

Attachment 11.3

Standard Control Services Operating Expenditure Approach

2019-24

April 2018



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Key points

Essential Energy has achieved substantial reductions in operating expenditure over the 2014–19 regulatory period. Our total Standard Control Services (SCS) operating expenditure for the 2019-24 regulatory period is expected to be \$1,698M (in real \$2018-19) which is six per cent less than the forecast for the 2014-19 regulatory period and the allowance for that period.

Our forecast for the 2019-24 regulatory period will enable us to maintain current network reliability, safety and customer service levels and meet our obligations under the National Electricity Rules (NER).

When producing our forecast, we used the approach outlined in the forecasting methodology that we previously submitted to the AER. This approach consists of a bottom-up build for forecasting each operating expenditure category and includes step change initiatives that aim to deliver further efficiencies throughout the regulatory period.

For comparison, we prepared an alternate base-step-trend forecast that excludes these efficiency initiatives. Including the efficiency initiatives, our forecast results in significantly lower operating expenditure at the end of the regulatory period than the alternative base-step-trend forecast that excludes them.

To develop our forecast, we chose the 2017-18 year as the efficient base year because it best represents the impact of the range of efficiency initiatives that Essential Energy has already introduced. Our operating expenditure in this base year is lower than the regulatory allowance for operating expenditure in the same year. This efficient **base** year was normalised by removing non-recurrent expenditure and adjusting for known variations in network programs delivered in 2017-18 compared to those required under existing asset management policies and to meet our regulatory obligations. This normalised base year was a revealed (past actual) cost and formed the basis of the operating expenditure forecast.

After non-recurrent costs were removed, we introduced known **step** changes associated with efficiency initiatives such as vegetation management and investment in ICT programs. These all aim to achieve further efficiencies by streamlining network and corporate support functions and enabling key asset management and program delivery functions. A change in the accounting treatment of property lease expenditure was also identified as a step change.

The **trend** towards decreased operating expenditure that we have forecast for the end of the 2019-24 regulatory period is largely the result of investments in systems that will realise efficiencies. We have assumed that forecast productivity improvements - driven by our investment in systems - will offset the effect of output growth and input price changes. Our forecast efficiency and productivity improvements are not achievable without this investment.

Note that all operating expenditure is presented in 2018-19 real dollar terms.

1. Overview

Since 2011-12 - and continuing through the 2014-19 regulatory period – we have significantly transformed Essential Energy's operations by identifying and removing costs where possible. This has been achieved together with a 37 per cent reduction in staffing levels whilst maintaining our reliability performance and customer service levels.

We forecast that further efficiencies will be realised throughout the 2014-19 regulatory period with our average annual operating expenditure reducing by over 27 per cent compared to the 2009-14 regulatory period.

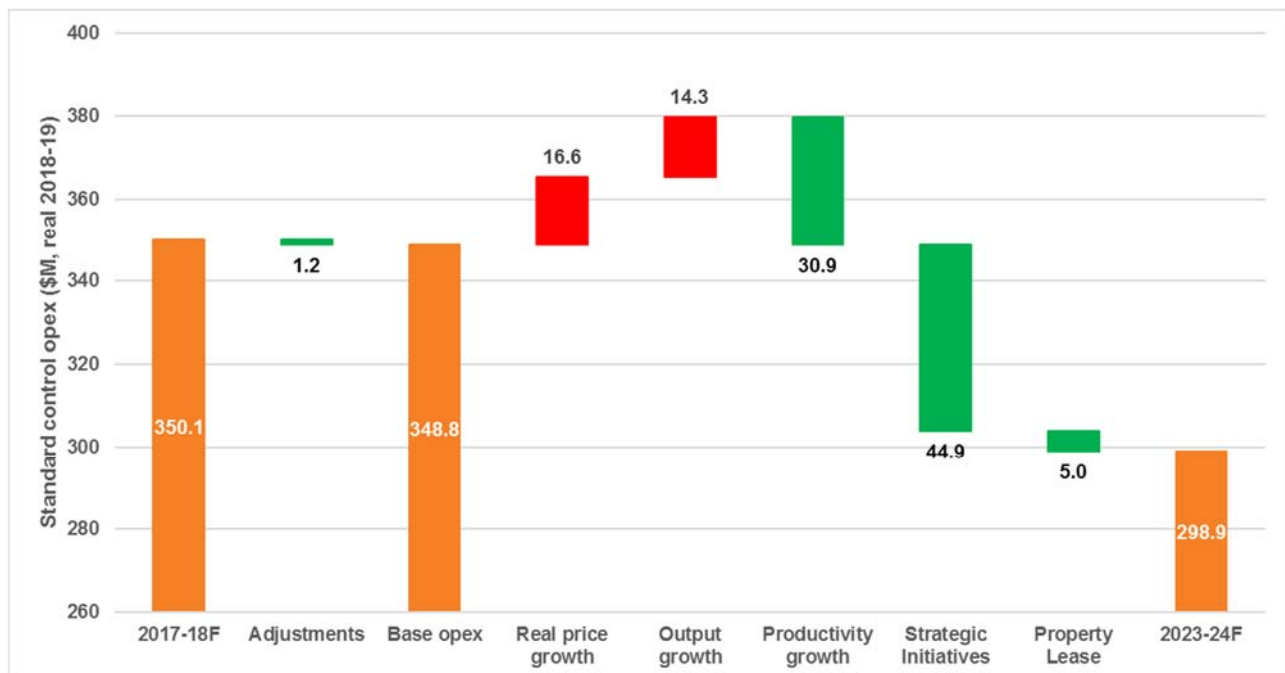
During the 2019-24 regulatory period, we will build on our reform program and the efficiency improvements already delivered. We forecast an efficient level of operating expenditure of \$1,698M for the 2019-24 period, which is six per cent lower than Essential Energy's regulatory allowance and the forecast expenditure for the 2014-19 period. In forecasting this level of operating expenditure, we seek to maintain the level of quality, reliability, safety and security of supply we provide our customers.

The forecast operating expenditure decrease is enabled through step changes that mean we can deliver operating expenditure reductions throughout the 2019-24 Regulatory Period, including:

- > Strategic initiatives such as improving our vegetation management and significant investment in ICT systems. These are aimed at enabling further efficiencies by streamlining network and corporate support functions and enabling key asset management and program delivery functions.
- > A reduction in property lease operating expenditure due to an accounting change that now requires such leases to be capitalised.

Figure 1 shows the reduction in operating expenditure that Essential Energy expects to achieve between the 2017-18 base year and 2023-24.

Figure 1 – Link Between Essential Energy's 2017-18 Base Year and 2023-24 Opex (\$ M, 2018-19)



Essential Energy places great importance on listening to and understanding customer needs and priorities, and we consulted extensively with our customers and stakeholders when formulating our Regulatory Proposal. When forecasting the real six per cent reduction in operating expenditure for the 2019-24 regulatory period we recognised customer feedback regarding the importance of the affordability of our services (see 'Our Customers' Chapter of the Regulatory Proposal).

2. Operating expenditure categories

Essential Energy groups Standard Control Services operating expenditure into the categories shown in Table 1.

Table 1 - Essential Energy's SCS Controllable Opex categories

Network Direct	Routine inspections
	Planned maintenance
	Unplanned maintenance
	Vegetation management
Network Indirect	Plan
	Operate and Execute
	Network Support
Corporate	

3. Historical operating expenditure

3.1 Performance

Essential Energy's operating expenditure over the 2014–19 period is forecast to be significantly lower than in the previous 2009–14 regulatory period. Our operating expenditure in the proposed 2017-18 base year is forecast to be \$350.1M (\$M, 2018-19) which is four per cent lower than the regulatory allowance for that year.

Figure 2 summarises Essential Energy's operating expenditure performance over the 2009–14 and 2014–19 regulatory periods against the AER's allowances for these periods. It should be noted that all operating expenditure is presented in 2018-19 real dollar terms.

Figure 2 - Essential Energy's actual and forecast operating expenditure against AER allowances 2009-10 to 2023-24 (\$M, 2018-19)



Average operating expenditure levels have reduced from \$496.8M in the 2009-14 regulatory period, to \$360.2M in the current regulatory period, a reduction of 27 per cent. The forecast average operating expenditure for the 2019-24 regulatory period is \$339.6M, a reduction of a further six per cent compared to the current regulatory period. In addition, it should be noted that the forecast 2023-24 operating expenditure of \$298.9M is 47 per cent lower than the 2011-12 actual operating expenditure of \$559.5M.

3.2 Main areas of operating expenditure savings since 2011-12

Cash containment initiatives largely impacting fleet, property and ICT

In response to the AER's 2015 final decision on regulatory allowances, several cash containment initiatives were introduced. Our expenditure on fleet, property and ICT was reduced as a result.

Organisational restructuring and workforce reductions

Essential Energy undertook an extensive restructuring process, considerably reducing our workforce. Total staffing levels were reduced by 37 per cent between 2011-12 and 2016-17. Higher levels of operating expenditure in 2013-14 and 2014-15 were driven by additional costs required to undertake this restructuring, mostly consisting of redundancy payments.

Value and risk assessment of existing inspection programs

Essential Energy carried out a detailed review our routine inspection programs. One of the first outcomes was a reduction in frequency of the pole and line inspection program due in part to the introduction of complementary aerial inspection programs.

Defect reclassification and optimisation

Coupled with the inspection program initiatives, we conducted a critical assessment of the outputs of these programs. This resulted in a reassessment of the value and time for rectification for all the defects identified in the inspection programs. Reclassifying and optimising defect categories will permit greater operational efficiencies and reductions in overall cost as more defects can be grouped together for rectification to minimise mobilisation costs. These efficiencies have been applied as part of our expenditure forecasting process.

Capitalisation of specific defect types in accordance with company policy

In the 2014-19 regulatory period, the accounting treatment for some network defects was revised, resulting in the capitalisation of some defect rectification activities. This accounting treatment applies to the base year operating expenditure and to the forecast operating expenditure for the regulatory period.

Field force automation

Essential Energy has invested extensively in mobile technology, work scheduling and planning applications to increase productivity and efficiency. The full benefits of the investment are expected to be realised through the 2019 – 24 regulatory period and are reflected in our operating expenditure forecast.

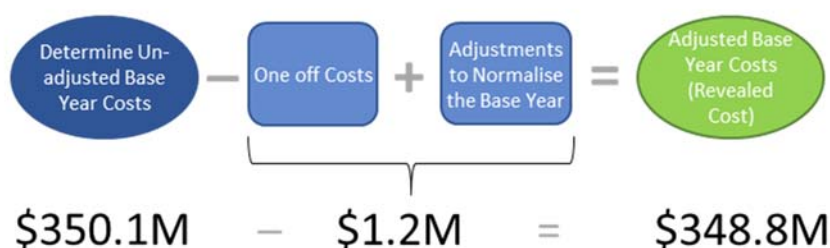
Further information on our operating expenditure performance can be found in supporting document 11.3.1 – Analysis of Essential Energy's expenditure variations over the 2014-19 regulatory control period.

4. Approach to forecasting operating expenditure

4.1 Operating expenditure forecasting method

Essential Energy's operating expenditure forecast has been prepared in line with the forecasting methodology¹ we previously submitted to the AER. The steps taken to develop our operating expenditure forecast for the 2019–24 regulatory control period are outlined in Figure 3 and 4.

Figure 3 – Steps to Adjust the Base Year To Establish Revealed Costs



Step 1: Determine unadjusted base year costs

We selected 2017-18 as the base year for developing Essential Energy's operating expenditure forecast for the 2019–24 regulatory period. As this financial year was only partly completed at the time of submitting the Regulatory Proposal, a combination of year-to-date actuals and forecast to year end was used to determine the unadjusted base year costs. The reasons for selecting this base year are detailed in Sections 5.1 and 5.2.

The unadjusted 2017-18 base year costs are \$350.1M (\$M, 2018-19).

Step 2: Deduct one off costs

Adjustments were made to base year operating expenditure to account for any non-recurrent costs incurred in the year to ensure the base year operating expenditure used for forecasting reflected the operating expenditure criteria outlined in the NER. For this reason, redundancy costs incurred in 2017/18 were deducted as a one-off cost.

Step 3: Normalise the base year

The unadjusted base year was normalised by adjusting for known variations in network programs delivered in 2017-18 compared to those required under existing asset management policies. These variations were primarily required to adjust for the impact of business reforms and cost containment initiatives introduced to adjust to lower regulatory allowances. Many reforms were implemented before 2017-18 and impacted the forecast 2017-18 expenditure and program delivery outcomes.

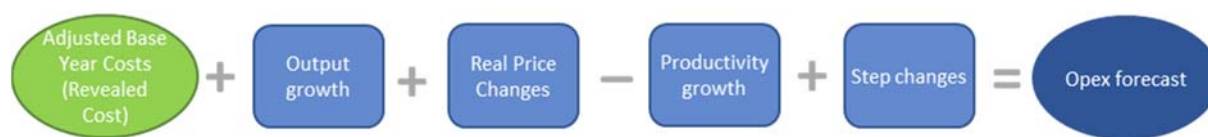
In recognition of this temporary impact, 2017-18 operating expenditure was adjusted to reflect the total costs that would be expected to be incurred for the full delivery of all network programs under existing asset management policies. The adjustments have primarily impacted asset inspection and network maintenance forecasts.

These adjustments to the base year are summarised in RIN Table 2.16.1, with further detail supplied in RIN Table 2.17.5.

Once the base year was normalised, the forecast was determined by adjusting the normalised base year for output growth, input cost growth, productivity growth, and step changes.

¹ Expenditure forecasting methodology – 2019-24 Regulatory Proposal, submitted to the AER in June 2017

Figure 4 – Steps to Prepare Forecast Using the Normalised Base Year



Step 4: Make annual adjustments to account for output growth

Annual adjustments for output growth were calculated using a Standard Control services operating expenditure forecast model, which takes into account growth in customer numbers, circuit length and ratcheted maximum demand.

We assumed that increases to operating expenditure resulting from output growth would be absorbed by productivity gains arising from strategic initiatives.

Step 5: Make annual adjustments to account for real price changes

Annual adjustments were also calculated for real price changes using a Standard Control Services operating expenditure forecast model that takes into account the contribution of labour and materials to total prices. The difference between the real wage index and the consumer price index was used to forecast real labour price changes. No allowance was made for real price changes in materials.

Again, despite this assessment, it was assumed that any increases to operating expenditure resulting from real price changes would be absorbed by productivity gains arising from strategic initiatives.

Step 6: Introduce productivity growth into the forecast

Having assessed the impact of output growth and real price changes, we prepared our forecast on the basis that these would be offset by productivity gains arising from strategic initiatives.

Step 7: Adjust for Step changes required to further improve efficiency

Step changes were included in the forecast e.g. vegetation management, ICT related programs and the way we account for our property lease expenditure.

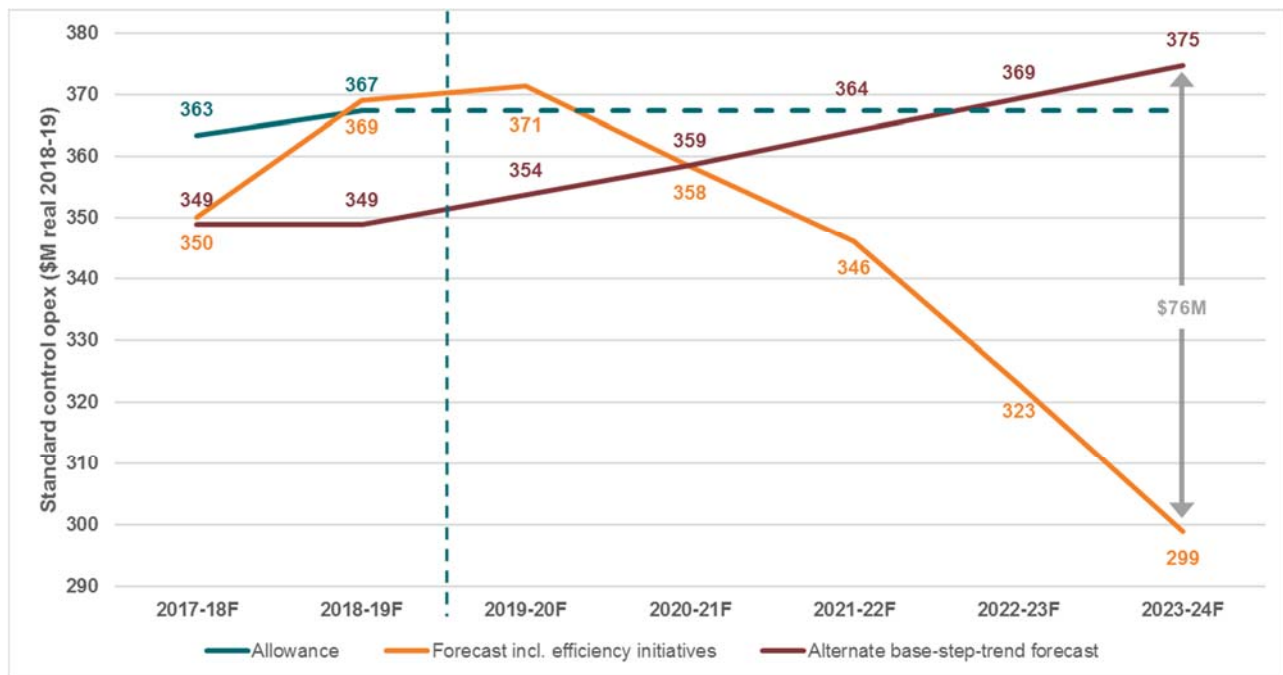
5. Comparison to alternate base-step-trend forecast

For comparison purposes, we prepared an alternate base-step-trend forecast that excluded the step changes associated with efficiency initiatives. The purpose was to demonstrate the difference between rolling forward expenditure in the efficient normalised base year and the forecast that we prepared for the Regulatory Proposal.

The alternative forecast built on the normalised base year to include the effect of output growth and real price changes without the offsetting effect of forecast productivity gains. The step change associated with capitalisation of property leases is included in this alternate forecast as it was unrelated to the efficiency initiatives.

Figure 5 shows that the difference in forecast operating expenditure arising from our planned investments will be \$76M in 2023-24. By achieving this level of operating expenditure in 2023-24, we will outperform existing regulatory allowances by around 19 per cent and establish a significantly more efficient level of expenditure for the 2024-29 regulatory period.

Figure 5 – Comparison of Operating Expenditure Forecast to Base-Step-Trend Forecast



6. Key forecast inputs and assumptions

6.1 Selection of base year for operating expenditure forecast

We used 2017-18 as the base year for developing the expenditure forecast for 2019–24 because it best represents the impact of efficiency initiatives that Essential Energy has introduced. Section 3.1.1 provides an overview of these initiatives.

6.2 Efficiency of base year operating expenditure

Essential Energy's expenditure in 2017-18 is consistent with the costs incurred by a prudent service provider acting efficiently. We considered a range of evidence when assessing this, including:

- > Revealed costs in the base year and comparison to the AER's position on an efficient level; and
- > Bottom-up check of maintenance expenditure.

6.3 Revealed costs in the base year

The 'revealed cost' (or past actual) approach is the AER's preferred approach for assessing base operating expenditure and Essential Energy's approach is in line with this.

The combination of year-to-date actuals and budget estimates to year end in this year best reflects the operating expenditure criteria and provides the best basis for forecasting operating expenditure. 2017-18 is the most recent year of available operating expenditure data.

Our forecast operating expenditure of \$350.1M (\$2018-19) in 2017-18 is four per cent below the regulatory allowance of \$363 million (\$2018-19). This follows significant cost savings achieved since the 2009–14 regulatory period as detailed in Section 3.1.

The normalised costs for 2017-18 of \$348.8M (\$2018-19) are lower than the unadjusted costs and are considered efficient.

6.4 Benchmarking

The most recent annual benchmarking report prepared by the AER was an important consideration in determining Essential Energy's efficient level of operating expenditure. We engaged Frontier Economics to perform benchmarking in accord with the AER's preferred modelling approach using the outputs to provide a top down challenge for Essential Energy's bottom-up build.

Operating Environment Factors (OEFs) -which increase operating expenditure allowances for unique factors that impact network businesses - were also considered as part of this assessment.

The results of the Frontier Economics modelling demonstrated that:

1. Even without considering OEFs, Essential Energy's base year operating expenditure forecast is efficient
2. Essential Energy's bottom-up modelling for operating expenditure is reasonable
3. Once OEF's are considered, Essential Energy's efficiency ranking is higher and likely to result in us being at the frontier in terms of operating expenditure efficiency.

Using this benchmarking and the bottom-up modelling, we were able to demonstrate efficiency in our proposed operating expenditure levels.

We anticipate that the AER's annual benchmarking for 2017-18 will demonstrate similar outcomes. Further information is provided in the Benchmarking chapter of the Regulatory Proposal.

6.5 Bottom-up maintenance operating expenditure assessment

Essential Energy's 2016-17 actual costs were used to develop the bottom up model for direct operating expenditure (maintenance and inspection). Adjustments to the model output forecast were made considering the impacts of the initiatives listed in Section 3.1 and the phasing of these initiatives.

For example, where inspection frequencies changed, it is normal in transitional years to achieve deeper savings before the new program outputs are rebalanced. Where transitional years have materially impacted on the base year, we made adjustments to reflect the steady state program costs. Similarly, programs that were removed or redesigned were adjusted in the model to reflect the outputs and costs.

Our forecasts for the unplanned maintenance component of direct operating expenditure were derived by employing statistical methods over a large data set spanning multiple years, then performing Monte Carlo simulations to estimate the unplanned maintenance component.

The adjusted 2017-18 base year figures used for the benchmarking referred to in Section 6.4 compare favourably to the outputs of the bottom up model for direct operating expenditure. This assessment confirmed that maintenance operating expenditure in the base year is in line with Essential Energy's bottom up forecast and supports the sustainability of operating expenditure in this year.

6.6 Trending base operating expenditure

Having assessed the forecast impact of changes in input prices and output growth, we have assumed that they would be offset by productivity improvements. Forecast productivity improvements were determined through detailed industry benchmarking which informed the level of efficiency that can be achieved by the end of the regulatory period.

The net zero impact of forecast productivity gains is shown in Table 2.

Table 2 - Rate of Change Forecast

\$M, 2018-19	FY19	FY20	FY21	FY22	FY23	FY24
Real Price Change	0.67%	0.56%	0.76%	0.96%	0.99%	0.85%
Output Growth	0.75%	0.76%	0.64%	0.68%	0.61%	0.68%
Productivity Growth	1.40%	1.30%	1.39%	1.61%	1.57%	1.51%
Rate of Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

6.7 Step Changes

We included two step changes in our operating expenditure forecast as set out in Table 3 below:

1. Step changes associated with a range of strategic initiatives; and
2. A reduction in property lease expenditure due to accounting standard changes.

These costs reflect forecast expenditure not captured by base year operating expenditure that would be incurred by a prudent service provider acting efficiently to meet the operating expenditure objectives and achieve lowest sustainable costs over the long term.

Table 3 - Step changes included in 2019–24 operating expenditure forecast

\$M, 2018-19	FY20	FY21	FY22	FY23	FY24	FY20–24 total
Implementation of strategic initiatives	27	14	2	(21)	(45)	(22)
Reduction in property lease expenditure	(5)	(5)	(5)	(5)	(5)	(24)
Total	23	10	(3)	(26)	(50)	(46)

6.7.1 Strategic Initiatives Step Change

As discussed in the 'Delivering Value' chapter, our strategic initiatives will deliver long-term efficiencies through new technologies (see the Capital Expenditure and the Operating Expenditure chapters) and best practice systems and processes. This ongoing reform is dependent on considerable technological improvements and investment. A large proportion of our forecast expenditure reductions are not achievable without this investment in technology.

The objectives of the program are:

- > Limit real price increases in next regulatory period and stabilise prices in long term;
- > Improve workforce productivity
- > Modernise technology and data where it will drive operational performance
- > Better capture and use data and analytics to manage risk, assets and safety
- > Enable flexibility to adapt to future customer requirements, technology and opportunities
- > Build the capabilities to manage change and meet requirements for success
- > Ensure pace of change is achievable for the organisation

The strategic initiatives are to be delivered via seven workstreams:

Workstream:	Scope of Workstream:
Capital Projects ('Do the right work, select the right scope')	<p>Focused on improving processes related to the network investment process – initiatives include:</p> <ul style="list-style-type: none"> ○ optimising new project options at portfolio level; ○ conducting granular demand analysis at distribution level rather than zone substation level; ○ implementing probabilistic modelling of constraints at feeder level to better value projects. ○ improvements in design and network strategy & planning processes; ○ technology enablement required to achieve benefits: Primary: EAM / Metering & Billing / Scheduling 2.0 (Click)
End-to-End Maintenance and Replacement ('Do the right work in an integrated plan')	<p>Focused on updating the asset strategy and end-to-end processes to better manage network risk – in order to deliver an end-to-end solution, the workstream focusses on:</p> <ul style="list-style-type: none"> ○ asset strategy (e.g. implement a multi-tiered inspection strategy, better understand options for replacements of uneconomic feeders, transition to reliability-centred replacement decisions to better scope planned replacement programs, leverage big data and analytics to optimise preventative vs corrective maintenance trade-offs) ○ key upstream processes (e.g. defect validation); and ○ integrated works planning to sequence delivery (leverage new systems to implement integrated works planning including segment-based scheduling, implement travel route optimisation functionality and segment-based scheduling). ○ technology enablement required to achieve benefits: EAM / Scheduling 2.0 (Click)

Workstream:	Scope of Workstream:
Vegetation Management	<p>Focused on:</p> <ul style="list-style-type: none"> o deliver an initial 'cut hard' strategy in the last two years of the current Regulatory period that is designed to reduce vegetation management costs in the next Regulatory period o leveraging geo-technologies and advanced analytics to develop a granular risk-based vegetation strategy to inform highly targeted, granular treatment frequencies per vegetation zone; o capturing the economic benefit of this strategy via new contracting models o development of vegetation intelligence (re-growth rates, fire risk, climate, fault-related risks/costs).
Outage Response	<p>Focused on:</p> <ul style="list-style-type: none"> o identifying the root causes of poor STPIS performance o developing opportunities to address these root causes and implementing these opportunities. o optimise the incorporation of STPIS into both strategic and day-to-day business decisions to improve performance o update the fault response strategy to improve STPIS, including activities like standard F&E crew sizes and optimised F&E rostering o Technology enablement required to achieve benefits: EAM / Scheduling 2.0 (Click) / ADMS / Power on Mobile
Field Force Productivity	<p>Focused on increasing utilisation and efficiency of the field force and improving support (logistics, fleet, property) to the field via:</p> <ul style="list-style-type: none"> o implementation of significant process changes to the way of working (e.g. standard jobs, productivity KPI's, optimised travel route scheduling, integrated works planning, etc) to increase field force time on tools by 1 hour and efficiency by 5%; o managing property and fleet size in line with the realisation of these productivity gains o Technology enablement required to achieve benefits: EAM / Scheduling 2.0 (Click) / ADMS / Power on Mobile / Time and Attendance
External Spend	<p>Focused on a systematic and sustainable reduction of external spend by applying commercial and technical procurement levers - this involves:</p> <ul style="list-style-type: none"> o prioritisation of categories for waves to deliver value o developing and implementation of initiatives based on cross-functional teams applying procurement levers such as demand management, standardisation, process optimisation, best cost sourcing, supplier management, etc. and the tracking of the benefit delivery of these initiatives. o uplifting the procurement practices and capabilities both within the procurement team and the broader organisation, especially contract managers, to enable long-term, continuous external spend reduction; o Technology enablement required to achieve benefits: Supply Chain Management / ERP / Procurement
Support Functions	<p>Focused on a systematic and sustainable reduction of support function expenses by applying a variety of levers across different functions. This involves:</p> <ul style="list-style-type: none"> o a short term targeted business process improvement of both IT and non-IT dependent processes; o reduction in the volume of services and elimination of duplication across the organisation; o Identification of critical tasks per functions, closing capability gaps where needed, bundling of services where possible and aligning operating models to partner with the field; o Technology enablement required to achieve benefits: ERP / Time and Attendance / Payroll / HR/HCM / Reporting / CRM/CIS

6.7.2 Reduction in Property Lease Expenditure Step Change

The current accounting standard relating to leases AASB 117 is being replaced by a new accounting standard AASB 16 which will impact Essential Energy from July 2019. The major difference between the old and the new standard relates to the treatment of operating leases, with the new standard improving transparency on financial leverage and capital employed by the business.

Under the old standard AAB 117, operating lease payments are recognised in operating expenditure over the lease period with no recognition of a corresponding asset or a liability. Under the new standard, a lease liability and a corresponding right of use asset are recognised in the balance sheet. In the Income Statement, lease payments are replaced by a depreciation expense on the asset, and an interest expense on the lease liability.

These assets have been assessed as having an average life of 8 years, taking into account option periods which are assumed to be taken up.

7. Interactions between capital and operating expenditure

7.1 Capital/operating expenditure trade-offs

Essential Energy is focused on achieving lowest whole of life costs for customers which includes the considering optimal and efficient operating expenditure and capital expenditure trade-offs.

Our capital investment options consider a range of possible network and non-network solutions, each considering operating expenditure trade-offs in a risk versus value framework. Essential Energy has invested in program and portfolio optimisation tools (e.g. Copperleaf C55) to assist in building the investment portfolio and program of works. To develop and optimised portfolio, we use this capability to optimise program priorities and options against the risks and value.

As the models that support Copperleaf C55 are continually enhanced and refined, we expect to see further optimisation of our investment program and subsequent improvements in capital and operating expenditure trade-offs.

7.2 Asset life-cycle cost optimisation

The direct operating expenditure forecast enables the delivery of Essential Energy's maintenance program which was developed considering risk and value. Our capital options analysis includes analysing optimised life-cycle costs that deliver defined levels of service and safety and these inform our operating expenditure programs.

8. Drivers of operating expenditure - fixed and variable costs

The table below sets out the major operating expenditure categories for Essential Energy, their primary drivers, what factors influence the actual quantum of expenditure required to service the business and whether the cost is predominantly fixed or variable in nature.

Cost category	Activities	Primary Drivers	Determinant of costs			Cost type
			Customers	Line length	Maximum Demand	
Routine inspections	<ul style="list-style-type: none"> > Pole and line inspection > Zone substation preventative maintenance > Specialised inspections 	Routine (preventative) Inspections ensure that assets remain serviceable over their lifespan, and their condition is understood	Low	High	Low	Fixed assuming inspection cycles and line length do not materially change
Planned Maintenance	<ul style="list-style-type: none"> > Urgent planned maintenance > Overhead planned maintenance > Underground planned maintenance > Secondary systems planned maintenance > Zone substations planned maintenance 	Planned (corrective) Maintenance predominantly involves the planned rectification of asset condition defects (i.e. not emergency work)	Low	High	Low	Fixed assuming inspection cycles, defects identified and line length do not materially change

			Determinant of costs			Cost type
Cost category	Activities	Primary Drivers	Customers	Line length	Maximum Demand	
Unplanned maintenance	<ul style="list-style-type: none"> > Rectifying assisted failures > Rectifying unassisted failures 	Unplanned Maintenance is reactive maintenance generally triggered by asset failure caused both by events outside our control as well as undetected asset defects.	Low	High	Low	Variable depending on uncontrollable events (severe weather etc) and asset failures
Vegetation management	<ul style="list-style-type: none"> > Cyclic vegetation treatment > Contract and customer management > Reactive programs 	Vegetation Management is required to ensure vegetation is kept clear of the network manage risks associated with bushfires, reliability and public safety	Low	High	Low	Fixed assuming inspection cycles, defects identified and line length do not materially change
Corporate	<ul style="list-style-type: none"> > Finance > ICT > HR, OD and IR > Company secretary /General Counsel 	Planning, operating and support services that underpin Essential; Energy's operation	Medium	Medium	Low	Mixture of fixed (Finance, Company secretary) and variable (ICT and HR) partially driven by employee numbers
Network indirect – plan	<ul style="list-style-type: none"> > Network Strategy & Risk > Network Optimisation > Network Intelligence > Asset Engineering > Secondary Systems 	Planning, operating and support services that underpin Essential; Energy's operation	Medium	High	Medium	Fixed assuming line length does not materially change
Network indirect – operate and execute	<ul style="list-style-type: none"> > Network Services > Network Design > Network & Customer Technology > Commercial Services > Customer Connections > Inventory & Logistics 	Planning, operating and support services that underpin Essential Energy's operation	Medium	Medium	Medium	Fixed assuming asset management plans do not materially change.
Network indirect - support	<ul style="list-style-type: none"> > Business Transformation > Customer Service > Property > Network Regulation > Innovation > Corporate Affairs > Health, Safety & Environment > Technical Training > Procurement > Electrical Safety & Authorisations > Fleet 	Planning, operating and support services that underpin Essential Energy's operation	Medium	Medium	Low	Fixed assuming line length and customers do not materially change

9. Proposed operating expenditure forecast

Essential Energy's SCS operating expenditure forecast, based on the inputs and assumptions detailed in section 6, is \$1,698 million (\$M, 2018-19) for the 2019-24 regulatory period.

Table 4 provides the annual breakdown of this forecast for the 2019–24 regulatory control period, as well as the base year and final year of the current period.

Table 4 - Essential Energy's SCS operating expenditure forecast 2018–24

\$M, 2018-19	FY18 base year	FY19	FY20	FY21	FY22	FY23	FY24	FY20-24 total
Base operating expenditure	348.8	348.8	348.8	348.8	348.8	348.8	348.8	1,744.2
Real price growth			4.3	6.9	10.2	13.7	16.6	51.7
Output growth			5.2	7.5	9.8	12.0	14.3	48.9
Productivity growth			(9.5)	(14.4)	(20.1)	(25.6)	(30.9)	(100.5)
Step changes			22.6	9.5	(2.7)	(25.9)	(49.9)	(46.4)
Category specific	1.2	20.3						
Total operating expenditure	350.1	369.1	371.5	358.4	346.1	322.9	298.9	1,697.8

10. Related Documents

For further information relating to operating expenditure, refer to the following documents

- > 11.3.1 Analysis of Essential Energy's Expenditure Variations Over the 2014-19 Regulatory Control Period
- > 11.3.2 Opex Plan – Routine Inspections
- > 11.3.3 Opex Plan – Planned Maintenance
- > 11.3.4 Opex Plan – Unplanned Maintenance
- > 11.3.5 Opex Plan – Vegetation Management
- > 11.3.6 Overhead Plan – 'Corporate'
- > 11.3.7 Overhead Plan – Network Indirect 'Plan'
- > 11.3.8 Overhead Plan – Network Indirect 'Operate and Execute'
- > 11.3.9 Overhead Plan – Network Indirect 'Support'