

# Review of ENERGEST's revised regulatory proposal for the period July 2010 to June 2015

May 2010

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**for the Australian Energy Regulator**

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## Notes

All dollar values in this report are expressed as \$m real 2009-10 unless stated otherwise.

Totals in tables may not add due to rounding errors.

# 1. Introduction

In this section we describe the background to the review and provide details of the terms of reference. We also set out the structure of this report.

## 1.1 Background to the review

The Australian Energy Regulator (AER), in accordance with its responsibilities under the National Electricity Rules (NER), is to conduct an assessment of the appropriate distribution determination to be applied to direct control services provided by DNSPs in South Australia and Queensland for the period 1 July 2010 to 30 June 2015.

PB provided advice to AER about ENERGEX's regulatory proposal in November 2009<sup>1</sup> and the AER released its draft decisions also in November 2009. In January 2010, ENERGEX submitted a revised regulatory proposal.

The AER now requires PB to review and provide advice on a number of issues raised in this revised proposal, to inform its final decision and distribution determination.

The areas selected for inclusion in PB's terms of reference were based on a considered view by the AER, in consultation with PB, on the extent of new information included by ENERGEX in its revised proposal, the materiality of the expenditure adjustments, and the relevance and experience of PB's previous engagement.

## 1.2 Terms of reference

PB is required to produce a report providing technical advice and comment on aspects of the ENERGEX revised proposal. In preparing its report, PB is to:

- consider any new information provided by the DNSP as part of its revised proposal and advise of any revisions to the recommendations made by it in its previous reports
- provide details of any revisions to the DNSP's revised opex and capex allowances as a result of any changes it recommends
- set out what new information and reasoning has led to the revision of any of its previous recommendations. If no such changes are made in relation to issues raised by the DNSP, PB must set out why the DNSP's responses and new information do not lead to a revised recommendation.

Within its report, PB must have regard to the opex and capex objectives, criteria and factors set out in clauses 6.5.6 and 6.5.7 of the NER.

Table 1.1 outlines the elements under review by PB. These were selected in conjunction with the AER. The type of review is classified as either Detailed or High Level to provide an indication to PB of the weighting, importance and effort to be placed on each of the elements considered.

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<sup>1</sup> These reports are available from the AER's website.

**Table 1.1 Elements under review by PB**

Expenditure category	Type of review
<b>Forecast capex element</b>	
Corporate initiated growth capex – demand forecast sensitivity	Detailed
Composite material cost escalators	Detailed
<b>Forecast non-system capex element</b>	
ICT capex initiatives (overheads) - justification	Detailed
Land and Buildings - justification	Detailed
Motor vehicles and tools - escalators	High level
<b>Forecast opex element</b>	
Feed-in tariff – forecasting methodology	High level

Source: AER

PB has primarily undertaken a desktop review of ENERGEX's revised proposal as the timeframe for the review provided only limited opportunity for PB to clarify any new information. PB has, however, sought specific clarification through written requests and responses in areas that it considered important to its findings.

### 1.3 Report structure

This report is supplementary to and should be read in conjunction with PB's 2009 report, 'Review of ENERGEX regulatory proposal for the period July 2010 to June 2015'. A copy of this report is available from the AER's website.

In Section 2, we review ENERGEX's revised forecasts for system capex. In section 3 we review the revised non-system capex forecasts, while in section 4 we review the revised forecast opex elements.

## 2. Forecast Capex

In this section PB reviews the following matter in relation to ENERGEX's revised forecast capex proposal:

- Corporate initiated growth capex – demand forecast sensitivity
- Composite materials cost escalators.

### 2.1 Corporate initiated growth capex – demand forecast sensitivity

PB is required to provide updated advice on the methodology for, and amount of, any adjustment necessary to ENERGEX's revised growth related corporate initiated augmentation capex proposal as a result of an adjustment to forecast demand, subject to MMA's recommendations on the reasonableness of ENERGEX's revised demand forecasts.

In its original proposal, ENERGEX submitted a demand forecast that was based on summer 2007-08 and winter 2008 peak demands. The forecast was revised to account for the impact of the Global Financial Crisis (GFC) prior to submission of the original capital expenditure proposal. In its draft decision, the AER found on the basis of MMA's review that ENERGEX's demand forecast did not provide a realistic expectation of the demand forecast required and applied a reduction equivalent to a one year deferral of the forecast demand growth.

This adjustment was applied as a 20% reduction in growth capex in each year of the regulatory control period resulting in a total reduction of \$289m.

#### 2.1.1 Revised proposal and new information

In its revised proposal, ENERGEX has resubmitted its original growth capex proposal on the basis that the MMA adjustment to the demand forecast is not supported and that the revised demand forecast prepared by NIEIR in October 2009 results in negligible change to the forecast maximum demand over the next regulatory control period.

ENERGEX has also removed the \$20.2m allowance for the Traveston Dam project from its capital expenditure proposal due to the cancellation of the project.

#### 2.1.2 PB findings and recommendation

In terms of the Traveston Dam project, PB confirms that the amount allowed for the project in the original proposal was \$20.2m and that the removal of this amount is appropriate.

In regards to the demand forecast sensitivity, PB has reviewed the information provided by ENERGEX in support of its proposed adjustments to the growth capex and notes that the AER's adjustment to the growth capex was based on the advice of MMA arising from its review of the original demand forecast provided by ENERGEX.

In MMA's review of ENERGEX's revised demand forecast, it concludes that ENERGEX's submissions regarding MMA's methodology do not invalidate its methodology or

conclusions. Further to this, MMA has revised its own forecast and found that while it generally corresponds to ENERGEX's forecast in terms of growth rate, MMA's forecast remains approximately 200 MW, or some 3.8% on average below ENERGEX's forecast<sup>2</sup>.

In our original review, PB had regard to MMA's advice that ENERGEX's forecast was some 200 MW to 300 MW<sup>3</sup> above MMA's forecast. Consequently, PB recommended a reduction in growth capex equivalent to a deferral of approximately one year<sup>4</sup>. We note that MMA's findings in regards to ENERGEX's revised proposal also correspond to approximately a one year deferral of ENERGEX's demand forecast.

Consistent with our previous advice, PB's approach has been to identify the expenditure related to the growth in the corporate initiated augmentation category, less the security compliance component, and to proportionally reduce the proposed growth related CIA capex. This has the effect of smoothing the delay of one year over the 5 year regulatory control period.

On the basis of MMA's advice, PB recommends a reduction in ENERGEX's growth capex equivalent to a one year deferral as shown in Table 2.1.

**Table 2.1 Recommended corporate initiated growth capex**

Expenditure category	2010-11	2011-12	2012-13	2013-14	2014-15	Total
Growth – customer initiated capital works	228.3	233.5	219.8	220.4	220.8	1122.9
Growth – corporate initiated augmentation	169.1	199.2	263.8	309.2	370.3	1311.7
ENERGEX growth capex proposal	397.4	432.7	483.7	529.6	591.2	2434.6
PB adjustment	(33.8)	(39.8)	(52.8)	(61.8)	(74.1)	(262.3)
PB recommendation	363.6	392.9	430.9	467.7	517.1	2172.2

Source: PB analysis.

## 2.2 Composite materials cost escalators

PB is required to assess whether the real input costs proposed by ENERGEX in section 2 of its submission to the AER's draft determination<sup>5</sup> (including the supporting SKM report<sup>6</sup> and modelling in Appendix 1 of the submission) have been appropriately weighted to produce the composite materials cost escalator for ENERGEX's capex forecasts.

In its original proposal, ENERGEX had employed a constant materials cost escalator developed by KPMG. This materials escalator was valued at 0.0% real and had been derived qualitatively based on a quantitative review of the real cost escalation of the

<sup>2</sup> MMA, "Draft report to Australian Energy Regulator - Maximum demand forecasts for the Energex region – update addendum", 01 March 2010, pp. i-ii, 14-15.

<sup>3</sup> MMA, Review of ENERGEX's maximum demand forecasts for the 2010 to 2015 price review, September 2009, p.3.

<sup>4</sup> PB, "Review of ENERGEX regulatory proposal for the period July 2010 to June 2015", pp. 32-33, 2009.

<sup>5</sup> ENERGEX, Submission on Draft Determination for the period July 2010 – June 2015, 15 February 2010.

<sup>6</sup> SKM, Energex Forecast Materials Cost Escalation Rates for 2010-15, Final, 28 January 2010



underlying drivers and commodities. In its draft determination, the AER rejected the use of this materials escalator.

## 2.2.1 Revised proposal and new information

In its revised proposal, ENERGEX has applied the interim AER escalation rates to its expenditure and indicated that it would provide further information regarding escalators in its submission to the draft determination. As part of its submission to the draft determination, ENERGEX employed SKM to develop a materials cost escalator that is applicable to all network capital expenditure categories based on a weighting of input drivers and commodities. The overall weightings developed by SKM are presented Table 2.2.

**Table 2.2 ENERGEX's materials cost escalator component weightings**

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Aluminium	15.3%	14.5%	15.9%	15.4%	15.5%	15.1%	15.0%
Copper	6.3%	5.5%	4.6%	4.6%	5.2%	5.9%	6.5%
Steel	17.1%	16.8%	16.5%	15.8%	16.2%	15.6%	15.6%
Oil	3.6%	3.1%	2.3%	2.1%	2.5%	2.6%	2.4%
Other <sup>7</sup>	42.3%	39.9%	39.3%	37.9%	39.4%	39.2%	39.5%

Source: ENERGEX, *Submission on Draft Determination for the period July 2010 – June 2015*, 15 February 2010, p.6.

The materials escalation, presented as weighted annual rates as shown in Table 2.3 were derived through application of the overall component weightings to SKM's forecasts of escalation rates for the individual cost inputs and commodities. PB highlights that there are some differences between the materials escalation rates provided in ENERGEX's submission and the rates presented in SKM's report.

**Table 2.3 ENERGEX's weighted annual real materials cost escalation rates**

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
ENERGEX submission	-4.3%	-3.0%	10.5%	5.3%	-2.2%	-3.6%	-3.4%
SKM report	-1.4%	-4.0%	10.8%	5.1%	-2.2%	-3.6%	-3.4%

Source: ENERGEX, *Submission on Draft Determination for the period July 2010 – June 2015*, 15 February 2010, p.7; SKM, *Energex Forecast Materials Cost Escalation Rates for 2010-15, Final*, 28 January 2010, p.5.

## 2.2.2 PB findings and recommendation

Neither the ENERGEX submission, or the supporting SKM report provide detailed information or data regarding the specific calculations underpinning the proposed weightings. The SKM report indicates that the overall weightings were established by it independently applying a set of expenditure based category-level weightings within its database to each of the ENERGEX asset categories included in the forward program expenditures within its Post

<sup>7</sup>

'Other' input factors included in the SKM modelling include a combination of CPI, TWI, civil works and oil as a proxy for energy.

Tax Revenue Model, however these category-level weightings were not provided in the report. PB notes that according to the SKM report, the category-level weightings used were developed by SKM and were not verified in any way by ENERGEX.

In order to review the value of the weightings used by SKM to develop the materials escalator, PB undertook a simple calculation of typical values for expected category-level weightings using its understanding of DNSP project cost estimating and components to arrive at a comparable set of estimated network-level weightings. In order to undertake this calculation, PB was required to make assumptions regarding the type of materials being installed by ENERGEX. These assumptions were aligned to typical contemporary industry practice. Specifically it was assumed that cable and conductors were predominantly aluminium based, rather than copper based.

PB's estimated weightings are compared to ENERGEX's weightings (averaged across the period 2010-11 to 2014-15) in Table 2.4.

**Table 2.4 Comparison of ENERGEX's component weightings and PB's estimates**

	Aluminium	Copper	Steel	Oil	Other
ENERGEX average	15.4%	5.4%	15.9%	2.4%	60.94%
PB estimate	11.0%	3.1%	9.4%	2.0%	74.5%

Source: PB analysis, ENERGEX, Submission on Draft Determination for the period July 2010 – June 2015, 15 February 2010.

Notwithstanding that each of the metals commodity weightings are higher than anticipated by PB, we consider that the PB estimates of component weightings are sufficiently similar to those developed by SKM to conclude that the weightings are reasonable and suitable for use in the forecasting of ENERGEX's materials capital expenditure. Regarding this conclusion, PB notes the inherent variability in calculations of component weightings due to differences in procurement standards, methodology, assumptions and baseline data. Variations in the order of  $\pm 100\%$  can be expected due to these factors. PB also notes that some degree of verification by ENERGEX based on its detailed knowledge of its project and procurement standards would support their application.

## 3. Forecast non-system capex

In this section, PB reviews the following matters in relation to ENERGEX's revised forecast non-system capex proposal:

- ICT capex initiatives (overheads) – justification
- Land and buildings – justification
- Motor vehicles and tools – escalators.

### 3.1 ICT capex initiatives (overheads) – justification

PB is required to review in detail, and provide advice on the prudence and efficiency of the ICT capability projects proposed as part of ENERGEX's ICT shared costs in sections 3.2.5 and 4.2.6 of ENERGEX's revised proposal.

In its draft decision, the AER accepted PB's advice to reduce the amount of ENERGEX's non-system ICT expenditure by approximately \$13.3m (or approximately 7.2% of ICT expenditure capitalised within SPARQ), which corresponded to a proportional reduction in ICT overhead expenditure equivalent to approximately \$9.5m (or approximately 2% of total ICT overheads).<sup>8</sup>

This outcome resulted from PB's review of ENERGEX's new capability initiatives associated with its proposed ICT program having regard to a range of considerations including project need and efficiency, options analysis, and delivery strategy. In particular, it was found that with the exception of its DMS foundation project, which was included in the allowance approved in the AER's draft decision, there was little or no evidence quantifying the net benefits of ENERGEX's proposed new capability initiatives<sup>9</sup> and hence no evidence that demonstrated the prudence or efficiency of the proposed expenditures.<sup>10</sup>

#### 3.1.1 Revised proposal and new information

ENERGEX has submitted new information in the form of business cases to support its proposed expenditures.<sup>11</sup> The new business cases are for projects that include:

- Distribution Network Information System (DINIS) and Power System Simulator for Utilities (PSS/U) software
- holistic long term forecasting
- energy information management foundation and enterprise integration
- protection design and analysis
- civil design work

<sup>8</sup> PB, Review of ENERGEX regulatory proposal for the period July 2010 to June 2015, 2009, p.16-17.

<sup>9</sup> *ibid.*, p.60-62.

<sup>10</sup> *ibid.*, p.58-62.

<sup>11</sup> ENERGEX Revised Regulatory Proposal 2010-15, p.27-28.

- external data integration
- emergency service integration.<sup>12</sup>

Together, these projects account for approximately \$8.4m of total new ICT capability expenditure (or 29.2% of total new capability expenditure).<sup>13</sup>

No new information has been provided for the remaining new ICT capability projects, including for:

- performance management
- performance management upgrade
- operational report development.

These projects account for approximately \$4.9m of total new ICT capability expenditure (or approximate 17.1% of total new capability expenditure).<sup>14</sup>

PB notes that the new business cases appear to have been specifically prepared for the purposes of addressing the AER's review in response to its draft decision.<sup>15</sup> They represent 'strategic estimates' only, and are not a request for approval to proceed internally. It is noted that the business cases will be subject to revision, value assessment and formal financial approval closer to the time of project commencement.

To supplement its review, PB requested supporting information for one of the new capability projects. The DINIS PSS/U project<sup>16</sup> was selected on the basis that it represented the largest expenditure of those projects for which a business case had been provided. A copy of the supporting documentation that was referred to as part of the 'Business Case Set' was sought. The documents requested included the change management plan (Form 19313), risk management plan (Form 1886), and net present value (NPV) model.<sup>17</sup>

### 3.1.2 PB assessment and findings

#### *DINIS, PSS/U and DMS integration*

The business case for the DINIS and PSS/U project outlines the investment description, strategic contribution analysis, financial summary, and business change impact analysis arising from the implementation of the project. The purpose of the investment is to automate ENERGEX's current DINIS and PSS/U systems, and in doing so, achieve a "more timely delivery of network changes and reduced error rate in the data through the elimination of manual data entry".<sup>18</sup> The introduction of automated DINIS and PSS/U systems will also support the DMS project by assisting in ensuring all the network models within ENERGEX are consistent and aligned.<sup>19</sup>

<sup>12</sup> ENERGEX Revised Regulatory Proposal 2010-15, and *EE ERP – ch10 – capex.zip*.

<sup>13</sup> PB, Review of ENERGEX regulatory proposal for the period July 2010 to June 2015, 2009, p. 60.

<sup>14</sup> *ibid.*

<sup>15</sup> See, for example, ENERGEX Revised Regulatory Proposal 2010-15, *Appendix 4.2 – Business Case No. 8*, p.4. (Confidential)

<sup>16</sup> ENERGEX, 2010, Revised Regulatory Proposal 2010-15, *Appendix 4.2 – Business Case No. 8*, p.1-15. (Confidential)

<sup>17</sup> *Ibid.*, p.5.

<sup>18</sup> ENERGEX, 12 February 2010, PB.EGX.RP.01 – ICT. (Confidential)

<sup>19</sup> *Ibid.*

The total capital cost of the project is approximately \$1.1m, and this is expected to generate savings in operations equivalent to approximately \$3.2m per annum after escalation to 2009-10 dollars. The justification provided by ENERGEX to quantify the \$3.2m per annum in benefits is as follows:

- "It is estimated that 0.25% of capital program projects have been avoided due to timely and up-to-date network model resulting in an estimated annual savings of \$3m (0.25% x \$1,200m).
- The automation will free up planners and designers from manually updating these models, effectively giving a return equivalent to 0.5 FTEs, a saving of approximately \$70,000 per annum."<sup>20</sup>

Based on the above assumptions, it is estimated that a positive NPV of \$9.7m would result over an eight year evaluation period (or NPV of \$4.8m over five year regulatory period).<sup>21</sup>

PB checked to see how the costs and benefits were assessed in the NPV model presented for review. It was found that the stated NPV of \$9.7m in the business case reconciled with the NPV model. Specifically, the positive cash flows from operating activities (after tax payable) were subtracted by the cash flows from the project investment to derive an average net discount cash flow of approximately \$1.2m per annum over the eight year evaluation period.

PB notes that no other option was quantitatively assessed, although these were described in the business case. In this context, the 'do nothing' option was assessed as being undesirable due to the increased level of effort required to maintain separate information repositories, and the consequence of errors associated with future growth estimation and network capacity calculations. The alternative option of 'linking DINIS solution to the centralised model' was also assessed as having similar shortcoming to the 'do nothing' option, but provides some value as an alternative by increasing the accuracy in measuring network capacity and labour savings associated with maintenance.<sup>22</sup>

Overall, given the need and regard for the benefits associated with the project (including better planning and design and effective network model to ensure benefits of the DMS), PB recommends approval of the project.

### ***Other new capability projects***

PB also undertook a high level review of the remaining business cases submitted for review. In this context, all of the business cases provided yielded a positive NPV under a base case cost scenario. The NPV assessment ranged from as low as \$0.30m (i.e. energy information management foundation and energy enterprise integration project) to as high as \$3.9m (i.e. holistic forecasting project). Correspondingly, the projects were also estimated to have a payback period ranging between 2 years and 5 years under the base case cost scenario.

These results suggest that the new capability projects are largely self-funding based on the savings/benefits to be realised over the next regulatory control period. In all cases, alternative options including 'do nothing' were identified, but were not quantitatively examined relative to the preferred option and therefore not ranked.<sup>23</sup> However, PB does not

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ibid.

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ENERGEX, PB.EGX.RP.01 – ICT, NPV Model – DINIS PSSU and DMS Integration (see worksheets 3.4 PY Cashflow – NPV and 4.7 FY Project Income Tax Calcs) , 12 February. (Confidential)

22

ENERGEX, Revised Regulatory Proposal 2010-15, Appendix 4.2I, 2010. (Confidential)

23

ibid, Appendix 4.2 – Business Case No. 8, p.7-8. (Confidential)

consider that the absence of this assessment warrants a reduction to the cost in these instances, having regard to previous information provided on new capability projects<sup>24</sup> and the positive NPV associated with the preferred option.

PB is not satisfied, however, with those new capability projects where no new information had been provided to justify the expenditure. These projects include: (i) performance management, (ii) performance management upgrade, and (iii) operational report development. These projects account for approximately \$4.9m of total new ICT capability expenditure (or approximate 17.1% of total new capability expenditure).<sup>25</sup>

**PB recommendation**

PB has reviewed the new ICT capex information provided by ENERGEX in response to the AER's draft decision. As discussed above, ENERGEX and SPARQ have produced new business case documents for the majority of new capability projects that were found not to be prudent and efficient in PB's original review. Of the new business cases reviewed, PB is satisfied with the need and reasonableness of those business cases provided to justify its new capability ICT expenditure, provided the stated net financial benefits for these projects are realised.

PB notes that the recommended ICT capex has been justified by ENERGEX based on avoiding increases in opex in a number of areas and activities. Hence, no evidence has been identified to indicate that adjustments to opex are necessary because of the inclusion of the ICT projects.

Overall, PB recommends an expenditure program that includes business-as-usual ICT expenditure, plus those new ICT capability projects where business cases have been supplied to demonstrate prudence and efficiency. Table 3.1 sets out PB's revised recommendation for ICT expenditure capitalised within SPARQ. PB notes that expenditure in this table is capitalised within SPARQ and passes through to ENERGEX as a service charge.

**Table 3.1 Recommended capex for ICT expenditure – SPARQ**

Expenditure category	2010-11	2011-12	2012-13	2013-14	2014-15	Total
AER draft decision	50.9	35.5	30.6	29.2	24.7	170.8
ENERGEX revised proposal	54	39.2	32.9	31.1	26.9	184.1
PB adjustment	(1.5)	(0.2)	(0.2)	(1.1)	(1.9)	(4.9)
PB recommendation	52.5	39	32.7	30	25	179.2

Source: PB analysis.

To calculate the reduction in the service charge associated with the SPARQ capex, PB has used the 2008-09 SPARQ service charge as the base year costs and assumed the increase in the ICT overhead during the next regulatory control period is predominantly driven by the SPARQ capex. PB has then applied a reduction to the increases in the SPARQ service charge that is proportional to the reduction recommended for the SPARQ ICT capex. The calculation is shown in Table 3.2.

<sup>24</sup> ENERGEX, Item 4a – Joint ICT – ENERGEX AER Summary – Jan 2009 IMSC v0\_2. ppt. (Confidential)

**Table 3.2 Recommended reduction in ICT overheads expenditure – SPARQ**

Expenditure category	2010-11	2011-12	2012-13	2013-14	2014-15	Total
ICT overheads	78.8	91.3	97.7	95.4	93.9	457.0
ICT baseline (2009-10 year)	67.0	67.0	67.0	67.0	67.0	335.0
Increase in ICT (\$m)	11.8	24.3	30.7	28.4	26.9	122.0
% reduction in SPARQ capex (see table 3.1)	(2.8)	(0.5)	(0.6)	(3.5)	(7.1)	(2.7)
Proportional reduction in ICT overhead	(0.3)	(0.1)	(0.2)	(1.0)	(1.9)	(3.3)
PB recommended ICT overhead	78.5	91.2	97.5	94.4	92.0	453.7

Notes: In calculating the recommended reduction in ICT overhead expenditure, PB notes that an addendum has been made to the ICT overhead row as used in PB's original submission (Table 3.9, p. 17). In PB's original submission, a total amount of \$478.5m was stated for ICT overheads instead of \$457m as submitted by ENERGEX. PB understands the differential of 4.4% between these amounts reflects unregulated activities and alternative control services, which were included as part of PB's presentation in its original review. Consequently, the original amount as submitted by ENERGEX in the amount of \$457m has been used to determine a reduction in ICT overhead expenditure. Correspondingly, the ICT baseline (2009-10) of \$70.1m as stated in PB's original submission has also been reduced by 4.4% to derive the ICT baseline amount of \$67m for the purposes of our calculations.

Source: PB analysis

PB recommends a reduction of \$3.3m for ENERGEX as shown in Table 3.3 due to the reduced ICT service charge. Based on ENERGEX's allocation of overheads as per the AER's approved cost allocation method, 77% of overheads should be allocated to capex and 23% should be allocated to opex.<sup>26</sup> Consequently, an adjustment of approximately \$2.54m should be applied to the capex allowance, while an adjustment of \$0.76m should be applied to the opex allowance.

**Table 3.3 Recommended overheads for ENERGEX**

Expenditure category	2010-11	2011-12	2012-13	2013-14	2014-15	Total
AER draft decision	342.4	366.6	380.7	384.1	386.9	1,860.5
ENERGEX repropoed	343.0	369.0	383.0	385.9	389.2	1,870.0
PB adjustment	(0.3)	(0.1)	(0.2)	(1.0)	(1.9)	(3.3)
PB recommendation	342.7	368.9	382.8	384.9	387.3	1,866.7

Source: PB analysis.

## 3.2 Land and buildings – justification

PB is required to review in detail, and provide advice on the prudence and efficiency of the major property projects proposed in section 3.2.3 of ENERGEX's revised proposal.

In its draft decision, the AER considered that the major building project expenditures proposed by ENERGEX were not well supported by business case documentation, were not demonstrated to be prudent and efficient and should be removed from the capex proposal.

<sup>25</sup>

PB, Review of ENERGEX regulatory proposal for the period July 2010 to June 2015, 2009, p.60.

<sup>26</sup>

PB, Review of ENERGEX regulatory proposal for the period July 2010 to June 2015, November 2009, p.14.

The AER reduced ENERGEX's proposed land and buildings capex by \$158.3m, a reduction of 53% from the proposed level of \$298.4m.

A summary of the issues identified by PB as part of its original review to support this significant adjustment included:

- concerns related to the approval process for property plan
- concerns associated with the property risk assessment process
- business cases had not been developed for major property projects
- alternative project options had not been developed for each major property project
- costing based on non-replacement of land and buildings (do nothing) had not been completed
- concerns regarding ENERGEX's ability to deliver the property strategy in the first two years of the next regulatory control period.

PB's findings were that these issues were material, and that the major projects were not demonstrated to be prudent and efficient. PB recommended that land and buildings expenditure be reduced by \$158.3m such that the total land and buildings expenditure was in line with historical business-as-usual costs, plus an additional allowance of \$2.6m per year for the [REDACTED] facility.

### 3.2.1 Revised proposal and new information

ENERGEX's revised proposal includes the full value of the six major non-system property projects excluded by the AER in its draft decision. ENERGEX's revised proposal is thus the same as its original proposal, as detailed in Table 3.4.

**Table 3.4 Land and buildings program**

Expenditure category	2010-11	2011-12	2012-13	2013-14	2014-15	Total
BAU program	24.8	35.1	23.8	18.5	24.7	128.9
Major projects	118.3	32.6	20.6	-	-	171.5
Total	143.1	67.7	44.4	18.5	24.7	298.4

Source: PB analysis.

ENERGEX provided significant new information relating to land and buildings capex in its revised proposal. The relevant new information is summarised below.

**Approval process** - ENERGEX's revised proposal includes new information related to the approval process for land and buildings expenditure. This includes endorsement of the Corporate Property Strategic Plan by the CEO<sup>27</sup> and endorsement of preliminary business cases developed from the Property Strategic Plan by ENERGEX's Investment Review Committee (IRC)<sup>28</sup>.

<sup>27</sup> ENERGEX, Corporate Property Strategic Plan 2010-15, and Board Memorandum 14841, 14 December 2009, p.100. (Confidential)

<sup>28</sup> ENERGEX, Investment Review Committee, Minutes of Meeting, 18 December 2009. (Confidential)



**Risk assessment analysis** - The business case reports provided in ENERGEX's revised proposal also include a quantitative risk assessment for each major property project. A further independent risk assessment report is also provided for the [REDACTED] facility by AECOM Australia Pty Ltd<sup>29</sup>.

**Business cases and alternative project options** - ENERGEX's revised proposal includes business cases for all major non-system property projects<sup>30</sup>. These were prepared for ENERGEX by Resource Co-ordination Partnership (RCP), an independent project management consultancy. The business cases provide project options analysis for each major property project. The project options analysis involves comparison of two or three options for each major property project, namely the development of new facilities, redeveloping existing facilities and a do nothing option. These options are compared using financial criteria such as capital cost, operating cost and business interruption and non-financial criteria such as facility safety, staff working condition/retention, community and branding and long-term flexibility<sup>31</sup>.

**Delivery and timing** - The proposed timing for delivery of each major property project is provided in the form of project timing milestones, within each business case prepared by RCP and provided in ENERGEX's revised proposal<sup>32</sup>.

### 3.2.2 PB findings and recommendation

PB reviewed the new information provided by ENERGEX. The following sections set out our findings and recommendations.

#### *Approval process*

The approval processes employed in ENERGEX's revised proposal appears to align with those employed by ENERGEX for system capex, which was previously found by PB to be appropriate. PB notes that ENERGEX's CEO has endorsed the Corporate Property Strategic Plan 2010-15 and that the IRC has endorsed the preliminary business cases for major property projects.

PB notes that the preliminary business cases are strategic estimates only and not an approval to proceed at this stage, and that all cases will be subject to a revised business case and approval when project commencement is requested. PB finds this approval process to be appropriate considering the size and nature of the property plan and demonstrates prudent governance in relation to the property plan.

ENERGEX's original proposal provided a property plan which considered the following three high level development scenarios:

- business as usual (\$510m)
- alternative options strategy (\$371m)

<sup>29</sup> AECOM Australia Pty Ltd, ENERGEX [REDACTED] Facility, Hazard and Risk and Town Planning Review, 11 Nov 2009. (Confidential)

<sup>30</sup> ENERGEX, Corporate Property Strategic Plan 2010-15, and Board Memorandum 14841, 14 December 2009, p.101. (Confidential)

<sup>31</sup> RCP, ENERGEX Corporate Properties – [REDACTED], Facility Business Case, 2009, p.5. (Confidential)

<sup>32</sup> ENERGEX, Corporate Property Strategic Plan 2010-15, and Board Memorandum 14841, 14 December 2009, RCP Report. (Confidential)

- property strategy (\$250m).

ENERGEX was not able to provide a breakdown of the expenditure behind the 'business as usual' or 'alternative options strategy' scenarios in its original or revised proposal. ENERGEX however has provided sufficient information within the business cases supporting the 'property strategy' option, the lowest cost options of these high level scenarios.

### *Risk assessment analysis*

PB notes that independent risk assessments are included in ENERGEX's revised proposal. PB reviewed the quantitative risk assessment analysis conducted for each site by RCP and the hazard and risk site assessment conducted by AECOM and is satisfied that the methodology employed in these risk assessments is robust and appropriate for the purposes of identifying and prioritising the mitigation of risk relating to ENERGEX's existing property portfolio.

### *Business cases and alternative project options*

ENERGEX's revised proposal includes project options analyses for each major property project. PB however notes that a 'do nothing' option has only been included for the [REDACTED] facility and not for the other major proposed property projects. In PB's view the absence of analysis of a do nothing option through the selected financial and non-financial options evaluation criteria reduces the ability to compare all potential project options or understand the efficiency of the proposed expenditure.

PB reviewed the new project options analysis<sup>33</sup> provided in ENERGEX's revised proposal in relation to the [REDACTED] facility. This is the largest expenditure item proposed in the land and buildings category. RCP's financial analysis in ENERGEX's revised proposal indicates that there was no significant difference between the options of redeveloping the property (option 1), developing a new facility and disposal of the existing facility (option 2), and do nothing (option 3) over the 15 years for which the NPV was conducted<sup>34</sup>. PB notes that it was unable to verify the NPV calculations used to generate the final NPV values as this information was not provided with the spreadsheet workings supporting these calculations.

PB notes the following in relation to the financial (preliminary NPV) project options analysis for the [REDACTED] facility presented in the RCP report:

- the NPV of approximately \$52m for the preferred option to develop a new facility and dispose of the existing facility (option 2) is more expensive than the NPV values of \$49m and \$45m for alternative options 1 and 3, respectively
- the property development costs are, in general, sourced from independent market information provided by WT Partnership and Colliers<sup>35</sup>
- the do nothing option includes a cost of \$10m for 'roof replacement and other capex'<sup>36</sup> based on an estimate provided by ENERGEX. PB verified that this estimate was based on an independent cost provided to ENERGEX by AECOM for replacement of the roof,

<sup>33</sup> RCP, ENERGEX Corporate Properties – [REDACTED] Facility Business Case. (Confidential)  
<sup>34</sup> Ibid, Nov 2009, p.6.  
<sup>35</sup> RCP, ENERGEX [REDACTED] Facility – Project Summary, Nov 2009, p.6. (Confidential)  
<sup>36</sup> Ibid.

remediation of the slab floor expansion joints in the [REDACTED], and general renovation of the site<sup>37</sup>

- the operation cost growth escalator and discount rate represent efficient values, and the application of these values in the NPV analysis, if applied correctly, should result in a reasonable cost comparisons between the project options
- ENERGEX have included the net proceeds from sale of assets, as appropriate for such a comparative financial analysis. PB notes that it has made no recommendation as to the regulatory accounting treatment for these expenditure values should the investment proceed.

PB notes the following in relation to the non-financial site options analysis and other new supporting information in relation to the [REDACTED] facility:

- the non-financial risk assessment analysis conducted by RCP demonstrates a strong preference for the option to develop a new [REDACTED] facility<sup>38</sup>
- a risk assessment report prepared by AECOM indicates that ongoing use of the site is undesirable, and that the focus should be on the identification of a new location for the [REDACTED] facility and disposal of the existing [REDACTED] facility<sup>39</sup>.

Based on the information above, PB finds that the proposed expenditure on the [REDACTED] facility is prudent.

PB conducted a high level review of the other major projects. PB notes that financial analysis of 'do nothing' options were not included in the business cases, but risk assessments were included that indicated the non-viability of business-as-usual approaches for the identified property assets. PB is satisfied that this approach is appropriate. PB is thus satisfied that the included analysis of options using financial and non-financial (preliminary risk analysis) criteria is appropriate and demonstrates the prudence of the major project expenditures.

In relation to efficiency, it is PB's view that the option to develop a new [REDACTED] facility is impacted by contingency costs as outlined below:

- land acquisition cost - contingency for unforeseen scope \$3.05m
- construction cost – design contingency \$2.30m
- construction cost – construction contingency \$1.20m
- construction cost – contingency for unforeseen scope \$4.46m.

The above land acquisition and construction costs amount to \$11.0m or 17% of total proposed expenditure for the [REDACTED] facility. PB calculated comparable proportional contingencies included in all other major property project budgets. These contingencies account for elements of the scope of work that have not been well defined and effectively represent a risk allowance for unforeseen issues. Given the inclusion of such

<sup>37</sup> AECOM Australia Pty Ltd, ENERGEX [REDACTED] Facility – Hazard and Risk and Town Planning Review, Nov 2009. (Confidential)

<sup>38</sup> RCP, ENERGEX [REDACTED] Facility – Project Summary, Nov 2009, p.10. (Confidential)

<sup>39</sup> AECOM Australia Pty Ltd, ENERGEX [REDACTED] Facility, Hazard and Risk and Town Planning Review, Nov 2009, p.2. (Confidential)

costs effectively transfers risk to customers that they are not in a position to manage, PB does not consider it a prudent or efficient outcome to include the contingency amounts in the recommended allowance. Any inclusion of a contingency value would need to be considered in the context of the quality and robustness of the estimating process used, how well the business updates its inputs to this process, and how well it describes and explains the nature of latent or other risks it is trying to manage. PB recommends removal of contingency costs from all major projects in the property program based on the descriptions and limited information presented by ENERGEX in its business cases.

The contingency costs included by ENERGEX in its estimates have been aggregated by PB and presented in Table 3.5 as both 'raw' project contingency costs and escalated project contingency costs. The rate used by PB to generate the escalated aggregate project contingency was established by calculating the percentage difference between the RCP major project cost estimates and the major project capex requested by ENERGEX in its revised proposal. For example, the escalation rate between the RCP project estimate of \$63.3m for the [REDACTED] and the ENERGEX revised proposal capex of \$74.3m for this major project is 17.4%.

**Table 3.5 Aggregate contingency costs for major projects**

Expenditure category	Aggregate project contingency (\$m)	Escalation rate	Escalated aggregate project contingency (\$m)
[REDACTED]	11.0	17.4%	12.9
[REDACTED]	3.4	8.4%	3.7
[REDACTED]	1.7	25.6%	2.1
[REDACTED]	2.7	28.4%	3.5
[REDACTED]	1.7	18.9%	2.0
[REDACTED]	3.1	73.5%	5.4
Total contingencies	23.6		29.6

Source: PB analysis.

PB notes that removal of contingency costs will decrease the NPV value for the preferred option to develop a new facility (option 2 - \$52m) for the [REDACTED] facility. This results in a more favourable NPV value for this option relative to the alternative options. The impact of reducing the NPV difference through removing the contingency allowance has informed PB's view that the investment option recommended by ENERGEX is prudent and efficient.

**Delivery and timing**

PB reviewed the proposed timing for delivery of the major projects within the property plan. PB notes that ENERGEX has provided project timing milestones for each major project based on independent property industry advice from RCP<sup>40</sup> and that these timelines, in general, accord with the timing proposed by ENERGEX. The exception is the timing of the [REDACTED] site which ENERGEX outlined for implementation in 2010-11 but RCP proposed for completion in June 2012<sup>41</sup>. Without any basis to advance the timing of this project, PB recommends that capital expenditure for the [REDACTED] site be deferred until

<sup>40</sup> ENERGEX, Corporate Property Strategic Plan 2010-15, and Board Memorandum 14841 of 14 December 2009. (Confidential)

<sup>41</sup> RCP, ENERGEX Appendix 3.7, [REDACTED] Development - Project Summary, Nov 2009. (Confidential)

2011-12 as advised by RCP, and that the proposed timing of all other major sites is reasonable and appropriate.

**Conclusion**

PB's revised conclusions are based upon the analysis of new information presented by ENERGEX, as discussed above. Based upon its review of the information relating to the approval process; business cases; alternative project options analysis; risk assessments; and documentation supporting the proposed delivery timeline, PB is of the view that ENERGEX's revised land and buildings is prudent and efficient, with the exception of the contingency costs included in the estimates for all major projects.

PB's revised recommended land and building capex is based upon the inclusion of all major property projects proposed by ENERGEX, the removal of contingencies as outlined in Table 3.5, and the deferral of the ██████████ project from 2010-11 to 2011-12. It is noted that the capex included for the ██████████ facility is additional to the business-as-usual provision of \$13.1m recommended by PB as part of our original review. The addition of the full value for this project therefore necessitates the removal of this component of \$13.1m from PB's calculated total land and buildings capex recommendation. PB's revised capex recommendation is outlined in Table 3.6.

**Table 3.6 PB revised land and buildings expenditure**

Expenditure category	2010-11	2011-12	2012-13	2013-14	2014-15	Total
<b>AER draft decision</b>						
BAU program	24.8	35.1	23.8	18.5	24.7	126.9
Major projects	2.7	2.7	2.6	2.6	2.5	13.1
<b>Total</b>	<b>27.5</b>	<b>37.8</b>	<b>26.4</b>	<b>21.1</b>	<b>27.2</b>	<b>140.0</b>
<b>ENERGEX repropoed</b>						
BAU program	24.8	35.1	23.8	18.5	24.7	126.9
Major projects	118.3	32.6	20.6	-	-	171.5
<b>Total</b>	<b>143.1</b>	<b>67.7</b>	<b>44.4</b>	<b>18.5</b>	<b>24.7</b>	<b>298.4</b>
<b>PB adjustment</b>						
BAU program	-	-	-	-	-	-
Major projects	(36.2)	8.7	(2.1)	-	-	(29.6)
<b>Total</b>	<b>(36.2)</b>	<b>8.7</b>	<b>(2.1)</b>	<b>-</b>	<b>-</b>	<b>(29.6)</b>
<b>PB recommendation</b>						
BAU program	24.8	35.1	23.8	18.5	24.7	126.9
Major projects	82.1	41.2	18.5	-	-	141.8
<b>Total</b>	<b>106.9</b>	<b>76.3</b>	<b>42.3</b>	<b>18.5</b>	<b>24.7</b>	<b>268.7</b>

Source: PB analysis.

### 3.3 Motor vehicles and tools – escalators

PB is required to review at a high level, and provide advice on the prudence and efficiency of the revised motor vehicles, tools and equipment expenditure proposed in section 3.2.4 of ENERGEX's revised proposal.

In preparing its revised proposal, ENERGEX identified an error in the application of the materials escalator to the forecast expenditure on motor vehicles and on tools and equipment. ENERGEX propose to increase the forecast expenditures for motor vehicles and tools and equipment to correct for this error.

#### 3.3.1 Revised proposal and new information

ENERGEX has included an additional amount of \$9.8m for motor vehicles, tools and equipment in its revised proposal. ENERGEX has described that an error occurred during restatement of values from nominal (as used by ENERGEX for budgeting) to real 2008-09 dollars that are then restated as real 2009-10 dollars as required by the Regulatory Information Notice (RIN).<sup>42</sup> ENERGEX provided detailed calculations<sup>43</sup> of the effect of the error and indicated that it was based on the application of a 5.5% materials escalator rather than 4.5% during restatement of values for the next regulatory control period from nominal to real 2008-09. The error caused an understatement totalling \$7.8m across the next regulatory control period for motor vehicles and \$2.0m across the next regulatory control period for tools and equipment.

#### 3.3.2 PB findings and recommendation

PB has undertaken a high level review of the new information provided by ENERGEX in relation to this issue. Based on the transparency of the detailed spreadsheet model, PB is satisfied that the error as described caused the understatement in forecast capex of \$9.8m for motor vehicles, tools and equipment. PB recommends that the AER accept the revised expenditure proposal as detailed in Table 3.7 and Table 3.8.

**Table 3.7 Recommended expenditure allowance – Motor vehicles**

Expenditure category	2010-11	2011-12	2012-13	2013-14	2014-15	Total
AER draft decision	32.8	41.8	42	32.3	47.4	196.3
ENERGEX repropoed	33.4	43.0	43.6	33.9	50.2	204.1
PB adjustment	-	-	-	-	-	-
PB recommendation	33.4	43.0	43.6	33.9	50.2	204.1

Source: PB analysis.

<sup>42</sup> ENERGEX, AER.EGX.RP.1.5, and ENERGEX, 16 Feb 2010, PB.EGX.RP.2.0, 04 Feb 2010.

<sup>43</sup> ENERGEX, spreadsheet PB.EGX.RP.02.xls, 16 Feb 2010.

**Table 3.8 Recommended expenditure allowance – Tools and equipment**

Expenditure category	2010-11	2011-12	2012-13	2013-14	2014-15	Total
AER draft decision	13.3	10.9	10.7	10.6	10.7	56.2
ENERGEX repropoed	13.5	11.2	11.1	11.1	11.3	58.2
PB adjustment	-	-	-	-	-	-
PB recommendation	13.5	11.2	11.1	11.1	11.3	58.2

Source: PB analysis.

## 4. Forecast opex

In this section PB reviews the following matter in relation to ENERGEX's revised forecast opex proposal:

- Feed-in tariff – forecasting methodology.

### 4.1 Feed-in tariff – forecasting methodology

PB is required to review at a high level, and provide advice on, the prudence and efficiency of feed-in tariff payments and feed-in tariff administration costs proposed in sections 4.2.4 and 4.2.5 of ENERGEX's revised proposal.

In its original proposal ENERGEX proposed that feed-in tariffs should be considered as a specific nominated pass through event and did not include a separate assessment of the opex costs related to administering the feed-in tariff scheme. The AER draft decision concluded that DNSPs should include forecasts of feed-in tariff payments as part of their opex proposals – the difference between forecast and actual payments would be treated as a pass through provision.

#### 4.1.1 Revised proposal and new information

Based on the current year to date payment for the feed-in tariff, ENERGEX estimates it will cost \$35.6m over the next regulatory control period for payment of feed-in tariffs at the current cost of 44c/kWh. It has included this as an additional amount in its revised proposal.

The key assumptions used in the methodology include:

- an estimate of 15,600 units installed as of July 2010
- the number of new solar PV installations per month from July 2010 is assumed to be 400 per month (compared to the anticipated peak rate of 1400 in late 2009)
- the average payment per meter – where ENERGEX's analysis from the existing 14,000 solar PV installations in South East Queensland (as at January 2010) shows an average energy feed-in of 49 kWh of energy per month, which at a rate of 44c/kWh equates to \$21.5 per system per month.

ENERGEX did not include any provision for the costs to administer the scheme in its original proposal. In its revised proposal ENERGEX has estimated these costs to total \$3.9m. This is based on an estimated 8 full time equivalent staff at an opex rate of approximately \$100k per annum each, as informed through a bottom-up estimate of the average handling time to undertake the four stages described as part of a functional process for each new agreement.



#### 4.1.2 PB findings and recommendation

PB's review of ENERGEX's methodology description and its detailed spreadsheet model<sup>44</sup> has confirmed that ENERGEX has applied a reasonable and transparent forecasting methodology to its revised forecast opex allowance of feed-in tariff payments for residential PV installations. The forecasts are based on reasonable input assumptions, in particular an anticipated 9,600 installations in 2010-11 and 4,800 installations in each year thereafter.

PB considers the revised opex allowance to be prudent and efficient given the forecasting methodology applied.

With regard to ENERGEX's proposed allowance for administration costs, PB does not believe it will be necessary to employ 8 FTE staff to undertake the administration function associated with feed-in tariffs. The functional stages set out by ENERGEX<sup>45</sup> indicate that these activities – including agreement processing and service ordering – are quite mechanised and should be managed with appropriate software. For this reason PB does not believe that the volume of PV installations is a strong cost driver. PB recommends that the administrative role could effectively be undertaken by 2 FTEs and has adjusted the recommended opex allowance accordingly, as shown in Table 4.1. PB's rationale for this recommendation is based on a review of the detailed 4 stage functional process for the work to be undertaken by these employees. PB considers some new resources will be need to make incremental telephone calls and handle additional exceptions from the mechanised processes which should result as a consequence of higher volumes of PV connected customers. PB considers that 2 dedicated FTE posts would be appropriate in order to make provision for these activities, whilst providing a degree of redundancy to ensure no barriers are presented to the applicants. PB's annual adjustment is calculated by reducing ENERGEX's proposed \$800k administration costs for 8 FTE staff to \$200k for 2 FTE staff. PB considers the FTE rate of \$100k per annum is reasonable for this role, with reference to typical allowances identified by PB for professional roles within other distribution network businesses. This recommendation is made in the context that ENERGEX will have already processed around 40% of the total installations expected in June 2015 by July 2010.

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<sup>44</sup> ENERGEX, Feed in tariffs payments.xls, Feb 2010.

<sup>45</sup> ENERGEX, AER.EGX.RP.1.2, Feb 2010.

**Table 4.1 Recommended opex allowance associated with feed in tariff payments and administration costs**

Expenditure category	2010-11	2011-12	2012-13	2013-14	2014-15	Total
ENERGEX revised proposal - payments	4.6	5.9	7.1	8.4	9.6	35.6
PB adjustment - payments	-	-	-	-	-	-
PB recommendation - payments	4.6	5.9	7.1	8.4	9.6	35.6
ENERGEX revised proposal - administration	0.8	0.8	0.8	0.8	0.8	3.9
PB adjustment - administration	(0.6)	(0.6)	(0.6)	(0.6)	(0.6)	(3.0)
PB recommendation - administration	0.2	0.2	0.2	0.2	0.2	0.9

Source: PB analysis.