



**Financial and Service Quality
Performance 2008-09**

Energex

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Level 19, 12 Creek Street Brisbane Queensland 4000
GPO Box 2257 Brisbane Qld 4001
Telephone (07) 3222 0555
Facsimile (07) 3222 0599

general.enquiries@qca.org.au
www.qca.org.au

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1. INTRODUCTION AND SUMMARY

In its 2005 Final Determination on the Regulation of Electricity Distribution, the Authority required the Queensland Distribution Network Service Providers (DNSPs) to provide information relating to their financial and service quality performance annually.

This report provides an assessment of the financial performance of Energex for 2008-09, including a comparison with the financial forecasts that were included in the Authority's 2005 Determination and comparisons with past financial performance.

The financial information for 2008-09 was submitted by Energex in accordance with the Authority's Cost Allocation Guidelines. In December 2007, the Authority revised the regulatory reporting guidelines in order to identify excluded services separately from network services. Energex's financial report for 2008-09 was prepared to reflect the separate contribution of network and excluded services.

The service quality information was submitted in accordance with the Authority's Electricity Distribution Service Quality Reporting Guidelines, which require DNSPs to provide data on specific service quality measures on a quarterly and annual basis. The DNSPs reporting commenced in 2001. A revision of the Guidelines was made in August 2005 in order to improve the reporting of service quality performance. In some instances, this will mean that data provided since 1 July 2005 cannot be reliably compared to previous data.

The report draws on data from the regulatory statements and both the annual and quarterly service quality reports, primarily for 2008-09, along with data obtained from preceding financial years.

1.1 General Operating Background

There are currently two DNSPs operating in Queensland: Energex and Ergon Energy. Both DNSPs are owned by the Queensland Government and previously had significant retailing operations. Energex's retailing operations and a portion of Ergon Energy's retailing operations were sold by the Government in 2006-07, with Ergon Energy retaining only certain franchise customers.

Network Characteristics: comparison between Energex and Ergon Energy

The distribution networks are quite different. Energex operates a largely urban network with relatively high customer density in South East Queensland, whereas Ergon Energy operates a geographically dispersed network with low customer density that covers much of the remainder of the state.

Table 1 shows the key characteristics of each network and illustrates the differences between them. A key difference is customer density. While there are 24.7 customers per kilometre of line on Energex's network, Ergon Energy has just 5.3 customers per kilometre of line on its network.

These differences in network characteristics are important determinants of the service quality performance of each distribution entity, particularly the reliability of their respective networks. It is also to be expected that the performance of the distribution entities will vary significantly on a number of other service quality measures.

Table 1: Distributors network characteristics: 2008-09

<i>Characteristics</i>	<i>Energex</i>	<i>Ergon Energy</i>
Network service area (sq km)	25,064	1,698,100
Number of customers ^a	1,294,464	774,100
Energy delivered (GWh) ^a	22,449	14,130
Energy delivered per customer (MWh)	17.3	18.3
Kilometres of line	52,361	145,904
Customers per km of line	24.7	5.30
Maximum demand of network (MVA)	4,714	2,498
Number of distribution transformers	44,613	83,744
Asset utilisation (%) ^b	26.9	22.1
Distribution losses (%)	5.66	5.70

Source: Energex Annual Service Quality Report July 2008 – June 2009; Energex 2008/2009 Regulatory Reporting Statement

a. These values are reported in the distributors' 2008-09 Regulatory Reporting Statements and differ slightly from the values reported for the same measures in the 2008-09 Service Quality Reports due to technical differences in the way these measures are defined.

b. Sub-transmission transformer utilisation factor. Electricity throughput (MWh) is expressed as a percentage of sub-transformer capacity (MVA) multiplied by the number of hours per year.

1.2 Energex Customer Profile

Energex's customer base consists of:

- (a) Individually calculated customers (ICCs) – those customers whose electricity consumption is sufficiently large to warrant individually calculated prices;
- (b) Connection asset customers (CACs) – those customers whose electricity consumption is sufficient to warrant individually calculated connection charges, but their remaining charges are averaged;
- (c) Standard asset customers (SACs) – those customers who pay averaged prices. The SACs include (small) customers with an average consumption of up to 100MWh per year and (large) customers with consumption between 100 and 4,000MWh;
- (d) Embedded Generators (EGs) – those generators who have a name plate rating greater than 10kW single phase or 30kW three phase; and
- (e) Public streetlights.

The number of customers in each category and the corresponding units of electricity sold to each in 2008-09 are presented in **Table 2**.

Table 2: Energex customer numbers and units sold: 2008-09

<i>Customer type</i>	<i>Customers</i>		<i>Units sold</i>		<i>Units sold per customer</i>	
	<i>Number</i>	<i>Percentage change from previous year</i>	<i>MWh</i>	<i>Percentage change from previous year</i>	<i>MWh/customer</i>	<i>Percentage change from previous year</i>
Individually calculated customers	32	14.3	1,735,042	8.9	54,220	(4.7)
Connection asset customers	448	9.3	3,870,996	3.0	8,641	(5.7)
Standard asset customers - Large	6,378	13.1	4,462,354	15.5	700	2.0
Standard asset customers - Small	1,287,533	1.8	12,097,881	5.2	9.4	3.3
Public street lighting	52	0.0	152,159	9.5	2,926	9.5
Embedded generators	21	40.0	59,496	136.8	2833	69.1
Total	1,294,464	1.9	22,449,191	7.5	17.3	5.6

Source: Energex's 2008/2009 and 2007/08 Regulatory Reporting Statements.

Overall, Energex experienced a 1.9% growth in customer numbers during 2008-09, which was primarily driven by growth in small and large SAC's. However, this was lower than the expected growth rate of 2.6% forecast at the time of the 2005 Determination. The main reason for this was lower than expected interstate migration.

The number of units sold increased by 7.5% in 2008-09 from the 2007-08 financial year. This large increase in energy sales was due to:

- (a) an increase in customer numbers in 2008-09;
- (b) an increase in the average rate of energy consumption per customer (up by 5.6% to 17.3 MWh in 2008-09); and
- (c) low energy consumption in the 2007-08 base year due to mild summer conditions.

1.3 Summary of Energex's Financial Performance

In its 2005 Final Determination, the Authority estimated the level of revenue, operating costs and capital expenditure required to deliver prescribed distribution services for each year of the regulatory period (July 2005-June 2010). However, actual annual revenue, operating and capital expenditure are likely to vary from those estimates in response to a range of external circumstances and operational requirements not foreseen at the time estimates are made.

Table 3 presents a summary of the estimated and actual revenues earned in 2008-09 along with Energex's operating, maintenance and capital expenditure incurred in delivering prescribed distribution services for 2008-09. Actual revenue earned and costs incurred in 2007-08 are presented to provide some comparisons between the two years.

Table 3: Energex financial performance: 2008-09 (\$ nominal)

<i>Revenue and expenditure</i>	<i>Actual 2007-08</i>	<i>Actual 2008-09</i>	<i>Forecast 2008-09</i>	<i>Variance from forecast 2008-09</i>	
	<i>(\$ mill)</i>	<i>(\$ mill)</i>	<i>(\$ mill)</i>	<i>(\$ mill)</i>	<i>(%)</i>
Revenue					
Revenue from services	754.3	910.6	869.1 ^a	41.5	4.8
Capital contributions	49.3	45.7	46.5	(0.8)	(1.7)
Less Income tax paid	6.7	(8.5)	14.5 ^b	(23.0)	(158.6)
Total Revenue	796.9	964.8	901.1	63.7	7.1
Operating and maintenance expenditure	283.3	309.8	309.2	0.6	0.2
Capital expenditure	683.0	836.4	819.8	16.6	2.0

Source: Energex 2008/2009 and 2007/08 Regulatory Reporting Statements; QCA Final Determination: Regulation of Electricity Distribution (April 2005).

a. Original forecast from 2005 Determination revised in March 2008 to account for the adjustment for previous year's under and over recoveries; removal of non-DUOS revenue and for certain capital expenditure pass-throughs.

b. Original forecast from 2005 Determination revised in March 2006.

Energex's total revenue for 2008-09 of \$964.8 million was \$63.7 million (or 7.1%) higher than its forecast revenue. This was mainly due to an over-recovery of \$41.5 million from the provision of services due to an increase in the average rate of energy consumption per customer and a change in customer classifications for some customers from business medium, which has lower tariff rates, to the higher domestic and small business tariffs. Energex also received a tax credit of \$8.5 million when it had forecast a tax payment of \$14.5 million. This contributed \$23 million to the over-recovery.

Operating and maintenance expenditure of \$309.8 million in 2008-09 was \$0.6 million (0.2%) higher than forecast although when an adjustment is made to take account of the removal of costs relating to excluded distribution services (worth \$33.1 million), Energex's actual operating costs increase to \$342.9 million, an overspend of \$33.7 million (or 10.9%).

Much of this overspend is attributable to higher than forecast excluded distribution service costs (\$15.2 million) resulting from an increase in the number of disconnections requested by retailers for which Energex receives no payment and overspending of approximately \$9.0 million on vegetation management to ensure network reliability. There was also an overspend of \$8.5 million on network support costs, which were incurred to alleviate the network risks during the summer period.

Capital expenditure was \$16.6 million (2%) higher than originally forecast due to the net effect of factors including:

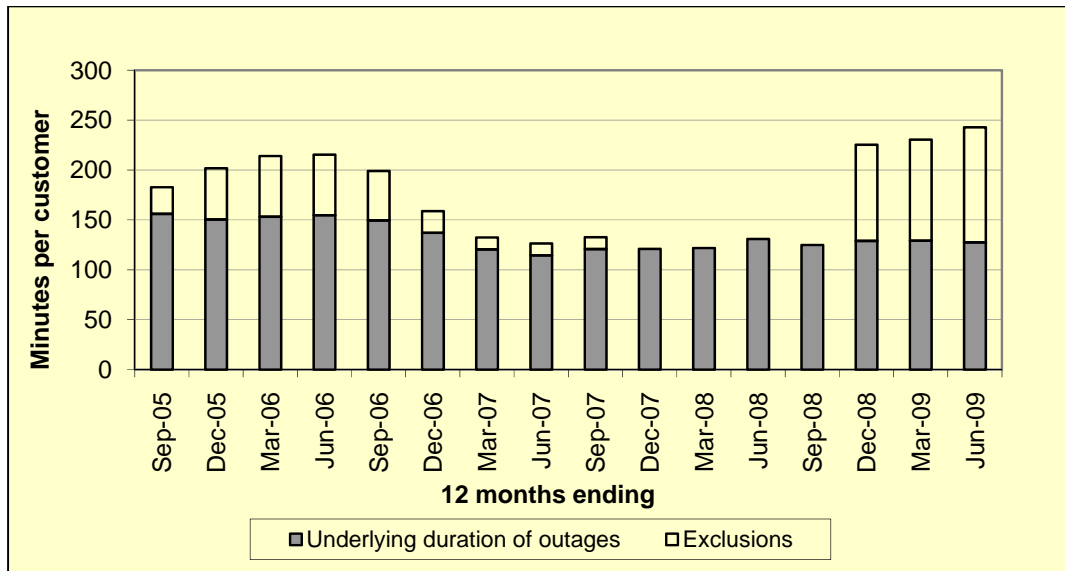
- (a) overspending of approximately \$63 million due to customer initiated demand;
- (b) overspending of \$29.2 million on asset replacement which included expenditure on ageing equipment and pole reinstatement; and

- (c) a large underspend on corporate initiated demand (\$66.3 million) resulting from difficulties obtaining materials; slow start-up in the design and construction of substations by third parties; and industrial action in September 2008.

1.4 Summary of Energex's Service Quality Performance

After removing the effect of exclusion events¹, Energex's customers experienced, on average, 1.45 distribution-related interruptions in 2008-09, leaving them without power for an average duration of 127.6 minutes. As shown in **Figure 1**, the underlying duration of outages over the course of the year was relatively constant. The large increase in exclusions during the final three quarters of the year was the result of a particularly bad storm season.

Figure 1: Energex average duration of outages per customer, previous 12 months to end of quarter



Source: Energex Quarterly Service Quality Reports.

The total number of quality of supply complaints received by Energex increased slightly from 1,054 complaints in 2007-08 to 1,185 complaints in 2008-09. The majority of the complaints in 2008-09 were related to minor voltage dips (which can cause flickering lights and the resetting of digital clocks), low supply voltage, (which can cause light dimming and motor starting problems) and voltage swell (which has no clear initiating event and is likely to cause minor equipment damages and blowing out of lights).

The average time taken to investigate and resolve a technical quality of supply complaint improved slightly from an average of 24 days in the June quarter 2008 to approximately 23 days in the June quarter 2009.

Energex's performance against a range of customer service measures improved during 2008-09:

¹ Exclusions are defined under the Queensland Competition Authority's Electricity Distribution Service Quality Guidelines as events which are beyond the control of DNSPs. DNSPs are allowed to remove the effect of severe interruptions to supply on their reliability data, based on the 2.5 beta method, in order to determine the underlying distribution-related reliability performance. The 2.5 beta method removes the reliability data on days when the minutes off-supply exceeds a certain threshold, which is based on the distributor's historical reliability data.

- (a) the average length of time customers had to wait to speak to an operator when phoning the call centre improved from 35 seconds in the June quarter 2008 to 21 seconds in the June quarter 2009;
- (b) the percentage of calls abandoned decreased from 5% in the June quarter 2008 to 4% in the June quarter 2009;
- (c) the proportion of customer appointments that Energex failed to attend within 15 minutes of the agreed time decreased slightly to 1.6% in June quarter 2009 compared to 1.7% for the corresponding quarter in 2008;
- (d) the proportion of new connections that Energex failed to make by the agreed date during the June quarter 2009 was 0.4% which was consistent with its past performance; and
- (e) the proportion of re-connections of supply that were not made on the agreed date was low and varied between 0.1 to 0.4% during 2008-09.

2. FINANCIAL PERFORMANCE

This section summarises the financial performance of the revenue cap regulated business segment of Energex. The information is for the year ended 30 June 2009. The data used in the analysis has been drawn mainly from Energex's audited Regulatory Reporting Statements. These accounts were submitted in accordance with the Authority's *Electricity Distribution: Regulatory Reporting Guidelines*.

Areas of particular interest concerning Energex's overall financial performance are revenue, operating and maintenance expenditure, and capital expenditure. Energex's reported results on these components compared with their respective forecasts and the previous year's actual data are presented in the following sections below. Detailed financial data for Energex is provided at **Appendix A**.

In the Authority's 2005 Final Determination, the revenue cap calculations included both distribution use of system (DUOS) services and some non-DUOS services. Non-DUOS services include prescribed distribution services, such as temporary builders' services, that are related to the operation and use of the distribution system.

However, in December 2007, the Authority released its Final Decision on the *Electricity Distribution: Review of Excluded Distribution Services*. This decision removed all non-DUOS services from the regulatory cap and left only DUOS services. This reclassification was intended to remove the influence of the less predictable revenue earned from excluded distribution services (EDS) from the regulated revenue cap and to leave only the more consistent and predictable revenue earned from DUOS services. In order to take account of this decision, for 2008-09, \$17.7 million of EDS revenue was excluded from Energex's 2008-09 regulated revenue cap.

2.1 Revenue

Under/Over-Recovery of Distribution Revenue

In its 2005 Final Determination, the Authority set a maximum revenue cap for each of the five years of the regulatory period for Energex. The maximum revenue cap allows Energex to earn a return on assets, and an allowance for depreciation and operating and maintenance expenditure incurred in the delivery of prescribed distribution services.

The 2005 Final Determination also provided for any differences between forecast and actual revenues earned to be subject to an "unders-and-overs" process on an annual basis. This process compares actual revenue earned in the year against the annual revenue cap for that year as determined by the Authority and allows under-recoveries to be collected through higher customer prices the following year and any over-recoveries to be returned to the customers the following year (see **Table 4**).

Table 4: Energex's Aggregate Annual Revenue Requirement: 2008-09

<i>Actual and forecast income</i>	<i>\$ million (nominal)</i>
<u>Actual AARR</u>	
Revenue from services	910.6
Revenue from capital contributions	45.7
Income tax paid	8.5
Total	964.8
<u>Forecast AARR</u>	
Revenue from services	869.1 ^a
Revenue from capital contributions	46.5
Income tax paid	(14.5) ^b
Total	901.1
Over-recovery of AARR in 2008-09	63.7

Source: Energex 2008/2009 Regulatory Reporting Statement; QCA Final Determination: Regulation of Electricity Distribution (April 2005).

a. Original forecast from 2005 Determination revised in March 2008 to take account of adjustments for previous years under and over-recoveries; removal of non-DUOS revenue and for certain capital expenditure pass-throughs.

b. Original forecast from 2005 Determination revised in March 2006.

Table 4 shows that Energex over-recovered its 2008-09 aggregate annual revenue requirement (AARR) by \$63.7 million. This figure comprises an over-recovery of \$41.5 million from the provision of services which was primarily the result of:

- (a) an increase in consumption by customers on domestic and small business tariffs; and
- (b) changing consumption levels resulting in a shift in customer numbers from the (lower) medium business tariffs to the (higher) small business and domestic tariffs.

A tax credit of \$8.5 million, as opposed to a forecast tax payment of \$14.5 million, also contributed \$23 million to the over-recovery although this was offset slightly by a small capital contribution under-recovery of \$0.8 million.

Under/Over-Recovery of Transmission Use of System (TUOS) Charges

TUOS charges are calculated by the distributors each year to pass through to distribution customers the cost levied for the use of the transmission system. These costs primarily reflect Powerlink charges and payments to embedded generators. Electricity transmission charges are regulated by the Australian Energy Regulator (AER) and paid to Powerlink by distributors on behalf of customers.

The connection of an embedded generator to a distribution network reduces the amount of energy drawn from the transmission network. This in turn reduces the TUOS charge that the distributor has to pay the transmission network owner. However, the distributor passes through

the full amount of these avoided TUOS payments to the embedded generator whose connection led to the reduction in TUOS payable.

The Authority approves TUOS charges to be levied by the distributors to allow them to recover the TUOS charges they have paid to Powerlink and avoided TUOS payments to embedded generators. Any difference between TUOS revenue recovered by distributors from customers and the charges they pay to Powerlink and embedded generators is recouped from, or returned to, customers in future charges.

Table 5 shows that TUOS revenue from customers was higher than payments to Powerlink and embedded generators by \$13.6 million during 2008-09. The over-recovery in TUOS was associated with an increase in actual volume during the year. Energex will be required to return this revenue to customers as part of its 2010-11 TUOS charges.

Table 5: Energex's TUOS Unders and Overs Account: 2008-09

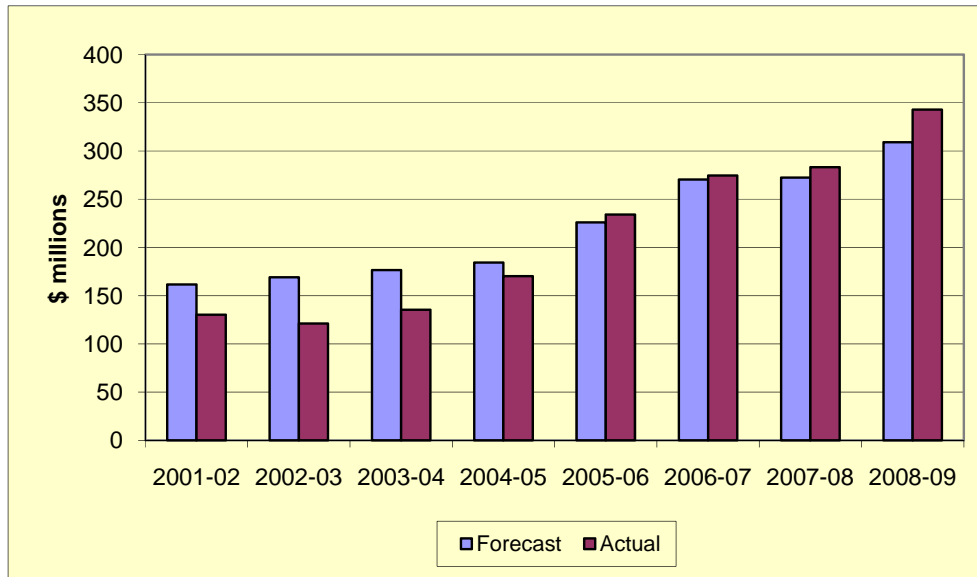
	<i>\$ million (nominal)</i>
TUOS charged by Powerlink	246.2
<i>plus</i> TUOS charged by Embedded Generators	0.5
<i>equals</i> Total TUOS charged	246.7
<i>less</i> actual TUOS revenue earned during 2008-09	260.3
<i>equals</i> Over-recovery for 2008-09	13.6

Source: Energex 2008/2009 Regulatory Reporting Statement

2.2 Operating and Maintenance Expenditure

The regulatory framework is designed to give the distribution businesses an incentive to increase their forecast return by improving operating efficiency. To this end, the distributors retain the benefit of any efficiency gain (cost savings) for the remainder of the regulatory period.

Figure 2 shows network operating and maintenance expenditure reported by Energex from 2001-02 to 2008-09, compared with that forecast at the time of the 2001 and 2005 Final Determinations.

Figure 2: Energex's operating and maintenance expenditure: 2001-02 to 2008-09

Source: Energex Regulatory Reporting Statements from 2001-02 to 2008-09.

Note: To allow for a like with like comparison, both forecast and actual data for 2008-09 include expenditure relating to non-DUOS services (later reclassified and Excluded Distribution Services).

In 2008-09, operating and maintenance expenditure of \$309.8 million was \$0.6 million (0.2%) higher than forecast. However, the forecasts made at the time of the 2005 Final Determination included \$17.1 million in operating costs attributed to non-DUOS services. Non-DUOS services were subsequently reclassified as excluded distribution services and hence the actual result for 2008-09 does not include operating costs associated with these excluded distribution services (on which actual expenditure amounted to \$33.1 million).

On a like with like basis, including the operating costs associated with excluded services in 2008-09, Energex's actual operating costs would increase to \$342.9 million and, on that basis, the difference between forecast and actual would be an over-expenditure of \$33.7 million as shown in **Figure 2**. However, around \$10 million of this overspend was approved by the Authority in November 2008 as a cost pass-through for the implementation of Full Retail Competition (FRC) which reduces the final overspend amount to around \$24 million.

The \$24 million overspend in operating costs is attributable to a number of factors such as higher-than-forecast expenditure on:

- (a) EDS (\$15.2 million) resulting from an increase in the number of disconnections requested by retailers;
- (b) vegetation management (\$9.0 million) to ensure network reliability;
- (c) network support (\$8.5 million); and
- (d) emergency response (\$7.5 million).

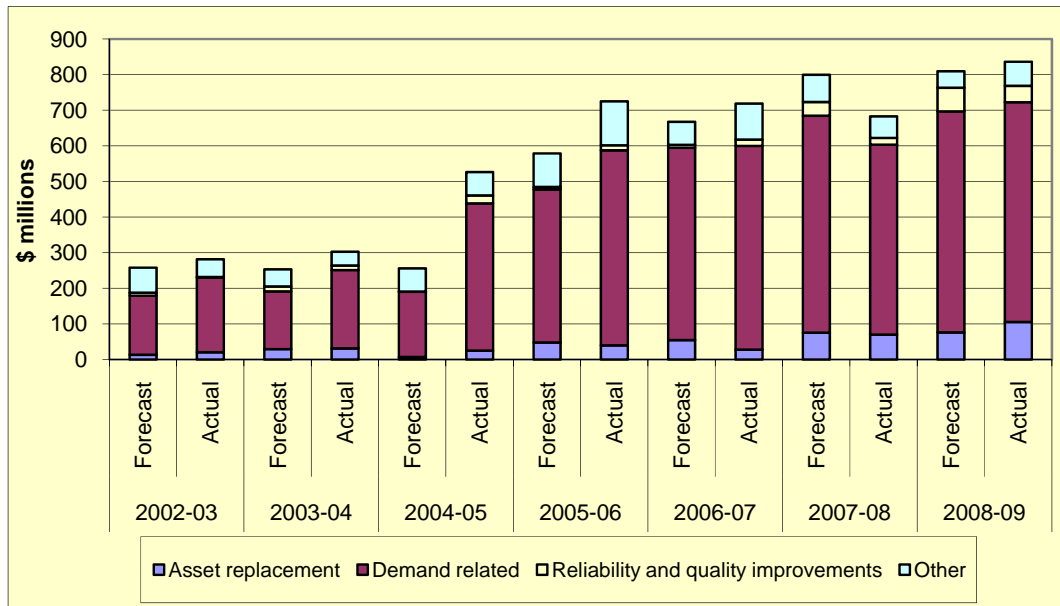
This overspending was offset to some extent by lower-than-forecast expenditure on items such as planned maintenance and inspections. Spending on these items was reduced primarily as a result of increased expenditure on vegetation management, including identification and removal

of high risk trees and improved performance in Energex's urban network resulting in fewer reactive patrols of the network.

2.3 Capital Expenditure

Figure 3 shows network capital expenditure in aggregate and by purpose reported by Energex for 2002-03 to 2008-09 compared with forecast capital expenditure.

Figure 3: Energex's capital expenditure: 2002-03 to 2008-09



Source: Energex Regulatory Reporting Statements from 2002-03 to 2008-09.

Note: "other" includes expenditure on non-system assets.

Energex's capital expenditure increased from \$683.0 million in 2007-08 to \$836.4 million in 2008-09 (a 22.5% increase). This is \$16.6 million (2.0%) higher than forecast. However, this overspend includes around \$9 million previously approved by the Authority for costs incurred as a result of the introduction of FRC. Accordingly, capital expenditure is \$7.6 million higher than forecast.

Energex attributed much of the capital expenditure overspend in 2008-09 to customer initiated demand (\$63 million). Energex claimed that this was a result of growth in commercial, industrial and traction work (\$52 million over forecast) which included upgrading the supply to new and existing customers.

Energex noted that higher than forecast capital expenditure also resulted from an overspend on asset replacement (\$29.2 million) which included expenditure on ageing equipment and pole reinstatement. Energex also spent more than forecast on non-system assets (\$15 million) such as land and buildings, fleet and tools and equipment which were required to meet additional resource requirements to complete its work program.

Energex noted that the overspending was offset by a large underspend of \$66.3 million on corporate initiated demand. Much of this resulted from difficulties in obtaining materials such as cables and substation components as well as third party delays such as slow start-up in the design and construction of substations and industrial action in September 2008.

Energex also underspent on reliability/quality improvement by \$20.4 million as a result of its urban reliability program slowing due to an improved reliability performance and the resources being used on higher priority customer and company initiated works. Spending on 'other' capital expenditure was also \$3.9 million below forecast as a result of delays in site rectification projects resulting from resource constraints for both Energex and local authorities.

3. SERVICE QUALITY PERFORMANCE

This section summarises the service quality performance of the revenue cap regulated business segment of Energex for 2008-09. The information is drawn from Energex's quarterly and annual service quality reports. These reports were submitted in accordance with the Authority's *Electricity Distribution: Service Quality Reporting Guidelines* (Version 2.0).

The service quality measures of which the DNSPs are required to report against fall into three broad groups – reliability measures, quality of supply measures and customer service measures.

Reliability measures provide information about interruptions to electricity supply. Interruptions can occur because of problems with generation, transmission or distribution. Distribution interruptions may be planned or unplanned, and unplanned interruptions will at times be due to events that are beyond the control of the DNSPs, such as severe storms.

A DNSP's performance is best indicated by the duration and frequency of planned and unplanned interruptions that are due to distribution network problems within the distributor's control, although lengthy and frequent interruptions due to other influences may indicate a need for improved risk management measures. Reliability data for worst performing feeders highlights the pockets of the network where customers experience relatively poor service quality.

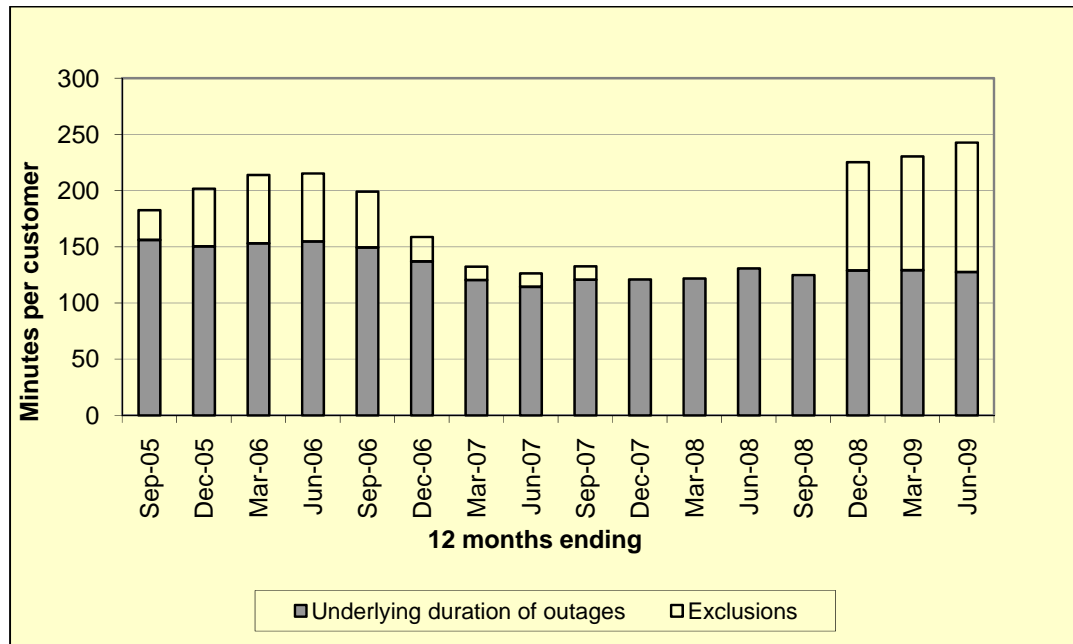
Quality of supply measures identify problems with the nature of electricity supply, such as low or high voltage levels based on customers reporting symptoms that are typically associated with such problems. For example, low supply voltage would be evidenced by complaints relating to light dimming or appliance motor starting problems.

Customer service measures provide information about how well customers' problems, enquiries and requests for services are handled.

3.1 Reliability Measures

In the 12 months ending 30 June 2009, Energex customers on average experienced 1.73 distribution-related interruptions, leaving them without power for an average duration of 242.8 minutes. This result is shown in **Figure 4**. The large increase in exclusions during the final three quarters of the year was the result of summer storms.

After removing the effect of exclusion events, Energex customers experienced 1.45 distribution-related interruptions, leaving them without power for an average duration of 127.6 minutes (shaded in **Figure 4**).

Figure 4: Energex's average duration of outages per customer for the 12 months to end of quarter

Source: Energex's Quarterly Service Quality Reports.

Interruptions arising in the distribution network can be disaggregated according to geographic category – that is: Central Business District (CBD), Urban and Short Rural². As shown in **Table 6**, there were significant differences in the level of reliability across Energex's network over the course of 2008-09. While customers on Energex's CBD and short rural networks experienced a reduction in the duration of interruptions during 2008-09 of 0.9 minutes and 14.1 minutes respectively, urban customers experienced an increase of 6.6 minutes.

Table 6: Energex – average duration of distribution-related interruptions by network type (minutes) after removal of exclusion events for the 12 months to end of quarter

	Jun 2008	Sep 2008	Dec 2008	Mar 2009	Jun 2009	Change in duration Jun 08- Jun 09
Total system	130.8	124.9	128.2	128.4	127.6	(3.2)
CBD	3.8	4.5	2.8	2.2	2.9	(0.9)
Urban	83.9	85.0	87.7	88.5	90.5	6.6
Short Rural	241.0	220.2	228.9	231.4	226.9	(14.1)

Source: Energex's Quarterly Service Quality Reports

Quarter-by-Quarter Reliability

Table 7 shows that the average number, and duration, of distribution-related interruptions for Energex's customers is significantly worse during the December quarter (the storm season) compared with the other three quarters. However, while the removal of excluded events

² Energex does not have any feeders that meet the definition of Long Rural.

smoothes these variations in performance between quarters, it does not entirely remove seasonal fluctuations.

Table 7: Energex – average number and duration of distribution-related interruptions per customer

	<i>Sep 2008</i>	<i>Dec 2008</i>	<i>Mar 2009</i>	<i>Jun 2009</i>
Duration of all interruptions per customer (SAIDI) ^a before excluded events – minutes	24.0	140.9	37.7	38.7
Duration of all interruptions per customer (SAIDI) after excluded events - minutes	24.0	43.6	32.9	24.7
Average number of interruptions per customer (SAIFI) ^b before excluded events	0.3	0.7	0.5	0.3
Average number of interruptions per customer (SAIFI) after excluded events	0.3	0.5	0.4	0.3
Average duration of each interruption (CAIDI) ^c before excluded events – minutes	79.9	211.5	83.3	125.8
Average duration of each interruption (CAIDI) after excluded events – minutes	79.9	93.3	81.6	94.0

Source: Energex's Quarterly Service Quality Reports

a. SAIDI is the acronym for 'system average interruption duration index', which refers to the duration of all interruptions experienced in the last year on average, per customer

b. SAIFI is the acronym for 'system average interruption frequency index', which refers to the total number of times in the last year when supply was interrupted on average, per customer.

c. CAIDI is the acronym for 'customer average interruption duration index' which refers to the average length of each supply interruption experienced by customers.

Reliability of Worst Performing Feeders

Energex's worst performing feeders were selected according to normalised distribution SAIDI minutes. As shown in **Table 8**, the reliability of Energex's worst performing feeders were mixed in 2008-09 compared to 2007-08 with the urban SAIDI and SAIFI improving but the short rural deteriorating.

Table 8: Energex - range of average number and duration of distribution-related interruptions per customer for the 10 worst performing feeders^a

	2004-05	2005-06	2006-07	2007-08	2008-09
SAIDI – hours (before excluded events)					
Urban	8.7-14.6	7.2-13.8	6.3-15.0	7.1-26.6	8.1-22.6
Short Rural	16.3-25.8	15.7-49.2	8.0-16.5	13.8-25.5	15.2-35.5
SAIFI - number (before excluded events)					
Urban	1.3-6.6	1.1-10.0	1.0-6.0	1.0-5.8	0.4-4.0
Short Rural	4.1-10.7	4.4-13.6	3.7-11.6	0.6-10.5	5.1-11.0

Source: Energex's Annual Financial and Service Quality Report, 2008-09.

a. There are no separately identified feeders in the CBD as the network in this area is enmeshed.

In 2008-09, Energex's 10 worst performing urban feeders supplied electricity to 4,061 customers, equivalent to 0.4% of Energex's urban customer base. On average, these customers experienced between 0.4 and 4 distribution-related interruptions (without adjusting the data for exclusions), leaving them without power for between 8.1 and 22.6 hours. None of the worst performing urban feeders in 2008-09 was amongst the 10 worst performing feeders in 2007-08.

Energex's 10 worst performing short rural feeders supplied electricity to 8,299 customers, equivalent to 2.5% of Energex's short rural customer base. On average, these customers experienced between 5.1 and 11 distribution-related interruptions, without adjusting the data for exclusions, leaving them without power for between 15.2 and 35.5 hours. Only one of the worst performing short rural feeders in 2008-09 was amongst the 10 worst performing feeders in 2007-08.

Due to the intermeshed nature of the network in the CBD area, the concept of 'worst performing feeder' does not apply. In the CBD, customers are typically served by more than one feeder. As such, the probability of a customer's supply being interrupted is very low. An interruption will only occur when there is a second contingency problem which would occur in cases where:

- (a) the network is configured in an abnormal state for maintenance (non-meshed) at the time when a fault occurs;
- (b) the network is configured normally (meshed), but there is a mal-operation in protection systems following a fault; or
- (c) there is a problem in the wider system such as a fault in the 110kV system or 11kV substations.

3.2 Quality of Supply Measures

The total number of technical quality of supply complaints received by Energex increased from 1,054 complaints in 2007-08 to 1,185 complaints in 2008-09, indicating a deterioration in Energex's quality of supply. As shown in **Table 9**, the majority of the complaints in 2008-09 were related to low supply voltage (which can cause light dimming and motor starting

problems), minor voltage dips (which can cause flickering lights), and voltage swell (which is likely to cause minor equipment damages and blowing out of lights).

Table 9: Energex - quality of supply complaints (categorised according to symptoms)

	Sep 2008	Dec 2008	Mar 2009	Jun 2009	Total
Total quality of supply complaints	279	296	342	268	1,185
Low supply voltage	98	123	139	77	437
Voltage dips – minor	95	89	90	106	380
Voltage swell	65	58	73	64	260
TV or radio interference	13	17	20	12	62
Voltage spike	6	2	14	6	28
Noises from appliances or lights	0	7	5	1	13
Waveform distortion or unbalance	2	0	1	2	5
Voltage dips – severe	0	0	0	0	0
Other complaints	0	0	0	0	0

Source: Energex's Quarterly Service Quality Reports.

The average time taken to investigate and resolve a technical quality of supply complaint improved slightly, from an average of 24 days in the June quarter 2008 to 23 days in the June quarter 2009.

Table 10 shows that, as in previous years, the majority of the technical quality of supply complaints in 2008-09 were caused by network initiated restrictions (for example, faulty network equipment and network interference by Energex).

Table 10: Energex - quality of supply complaints (possible causes)

	2004-05	2005-06	2006-07	2007-08	2008-09
Network initiated quality of supply complaints	1,134	1,811	1,544	659	681
Quality of supply complaints initiated on the customer side of the meter	294	210	206	155	98
Quality of supply complaints for which no cause was found	206	391	356	348	344

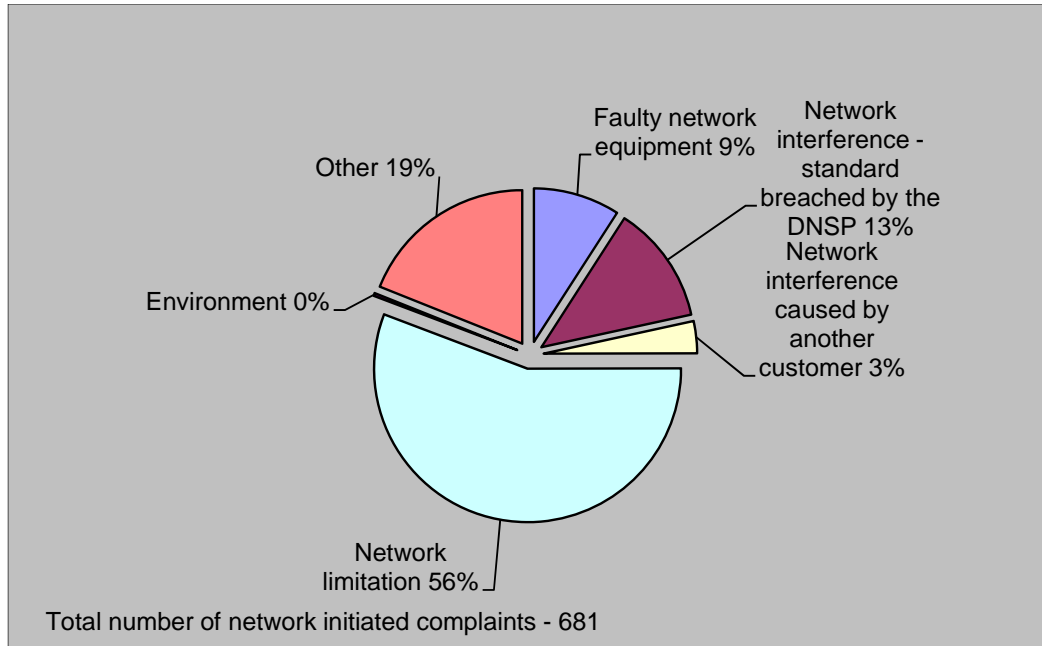
Source: Energex's Annual Service Quality Report 2008-09.

Note: The summation of the above categories of possible causes for quality of supply complaints do not equal the total of the four quarterly quality of supply complaints as listed in Table 9 due to the removal of possible double entries and misclassified complaints.

Figure 5 shows that network-initiated quality of supply complaints can be categorised by cause. The largest of the six categories is network limitation, which accounted for 56% of total complaints. These are defined as those problems which require Energex to invest in its network to resolve, for example by increasing its network capacity, upgrading its plant or altering its

control settings. Interference to the network arising from the operation of equipment by Energex (13%) and other causes (19%) explained most of the remaining network-related quality of supply complaints.

Figure 5: Energex – causes of network initiated quality of supply complaints



Source: Energex Annual Service Quality Report July 2008 – June 2009.

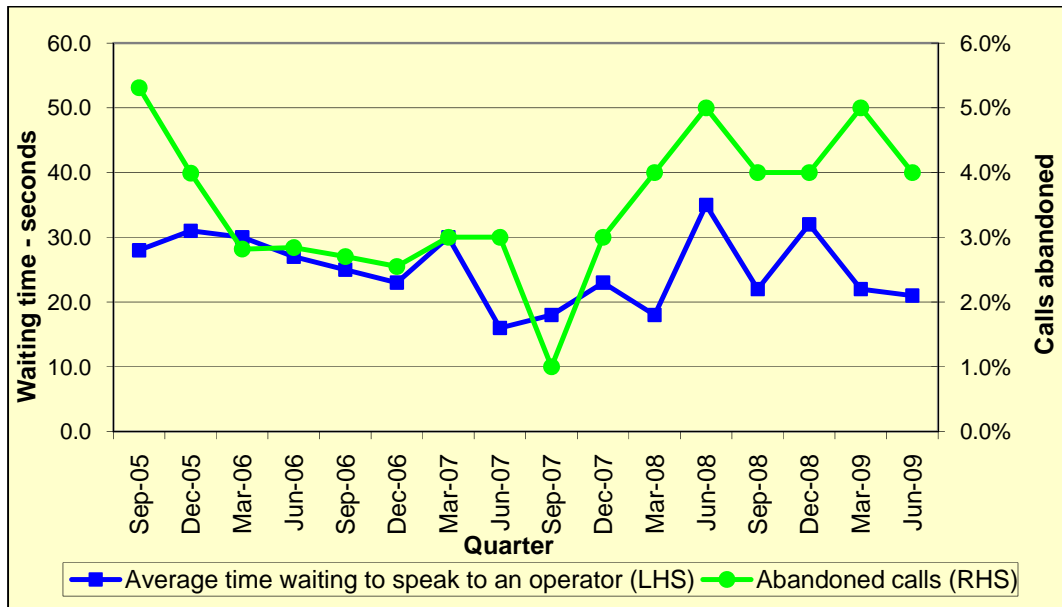
3.3 Customer Service Measures

In 2008-09, Energex’s performance against a range of customer service measures was mixed.

Figure 6 shows the length of time that Energex’s customers had to wait, on average, to speak to an operator when calling the call centre. During 2008-09, this measure peaked at 32 seconds in the December quarter 2008 but was steady at around 22 seconds during the other three quarters.

Figure 6 also shows that the percentage of calls abandoned stayed between 4% and 5% over 2008-09, above the historic average of approximately 3%.

Figure 6: Energex – average time waiting to speak to an operator and percentage of abandoned calls



Source: Energex’s Quarterly Service Quality Reports

The number of complaints that Energex received regarding reliability of supply increased substantially from 338 complaints in 2007-08 to 791 complaints in 2008-09. This was attributed to an increase in major weather events over the period which affected a larger number of customers. This included storms in the period between 16-20 November 2008 which caused extensive damage to Energex’s network and which took longer than usual to rectify.

The number of reliability complaints is typically higher during the storm season (December and March quarters) but, as shown in **Table 11**, the number of complaints remained high during the June quarter 2009. This was attributed to an increase in the number of small scale outages experienced during that quarter which were caused by incidents such as fallen power lines (due to trees or branches falling) and damage to underground cables from excavation work.

Table 11 also shows the number of momentary interruption³ complaints received by Energex in 2008-09. The number of momentary interruption complaints decreased from 26 complaints in 2007-08 to 25 complaints in 2008-09. It should be noted that the momentary interruptions complaints are a sub-set of the total number of reliability complaints.

Table 11: Energex – number of reliability complaints

	Sep 2008	Dec 2008	Mar 2009	Jun 2009	Total
Number of reliability complaints	85	174	276	256	791
Momentary interruption complaints	5	5	8	7	25

Source: Energex’s Quarterly Service Quality Reports.

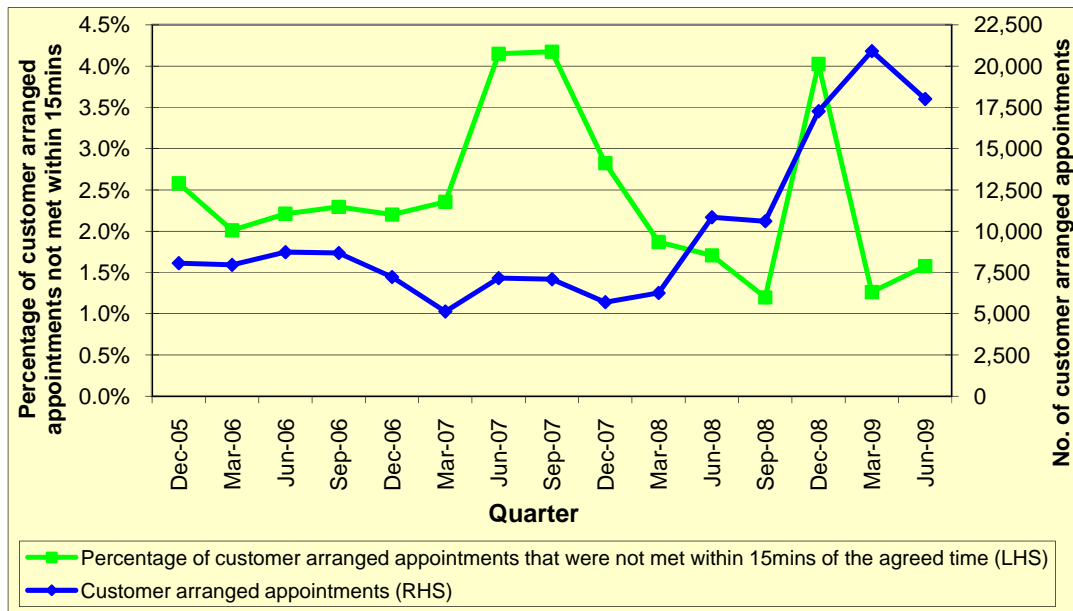
Figure 7 shows fluctuations in the proportion of customer appointments that Energex failed to attend within 15 minutes of the agreed time, with the proportion declining slightly to 1.6% in

³ Momentary interruptions to supply are defined as interruptions lasting less than one minute.

the June quarter 2009 compared to 1.7% in the June quarter 2008. The December quarter 2008 recorded one of the worst results to date, with 4.0% of customer appointments not met within 15 minutes of the agreed time although Energex attributed this spike to a change in reporting.

The total number of customer-arranged appointments continued to increase, from 10,843 appointments in the June quarter 2008 to 18,004 appointments in the June quarter 2009. This was the second highest result on record behind the previous quarter in which 20,903 appointments were recorded. Energex attributed the result to a change in its internal reporting processes which has increased the number of categories for which customer arranged appointments are reported.

Figure 7: Energex – appointment punctuality



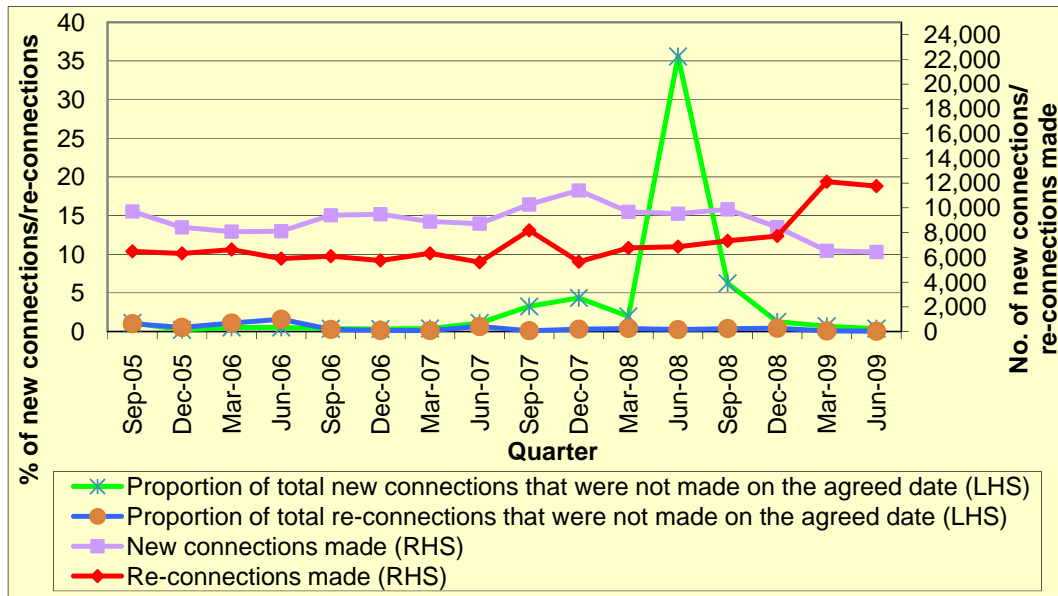
Source: Energex’s Quarterly Service Quality Reports.

Figure 8 shows that after a poor June quarter 2008, the proportion of total new supply connections that Energex failed to make by the agreed date improved throughout the year, decreasing from 6.2% in the September quarter 2008 to 0.4% in the June quarter 2009. Energex attributed the high failure rate recorded in the June quarter 2008 to a range of structural and mechanical issues encountered during the quarter such as a shortage of qualified staff, IT problems and weather factors.

Figure 8 also shows that there was an increase in the number of re-connections made throughout the year with a particularly large increase recorded in the March quarter 2009 which was sustained through to the June quarter 2009. This increase was attributed to the introduction by Energex of a ‘de-energisation main switch seal’ in mid-December 2008 which enabled it to de-energise properties by placing a seal over the mains switch rather than having to physically de-energise the property by removing a fuse. This resulted in a quicker reconnection process.

The downward trend in new connections illustrated in **Figure 8** was attributed to a decline in the number of new premises being built in the Queensland housing sector because of the global financial crisis.

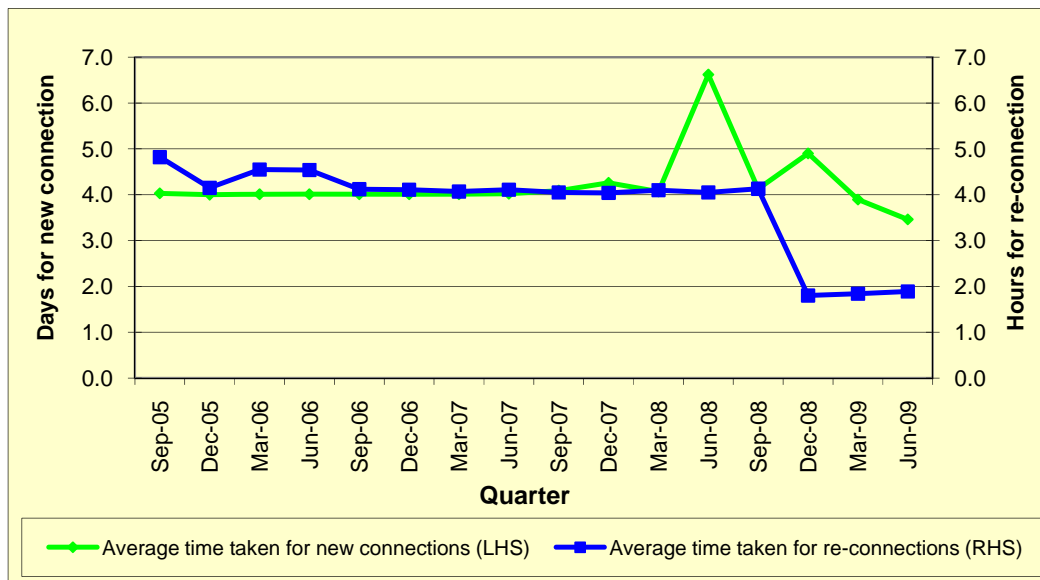
Figure 8: Energex – number of new and reconnections made, proportion of new connections and reconnections not made on the agreed date



Source: Energex Quarterly Service Quality Reports.

As shown in **Figure 9**, the average length of time that customers have had to wait for new connections and re-connections have both decreased over the 2008-09 year. The reduction in the average waiting time for new connections was attributed to a reduction in the number of new connections being made. The reduction in the average waiting time for re-connections was due to the ‘de-energisation main switch seal’ process shortening the time taken to complete a reconnection.

Figure 9: Energex – average time taken for new connections and reconnections

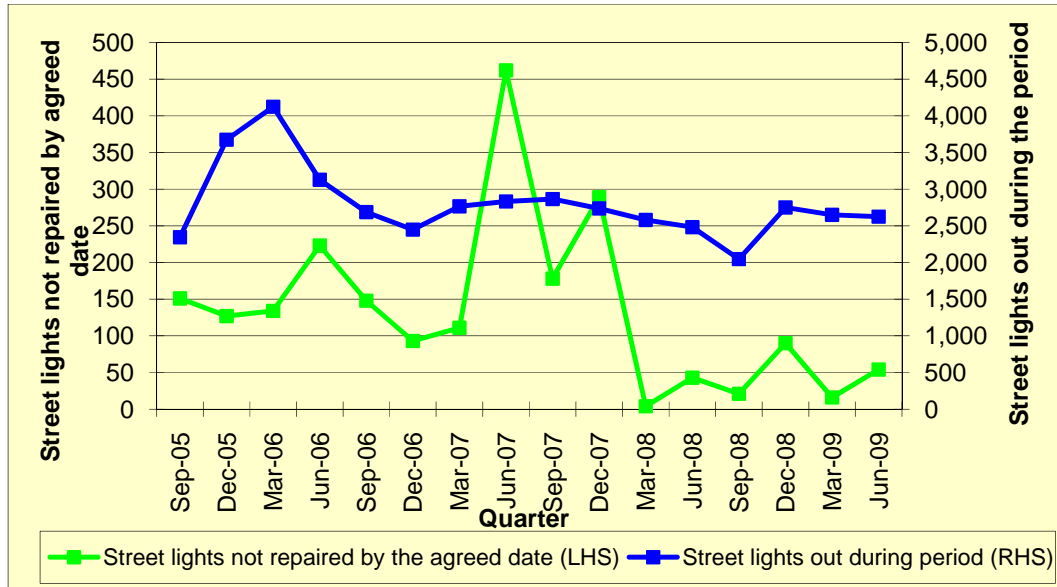


Source: Energex’s Quarterly Service Quality Reports.

Figure 10 shows that the number of Energex’s streetlights reported as being out of order increased from 2,046 in the September quarter 2008 to 2,751 in the December quarter 2008 but

then remained relatively steady for the remainder of the year. The number of streetlights not repaired by the agreed date was also relatively steady with a high of 90 in the December quarter 2008 and a low of 16 in the March quarter 2009.

Figure 10: Energex – street light maintenance



Source: Energex’s Quarterly Service Quality Reports.

The average time taken to repair faulty streetlights remained fairly constant at around four days during 2008-09. This measure has varied little since reporting began under the Guidelines (between three to five days) (Table 12).

Table 12: Energex - average time taken to repair faulty streetlights

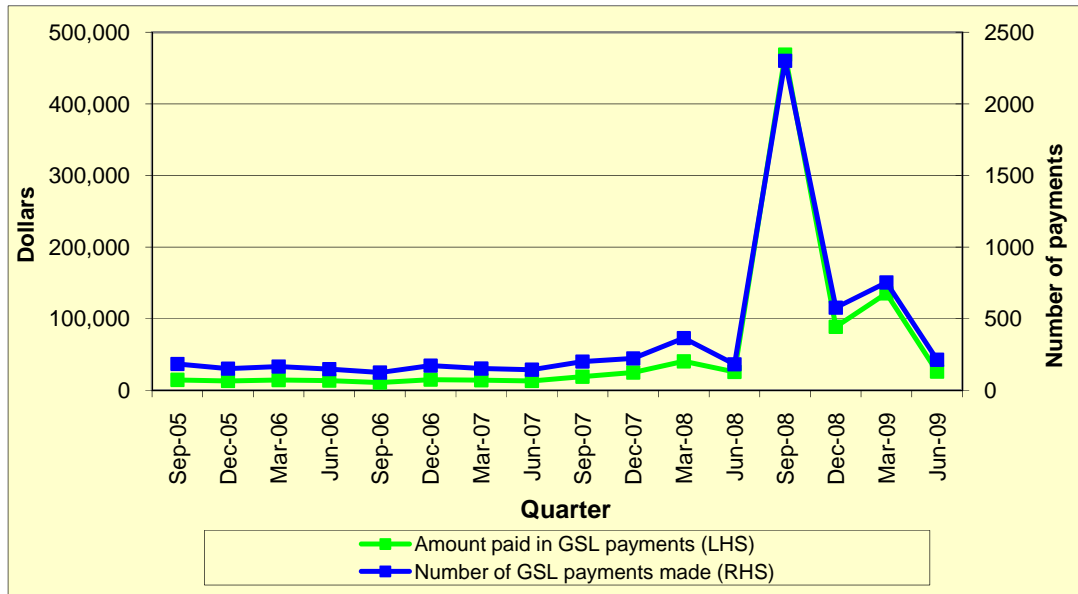
	Sep 2008	Dec 2008	Mar 2009	Jun 2009
Average number of days taken to repair street lights	4.0	4.0	4.0	3.6

Source: Energex’s Quarterly Service Quality Reports.

Guaranteed Service Levels (GSL) relate to the quality of service received by individual customers. In certain circumstances, if distributors fail to comply with the GSL, the Electricity Industry Code provides that an affected customer is eligible for compensation in the form of a GSL payment. The increase in quarterly GSL payments during 2005-06 was due to the introduction of a GSL scheme mandated by the Queensland Government from 1 January 2005. Prior to 1 January 2005, GSL payments were voluntary payments made by the distributors to customers that reported instances where the distributors had not met self-imposed service quality standards.

Figure 11 shows that a total of 3,844 GSL payments worth \$718,760 were paid during the 2008-09 financial year which is a substantial increase from the 971 payments valued at \$109,850 reported in 2007-08. The sharp jump in the September quarter 2008, when 2,301 GSL payments were made, was attributed by Energex to a failure by retailers to provide it with information about new customers in a timely manner, which lead to many new connections being made outside specified timeframes.

Figure 11: Energex – guaranteed service level payments

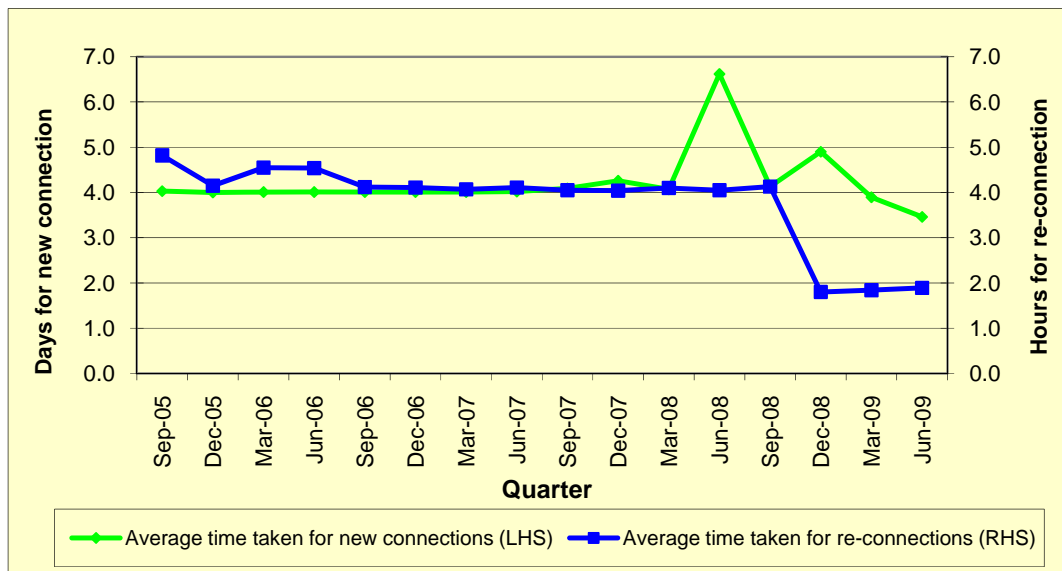


Source: Energex’s Quarterly Service Quality Reports.

Figure 12 shows that the proportion of occasions for which the required notice of a planned interruption to supply was not given averaged 3.1% during 2008-09 which was a slight increase from the 2.7% recorded in 2007-08. The large increase in this measure during 2005 was due to problems encountered by Energex after changing its process of recording planned interruptions.

Figure 12 also shows that the proportion of occasions on which the duration of a planned interruption exceeded the time specified in the notification also remained relatively constant during 2008-09 averaging 18.8% compared to 19.7% the previous year.

Figure 12: Energex – notification of commencement and duration of planned interruptions



Source: Energex’s Quarterly Service Quality Reports.

Table 13 shows that meter-reading complaints were the main contributor to complaints during 2008-09. The timeliness of service delivery and complaints relating to general issues were among the other important causes of complaints during 2008-09.

Table 13: Energex – reasons for complaints

<i>Type of complaint</i>	<i>Sep 2008</i>	<i>Dec 2008</i>	<i>Mar 2009</i>	<i>Jun 2009</i>	<i>Total</i>
Total number of complaints	2,261	3,221	3,714	3,488	12,684
Meter reading complaints	759	1,086	1,586	1,493	4,924
Timeliness of service delivery	422	739	669	596	2,426
General complaints	498	575	517	449	2,039
Staff behaviour	193	337	317	282	1,129
Trees	140	174	284	238	836
Damage to property	97	107	99	120	423
Streetlights	28	64	88	121	301
Condition of worksite	52	49	83	112	296
Poles	34	35	32	36	137
Driving	22	34	26	25	107
Vehicles	13	15	13	16	57
Transformers	3	6	0	0	9

Source: Energex's Quarterly Service Quality Reports.

The percentage of complaints that were not resolved at the initial point of contact but that were resolved within 20 days of being escalated was 97.5% during June quarter 2009. This represents a slight improvement compared to 94.5% of resolved complaints recorded during the June quarter 2008. The average time taken to resolve complaints that were escalated decreased to 1.2 days in the June quarter 2009, which was a slight improvement from the two days recorded in the June quarter 2008.

APPENDIX A: FINANCIAL DATA TABLES – 2004-05 TO 2008-09**Table A1: Energex - Aggregate financial information (\$million, nominal)**

	2004-05	2005-06	2006-07	2007-08	2008-09
Revenue					
Forecast	545.7	626.8	692.1 ¹	777.8 ¹	869.1 ¹
Actual	551.1	652.7	715.1 ¹	754.3 ¹	910.6 ¹
Expenditure					
Forecast operating and maintenance expenditure	184.2	225.9	270.5	272.5	309.2
Actual operating and maintenance expenditure					
Operating expenditure	19.2	70.5	85.4	79.6	88.8
Maintenance expenditure	151.0	163.6	189.1	203.7	221.0
Total (Actual)	170.2	234.1	274.5	283.3	309.8
Forecast depreciation	179.9	225.9	240.8	260.2	290.0
Actual depreciation	167.6	211.1	235.4	251.8	253.7
Total expenditure (forecast)	364.1	451.8	511.3	532.7	613.8
Total expenditure (actual)	337.8	445.2	509.9	535.1	555.0
Customer contributions					
Forecast	25.1	35.9	39.2	42.6	46.5
Actual	40.8	38.8	47.2	49.3	45.7
Tax paid					
Forecast		7.6	6.5	12.7	14.5
Actual		24.0	6.6	6.7	(8.5)
Capital expenditure					
Forecast	256.0	578.7	667.6	799.4	819.8
Actual	526.5	725.0	718.9	683.0	836.4
Fixed assets					
Forecast	3,469.7	4,823.6	5,424.6	6,124.5 ²	6,834.5 ²
Actual	4,371.9	5,022.8	5,608.4	6,266.9 ²	6,987.6 ²
Energy Sales (million MWh)					
Actual	19.7	20.8	21.1	20.9	22.4
Number of customers					
Actual	1,190,237	1,217,193	1,248,510	1,270,734	1,294,464

¹ Excludes revenue from non-DUOS services (later reclassified as excluded services)

² Energex estimated that the actual fixed assets include \$7.1 million of regulated assets used for the provision of excluded services.

Table A2: Energex - Revenue (\$million, nominal)

<i>Revenue source*</i>	<i>2004-05</i>	<i>2005-06</i>	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>
Sales					
Network services (exc. public lighting)	531.6	607.5	658.4	723.5	861.1
Public lighting	19.5	25.2	29.1	30.8	49.4
Total network services	551.1	632.7	687.5	754.3	910.5
TUOS pass-through	175.0	187.0	194.5	219.6	260.3
Excluded Services	7.7	20.0	27.6	22.9	23.7
Total services	733.8	839.7	909.6	996.8	1,194.5
Capital contributions	40.8	38.8	47.2	49.3	45.7
Profit from sale of assets	(0.6)	0.2	1.0	(1.1)	1.3
Proceeds from sale of assets	3.7	5.0	9.6	14.1	7.8
Book value of assets sold	4.3	4.8	8.6	15.2	9.1
Other revenue	1.7	2.2	16.8	45.5	27.7

** May not sum due to rounding*

Table A3: Energex - Operating and maintenance expenditure (\$million, nominal)

<i>Expenditure</i>	<i>Network services</i>	<i>Excluded services</i>
Operating expenditure		
Meter reading	10.5	
Customer service	12.0	
Advertising and marketing	2.0	
Full retail contestability	21.9	
Other –		
Network Operations	20.9	
Recoverable works	0	
Other	21.4	
Total	88.8	
Public street lighting	0	
Total operating expenditure	88.8	33.1 ¹
Network maintenance expenditure		
Inspection	20.1	
Maintenance and repair	98.5	
Vegetation management	69.1	
Emergency Response	19.3	
Other	0	
Total	207.0	
Public street lighting	13.9	
Total maintenance expenditure	220.9	
Total operating and maintenance expenditure*	309.7	33.1

* May not sum due to rounding

¹ Includes expenditures for infrastructure projects and excluded distribution services

Table A4: Energex - Depreciation (\$million, nominal)

<i>Asset</i>	<i>Network services</i>	<i>Excluded services</i>
System Assets:		
overhead sub-transmission lines	10.7	
underground sub-transmission lines	21.8	
overhead distribution lines	31.1	
underground distribution lines	29.5	
distribution equipment	3.7	
substation bays	16.9	
substation establishment	3.0	
substation switchgear	2.3	
zone transformers	11.7	
distribution transformers	30.6	
low voltage services	7.7	
meters	9.8	
communications	1.2	
street lighting	25.4	
buildings	4.9	
easements	0.0	
land	0.0	
Non-System Assets:		
communications	0.1	0.1
control centre -SCADA	4.1	0.1
IT systems	10.3	0.4
office furniture and equipment	0.4	0.0
motor vehicles	25.6	0.9
research and development	0.0	0.0
buildings	2.9	0.1
easements	0.0	0.0
land	0.0	0.0
Total*	253.7	1.6

* May not sum due to rounding

Table A5: Energex - Expected and remaining lives of assets

<i>Asset</i>	<i>Expected weighted average economic life (weighted by optimised replacements cost (ORC)) (years)</i>	<i>Weighted average remaining economic life (weighted by ORC) (years)</i>
System Assets:		
overhead sub-transmission lines	51	39
underground sub-transmission lines	45	36
overhead distribution lines	45	34
underground distribution lines	60	49
distribution equipment	35	30
substation bays	45	34
substation establishment	49	37
substation switchgear	45	33
zone transformers	50	44
distribution transformers	41	31
low voltage services	35	30
meters	25	16
communications	36	33
street lighting	20	13
buildings	47	40
easements	n/a	n/a
land	n/a	n/a
Non-System Assets:		
communications	9	6
control centre -SCADA	0	0
IT systems	5	3
office furniture and equipment	7	5
motor vehicles	8	6
research and development	5	0
buildings	35	30
easements	n/a	n/a
land	n/a	n/a

Table A6: Energex - Asset values (\$million, nominal)

<i>Asset</i>	<i>value</i>
System Assets:	
overhead sub-transmission lines	263.1
underground sub-transmission lines	463.9
overhead distribution lines	949.5
underground distribution lines	1,412.2
distribution equipment	110.5
substation bays	498.1
substation establishment	106.3
substation switchgear	62.9
zone transformers	422.7
distribution transformers	915.9
low voltage services	237.5
meters	119.9
communications	36.1
street lighting	253.4
buildings	189.4
easements	80.7
land	219.3
Non-System Assets:	
communications	0.1
control centre -SCADA	0.0
IT systems	3.2
office furniture and equipment	1.5
motor vehicles	129.3
research and development	0.0
buildings	63.3
easements	0.0
land	36.0
Work in progress	412.9
Total*	6,987.6

* May not sum due to rounding

Table A7: Energex - Capital expenditure and additions (\$million, nominal)

<i>Capital expenditure*</i>	<i>value</i>
System Assets:	
overhead sub-transmission lines	44.3
underground sub-transmission lines	91.6
overhead distribution lines	132.1
underground distribution lines	105.3
distribution equipment	27.6
substation bays	39.1
substation establishment	16.6
substation switchgear	4.9
zone transformers	84.6
distribution transformers	102.0
low voltage services	47.9
meters	2.1
communications	4.8
street lighting	20.7
buildings	19.9
easements	10.5
land	25.6
Non-System Assets:	
communications	0.0
control centre -SCADA	0.8
IT systems	4.2
office furniture and equipment	0.2
motor vehicles	32.6
research and development	0.0
buildings	6.0
easements	0.0
land	13.2
Total	836.4

* May not sum due to rounding

Table A8: Energex - Capital expenditure by purpose

<i>Capital expenditure</i>	<i>value</i>
Asset replacement	105.3
Demand related	617.4
Reliability and quality improvements	46.1
Other	67.6
Total	836.4

Table A9: Related party transactions - Energex (\$million, nominal)

<i>Transaction</i>	<i>value</i>
Total value of related party transactions	61.9
