and Investment (Current)	33.0%	28.4%	29.7%	8.4%	0.7%	1 - Very Poor

Source: CCIQ Pulse Survey Hot Topic Question – Jan 2011

3.2.3 However the energy market was rated as only average in terms of the service and products provided to its customers. General comments included difficulty in speaking to their energy supplier, long waiting times when making phone calls and delay in attending to enquiries and disputes over services and bills. There was also a high degree of dissatisfaction with the availability and access to alternate/green power supply options.

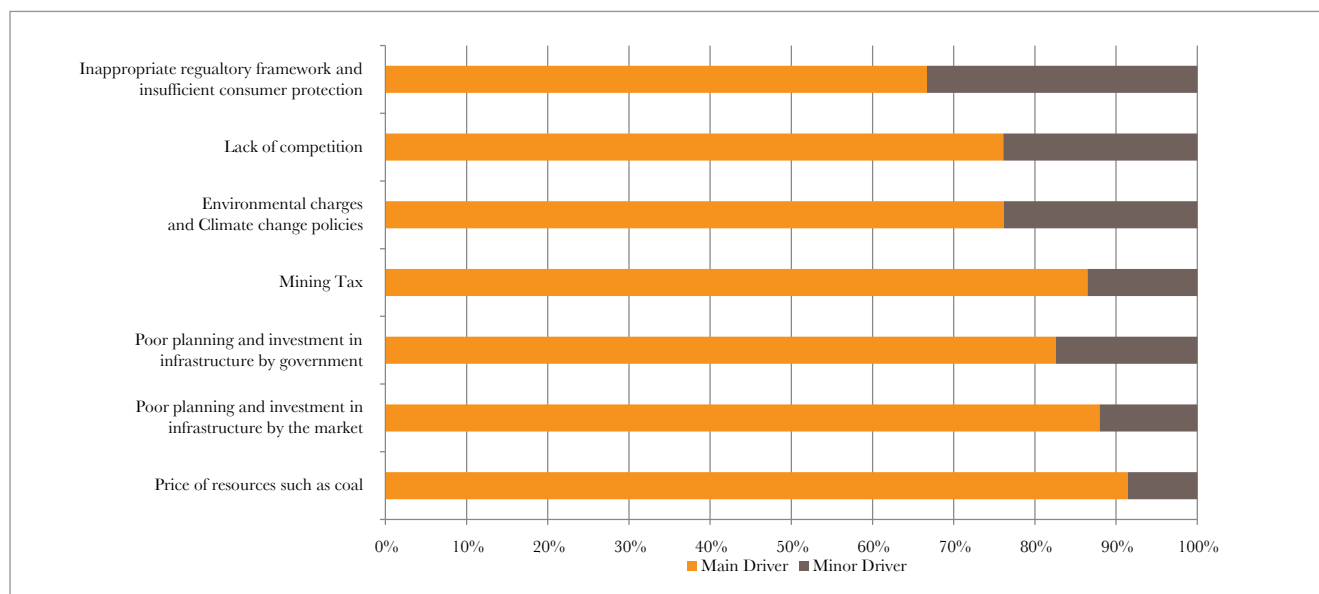
3.2.4 Of particular concern for the immediate and medium term future, Queensland businesses rated the planning and investment (past and current) by the energy market as very poor. Respondents believed there remained a significant lack of investment in new infrastructure and in infrastructure maintenance and a lack of transparency in the planning by Queensland's generators and distributors. This is clearly evidenced by the pending supply shortage detailed on page 6 of this report.

3.2.5 A further significant concern raised by Queensland businesses was that despite a significant proportion of the previous price increases being attributed to requirements to invest in and provide renewable and greener energy, there remained very little opportunity for consumers to access renewable/green supply at a reasonable cost.

3.3 Reasons for Electricity Price Rises

- 3.3.1 Queensland businesses are strongly of the opinion that the energy market is struggling to recover from years of poor planning and infrastructure investment by the Queensland Government after deregulation. Accordingly Queensland businesses believe that both the Federal and State governments still have a major role in supporting the growth and investment in energy infrastructure.
- 3.3.2 When questioned about businesses believed to be the main reasons for ongoing electricity price rises, the majority of businesses acknowledged that the price of resources such as coal was a contributing factor and not surprisingly a significant number of respondents believed that the proposed mining tax would put further pressure on the cost of electricity generation and supply. Again poor planning and investment in infrastructure by both the energy market and the government were identified as key drivers for increased energy costs. These and other drivers for ongoing electricity price increases are discussed in more detail in Section 4.3.

KEY DRIVERS/MAIN REASONS FOR ONGOING ELECTRICITY PRICE RISES

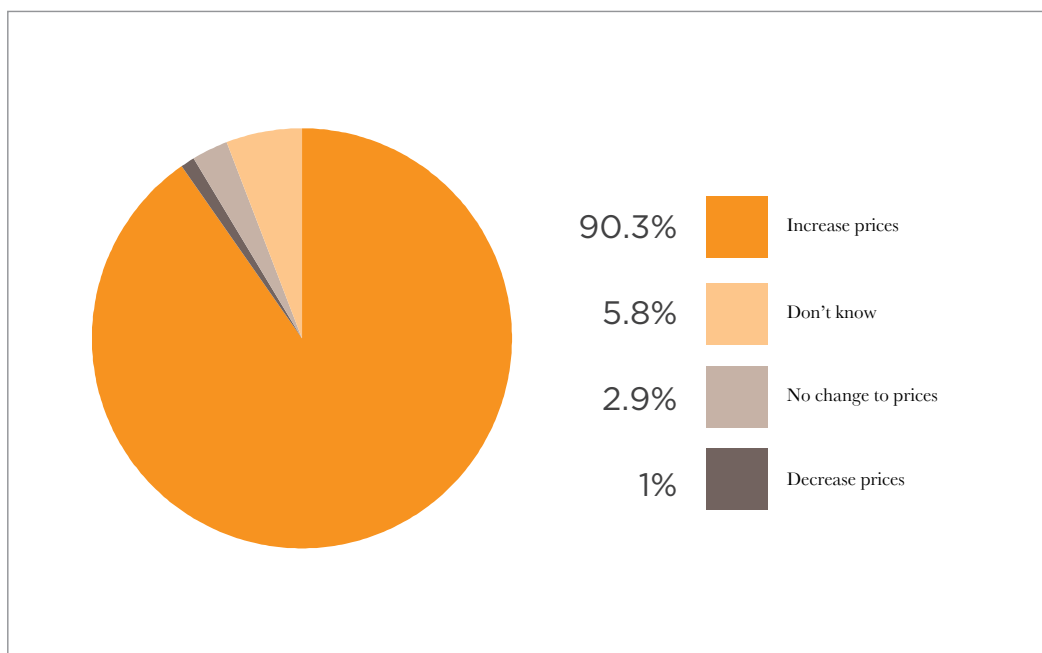


Source: CCIQ Pulse Survey Hot Topic Question – Jan 2011

3.4 Carbon Pricing and Emissions Reduction Strategies: Implications for Electricity Prices

- 3.4.1 In a survey undertaken by CCIQ prior to the federal election in late 2009, Queensland businesses were asked their opinion of the proposed Federal Government's Carbon Pollution Reduction Scheme and its likely impacts on business.
- 3.4.2 Over 90 per cent of businesses expected the introduction of carbon pricing to increase electricity prices in Queensland above the increases determined through the regulated price setting methodology.

IMPACT OF CARBON TAX OR EMISSIONS TRADING SCHEME ON ELECTRICITY PRICES IN QUEENSLAND



Source: CCIQ CPRS Survey – Sept 2009

3.4.3 Businesses indicated that the greatest effect of rising electricity prices following the introduction of a carbon pricing mechanism would be reduced business profitability and viability. Businesses also indicated that rising electricity prices would have an impact on business sales, their ability to maintain employment at current levels and investment in business growth.

PREFERRED MECHANISMS FOR MEETING LOW CARBON ECONOMY TARGETS					
	1 (Most)	2	3	4	5 (Least)
Carbon tax/price on carbon emissions	28	25	32	68	224
Carbon trading scheme	27	28	39	196	87
National policy approach and regulation to achieve desired carbon reduction targets	58	74	196	32	22
Direct assistance for businesses to embrace low carbon technologies	126	135	68	33	27
Research and Development for alternative 'lower' emission energy sources	186	132	54	31	39

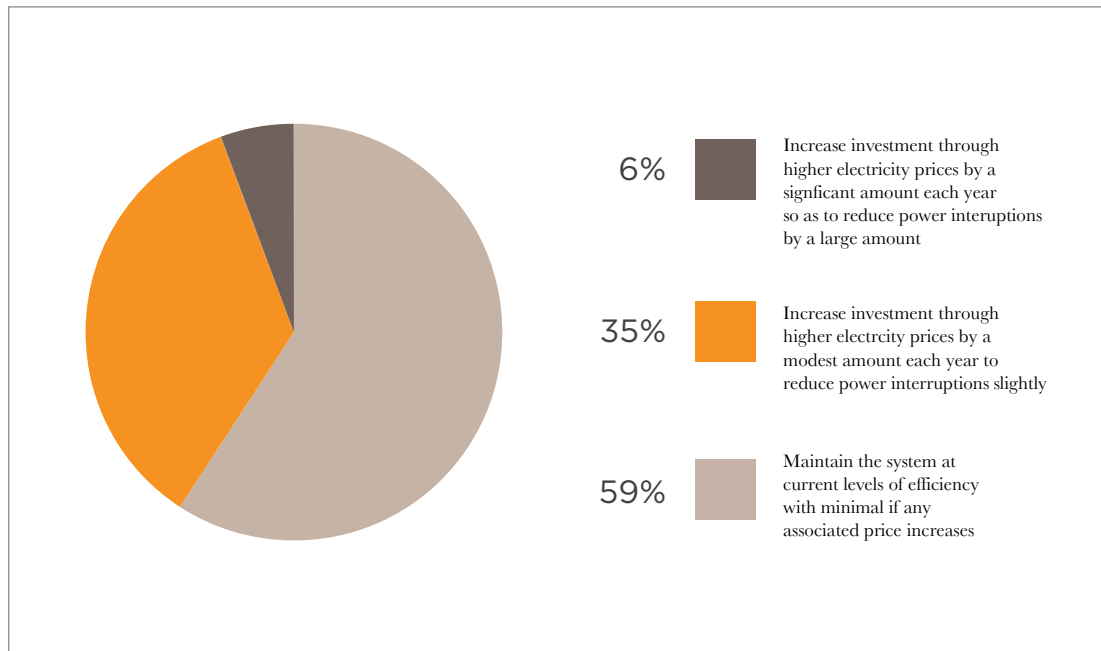
Source: CCIQ CPRS Survey – July 2009

3.4.4 Not surprisingly, Queensland businesses most strongly supported research and development into renewable and low emissions energy sources as the preferred mechanism for addressing climate change and meeting energy efficiency targets. A large majority also supported the provision of direct assistance for business to take up low emissions technologies. Placing a price on emissions (either through a tax or emissions trading scheme) were the two least preferred policy options. Please also refer to CCIQ's Carbon Pricing and Climate Change Blueprint released in August 2011

3.5 Balancing Price Performance Outcomes

3.5.1 The majority of Queensland businesses are not prepared to accept ongoing electricity price increases, even in the event that it may bring increased efficiency and reliability of supply. Over 59 per cent of respondents indicated a preference for maintaining the system at current levels of efficiency such that there were minimal associated price increases. Only 5 per cent of respondents support the current approach where significant investment and system improvement costs have been passed onto customers through consecutive electricity price rises.

SERVICE LEVELS AND WILLINGNESS TO PAY FOR SERVICE IMPROVEMENTS



Source: CCIQ Pulse Survey Hot Topic Question – Jan 2011

3.5.2 Given reliability of supply is considered satisfactory to good (refer 3.2.1) CCIQ believes there is only minimal willingness by business to pay an additional amount to secure improvements in electricity supply in the immediate future.

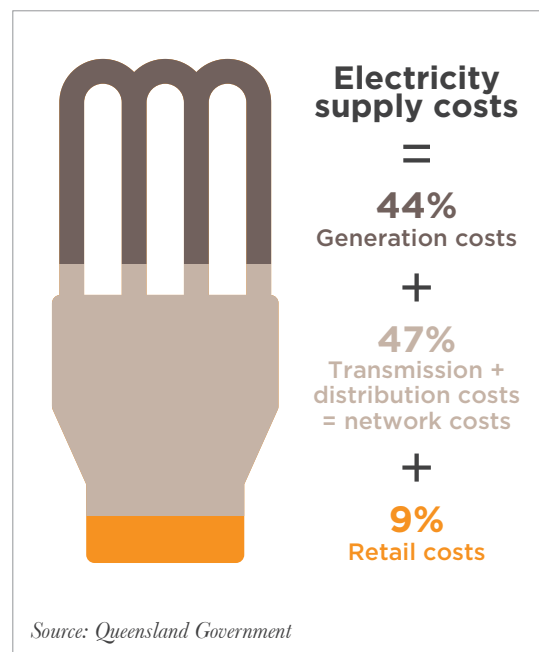
4. Electricity Prices in Queensland

4.1 How Electricity Prices are Determined

4.1.1 Electricity prices have risen consistently over the past 5 years. This has been attributed mostly to the increased cost of generating and supplying electricity. The Queensland electricity market is governed by the principle of full cost reflectivity, meaning that consumers are expected to pay a price that reflects the actual cost of supplying electricity (albeit this principle has been eroded over many years due to policy intervention thus embedding a cross-subsidy between commercial and residential users).

4.1.2 Accordingly, electricity prices are made up of three key cost areas:

- a. Generation costs (the cost of creating electricity).** This includes the sourcing and acquisition cost of raw material used for electricity generation as well as the construction and maintenance of power stations. These costs are reflected in the wholesale electricity price determined through the National Electricity Market (NEM). The price changes constantly, reflecting shifting demand and the price and quantity of supply bid onto the market by generators. Prices are also set through hedge contracts, entered into by generators and retailers or large customers to reduce volatility. These costs account for approximately 44 per cent of the overall cost of electricity.
- b. Network costs (the cost of transporting and supplying electricity).** These costs account for approximately 47 per cent of the overall cost of electricity. The price that network operators pass onto retailers is a function of the wholesale market price they pay to source energy from the NEM plus their operating costs as per below. Since network companies are natural monopolies, the AER regulates the operating costs and allowable revenue that network operators are able to pass through to the retail tariff.
- i. Transmission cost**, which is the cost to construct and maintain transmission network infrastructure. The transmission network consists of power lines, cables, circuit breakers, transformers and switches transmitting electricity in bulk to sub-stations located near populated areas.
- ii. Distribution cost**, which is the cost accrued when electric sub-stations transform high-voltage power received from the transmission lines to lower voltage, for use in local distribution to homes and businesses.
- c. Retail costs (the cost of servicing electricity users).** This includes the cost involved in connecting residential, commercial and industrial consumers to the power grid as well as the accounting and billing systems used by power retail companies to manage consumer accounts. Retail costs account for approximately 9% of the overall cost of electricity. All jurisdictions except Tasmania have now adopted Full Retail Contestability, allowing all users to negotiate contracts at market rates. However, some form of price regulation applies to small customers in all jurisdictions except Victoria, mostly in the form of tariffs set by regulators that customers default to if they do not enter a market contract.

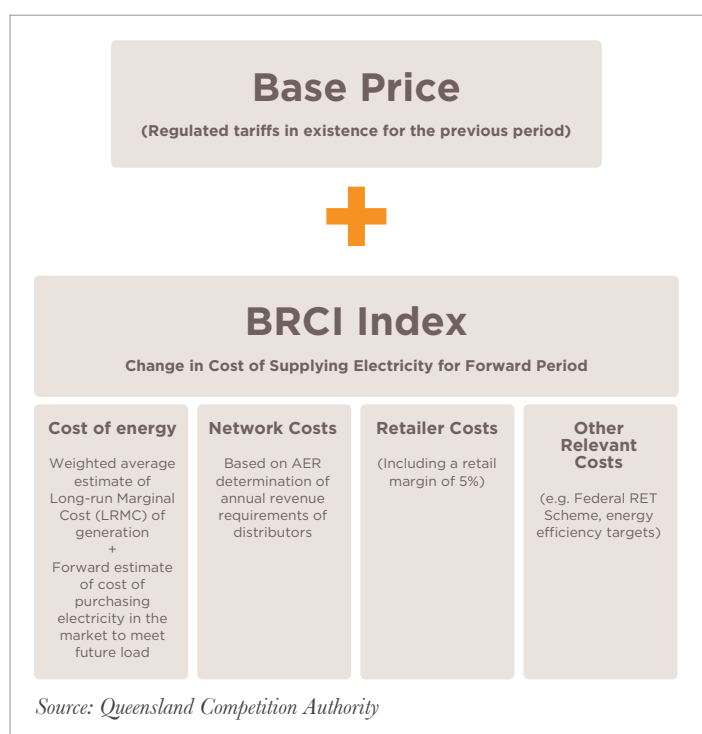


4.2 Regulated Retail Electricity Prices in Queensland

4.2.1 In Queensland, regulated electricity prices have been determined annually for the forward pricing period by applying a single indexation factor annually to all regulated tariffs using the Benchmark Retail Cost Index (BRCI) methodology as per the diagram on the right.

4.2.2 The BRCI approach does not set prices based on an assessment of the efficient cost of supplying electricity; rather, it calculates the annual change in the cost of supplying electricity using a prescribed broad methodology and applies this to the previously existing regulated prices.

4.2.3 As the table on the next page demonstrates, notified electricity prices determined by the QCA under the BRCI methodology since 2007 have increased by 64 per cent over the past five year period. CCIQ firmly believes that ongoing price increases of this scale are unsustainable. Queensland businesses cannot continue to absorb these additional costs, without sizable reductions in employment and/or economic output and ultimately business closures occurring. This points to a strong need to review the way that both the cost of supply and the retail electricity prices are determined.



<i>Year</i>	<i>BRCI Decision</i>	<i>Price change based on \$2000 average electricity bill (compounded annually)</i>
2007-08	11.37 %	+ \$227
2008-09	9.06%	+ \$201
2009-10	11.82%	+ \$286
2010-11	13.29%	+ \$360
2011-12	6.60%	+ \$202
Total Compounded	64.02%	+ \$1,280

Source: Queensland Competition Authority

4.3 Costs that Impact on Queensland Electricity Prices

4.3.1 A number of factors are placing upward pressure on the cost of supplying electricity and hence are being reflected in the regulated retail price of electricity. These pressures are likely to intensify over the coming years meaning that the price of electricity will continue its upward trend if significant changes are not made to both the regulatory design and the management and operation of the electricity supply industry.

4.3.2 Fuel Sources:

- The cost of coal, gas and other fuel sources used to produce electricity has increased significantly over the past five years and will continue to increase into the future due to growing world demand for resources. A key issue for Queensland is that while we have an abundant supply of relatively cheap coal and gas at present which has historically kept electricity prices low, as world demand for our resources continues to grow, fuel costs will increase and we can expect this to drive up the regulated tariff and the price Queensland pays for electricity.
- Queensland's current electricity supply is predominately fuelled by black coal which accounts for approximately 88 per cent of Queensland's electricity generation in 2007-08 and gas-fired a further 10 per cent. While some attempts have been made to diversify the state's energy mix towards a greater use of renewables, electricity generated from renewable sources still only account for approximately 2 per cent of total Queensland energy generation.
- Caution must be exercised in limiting investment in this sector and regardless of any future possible emissions reduction initiatives, the mere fact that world coal and gas prices are expected to increase significantly means that we must invest in generation capacity that does not leave electricity prices and our economy bound to increasing fuel costs.

4.3.3 Energy Demand:

- Queensland's electricity demand and consumption are expected to grow at a significantly faster rate than other states in the National Energy Market over the next ten years driven by population growth and an increase in household and business consumption patterns. Significant investment in energy generation and transmission infrastructure will be required to meet forecast demand. These costs will need to be passed onto consumers of electricity through higher prices.
- Additionally much of Queensland's current generation capacity is ageing, and will need to be replaced at some point over the medium term outlook. The capital costs of those replacements will be significantly higher due to labour costs and high resource prices, even for conventional fossil-fuel generation technologies. Balancing these costs will require early planning and forward future-focused investment. A just in time approach will not work given the long lead times and significant investment required for energy infrastructure.
- Associated with the cost of building and replacing generation facilities and transmission networks, the significant investment required in planning new infrastructure, meeting conditions and environmental regulation and gaining approval for such significant projects creates further inflationary pressure on electricity prices. The Queensland Government can and should assist with making this process as efficient and streamlined as possible. An integrated energy infrastructure plan for Queensland should be developed.
- While the Queensland Government currently owns the majority of Queensland's energy infrastructure, the cost to the tax payer of future investment to meet expanding demand is significant and possibly unsustainable given the current high levels of government debt. Accordingly greater private investment must be encouraged and opportunities identified for public-private partnerships in this sector.

4.3.4 Policy Costs:

- Government policies can also contribute to costs for the generation, network or retail companies. Many state and national energy efficiency programs exist that either mandate or promote the uptake of energy and resource efficiency generation technologies and products. While the end user of electricity may not directly pay the price for these programs, indirectly (due the policy of full cost reflectivity and the way in which electricity prices are regulated) they increase the operational costs for generators, distribution companies and retailers and consequently drive up the regulated tariff and the price we pay for electricity.
- Additionally, the potential introduction of a national scheme to reduce greenhouse gas emissions in the future will significantly increase the costs of electricity from fossil-fired (coal and gas) power stations. Energy generators will either bear the cost of a carbon price or will be forced to invest significantly in alternative non-fossil fuel energy technologies. In both cases energy users will be affected by higher energy prices.

- Queensland must now consider how best to encourage energy efficiency and invest in energy sources that will allow consumers and industry real choice when any future emissions reduction policies are introduced. Households and businesses can not react to a price on carbon, by changing to low carbon energy sources, if those alternatives are not available.

4.3.5 Carbon Pricing:

- On the 10th July 2011 the Australian Government announced plans to introduce a carbon pricing mechanism commencing on 1 July 2012 as the key strategy in its plan to reduce emissions and address climate change. For the first three years, the carbon price will be fixed like a tax, before moving to an emissions trading scheme in 2015. In the fixed price stage, starting on 1 July 2012, the carbon price will start at \$23 a tonne, rising at 2.5 per cent a year in real terms. From 1 July 2015, the carbon price will be set by the market.
- Pricing Carbon will affect the price of electricity by increasing the cost of generating power. The bulk of Australia's electricity is generated by burning fossil fuels. The major electricity generating companies are amongst the biggest carbon polluters in our economy, so they will pay the carbon price. As the table below shows, the carbon price is expected to increase electricity prices by 10 per cent on average in 2012-13, while gas prices are expected to increase by approximately 9 per cent.

TABLE: PRICING EFFECTS OF \$23 CARBON PRICE IN 2012-13

	<i>Consumer Prices % change</i>
Electricity	10
Gas	9
Food	<0.5
Overall Effect	0.7

Source: Australian Government Climate Change Plan 2011

- The presumption is that by imposing a price on carbon, the electricity supply industry will look to lower costs by diversifying its energy mix and investing in greater renewable and lower-emissions generation capacity. However significant investment of this kind will take time to develop and come on line and in the meantime it is reasonable to expect electricity prices will continue to rise due both to the increasing carbon price and required level of investment in energy infrastructure. Please also refer to CCIQ's Carbon Pricing and Climate Change Blueprint released in August 2011.

“Build capacity to permit growth, development of regional generation centres so growth is not limited to existing population nodes.”

“Lack of forward planning appears to be a vital current issue. Too much emphasis is been placed on ‘carbon’ issues.”

– *Queensland business operator*

5. Framework for Sustainable Electricity Pricing

5.1 Regulated Pricing Methodology

- 5.1.1 In a challenging business and economic environment, Queensland businesses will not remain viable over the long term if operating costs continue to rise. Electricity price rises of the extent delivered in Queensland over the past five years are unsustainable and cannot continue into the future if Queensland wants to maintain low unemployment, strong economic growth and high community prosperity.
- 5.1.2 CCIQ considers that the current BCRI methodology has failed to provide the State's businesses with a reasonable level of price predictability and certainty. Given that this outcome is a critical one for the business community, CCIQ believes that a fundamental overhaul of the price setting approach is warranted.
- 5.1.3 In May 2011, the Queensland Government directed that the QCA to undertake a review and implement a new price setting methodology for the setting of retail electricity prices. Under this direction, a cost-reflective Network (N) + Retail (R) cost build-up approach was established as the preferred approach.
- 5.1.4 CCIQ believes there is merit in shifting to an N+R approach provided the underlying framework for determining the variables of supply costs are established based on a robust methodology. CCIQ notes however that the Network (N) components are largely regulated by the AER and therefore Queensland stakeholders have limited opportunity to influence the methodology for and determination of network costs and margins.

R1. CCIQ supports the introduction of an N+R approach to setting regulated electricity prices, provided the variables used to determine the network (N) and retail (R) costs of supply are sound.

- 5.1.5 A key concern of CCIQ under the current BRCI methodology is that network and retail market participants have been provided with a regulated revenue and profit margin that in our opinion far exceeds revenue and profitability experiences for the majority of the Queensland, and Australian businesses community, especially in the current economic environment. Indeed in 2009-10 the two Government-Owned Corporations, Energex and Ergon enjoyed profit increases of 44% and 28% respectively. Equally in the retail sector, Origin increased profitability by 10% and AGL by 3.2% in the last financial year.
- 5.1.6 By providing energy market participants with regulated network and retail margins, the energy sector has no direct competitive motivation to improve operational efficiency, productivity and service levels. Additionally excessively high allowable rates of return on regulated assets delivers windfall profits and encourages inefficient investment. These profits come at the expense of the struggling Queensland business community who over the same period have experienced subdued business conditions and negative profit growth.
- 5.1.7 CCIQ believes there is merit in considering how best to regulate the allowable revenue through the network and retail components of the new pricing methodology, that mechanisms for reflecting performance and productivity outcomes (including benchmarking and customer satisfaction outcomes) should be included.

Under the new pricing methodology framework:

R2. CCIQ supports a reduction in the allowed rate of return and/or the inclusion of a retail margin discount factor that reflects average state profitability levels and also reflects a service and efficiency performance measure.

R3. CCIQ strongly supports the introduction of productivity, expenditure and service benchmarking as part of the regulatory methodology to force improvements across the generation, distribution and retail sectors.

- 5.1.8 A further important consideration in the determination of a new electricity pricing methodology is the time period over which forward price determinations are established. The current annual approach is not considered to be providing an adequate level of certainty to energy users. This is especially important to business users who, like the government-owned corporations and much of the energy sector, operate on three to five year business planning and investment cycles. CCIQ believes that if the methodology was adequately established, there is no argument for not applying a multi-year price determination approach when there is significant modelling and forward forecasts available for most, if not all, of the electricity supply cost variables.

R4. Under the new pricing methodology framework CCIQ strongly supports a 3 year forward price determination approach. In the absence of a multi-year pricing determination, CCIQ strongly encourages the Government to ensure annual pricing reviews and determinations are completed at least six months in advance the next pricing period (i.e. no later than December each year)

5.2 Tariff Structures

- 5.2.1 A new tariff structure in Queensland has the potential to improve the electricity pricing structure and offer cost reduction opportunities to electricity consumers.

5.2.2 As part of its direction to the QCA, the Queensland Government also requested the development of a new regulated retail tariff structure. Under this direction, the government has endorsed the establishment of an inclining block tariff for domestic customers to commence as early as 1 July 2012. The government has also determined that from this time, all large non-residential customers (consuming over 100MWH per annum) will be unable to access regulated tariff and must transition to a market contract. These decisions raise a number of issues for Queensland businesses.

5.2.3 While CCIQ provides in principle support for the shift to an inclining block tariff approach to reduce the incidence of regional and business cross-subsidisation of energy costs, it must be recognised that this may have cost implications for small and medium use business customers remaining on regulated retail tariffs. CCIQ is also concerned that if the inclination points (or steps) under the inclining block tariff structure are not appropriately set and that the lower end blocks do not represent full cost of supply at that particular level of use, then higher electricity users including businesses and larger families will be forced to subsidise low use households. In this instance, CCIQ notes that as a general principle the unit cost of supply declines as usage volume increases (i.e. lower energy use has higher comparative cost of supply).

R5. CCIQ supports the shift to an inclining block tariff for regulated retail tariffs, provided there is full cost reflectivity across each of the inclination points and that the tariff structure and associated pricing methodology does not allow for cross subsidisation of low-energy users by higher energy users.

5.2.4 While it is understood that a significant proportion of business energy users are likely to already be participating in market contract arrangements, CCIQ believes that some small and medium sized businesses may be disadvantaged if forced to move to market contracts. This is because retailers have little incentive to appropriately service low use customers or provide them with attractive pricing structures compared to the strong profit incentive that exists for high use customers. Additionally the complexity and cost of investigating and negotiating market contracts, especially for small business owners may erode any possible benefit to be gained from moving to market contracts.

5.2.5 There is also scope for more detailed education programs for small business users on issues such as energy efficiency measures, tariff components, energy market and regulatory structures, costs of renewable energy and broader global trends in energy pricing and efficiency. Businesses must be well informed and provided assistance and support if it is the expectation that they transition to market contracts and to avoid any cost impacts from remaining on regulated retail tariff following the shifts to an including block structure.

5.2.6 Small businesses customers should be provided the same level of protection as domestic household customers and also have access to conflict resolution services if they find themselves in a situation where they are worse off under market contracts or have been exploited by retailers.

R6. The Queensland Government should provide resources and support services, preferably through business and industry associations, to small and medium sized businesses to assist them with understanding electricity pricing structures and investigate market contract options.

R7. Queensland businesses must be provided appropriate access to advocacy and dispute resolution services. The role of the Queensland Energy Ombudsman could be expanded to meet this need.

5.2.7 CCIQ strongly supports the recommendation that a new tariff structure accommodate voluntary access to time of use tariffs for those customers that have interval meters installed. However the Queensland Government's current recommendation excludes a direction to encourage the uptake of time of use systems by commercial users. CCIQ believes that time of use systems may be a significant advantage to those businesses who predominately utilise electricity during off peak times or have the ability to shift their peak load. Greater use of these systems may drive a considerable reduction in peak energy demand if businesses are appropriately supported and adequately compensated for the installation costs to install the required meters and technologies.

5.2.8 However CCIQ notes that if it is the objective of the Queensland Government to balance system load and encourage greater off-peak use across the business community that there remains many policy and regulatory barriers that must also be addressed including wage, employment and industrial relations conditions, that currently prevent businesses from operating during off-peak timeframes.

R8. Queensland businesses should be provided incentives to support a shift to time-of-use tariffs and cost subsidisation for the installation of appropriate interval meters. The Queensland Government should also explore the supporting policy and regulatory framework to encourage greater energy efficiency and peak demand management outcomes afforded through time-of-use tariff.

5.3 Dividend Policy

5.3.1 The Queensland Government also receives annual dividends from its government owned energy corporations. While the expected dividends for the 2011-12 financial year are lower than in previous years, the Queensland Government still receives amongst the highest dividend payments of all state governments across Australia. Dividend expectations are factored into pricing methodologies as they represent a cost of supply for the generation and network companies. Additionally many Queensland businesses are of the view that State Government dividend policy in the electricity industry is effectively taxation by stealth. CCIQ firmly believes that the Queensland Government has an opportunity (and has had for many years) to reduce electricity price volatility by reducing or changing their dividend expectations.

R9. The Queensland Government should undertake a public review of the current energy corporation dividend policies to ensure they are consistent with the objective of achieving low-cost electricity sector.

6. Security of Supply and Infrastructure Planning

- 6.1 The Queensland business community firmly believes that the State Government and the Queensland electricity supply industry (of which the Queensland Government is a major owner/shareholder) has failed to adequately plan for and manage the growing state energy needs associated with strong population and economic growth.
- 6.2 A recent report released by the Energy Users Association of Australia (EUAA) confirmed there has been a significant decline in productivity and efficiency across state energy markets (with Queensland together with NSW noted as being amongst the worst performers) and that ownership, regulatory design, poor planning and management, and historical underinvestment are more likely factors driving rising electricity prices than the often cited reasons of demand growth and ageing assets.
- 6.3 While CCIQ remains open-minded to the reports assertion that private ownership of the energy sector is the most efficient market structure for the Queensland energy sector, we firmly support the need for urgent policy and regulatory reforms in Queensland to address industry issues related to regulatory design, planning and management, and sustainability and energy efficiency. Additionally, the policy and management framework in Queensland remains relatively fragmented with separate areas of government responsible for energy policy, industry development, planning and infrastructure, climate change and emissions management and renewable energy.
- 6.4 The recently released Queensland Energy Management Plan (QEMP) demonstrates this fragmented approach to policy and energy sector management (refer to section 2.2 for summary of the QEMP). CCIQ believes this represents a missed opportunity to proactively plan for future energy demand growth and encourage and support increased investment in this sector. It is disappointing that the only strategy the Queensland Government has for managing the energy challenges associated with a growing population and industry and economic growth is to institutionalise energy efficiency, penalise high energy users and avoid unnecessary infrastructure investment.
- 6.5 Diversifying Queensland's energy sources to include greater renewable generation capacity and funding a range of demand management initiatives are important priorities. However planning for our future energy infrastructure is also important and needs to form part of a wider strategic plan for the economic development of the State. Long term strategic policy goals are all too often created in isolation, or not considered at all. Energy, being such an important part of our economic development, should form the basis for longer term planning around issues such as regional development, water, project approvals, taxation, and labour and skills shortages. If not, energy policy risks becoming increasingly inconsistent with growth and development objectives.
- 6.6 It is also important to recognise that energy diversification is not limited to developing clean energy sources or alternative fuels, but should also pursue diversity in the number and location of energy sources, both traditional and clean. Regional energy networks in particular need greater attention. The majority of Queensland's electricity generation infrastructure is located in central and southern parts of the State. This not only escalates the cost of transmission and distribution as extensive networks are required to provide electricity across the grid to meet the needs of growing regions, but also creates challenges for the continuity, security and emergency planning aspects of energy infrastructure.

R10. CCIQ recommends the development of a long-term energy policy complemented by a strategic energy infrastructure plan for Queensland.

R11. Queensland's energy policy and infrastructure plan must focus on increasing energy diversity by setting an efficient regulatory framework that reduces barriers to the exploration, development and take-up of all energy sources and transport fuels. It must also focus on developing strategies to deal with disruption to Queensland's energy assets.

R12. Queensland's energy policy and infrastructure plan must align with economic planning across government and the separate areas of government responsible for energy policy, industry development, planning and infrastructure, climate change and emissions management and renewable energy to avoid policy fragmentation.

“With the increase of population in certain areas more infrastructure and maintenance is vital for a continued stable supply.”

– *Queensland business operator*

7. Ownership of Energy Assets

- 7.1 Privatisation of the electricity supply industry has been a topical issue, both in the Queensland context and broadly across Australia over the past few years. Victoria and South Australia both operate a fully privatised electricity generation and supply sector; attempts were also recently made to privatise the NSW electricity sector, the remaining states continue to operate under corporatized and government-owned structures.
- 7.2 The Queensland Government currently holds a position strongly against the privatisation of Queensland's electricity generation and network companies. CCIQ would agree that the electricity supply industry faces unique challenges in Queensland due to size of the state and the disperse nature of its regions and population. Historically this has meant that private investment in energy generation and supply has been relatively unattractive, especially outside of the south-east and major metropolitan areas. It also presents significant cost parity challenges as the cost of electricity supply to regional and remote areas is significantly higher. The Queensland government argues therefore that privatisation of our energy market may mean even higher electricity price increases than currently experienced and lower security of supply and service levels for regional and remote communities.
- 7.3 However proponents of privatisation claim that private ownership can have significant advantages including increased efficiency, lower costs and increased service reliability. They argue that public ownership of the electricity supply industry creates a perverse incentive for over-investment in generation capacity (or gold-plating) to maximise dividend and investment returns for government, that these companies tend to be inefficiently resourced and overstaffed and that real wages across the sector are driven upwards due to the bargaining power of the public service.
- 7.4 As previously stated, CCIQ remains open-minded to the debate over private ownership and supports in-principle whichever market structure best achieves the outcomes of competitive and low-inflationary pricing, security of supply, and operational efficiency. CCIQ believes there remains merit in ensuring that the right environment and appropriate market incentives are in place to encourage and facilitate private sector investment where there are interested parties.
- 7.5 As Queensland's economy and regions continue to grow over the medium to longer term, private sector investment may become more attractive and as a state Queensland needs to ensure that the natural state-owned monopolies that exist in the electricity supply industry do not make private sector investment uncompetitive and unattractive. Additionally if a carbon pricing plan eventuates and realises in new markets and opportunities in the energy sector then it is important that the right framework exists so as not to prevent investment and diversification of Queensland's electricity supply industry.

R13. CCIQ recommends that the Queensland Government review its policy position on privatisation and the current investment frameworks for the electricity industry (generation, transmission and distribution) to ensure the right signals and opportunities exist for private sector investment in the sector.

“We need a continuous supply of electricity to consumers at a price where everyone can meet the costs of this essential service. Businesses should receive reduced tariffs or the government has incentives to help the small business owner.”

“Proper long-term planning that does not get lost in the emotion of climate change. We need to move away from coal power but it has to be an evolution, not a knee-jerk climate change revolution.”

– *Queensland business operator*

8. Demand Management and Energy Efficiency

8.1 Enterprise Level Demand Management

- 8.1.1 Climate change, emissions reduction, and energy efficiency are gaining significant national and international attention. In respect to climate change, energy, primarily electricity generation and usage forms the largest proportion of Australia's total emissions. The success of strategies and policies to reduce emissions will therefore rely heavily on Australian households and businesses improving their energy efficiency. However energy use is relatively inelastic. As such any dramatic change and reduction in energy use will require significant cultural, technological and productivity change.
- 8.1.2 Queensland businesses are committed to energy efficiency for both environmental and cost saving reasons. Energy is a major business input and consequently represents an area where businesses can reduce costs. Business energy use, while being extremely industry specific, results mostly from:
- production and manufacturing processes;
 - operation and maintenance of systems and information technology;
 - lighting; and
 - heating and cooling requirements.
- This means that energy demand and use is a direct by-product of economic activity from which all Queenslanders benefit. Caution must therefore be exercised when setting energy policy that high energy use businesses are not penalised.
- 8.1.3 Nonetheless business energy efficiency should be actively pursued as it not only reduces energy demand and energy costs, but it also leads to significant gains in business innovation, productivity and economic growth. Simplistic approaches including energy audits and management planning, small scale retrofitting and arbitrary energy use targets, whilst useful in a domestic household setting, are inappropriate and inefficient in a business setting. The uptake of business energy efficiency is limited to the availability of efficient technologies and production process as well as the significant cost of plant and equipment. Quite often other regulatory frameworks such as health and safety and industrial relations requirements place additional restrictions on the ability of businesses to implement energy efficiency measures and manage peak demand.

R14. CCIQ recommends the Queensland Government take immediate action to support business and industrial energy efficiency with a particular focus on encouraging innovation, and supporting adoption of existing technologies.

- 8.1.4 Innovation will be critical to enable Queensland businesses to adjust and remain viable under higher energy prices and a potential carbon constraint. While pure research has an important role, on-site innovation and trialling of alternative technologies at industrial facilities of various sizes and sectors will be critical. While there has been significant investment in research into energy generating technologies, innovation investment in energy use has been substantially lower.

R15. Governments need to work with businesses on an industry and sectoral basis to identify practical energy efficiency opportunities and invest in research, development and the deployment of productive technologies.

- 8.1.5 A great deal of existing technology and information is available that can help improve industrial energy efficiency today. Rising energy prices will increase the commercial necessity for companies to adopt existing energy efficiency technologies, but a range of barriers will continue to inhibit take-up, particularly by smaller and medium-sized firms. Government and industry can cooperate to address the barriers to these opportunities, particularly through detailed advice on best practice in energy efficiency technologies.
- 8.1.6 Existing provision of efficiency information by governments tends to be high-level and lacks specificity. What is needed is much more detailed information, drilling down to the level of techniques for optimising the performance of particular models of industrial equipment. This information exists at best practice operations, and with moderate resources and productive industry-government collaboration it can be captured and made available to industry at large.

R16. A targeted industry specific information and support service be provided to support the business community understand the energy supply industry and the options and opportunities available to them for reducing their electricity and energy intensity. A consultancy service of this kind would best be delivered through industry and business associations and would be provided at low cost to small and medium sized businesses.

- 8.1.7 Industry must also be provided financial incentives and assistance to adapt and invest in best practice processes and equipment. Similar programs have proven successful in other countries including Japan's Top Runner Program, China's 1000 Enterprises Program and the Renewable Investment Tax Credit in the USA.

R17. Financial incentives and tax system subsidies should be explored. Investment in energy efficiency should receive special tax treatment.

8.2 Market Demand Management

- 8.2.1 Diversifying energy supply towards low-carbon and renewable generation is also important in the context of managing exposure to higher energy generation and supply costs.
- 8.2.2 There is no single source of energy that will meet all the needs of every location in Queensland. Instead it is likely to be a mix of energy sources. Some of these technologies are already mature but could possibly be more utilised - hydro, wind, solar and biomass. To date, these energy sources have tended to support base load generators at peak times, rather than act as base load generation itself. Another group of low carbon energy sources are still in the demonstration phase (e.g. solar thermal) or only at the research level (e.g. geothermal dry hot rocks).
- 8.2.3 There needs to be a comprehensive examination of all possible low-carbon emissions energy options. This then needs to be followed up by sufficient research funding and policy commitment to ensure that the optimal mix of energy sources are used in the new low carbon emissions environment. A number of feasibility and mapping studies for renewable energy source generation have been completed recently and these should now be developed into a framework for priority regional infrastructure projects.

R18. The Queensland Government should undertake a full viability study of all possible low-carbon and renewable energy sources relevant to Queensland to complement the long term energy policy and infrastructure plan recommended in R9.

- 8.2.4 CCIQ also notes that absent from energy policy to date has been any discussion or analysis of nuclear power options. CCIQ believes there is strong support from the business community for an open and informed debate on the issue of nuclear energy in Queensland.
- 8.2.5 Nuclear power is a mature technology that is widely used in other countries and has low carbon emissions. Despite these credentials, it is currently not being considered as a future energy source at neither a state nor national level. If our governments are serious about reducing carbon emissions and giving Australian households and businesses a realistic choice when the carbon emissions trading scheme is introduced, then Nuclear should at least be included in the debate when looking at the range of options for the next generation of power stations.

R19. The State Government should commission an independent analysis into the costs and benefits of nuclear power to better inform public debate on the topic, especially with regard to the necessary regulatory frameworks, smaller reactor technology and costs, safety aspects and environmental impacts.

“Most businesses want to be power efficient but many don’t have the expertise or available money to implement savings measures. Rising prices, taxes and other costs just further prevent us from being able to be energy efficient”.

“Nuclear - yes seriously. France has 3 times the population of Australia and generates 80% of its power from Nuclear energy. It is a globally recognised alternative energy source that at least needs discussion instead of keeping our head in the sand”

– *Queensland business operator*

9. Summary of Recommendations

- 9.1 The supply and cost of energy is of critical importance to the Queensland business community. The reforms and energy market restructuring of the past decade promised higher efficiency and productivity, lower prices and better services. The business community believe they have delivered the opposite. In particular, the ongoing inflation of energy costs is unsustainable and is beginning to challenge business viability and the competitiveness and stability of our economy.
- 9.2 Reform of both the regulatory design and management of the Queensland energy sector is urgently needed. This blueprint focuses on three key areas which have a direct impact on energy generation and supply costs and where the Queensland Government can focus reforms and programs to drive down the price of electricity and develop an energy sector that is nationally and internationally competitive.
- 9.3 CCIQ looks forward to working closely with the Queensland Government, the Queensland energy sector and the business community to achieve a sustainable future focused energy market for Queensland.

“Energy suppliers and our governments need to go back to when forward planning was not a special event after a major failing but an everyday event, that put in place sufficient infrastructure ahead of demand.”

– *Queensland business operator*



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