

APPENDIX 22

**Forecast cost escalation rates Addendum
PwC**

Forecast cost escalation rates

Energex

*Addendum to the
final report*

11 August 2014

Disclaimer

This report has been prepared by PricewaterhouseCoopers Australia (PwC) for Energex in accordance with the scope defined in our letter of engagement dated 26 June 2014.

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Overview

PricewaterhouseCoopers Australia (PwC) was engaged by Energex in early 2014 to analyse expected movements in the drivers of some capital, operating, and support expenditure, and to develop cost escalation factors for the following cost categories:

- labour and fixed-term contractors
- contractors (service delivery)
- non-system materials, including ancillary consumables used in the performance of maintenance, and operating and support activities
- non-system assets, including land, buildings, and motor vehicles
- occupancy expenditures, including rent and leases, utilities and maintenance
- transport costs, including vehicle maintenance, fuels and oils, insurance and registration
- land tax.

In preparation for Energex's regulatory submission to the AER in late October 2014, PwC has been engaged to update the escalation factors to ensure they reflect the most recent data available. The updated values are summarised below.

This Addendum has been undertaken in accordance with the scope and terms and conditions as defined in our letter of engagement dated 26 June 2014.

Updated escalation factors

Employee and fixed term contractors costs

Employee and fixed term contractor costs are escalated in line with the Queensland wage price index (WPI). The actual 2013/14 result is calculated for the period from March 2013 to March 2014 to ensure consistency with Energex's other reporting processes. Forecasts of the Queensland WPI are sourced from Queensland Treasury and Trade, and are held constant at 3.50 per cent from 2018/19 onwards.

Forecasts of the consumer price index (CPI) used to calculate real growth rates are based on current forecasts published by the Reserve Bank of Australia (RBA).¹

Table 1: Forecast labour and fixed term contractor escalation factors ^{2 3 4 5}

Escalation factor	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Nominal growth rate	2.61%	3.00%	3.25%	3.50%	3.50%	3.50%	3.50%
Real growth rate	-0.31%	0.73%	0.24%	0.98%	0.98%	0.98%	0.98%

Contractors (service delivery)

Table 2 details the revised contractor (service delivery) escalation rates. The weighted index has been developed applying forecasts of the national WPI, presented in the Commonwealth Treasury's Budget Strategy and Outlook (2014/15) and held constant at 3.0% annual growth from 2018/19 onwards. Actual 2013/14 results are calculated for the period from March 2013 to March 2014 to ensure consistency with Energex's other reporting processes.

¹ The RBA provided estimates of annual CPI for 2014/15 and 2015/16 as ranges. For the purposes of developing real estimates, the mid-points of these ranges have been applied. For all remaining years, the mid-point of the RBA inflation target (2 to 3 per cent) has been applied. This approach has been adopted throughout this addendum. RBA forecasts of inflation are published in its Statement on Monetary Policy, available at <http://www.rba.gov.au/publications/smp/index.html>

² Australian Bureau of Statistics (2014) *Consumer Price Index, Australia, June 2014. Cat No. 6401.0*. Available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6401.0Jun%202014?OpenDocument>

³ Australian Bureau of Statistics (2014) *Wage Price Index, Australia, March 2014 Cat No. 6345.0*. Available at: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6345.0Mar%202014?OpenDocument>

⁴ Queensland Treasury and Trade (2014) *Economic Performance and Outlook*. Available at <http://www.budget.qld.gov.au/budget-papers/2014-15/bp2-2-2014-15.pdf>

⁵ Reserve Bank of Australia (2014) *Statement on Monetary Policy August 2014*. Available at <http://www.rba.gov.au/publications/smp/>

Table 2: Forecast Contractor (service provision) escalation factors^{6 7 8}

Escalation factor	Weight	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
WPI	43.4%	2.61%	3.00%	3.00%	2.75%	3.00%	3.00%	3.00%
CPI	47.8%	2.93%	2.25%	3.00%	2.50%	2.50%	2.50%	2.50%
Fixed	8.8%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Weighted index	-	2.53%	2.38%	2.74%	2.39%	2.50%	2.50%	2.50%
Nominal growth rate	-	2.53%	2.38%	2.74%	2.39%	2.50%	2.50%	2.50%
Real growth rate	-	-0.39%	0.12%	-0.26%	-0.11%	0.00%	0.00%	0.00%

General materials

General materials costs are escalated in line with general inflation, as measured by CPI. Updated general materials cost escalation rates are presented in Table 3. Actual 2013/14 inflation is calculated for the period from March 2013 to March 2014 to ensure consistency with Energex's other reporting processes.

Table 3: Forecast general materials cost escalation factors^{9 10}

Escalation Factor	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Nominal growth rate	2.93%	2.25%	3.00%	2.50%	2.50%	2.50%	2.50%
Real growth rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

⁶ Australian Bureau of Statistics (2014) *Wage Price Index*, March 2014. Available at: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6345.0Mar%202014?OpenDocument>

⁷ Commonwealth Treasury (2014) *Budget Strategy and Outlook Budget Paper No. 1 2014-15*. Available at: http://www.budget.gov.au/2014-15/content/bp1/html/bp1_prelims.htm

⁸ Reserve Bank of Australia (2014) *Statement on Monetary Policy August 2014*. Available online at <http://www.rba.gov.au/publications/smp/>

⁹ Australian Bureau of Statistics (2014) *Consumer Price Index, Australia, June 2014. Cat No. 6401.0*. Available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6401.0Jun%202014?OpenDocument>

¹⁰ Reserve Bank of Australia (2014) *Statement on Monetary Policy August 2014*. Available at <http://www.rba.gov.au/publications/smp/>

Buildings

Our original report recommended Energex escalate its building capital expenditure in line with the Construction Forecasting Council's Construction (Engineering) Index. This data series is no longer publicly available. The most recent publicly available data for this index was included in our original advice developed for Energex in March 2014 and is repeated here.

The revised nominal escalation factors presented below are calculated using updated inflation forecasts. Actual 2013/14 inflation has been calculated for the period from March 2013 to March 2014 to ensure consistency with Energex's other reporting processes.

Table 4: Forecast of the CFC engineering construction price index¹¹

Escalation factor	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Nominal growth rate	4.27%	4.47%	5.32%	4.76%	4.67%	4.65%	4.70%
Real growth rate	1.30%	2.17%	2.25%	2.20%	2.12%	2.10%	2.15%

Land

Land expenditure is escalated at a rate equal to the long run average growth rate of the value of Queensland land, as published by the Australian Bureau of Statistics (ABS). Land value data is recorded as at 30 June each year, and has not been updated since we provided our report.

The revised real escalation factors presented below are calculated using updated inflation forecasts. Actual 2013/14 inflation has been calculated for the period from March 2013 to March 2014 to ensure consistency with Energex's other reporting processes.

Table 5: Forecast increases in Queensland land values^{12 13 14}

Land category	Escalation factor	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Residential	Nominal	10.15%	10.15%	10.15%	10.15%	10.15%	10.15%	10.15%
	Real	7.02%	7.73%	6.95%	7.47%	7.47%	7.47%	7.47%
Commercial	Nominal	5.87%	5.87%	5.87%	5.87%	5.87%	5.87%	5.87%
	Real	2.86%	3.54%	2.79%	3.29%	3.29%	3.29%	3.29%
Rural	Nominal	4.33%	4.33%	4.33%	4.33%	4.33%	4.33%	4.33%
	Real	1.36%	2.03%	1.29%	1.78%	1.78%	1.78%	1.78%
Other	Nominal	7.62%	7.62%	7.62%	7.62%	7.62%	7.62%	7.62%
	Real	4.56%	5.26%	4.49%	5.00%	5.00%	5.00%	5.00%

¹¹ Australian Construction Industry Forum (2014) Engineering Construction Index. Accessed at <http://www.acif.com.au/forecasts/construction-aggregates>

¹² Australian Bureau of Statistics (2013) *Australian System of National Accounts, 2012-13*, ABS Cat No. 5204.0 Table 61. Available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5204.02012-13?OpenDocument>

¹³ Australian Bureau of Statistics (2014) *Consumer Price Index, Australia, June 2014*. Cat No. 6401.0. Available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6401.0Jun%202014?OpenDocument>

¹⁴ Reserve Bank of Australia (2014) *Statement on Monetary Policy August 2014*. Available at <http://www.rba.gov.au/publications/smp/>

Land tax

The same rates are recommended for escalation of Energex's land tax expenditure.

Table 6: Forecast increases in Queensland land values^{15 16 17}

Land category	Escalation factor	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Residential	Nominal	10.15%	10.15%	10.15%	10.15%	10.15%	10.15%	10.15%
	Real	7.02%	7.73%	6.95%	7.47%	7.47%	7.47%	7.47%
Commercial	Nominal	5.87%	5.87%	5.87%	5.87%	5.87%	5.87%	5.87%
	Real	2.86%	3.54%	2.79%	3.29%	3.29%	3.29%	3.29%
Rural	Nominal	4.33%	4.33%	4.33%	4.33%	4.33%	4.33%	4.33%
	Real	1.36%	2.03%	1.29%	1.78%	1.78%	1.78%	1.78%
Other	Nominal	7.62%	7.62%	7.62%	7.62%	7.62%	7.62%	7.62%
	Real	4.56%	5.26%	4.49%	5.00%	5.00%	5.00%	5.00%

Occupancy expenditure

Occupancy expenditure is escalated in line with a weighted index comprising forecast rent increases, the long run average of the CPI – Utilities (Australia) series, and forecast CPI. Updated occupancy expenditure rates are presented below.

Actual 2013/14 CPI is calculated for the period from March 2013 to March 2014 to ensure consistency with Energex's other reporting processes.

Table 7: Forecast occupancy expenditure escalation factors^{18 19}

Escalation factor	Weight	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Rent	50%	3.53%	3.38%	3.55%	3.44%	3.44%	3.44%	3.42%
CPI – Utilities (Australia)	21%	5.36%	5.36%	5.36%	5.36%	5.36%	5.36%	5.36%
CPI	29%	2.93%	2.25%	3.00%	2.50%	2.50%	2.50%	2.50%
Weighted index	-	3.74%	3.47%	3.77%	3.57%	3.57%	3.57%	3.56%
Nominal growth rate	-	3.74%	3.47%	3.77%	3.57%	3.57%	3.57%	3.56%
Real growth rate	-	0.79%	1.19%	0.75%	1.04%	1.04%	1.04%	1.03%

¹⁵ Australian Bureau of Statistics (2013) *Australian System of National Accounts, 2012-13*, ABS Cat No. 5204.0 Table 61. Available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5204.02012-13?OpenDocument>

¹⁶ Australian Bureau of Statistics (2014) *Consumer Price Index, Australia, June 2014*. Cat No. 6401.0. Available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6401.0Jun%202014?OpenDocument>

¹⁷ Reserve Bank of Australia (2014) *Statement on Monetary Policy August 2014*. Available at <http://www.rba.gov.au/publications/smp/>

¹⁸ Australian Bureau of Statistics (2014) *Consumer Price Index, Australia, June 2014*. Cat No. 6401.0. Available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6401.0Jun%202014?OpenDocument>

¹⁹ Reserve Bank of Australia (2014) *Statement on Monetary Policy August 2014*. Available at <http://www.rba.gov.au/publications/smp/>

Motor vehicles

Motor vehicles expenditure is escalated in line with general inflation, as measured by CPI. Updated motor vehicles escalation rates are presented below. Actual 2013/14 inflation is calculated for the period from March 2013 to March 2014 to ensure consistency with Energex's other reporting processes.

Table 8: Forecast motor vehicles escalation factors^{20 21}

Escalation Factor	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Nominal growth rate	2.93%	2.25%	3.00%	2.50%	2.50%	2.50%	2.50%
Real growth rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Transport costs

Transport costs are escalated in line with a weighted index comprising the Queensland WPI, the upper bound of the RBA's inflation target, the mid-point of expected registration increases and the long run growth rate of the CPI – Insurance (Australia) series.

Actual 2013/14 inflation and wage price escalation are calculated for the period March 2013 to March 2014 to ensure consistency with Energex's other reporting processes. Forecasts of the Queensland WPI are sourced from Queensland Treasury and Trade's 2014/15 Economic Performance and Outlook budget paper. We have held the series constant at 3.5 per cent annual growth from 2018/19 onwards.

The escalation rate for light vehicle registration costs are sourced from the Queensland Government's indexation policy, while the updated escalation rate for heavy vehicle registration costs is sourced from the National Transport Commission.

²⁰ Australian Bureau of Statistics (2014) *Consumer Price Index, Australia, June 2014. Cat No. 6401.0*. Available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6401.0Jun%202014?OpenDocument>

²¹ Reserve Bank of Australia (2014) *Statement on Monetary Policy August 2014*. Available at <http://www.rba.gov.au/publications/smp/>

Table 9: Forecast transport costs escalation factors ^{22 23 24 25 26 27}

Escalation factor	Weight	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
CPI (upper limit)	49%	2.93%	2.75%	3.50%	3.00%	3.00%	3.00%	3.00%
WPI	35%	2.61%	3.00%	3.25%	3.50%	3.50%	3.50%	3.50%
Registration	9%	2.40%	2.40%	2.40%	2.40%	2.40%	2.40%	2.40%
CPI – Insurance (Australia)	7%	4.77%	4.77%	4.77%	4.77%	4.77%	4.77%	4.77%
Weighted index		2.90%	2.95%	3.40%	3.24%	3.24%	3.24%	3.24%
Nominal growth rate		2.90%	2.95%	3.40%	3.24%	3.24%	3.24%	3.24%
Real growth rate		-0.03%	0.68%	0.39%	0.73%	0.73%	0.73%	0.73%

²² Australian Bureau of Statistics (2014) *Consumer Price Index, Australia, June 2014*. Cat No. 6401.0. Available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6401.0Jun%202014?OpenDocument>

²³ Reserve Bank of Australia (2014) *Statement on Monetary Policy August 2014*. Available at <http://www.rba.gov.au/publications/smp/>

²⁴ Queensland Treasury and Trade (2014) *Economic Performance and Outlook*. Available at <http://www.budget.qld.gov.au/budget-papers/2014-15/bp2-2-2014-15.pdf>

²⁵ Queensland Government (2014) *Transport Legislation (Fees) Amendment Regulation (No. 1) 2014*. Available at https://www.legislation.qld.gov.au/LEGISLTN/SLS/RIS_EN/2014/14SL061E.pdf

²⁶ National Transport Commission (2014) *2014 Heavy vehicle charges determination*. Available at <http://www.ntc.gov.au/viewpage.aspx?documentid=2513>

²⁷ Australian Bureau of Statistics (2014) *Wage Price Index, Australia, March 2014* Cat No. 6345.0. Available at: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6345.0Mar%202014?OpenDocument>

