Energy Super

Actuarial Investigation as at 30 June 2016

Prepared under the advice of

Shane Mather
Fellow of the Actuaries Institute

30 December 2016

This report has been prepared for the Trustee of Energy Super and the participating Employers. Sunsuper Financial Services Pty Ltd and its employees do not accept responsibility to any third party for anything in or arising out of the material contained herein.

Sunsuper Financial Services Pty Ltd

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Contents

Section 1 Introduction

1.1 Introduction

This report contains the results of the actuarial investigation of Energy Super (the 'Fund') as at 30 June 2016 and has been prepared for Electricity Supply Industry Superannuation (Qld) Ltd (ABN 30 069 634 439) as Trustee of the Fund.

As the Fund is a defined benefits fund, an actuarial investigation of the Fund is required at least every three years to meet the provisions of the Superannuation Industry (Supervision) Act and Regulations and the Prudential Standard SPS 160. The investigation covers the period from 1 July 2013 to 30 June 2016.

The Fund is a hybrid fund with both defined benefit and accumulation designs. The defined benefit categories are closed to new members.

This report has been prepared in accordance with the Actuaries Institute Professional Standard 400 and Prudential Standard SPS 160.

The Trustee and Employers should be aware that this document must be provided on request to members of Energy Super in accordance with the superannuation legislation.

1.2 Purpose

The main purpose of the actuarial investigation is to evaluate the financial position of the Fund. The report details:

(a) Recommendations on the overall level of Employer contribution rates to be made to the Fund;

(b) The extent to which Fund assets are adequate in relation to the benefits payable; and

(c) Actuarial statements required by Prudential Standard SPS 160.

This report has been prepared under Prudential Standard SPS 160. The information required for the purposes of Australian Accounting Standard 25 (AAS25) is included in Appendix D. This report is not intended to be used for any other purpose including accounting or regulatory requirements.

1.3 Source of Information

This investigation has been based on the benefits set out in the Fund's Trust Deed. A summary of the benefits is included in Appendix C.

All asset and membership information as at 30 June 2016 was provided by Independent Fund Administrators & Advisers Pty Ltd (IFAA) and a summary is included in Appendix B.

Audited financial statements and copies of the annual reports covering the years ending 30 June 2014 to 30 June 2016 have also been provided.

In preparing this report, we have relied on the information and data provided. We have not independently verified the accuracy or completeness of the information and data provided, however where possible we have checked the information and data for reasonableness and it is considered suitable for the purposes of this investigation.

1.4 Previous Actuarial Investigation

The previous actuarial investigation of Energy Super was prepared by Shane Mather, FIAA of Sunsuper Financial Services Pty Ltd as at 30 June 2013. The report was dated 19 March 2014.

1.5 Employer Contribution Rate Methodology

The overall recommended Employer contribution rate which is required to support all members' benefits is specified in Section 4 of this report.

The contribution rate in respect of defined benefit members for each participating Employer is determined based on that Employer's notional asset value and liabilities in the Fund. A summary of the financial position for each Employer 'Sub-plan' and the recommended Employer contribution rate for that Employer is provided in the supplementary reports to this report. The recommended Employer Sub-plan contribution rate may be higher or lower than the overall recommended Employer contribution rate for the Fund.

1.6 Fund Structure

Energy Super is a regulated superannuation fund which is in compliance with the SIS Act and is subject to a concessional tax rate of 15% on Employer contributions and up to 15% on investment earnings.

The Fund is divided into two sections, namely:

- Defined Benefit section; and
- Defined Contribution section.

The Defined Benefit section is closed to new members with new members joining the Defined Contribution section.

Defined Benefit section

The Defined Benefit liabilities provide participating members with a lump sum benefit that is calculated as the greater of:

- A benefit based on age, length of membership and final average salary; and
- A benefit based on a multiple of the accumulation of member contributions.

Defined Contribution section

The Defined Contribution liabilities comprise the balances in the relevant member accounts. These liabilities are supported by the assets held by the Trustee and therefore, do not explicitly require an actuarial assessment.

This report focuses on the assets and liabilities of the Defined Benefit section as these are subject to actuarial review.

Section 2 Fund Experience

2.1 Benefit Changes

Various amendments have been made to the Trust Deed during the period including to ensure compliance with legislative requirements.

From 1 July 2014, the Superannuation Guarantee (SG) rate, being the minimum rate employers must provide for its employees increased from 9.25% to 9.5%. The scheduled increase in the SG rate has been included in the Fund's Benefit Certificate.

2.2 Contributions

On average, Employers contributed at the following rates during the investigation period:

Defined Benefit Members

- 1 July 2013 to 30 June 2014: approximately 13% of defined benefit members' salaries.
- From 1 July 2014: approximately 4% of defined benefit members' salaries

Defined Contribution Members: at the rate, or rates agreed.

These contributions were in line with the recommended contributions at the 30 June 2013 actuarial investigation.

2.3 Financial experience

Investment Return

The following table shows the actual investment return (net of investment tax, investment fees and administration fees) during the investigation period:

Period	Investment Return % (net of investment tax, investment fees and administration fees)
1 July 2013 to 30 June 2014	13.33%
1 July 2014 to 30 June 2015	9.70%
1 July 2015 to 30 June 2016	4.66%

The average investment return (net of investment tax, investment fees and administration fees) over the investigation period was 9.2% per annum.

At the last actuarial investigation, the average rate of investment return assumed (net of investment tax and fees and administration fees) for the period from 1 July 2013 to 30 June 2016 was 8.6% per annum (the actual assumed investment returns were 12.0% per annum for the first year and then 7.0% per annum thereafter).

Salary Increases

The overall average rate of salary increase for defined benefit members who were members at both the 1 July 2013 and 30 June 2016 investigation dates was 3.7% per annum (includes changes in salaries due to promotional increases). The above salary increase rate compares with an assumed rate of increase of 5.0% per annum at the last actuarial investigation plus a promotional component for members up to age 39.

Differential between Investment Return and Salary Increases

The key determinant of the cost of providing defined superannuation benefits relating to salary is the ‘gap’ between actual investment returns and actual salary increases.

Over the investigation period, the gap between the actual investment returns and salary increases was 5.5% per annum. This compares to an expected gap of 3.6% per annum (excluding the promotional component) assumed at the previous investigation.

As the actual gap was higher than assumed, this aspect of the Fund experience has had a positive impact on the overall financial position compared to the position projected in the last actuarial investigation.

Differential between Investment Return and Interest Crediting Rates

The following table shows the actual investment return (net of investment tax, investment fees and administration fees) and the corresponding crediting rate during the investigation period:

Period	Investment Return % (net of investment tax, investment fees and fees)	Crediting Rate %
1 July 2013 to 30 June 2014	13.33%	9.36%
1 July 2014 to 30 June 2015	9.70%	12.62%
1 July 2015 to 30 June 2016	4.66%	9.17%

The average interest crediting rate applied to defined benefit members’ basic accounts was 10.4% per annum compared to the average investment return (net of investment tax and fees and administration fees) of 9.2% per annum.

This aspect of the Fund experience has had a small negative impact on the financial position compared to the position projected in the last actuarial investigation.

2.4 Membership

Details of the change in the defined benefit membership of the Fund over the investigation period are shown in the following table:

		Defined Benefit Members
	Members at 1 July 2013	**2,508**
Plus	New entrants/Transfers in	2
Less	Exits/Transfer out	692
Members at 30 June 2016		**1,818**

Note: The defined benefit categories are closed to new members.

Appendix B contains a summary of the defined benefit membership at the investigation date.

The number of exits has been greater than expected at the previous actuarial investigation. Overall, the structure of the defined benefits is such that the resignation/retirement benefit is similar to the actuarial reserve held for that member. (The actuarial reserve for a member is a measure of the value in current dollars of the future benefits based on completed membership). As a result, the impact of resignations and retirements has not had a material impact on the financial position of the Fund.

However, to the extent that the Fund surplus is now spread over a smaller defined benefit membership base, there has been an improvement in the financial position of the Fund compared to the position projected in the last actuarial investigation.

2.5 Summary

The overall effect of the Fund experience was to strengthen the financial position of the Fund compared to the position anticipated at the previous actuarial investigation. This was primarily due to:

- The gap between investment returns and salary increases being higher than anticipated; and
- The higher than expected number of exits from the Fund which has resulted in the Fund surplus now being spread over a smaller defined benefit membership base.

Section 3 Security of members' benefits

In this section comparisons are made between the assets that have been built up at the investigation date and the accrued benefits at that date. The accrued benefits ratios calculated provide useful information concerning the adequacy of the funding at the present time and the security of members' benefits.

We have taken four definitions of accrued benefits for comparison as set out below.

3.1 Minimum Requisite Benefits

The Minimum Requisite Benefits (MRBs) are the minimum Superannuation Guarantee (SG) benefits set out in the Fund's Benefit Certificate.

The MRBs Index is calculated as the Fund assets divided by the MRBs. Should the ratio of total assets to total MRBs fall below 100% then under the Superannuation (Industry) Supervision Regulations, the Fund is "technically insolvent". The legislation requires that a Fund that is "technically insolvent" must either:

- Initiate actions to return the Fund to a solvent position by the end of 5 years; or
- Wind up the Fund.

While the legislation provides for a period of 5 years to correct a technical insolvency, we understand that APRA are looking for the trustees to pursue a much shorter period.

3.2 Vested Benefits

"Vested Benefits" are the benefits which would have been payable had all members voluntarily resigned on the investigation date. Vested Benefits are calculated as the total of all standard resignation benefits, or for eligible members, early retirement benefits.

The Vested Benefits Index is calculated as the Asset Value divided by the Vested Benefits and represents the extent to which the Asset Value covers Vested Benefits.

Total Vested Benefits can be regarded as the minimum liabilities that should be covered by assets. Under the SIS legislation, a fund is considered to be in an "unsatisfactory financial position" if its Vested Benefits Index falls below 100% (i.e. assets are less than Vested Benefits).

3.3 Actuarial Value of Accrued Benefits

The Actuarial Value of Accrued Benefits represents the total value in current dollars of the defined benefit members' accrued benefits in respect of their membership up to the investigation date allowing for future salary increases, investment earnings and expected incidence and type of payment. The Actuarial Value of Accrued Benefits for each member is subject to a minimum of the vested benefit.

The assumptions used in calculating the Actuarial Value of Accrued Benefits are detailed in Appendix A. No allowance is made for future administration expenses.

For accumulation benefits, the Actuarial Value of Accrued Benefits is taken as the total balance of the member’s accounts.

The Actuarial Value of Accrued Benefits Index is calculated as the Fund assets divided by the Actuarial Value of Accrued Benefits. An Actuarial Value of Accrued Benefits Index of 100% represents a fully secured position. At this level, if no further benefits were allowed to accrue to current members, assets would be sufficient to meet all future benefit payments if the actuarial assumptions are borne out in practice.

The method of calculating “Accrued Benefits” as defined in the Australian Accounting Standard 25 (AAS25) is equivalent to the method of calculating the "Actuarial Value of Accrued Benefits" in this report (see Appendix D).

3.4 Accrued Retirement Benefits

For the purpose of assessing the progressing level of funding, it is useful to regard each defined benefit member's normal retirement benefit as accruing uniformly over the member's expected period of membership to normal retirement.

For example, if a defined benefit member has completed 10 years of membership as a defined benefit member, is entitled to a 19.5% benefit accrual rate and has a Final Average Salary (FAS) of $50,000, then his/her Accrued Retirement Benefit would be calculated as:

19.5% of $50,000 times 10 = $97,500.

The above would be subject to the minimum of the vested benefit at the calculation date.

For accumulation benefits, the Accrued Retirement Benefit is taken as the total balance of the member’s accounts.

The Accrued Retirement Benefits Index is a measure of a fund’s progress towards funding members’ retirement benefits. It is calculated as the Fund assets divided by the Accrued Retirement Benefits.

It is not necessary that this index be at or above 100%, given that most members are some years away from being eligible to early retire and receive their Accrued Retirement Benefits. For a fund closed to new defined benefit members, the Accrued Retirement Benefits Index should move towards 100% generally over the remaining lifetime of the Fund.

3.5 Asset Value

The value of the Fund's assets at 30 June 2016 was $6,087,285,000 obtained from the Fund's audited financial statements.

The value of the Fund's net assets as at 30 June 2016 was $6,071,799,000 after allowing for the Operational risk financial reserve of $15,486,000.

The value of the Fund's assets at 30 June 2016 held in respect of the Defined Benefit Section was $1,233,514,000.

3.6 Financial Position

The value of assets used to determine the indices for the Fund are set out in Appendix B.

A comparison of the Fund assets and the benefits on the four bases is set out below.

Total Fund

Benefit Type	Value at 30 June 2016 (millions)	Index at 30 June 2016	Index at 30 June 2013
Fund Assets	$6,072	-	-
Minimum Requisite Benefits	$5,465	111%	114%
Vested Benefits	$5,790	105%	104%
Actuarial Value of Accrued Benefits	$5,793	105%	104%
Accrued Retirement Benefits	$5,870	103%	101%

Defined Benefit Liabilities Only

To consider the financial position of the Fund with respect to the defined benefit liabilities only, the assets and the liabilities relating to the defined benefits are considered.

Benefit Type	Value at 30 June 2016 (millions)	Index at 30 June 2016	Index at 30 June 2013
Fund Assets	$1,234	-	-
Minimum Requisite Benefits	$674	183%	171%
Vested Benefits [1]	$999	124%	109%
Actuarial Value of Accrued Benefits [2]	$1,002	123%	109%
Accrued Retirement Benefits	$1,079	114%	100%

Notes:

1. The Retrenchment Benefit is equivalent to the Vested Benefit.
2. The value of the Actuarial Value of Accrued Benefits has been calculated based on the assumptions set out in Appendix A which includes the assumption of a 6.5% per annum investment return.

Comment on the Financial Position as at 30 June 2016

The Minimum Requisite Benefits for members continue to be covered by the Fund assets thereby maintaining the solvency of the Fund as defined in Regulation 9.06 of the SIS Regulations.

As at 30 June 2016, the Fund is in a “satisfactory” financial position as defined in the Superannuation (Industry) Supervision (SIS) Regulations. That is, the assets of the Fund are greater than the vested benefits.

The defined benefits Actuarial Value of Accrued Benefits Index of 123% indicates that the Fund is adequately funded in respect of past service benefits if the actuarial assumptions are borne out in practice.

Overall, the ratios indicate that the Fund is in a strong financial position as at 30 June 2016.

Fund experience since 1 July 2016

Since 1 July 2016, the overall investment return (net of investment fees and tax and administration fees) for the defined benefit assets has been around 5% for the period to mid December 2016. We have allowed for this experience in setting the investment return assumption for the 2016/2017 financial year.

Crediting Interest Rate for the Smoothed Return Investment Option

The Trustee provides a Smoothed Return investment option in the Defined Contribution Section of the Fund. The Trustee’s crediting rate policy for the smoothed investment option is to average the investment returns over the past 3 years.

For a number of Sub-plans, the smoothing methodology for the Smoothed Return investment option is supported by the reserves of the Sub-plan's Defined Benefit Section. Based on the current investment returns, the continuation of the smoothing methodology is unlikely to have a material impact on the overall vested benefits index over the next few years.

There are also a few Employers where the Sub-plan holds an explicit investment reserve, and we anticipate that the current explicit investment reserve will be sufficient to support the smoothing methodology. The policy in relation to crediting rates is appropriate.

Crediting Interest rate for Defined Benefit Accounts

Defined benefit members have accumulation accounts that form part of the defined benefit. These accumulation accounts include the member contribution account which is used to calculate the member's defined benefit. The Trustee's crediting rate policy is to average the investment returns over the past 3 years. To support the crediting rate policy, there is a reserve kept to support the smoothing of investment returns.

The Trustee's crediting rate policy needs to be monitored from time to time and at this time there is no need to interrupt the policy. The policy in relation to crediting rates is appropriate.

The impact of continuing the smoothing policy for defined benefit accounts does not have a significant impact on the projected financial position.

3.7 Prudential Standard SPS 160

Prudential Standard SPS 160 sets out a number of requirements in the management of the defined benefit funds.

One of the important requirements of the Prudential Standard is that if in conducting an actuarial investigation the actuary finds that a fund is in an unsatisfactory financial position then the actuary must prepare a statement that provides a recommendation on the contributions that, on reasonable expectations, will restore the fund to, and maintain it in, a satisfactory financial position, within a time period that is reasonable in the circumstances of the fund but which must not exceed three years from the valuation date. As noted above, the financial position of the Fund remains "satisfactory".

Another important requirement from the Prudential Standard SPS 160 is the setting of a Shortfall Limit for the Fund. The Shortfall limit is the extent to which a Trustee considers that the Fund can be in an unsatisfactory financial position without the necessity for immediate action with the Trustee still being able to reasonably expect that the Fund can be restored to a satisfactory financial position within one year.

The current Shortfall limit for the Fund is 97%. Based on a defined benefits vested benefits index of 124%, the Shortfall Limit has not been breached.

We have reviewed the Shortfall limit and recommend no change.

3.8 Insurance Cover

Part of each member's death and disablement benefit is insured with an external insurer. The insurance arrangements are underwritten by MLC Ltd. This protects the Fund against fluctuating claims experience.

As part of this investigation, we investigated the adequacy of the existing level of group life cover on the death and disablement benefits.

The current basis for calculating the amount insured for each defined benefit member is:

Death/TPD benefit – Vested Benefit (Subject to a minimum insured amount of nil).

The following table compares the Plan's Assets (excluding accumulation benefit assets) and sums insured for all defined benefit members at the investigation date against total death and disablement benefit entitlements as at 30 June 2016:

Insurance Arrangements	$ millions
Defined Benefit Fund Assets	1,234
Insured Amount	455
Total	1,689
Death/TPD Benefits	1,454
Over/(under) Insurance	235

The above table shows that as at 30 June 2016 the Fund would be over insured by around $235 million under the current formula in the unlikely event that all defined benefit members should die or become disabled within a short space of time.

After considering the current and projected financial position shown at this investigation, the current method of calculating the insurance cover protects the Fund in respect of adverse death and TPD experience.

However, there is an opportunity for the Trustee, in consultation with the Employers, to review the insurance basis with a view to reducing the insurance amounts for some of the Sub-plans. We recommend that the stakeholders commence discussions regarding the above.

Insurance for income protection benefits is provided through a policy with an external insurer. The income protection benefit is fully insured, with premiums currently being met by the Employer. The cost of these premiums have been incorporated into the recommended Employer contribution rates.

Section 4 Long term adequacy of Employer contributions

4.1 Longer term projected financial position and Employer contribution rates

The indices shown in Section 3.6 show that the Fund was in a satisfactory financial position as at 30 June 2016. To assess the likelihood that the Fund will be able to meet the anticipated benefit payments into the future, we have undertaken a projection of benefits, assets and contributions. We have undertaken a projection of defined benefits only.

The projection has been performed on the actuarial valuation basis (Basis 1) and on a sensitivity basis (Basis 2).

	Basis 1 (Actuarial Investigation Basis)	**Basis 2 (Sensitivity Basis)**
Assumed investment return (net of investment fees and tax and administration fees)	6.5% p.a.	5.5% p.a.
Assumed salary inflation rate	4.5% p.a.	4.5% p.a.

The remaining assumptions are set out in Appendix A. For the purpose of this investigation, the assumed long term gap between investment return (net of investment fees and tax and administration fees) and salary increase rate is 2.0% per annum. Other assumptions could be used and basis 2 shows the impact of varying the "gap" by reducing the assumed long term investment return (net of investment fees and tax and administration fees) to 5.5% per annum. Please note that the basis selected for the sensitivity analysis does not indicate upper or lower bounds of all possible outcomes.

Results based on an Overall Contribution Rate of 0% of Salaries

Based on the above assumptions and assuming an overall contribution rate employer contribution rate of:

- 4% of salaries for the period from 1 July 2016 to 31 December 2016; and
- 0% of salaries from 1 January 2017;

the projection results at 30 June 2016 can be summarised as follows:

Defined Benefit Members		Basis 1 $ millions	Basis 2 $ millions
	Fund Assets	1,234	1,234
Plus	Present value of future member contributions	87	92
Plus	Present value of future Employer contributions (net of tax)	4	4
Less	Present value of benefits and expenses	1,236	1,348
Excess/(Shortfall)		**89**	**(18)**

The projection of Fund benefits, assets and contributions, based on the contribution rates above, showed that as at 30 June 2016 the Fund would be in a surplus financial position on basis 1 and a small shortfall position on basis 2 with respect to funding the benefits over the remaining lifetime of defined benefit members.

A summary of the financial position for each Employer 'Sub-plan' and the recommended Employer contribution rate for that Employer is provided in the supplementary reports to this report. The Employer contribution rate for some Sub-plans may be higher than the overall minimum recommended Employer contribution rate.

It is important that we also monitor the coverage of the ratio of assets to vested benefits in respect of the defined benefit liabilities in the short to medium term. Based on the above minimum recommended Employer contribution rates, the table below sets out the projections of the vested benefits index for the defined benefit liabilities under both Basis 1 and Basis 2:

	Vested Benefits Index (%) Basis 1	Vested Benefits Index (%) Basis 2
30 June 2016	124%	124%
30 June 2017	123%	122%
30 June 2018	122%	120%
30 June 2019	122%	118%
30 June 2020	121%	116%
30 June 2021	121%	115%

The projections of the defined benefits vested benefit index under both basis 1 and basis 2 shows that the Fund is expected to have an adequate coverage of assets above vested benefits over the short to medium term.

Due to the maturity of the Fund however, it is important to note that the total salaries of the defined benefit members is small relative to the size of the defined benefit assets. As a result, any adverse experience will consequently have a large impact on the level of the Employer contributions required to fund any shortfall arising from poor experience. For example, an investment return that is 1% lower than the expected investment return for a year would require an additional Employer contribution of the order of 7% of the defined benefit salaries to cover the shortfall.

While an employer contribution rate of 0% of salaries from 1 January 2017 is expected to be sufficient in the longer term, the impact of poor experience has the potential to significantly impact the future rate of employer contributions in the short term.

4.2 Recommended Employer Contribution Rates

Defined Benefit Members

In view of the financial position of the Fund as at 30 June 2016 and the projection results we recommend the following overall Employer contribution rates:

- 1 July 2016 to 31 December 2016: 4% of defined benefit members' salaries
- 1 January 2017 onwards: 0% of defined benefit members' salaries.

Member contributions (including salary sacrifice contributions) should continue to be made in accordance with the Trust Deed. The recommended Employer contribution rate includes an allowance for insurance costs and contribution tax.

The above recommendations make no allowance for any changes to the Fund membership in the event of any future acquisitions or sales or changes in benefit design.

As noted in Appendix A, the Fund has been valued using the Aggregate funding method. An Aggregate funding method used for a declining number of defined benefit members can be expected to produce some volatility in the recommended Sub-plan contribution rate over time, particularly if the salary increase rate and/or the investment return assumption differs from the assumed rate.

The above recommendations make no allowance for any changes to the Fund membership. A review of the Fund to ensure that contribution rates are adequate to meet future superannuation liabilities would be necessary if there were to be a material change in the Fund membership.

Defined Contribution Members

Employer contributions for defined contribution members should continue to be paid at the rate or rates agreed.

4.3 Comment on Investment Strategy

The defined benefit assets are invested in a balanced investment strategy with holdings in all the major investment asset classes. The strategy adopted has 75% invested in growth assets such as shares, property, infrastructure and growth alternative assets and 25% invested in defensive assets such as fixed interest, defensive alternative assets and cash. While the strategy adopted has an emphasis on growth assets (which have higher expected long-term returns) the associated risks should be considered.

The implications for a closed defined benefit fund needs to be considered. As the average age increases, a period of low investment returns can result in a significant increase in Employer contributions.

A move to an investment strategy with less growth assets can reduce the volatility of the investment returns and therefore reduce the probability of a significant increase in the Employer contributions as a result of low investment returns. However, the trade off is that a more conservative investment strategy has a lower expected long-term investment return.

A change to a more conservative investment strategy can also have an impact on members' benefits. This is because the defined benefit amount includes a benefit which is calculated as a multiple of the member contributions plus investment earnings. As at 30 June 2016, approximately 12% of defined benefit vested benefits were accumulation style benefits.

At the present time, we consider that the current investments are suitable taking into account the nature and term of the liabilities as well as the Fund's current financial position. However, the associated risks and benefits of the current investment strategy for the future should be considered by the Trustee.

4.4 Next Actuarial Investigation

The next actuarial investigation is required on or before 30 June 2019 for the Fund to comply with the prescribed actuarial investigation standards for regulated defined benefit funds.

However, should the Fund experience be worse than assumed, we may need to review the contribution program for some Sub-plans before the next actuarial investigation is due.

Section 5 Statements Required under Prudential Standard SPS 160

In accordance with Prudential Standard SPS 160, I hereby certify the following in relation to Energy Super.

a) The value of the assets held by the Fund at 30 June 2016 was $6,071,799,000. This value excludes assets of $15,486,000 held to meet the Operational Risk Financial Requirement.

b) I consider that the value of assets of the Fund is adequate to meet the liabilities of the Fund in respect of accrued benefits at 30 June 2016. Based on Employer contributions at the recommended rates, valuation methodology and assumptions as to future experience, which I regard as reasonable, I consider that the value of the assets will remain adequate to meet the accrued liabilities in the three years following 30 June 2016.

c) The vested benefits of the Fund at 30 June 2016 totalled $5,789,579,000. The value of the assets of the Fund is adequate to meet the liabilities of the Fund in respect of vested benefits as at 30 June 2016, and hence the Fund is in a satisfactory financial position within the meaning of Regulation 9.04. Furthermore, based on Employer contributions at the recommended rates, valuation methodology and assumptions as to future experience, which I regard as reasonable, I consider that the value of the assets of the Plan will remain adequate to meet the liabilities of the Plan in respect of vested benefits over the three years following 30 June 2016 and hence the Plan is expected to remain in a satisfactory financial position at that time.

d) The value of the liabilities in respect of minimum benefits for the members of the Fund as at 30 June 2016 was $5,465,076,000.

e) I consider that the current shortfall limit of 97% remains appropriate and does not need to be reviewed.

f) The recommended overall Employer contribution rates are:

   Defined Benefit Members:

   - 1 July 2016 to 31 December 2016: 4% of defined benefit members' salaries
   - 1 January 2017 onwards: 0% of defined benefit members' salaries

   Defined Contribution Members: Employer should continue to be paid at the rate or rates agreed.

   Members' contributions (including salary sacrifice contributions) should continue to be made in accordance with the Trust Deed.

g) (i) All Funding and Solvency certificates required by the Superannuation Industry (Supervision) Act and Regulations were issued in respect of the investigation period.

   (ii) I consider that during the 3-year period immediately following 30 June 2016, a Funding and Solvency Certificate can be provided to certify the solvency of the Fund having regard to the notifiable events and the minimum Employer contributions specified in the certificate.

Signed:

S Mather

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30 December 2016

Appendix A Method and assumptions

A.1 The Actuarial Projection

The objective of an actuarial projection is to provide a systematic basis for determining Employer contributions and to promote a build up of assets in the Fund that is in line with the accrued actuarial liabilities. It is an exercise in financial control rather than a forecast of the future.

A.2 The Funding Method

A *funding method* is used to calculate the contribution rates. The method used to value the Fund in this actuarial investigation is the Aggregate funding method. The Fund is closed to new defined benefit members.

Under an Aggregate funding method, future contributions are determined so that their present value is expected to be sufficient to fund the difference between:

- the value of all future benefits for existing defined benefit members; and
- the value of Fund assets attributable to defined benefit members.

The contribution rate is then determined by spreading the present value of future contributions over the future Fund membership of existing members.

The Fund was valued using the Aggregate funding method at the last actuarial investigation.

A.3 Assumptions

Investment Earnings

We consider that an investment return (after investment fees and tax and administration fees) of 6.5% per annum is an appropriate long term return assumption based on the current investment strategy for defined benefit assets and future investment outlook.

Based on the actual investment performance for the period from 1 July 2016 to mid December 2016, we have adopted an investment return (after investment fees and tax and administration fees) assumption of 6.5% per annum for the year ending 30 June 2017.

Salary Inflation Increase

The salary increase rate assumption adopted is 4.5% per annum.

We consider that a salary inflation assumption of 4.5% per annum is an appropriate salary increase assumption and takes into consideration Average Weekly earnings (AWOTE) and the expected salary growth of the Employers.

In addition to the salary inflation component above, *Promotional salary increases* are expected at the following rates:

Ages	Promotional Salary Increases
15 to 21	20%
22	15%
23	5%
24 to 25	3%
26 to 29	2%
30 to 39	1%
40 and over	0%

Crediting interest rates for Defined Benefit Accounts

Defined benefit members have accumulation accounts that form part of the defined benefit. These accumulation accounts include the member contribution account which is used to calculate the member's defined benefit. The Trustee's crediting rate policy is to average the investment returns over the past 3 years.

For the defined benefit accounts, we have assumed that the Trustee's smoothed crediting rate policy continues to apply.

Rates of exit

Members are assumed to leave the Fund at a certain rate, based on the experience of similar Funds. The sample rates below represent the number of members leaving the Fund in one year per 10,000 members at the start of the year for modes of exit including withdrawal, death and disablement. These rates are the same as used in the last actuarial valuation at 30 June 2013.

Age	Withdrawal	Death	Disablement	Retirement
20	560	6	2	
30	512	4	1	
40	328	7	6	
50	240	18	28	
60	-	53	134	1,500
61	-	-	-	2,500
62	-	-	-	2,500
63	-	-	-	3,500
64	-	-	-	2,000
65	-	-	-	10,000

Cost of Insurance

The cost of insurance premiums (including income protection premiums) for all defined benefit members is assumed to be 1.4% of defined benefit members' salaries.

Expenses

Expenses incurred in the administration of the Fund are assumed to be deducted from investment returns.

Surcharge

Any surcharge liability is deducted from the member's benefit.

Tax

The Fund is subject to concessional tax rate of 15% on employer contributions and up to 15% on investment earnings. It is assumed that this will continue.

Superannuation Guarantee (SG) Contributions

The SG rate of 9.5% has been taken into account.

Changes in Assumptions

The long term financial assumptions adopted for this investigation are lower than the assumptions adopted in the 30 June 2013 actuarial investigation report. For this investigation, the long term investment earnings assumption has been set at 6.5% p.a. rather than 7.0% p.a to reflect the lower return outlook and the salary increase assumption has been set at 4.5% p.a. rather than 5.0% p.a to reflect the lower earnings prospects.

The change in long term financial assumptions would not have a material financial impact on the Fund as the gap between investment returns and salary increases of 2% pa has been maintained and did not impact the recommended Employer contribution rate.

It is stressed that the eventual cost of the benefits will depend on the Fund experience rather than on the assumptions.

A.4 Materrial Risks

As part of this actuarial investigation, I have considered the below material risks associated with the ongoing actuarial management and funding of the Fund. If adverse Fund experience relative to the assumptions occurs, then the financial position of the Fund would be adversely affected and the funding plan might need to be amended.

These material risks are:

- Investment returns being lower than expected;
- Salary increases being higher than expected;
- The employer being unable to make the recommended contributions;
- Any large downsizing of the membership, when the VBI is less than 100%;
- The occurrence of a catastrophic event leading to a significant number of deaths or disablements of members.

The Trustee monitors the financial position on a regular basis and as such would identify if the funding position is deteriorating as a result of adverse experience, including adverse investment returns, salary increases and exits.

Appendix B Data used in the Investigation

B.1 Assets

The total Fund's assets at 30 June 2016 was $6,087,285,000 obtained from the Fund's audited financial statements.

The value of the Fund's assets at 30 June 2016 in respect of the Defined Benefit Section was $1,233,514,000 as advised by IFAA Pty Ltd. This excludes Defined Benefit members' additional accumulation balances, Accumulation members' accumulation balances, the explicit investment reserves for the Smoothed Return investment option and the Operational Risk Financial Reserve.

The Fund's defined benefit assets are invested in a Balanced defined benefit portfolio.

B.2 Member Statistics

A summary of the defined benefit members as at 30 June 2016 is set out in the following table.

Category	Number of Members	Total Salaries ($)	Average Salary ($)	Average Age (yrs)	Average M'Ship (yrs)
Total	1,818	216,359,000	119,009	52.0	25.8

The defined benefit membership has decreased from 2,508 members at 1 July 2013 to 1,818 members at 30 June 2016.

The average age of the defined benefit members has increased from 51.0 years as at 1 July 2013 to 52.0 years as at 30 June 2016.

The expected average future-working lifetime of existing defined benefit members at 30 June 2016 was 9 years.

The number of defined benefit members by each Employer is shown below:

Employer	Number of Members
Energex Limited	576
Ergon Energy	832
Powerlink Queensland	84
IFAA Pty Ltd	1
CS Energy	90
Stanwell Corporation Limited	97
NRG Gladstone Operating Services Pty Ltd	80
SPARQ Solutions Pty Ltd	58
Total	1,818

Appendix C A summary of member benefits

The following is a brief summary of the benefits provided to defined benefit members. For full details of the standard benefits, terms and conditions provided by Energy Super, refer to the Trust Deed.

(a) Definitions

Final Average Salary (FAS):	means the average of the Member's Salary paid in the previous 12 or 24 months.
Member Basic Account	Members contribute an amount equal to 5% of the Member's salary (or 5.9% on a salary sacrifice basis). Such contributions are credited to the Member Basic Account.

(b) Benefits

Normal Retirement from age 65 to 70:

The benefit payable on Retirement is the greater of:

(a) 2.5 times the Member Basic Account immediately before the member attained age 55; and

(b) 19.5% of Final Average Salary for each year of Fund Membership (calculated in years and days).

Early Retirement

The benefit payable on Retirement from age 55 is the greater of:

(a) 2.5 times the Member Basic Account immediately before the member attained age 55; and

(b) 19.5% of Final Average Salary for each year of Fund Membership to the date of early retirement (calculated in years and days).

Death/TPD

The Death/TPD Benefit for members less than age 60 is equal to the benefit multiple as at age 60 times the Projected Final Average Salary, subject to a minimum of 2.5 times the Member Account immediately before the member attained age 55.

If the member is over 60 years old, the Death/TPD Benefit is equal to the relevant Retirement Benefit.

Temporary Disablement

A monthly income benefit equal to 80% of member's monthly salary.

Retrenchment or Resignation (or Termination) for Serious Ill Health:

The benefit payable is the greater of:

(a) 2.5 times the Member Basic Account; and
(b) 19.5% of Final Average Salary for each year of completed Fund Membership times a discount factor

Where the discount factor is (1 - 2% x [55 – current age]) with a minimum of 70%.

The period from the current age to 55 is calculated in years and days.

Minimum Benefit: All benefits are subject to a minimum of the Minimum Requisite Benefit. This benefit is described in the Fund's Benefit Certificate.

Additional Benefits: The total additional accumulation accounts (including surcharge account) are also payable on all forms of exit.

For NRG Gladstone Operating Services defined benefit members, the minimum on both the Death and Retirement benefits is calculated as 2.5 times the Member Basic Account at the date of exit, instead of 2.5 times the Member's Account immediately before the member attained age 55.

Appendix D Information required for purposes of Australian Accounting Standard 25 (AAS25) relating to the Actuarial Investigation of Energy Super as at 30 June 2016

Energy Super provides benefits defined in terms of salary near retirement. It therefore requires periodic actuarial investigation in order to comply with the provisions of the Superannuation Industry (Supervision) Regulations.

This extract summarises the actuarial investigation of the Fund as at 30 June 2016 carried out by Sunsuper Financial Services Pty Ltd by Shane Mather, Fellow of the Actuaries Institute. It has been prepared for the purposes of inclusion with the Fund Accounts and is in a form that complies with the Australian Accounting Standard AAS25 according to the provisions of the Actuaries Institute Guidance Note 454.

D.1 Value of assets

The market value of the Fund assets at 30 June 2016 available to pay member benefits was $6,087,285,000. It is calculated on an accrual basis and allows for the costs that would be incurred if assets had to be sold for the purpose of paying members' benefits. The value of the Fund's net assets as at 30 June 2016 was $6,071,799,000 after allowing for the Operational risk financial reserve of $15,486,000 and. this is also the value of assets used for the purpose of setting the contribution rate.

D.2 Vested benefits

The total vested benefits at 30 June 2016 were $5,789,579,000. The ratio of the market value of assets to the total vested benefits at 30 June 2016 was 105%.

Vested benefits are benefits that are not conditional upon continued membership of the Fund (or any factor other than resignation) and include benefits which members were entitled to receive had they terminated their membership at the investigation date.

D.3 Value of Accrued Benefits

The total Accrued Benefits at 30 June 2016 calculated for AAS25 was $5,793,136,000. This consists of:

- Defined benefits with a present value of $1,002,253,000 and
- Accumulation benefits of $4,790,883,000.

The ratio of the market value of assets to the total Accrued Benefits at 30 June 2016 was 105%.

The present value of defined benefits refers to benefits that arise from membership of the Fund up to the investigation date. The liability for accrued benefits represents the actuarially determined present value of the accrued benefits allowing for anticipated increases in salaries, Fund earnings and other relevant actuarial assumptions calculated in a manner consistent with Professional Standards and Guidance Notes produced by the Actuaries Institute.

The past membership component for each type of benefit is:

Retirement/Resignation benefits	
	Based on the member's accrued retirement benefit multiple at 30 June 2016.
	Member Basic Account is updated with interest to the projected date of resignation.
Death and TPD benefits	
	According to the formula:
	Total Death Benefit Payable in Year t x <u>Membership to 30 June</u> / Membership to middle of year t
Accumulated credits	The amount of the accumulation account at 30 June 2016.

A minimum of each member's Vested Benefit was applied to the Value of Accrued Benefits.

D.4 Actuarial Basis

The main items of the actuarial basis adopted for the investigation were:

- The method of funding adopted was the "Aggregate Funding" method.
- The Fund assets were taken into account at their net market value.
- The Fund earnings rate after allowing for tax and investment expenses and administration fee is 6.5% per annum.
- Members' salaries will in future increase at an average rate of 4.5% per annum plus a promotional salary scale.

The other assumptions are as set out in Appendix A of the report. We did not make an allowance for any variability in these assumptions.

The expected average future-working lifetime of existing defined benefit members at 30 June 2016 was approximately 9 years.

D.5 Review of Funding Arrangements

As the Fund assets are greater than the vested benefits as at 30 June 2016, the Fund is in a satisfactory financial position as defined within the meaning of Superannuation Industry (Supervision) Regulation 9.04.

Based on the recommended Employer contributions and the assumptions as to future experience, which I regard as reasonable, I consider that the value of the assets of the Fund will remain adequate to meet the liabilities of the Fund in respect of vested benefits over the three years following 30 June 2016 and hence the Fund is expected to remain in a satisfactory financial position at that time.

The long-term liabilities of the Fund have been determined on the basis that the Fund is a continuing entity, using appropriate actuarial assumptions.

Based on the funding method adopted, the recommended overall Employer contribution rates are:

Defined Benefit Members:

- 1 July 2016 to 31 December 2016: 4% of defined benefit members' salaries
- 1 January 2017 onwards: 0% of defined benefit members' salaries.

Defined Contribution Members: Employer should continue to be paid at the rate or rates agreed.

Members' contributions (including salary sacrifice contributions) should continue to be made in accordance with the Trust Deed.

The Employer contribution rates will be reviewed as part of the next actuarial investigation scheduled for 30 June 2019.

S Mather

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Sunsuper Financial Services Pty Ltd [A.B.N. 50 087 154 818]

30 December 2016