DRAFT DECISION
Essential Energy
Distribution determination

2019–24

Attachment 6
Operating expenditure

November 2018

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Note

This attachment forms part of the AER's draft decision on the distribution determination that will apply to Essential Energy for the 2019–24 regulatory control period. It should be read with all other parts of the draft decision.

The draft decision includes the following attachments:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency benefit sharing scheme

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Contents

Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
CCP/CCP10	Consumer Challenge Panel, sub-panel 10
distributor	distribution network service provider
DMIA/DMIAM	demand management innovation allowance mechanism
EBSS	efficiency benefit sharing scheme
ECA	Energy Consumers Australia
EUAA	Energy Users Association of Australia
Guideline	Expenditure Forecast Assessment Guideline for Electricity Distribution
GSL	Guaranteed service level
LSECD	Cobb Douglas least squares estimation
LSETLG	Translog least squares estimation
MPFP	multilateral partial factor productivity
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
opex	operating expenditure
opex	operating expenditure
PIAC	Public Interest Advocacy Centre
RIN	regulatory information notice
SFACD	Cobb Douglas stochastic frontier analysis
WPI	Wage price index

6 Operating expenditure

Operating expenditure (opex) is the operating, maintenance and other non-capital expenses incurred in the provision of network services. Forecast opex for standard control services is one of the building blocks we use to determine a service provider's annual total revenue requirement.

This attachment outlines our assessment of Essential Energy's (Essential) forecast opex for the 2019–24 regulatory control period.

6.1 Draft decision

Our draft decision is to accept Essential's proposed total opex forecast of $1,718.4 million ($2018–19).[1] We are satisfied that this reasonably reflects the opex criteria.[2] This is a reduction of 5.5 per cent from Essential's actual and expected opex in the current period. Essential's forecast would:

- Maintain the cost savings it achieved in the current regulatory control period into the 2019–24 regulatory control period. Essential's 2019–24 opex forecast uses its estimated opex for 2017–18 as a starting point, which is lower than the actual opex it incurred in each year of the previous 2009–2014 regulatory control period, and consistent with our 2015 final decision opex allowance.[3]
- Allow for expected increases in Essential's input costs (including the cost of labour) and in the costs of operating a larger network with more customers.
- Include projected efficiency gains that are forecast to produce an overall reduction in opex over the 2019–24 regulatory control period.

Essential's forecast opex and our draft decision are set out in Table 6.1.

Table 6.1 Essential's proposed opex and our draft decision ($ million, 2018–19)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Essential's proposed opex, and AER draft decision	375.5	362.5	350.3	327.1	303.1	1718.4

Source: Essential Energy, *Revenue proposal*, *Standard Control Services Post tax revenue model (PTRM)*, April 2018; AER analysis.

Note: Includes debt raising costs. Numbers may not add up to total due to rounding.

1 Including debt raising costs; Essential Energy - *9.1 Standard Control Service PTRM*, April 2018.

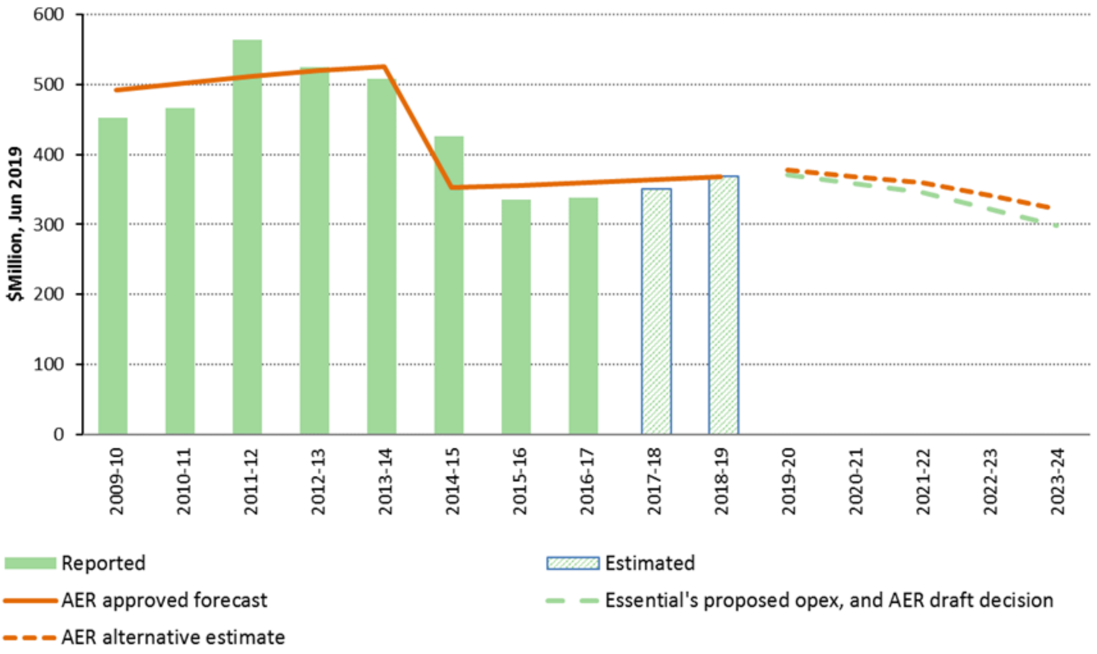
2 NER, cl. 6.5.6(c).

3 AER, *Final decision Essential Energy distribution determination*, April 2015.

We have assessed Essential's proposal by comparing it with our alternative estimate of total opex, which is $72.1 million ($2018–19), or 4.2 per cent higher than Essential's proposal.[4] We used our standard 'base-step-trend' approach to develop our estimate.

Figure 6.1 shows Essential's opex forecast, its actual opex, our previous regulatory allowances, our alternative estimate and our draft decision.

Figure 6.1 Historical and forecast opex ($ million, 2018–19)



Source: AER analysis; Essential Energy - *9.1 Standard Control Service PTRM*, April 2018.

Note: Excludes debt raising costs. The reported opex and the AER approved forecast in the 2009–14 regulatory control period corresponds to the service classification and cost allocation methodology in place at the time.

6.2 Essential’s proposal

Essential's proposed opex of $1718.4 million ($2018–19) is a 5.5 per cent reduction from its actual and estimated opex for the 2014–19 regulatory control period. Its proposed opex for each year of the 2019–24 regulatory control period is shown in Table 6.2.

4 Including debt raising costs.

Table 6.2 Essential's proposed opex ($ million, 2018–19)

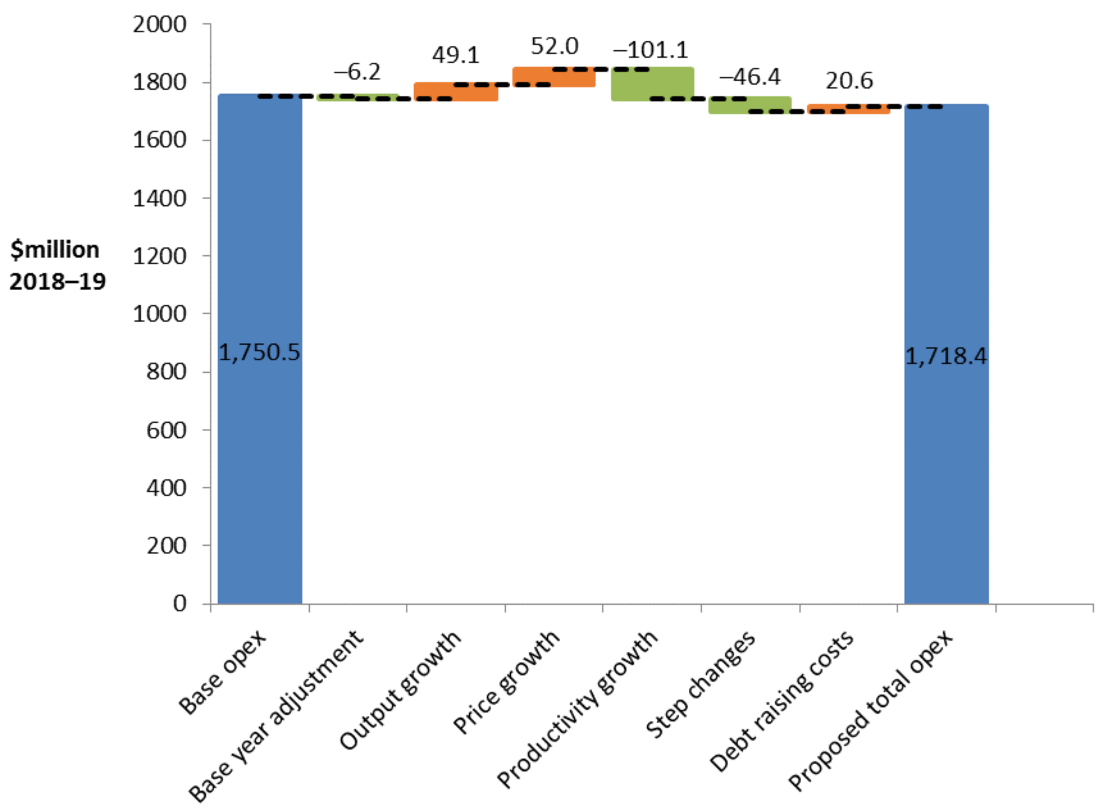
	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Opex excluding debt raising costs	371.5	358.4	346.1	322.9	298.9	1697.8
Debt raising costs	4.0	4.1	4.2	4.2	4.2	20.6
Total opex	**375.5**	**362.5**	**350.3**	**327.1**	**303.1**	**1718.4**

Source: Essential Energy - *R11 Opex rate of change*, 30 April 2018; Essential Energy - *9.1 Standard Control Service PTRM*, April 2018.

Note: Numbers may not add up to total due to rounding.

Essential stated it has adopted our revealed cost approach to forecasting opex (the 'base-step-trend' approach).[5] Figure 6.2 provides a breakdown of Essential's opex forecast into its key components.

Figure 6.2 Essential's opex forecast breakdown



Source: AER analysis; Essential Energy - *9.1 Standard Control Service PTRM*, April 2018.

5 Essential Energy - *Expenditure forecasting methodology 2019–24* - June 2017, p.9.

The key elements of Essential's proposal are set out below:

- Essential used its estimated opex in 2017–18 (its base year) to derive a base opex of $1 750.5 million ($2018–19).
- Essential then adjusted its estimated base year opex to reflect its redundancy costs and the cost of delivering its network programs going forward. This equates to a $6.2 million ($2018–19) reduction of total forecast opex.
- Essential trended forward its base opex to account for:
    - Expected increases in real input prices, including forecast increases in labour costs and an increase in line with CPI for non-labour costs of $52.0 million ($2018–19).
    - Forecast output growth in customer numbers, maximum ratcheted demand and circuit length, which increases the costs to Essential of operating its network by $49.1 million ($2018–19).
    - Forecast productivity growth that will offset its forecast input price growth and output growth of $101.1 million ($2018–19).
- Essential has included two step changes in its opex forecast:
    - $22.2 million ($2018–19) net reduction in opex over the 2019–24 regulatory period that accounts for the investment and corresponding benefit it receives from implementing its planned strategic initiatives
    - $24.2 million ($2018–19) reduction in opex reflecting the new accounting standard AASB16 on leases, which replaces the previous standard AASB117.
- Essential included forecast debt raising costs of $21.0 million ($2018–19).

6.2.1 Submissions on Essential's proposal

We received six submissions on Essential's opex proposal. These were from AGL Energy, the AER's Consumer Challenge Panel 10 (CCP10), Energy Consumers Australia (ECA), Energy Users Association of Australia (EUAA), Origin Energy, and the Public Interest Advocacy Centre (PIAC). Broadly, the submissions were supportive of Essential's opex forecast.

At a total level, CCP10 stated it considers Essential's forecasts are appropriate as they have incorporated ongoing productivity gains that anticipate the benefits of IT spending.[6] The EUAA stated Essential should be congratulated for their approach to setting aggressive targets for opex and capex, which seek to maintain reliability, safety and network performance levels.[7]

6 CCP10 - *Submission on Essential Energy 2019–24 regulatory proposal*, 8 August 2018, p.2.

7 EUAA - *Submission on Essential Energy 2019–24 regulatory proposal*, 10 August 2018, p.6.

Where relevant, we refer to submissions that relate to specific components of Essential's opex forecast in section 6.4, where we explain the reasoning for our draft decision.

6.3 AER's assessment approach

6.3.1 Incentive regulation and the 'top-down' approach

Incentive regulation is designed to prevent network businesses from exploiting their natural monopoly position by setting prices in excess of efficient costs.[8] A key feature of the regulatory framework is that it is based on incentivising networks to be as efficient as possible. We apply incentive-based regulation across the energy networks we regulate, including electricity distribution networks. More specifically for opex, we rely on the efficiency incentives created by both ex ante revenue regulation (where an opex allowance is granted over a multi-year regulatory period) and the efficiency benefit sharing scheme (EBSS).

The incentive-based regulatory framework partially overcomes the information asymmetries between the regulated businesses and us, the regulator.[9]

Incentive regulation encourages regulated businesses to reduce costs below the regulator's forecast, in order to make higher profits, and ‘reveal’ their costs in doing so. The information revealed by the businesses allows us to develop better expenditure forecasts over time. Revealed opex reflects the efficiency gains made by a business over time. As a network business becomes more efficient, this translates to lower forecasts of opex in future regulatory periods, which means consumers also receive the benefits of the efficiency gains made by the business. Incentive regulation therefore aligns the business’s commercial interests with consumer interests.

Our general approach is to assess the business’s forecast opex over the regulatory control period at a total level, rather than to assess individual opex projects or programs. To do so, we develop an alternative estimate of total opex using a ‘top-down’ forecasting method, known as the ‘base–step–trend’ approach (section 6.3.2).[10]

Benchmarking a network business against others in the National Electricity Market (NEM) provides an indication of whether revealed opex can be adopted as 'base opex' and, if not, what our alternative estimate of base opex should be. While benchmarking is a key tool, we will use a combination of techniques to assess whether base opex reasonably reflects the opex criteria.[11] We may make a negative adjustment to the business’s revealed opex if we consider it is operating in a materially inefficient

8 Productivity Commission, *Electricity Network Regulatory Frameworks, volume 1, No. 62*, 9 April 2013, p. 188.

9 Productivity Commission, *Electricity Network Regulatory Frameworks, volume 1, No. 62*, 9 April 2013, p. 189.

10 A 'top-down' approach forecasts total opex at an aggregate level, rather than forecasting individual projects or categories to build a total opex forecast from the 'bottom up'.

11 AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, p 32.

manner. Material inefficiency is a concept we introduce in our Guideline.[12] We consider a service provider is materially inefficient when it is not at or close to its peers on the efficiency frontier. We define this more precisely in the context of economic benchmarking below.

Incentive regulation is designed to leave the day-to-day decisions to the network businesses.[13] It allows the network businesses the flexibility to manage their assets and labour as they see fit to achieve the opex objectives in the NER,[14] and more broadly, the National Electricity Objective (NEO).[15] This is consistent with the requirement that we consider whether *the total* opex forecast, and *not* the individual forecast opex components, reasonably reflects the opex criteria.[16]

The Australian Energy Market Commission (AEMC) supports this view of our role as the economic regulator. It stated: [17]

> The key feature of economic regulation of [distribution network service providers] in the NEM is that it is based on incentives rather than prescription…
>
> Importantly, under [incentive-based regulation], funding is not approved for [distribution network service providers'] specific projects or programs. Rather, a total revenue requirement is set, which is based on forecasts of total efficient expenditure. Once a total revenue is set, it is for the [business] to decide which suite of projects and programs are required to deliver services to consumers while meeting its regulatory obligations…

6.3.2 Base–step–trend forecasting approach

As a comparison tool to assess a business's opex forecast, we develop an alternative estimate of the business's total opex requirements in the forecast regulatory control period, using the base–step–trend forecasting approach. We also have regard to the opex factors set out in the NER.[18]

If the business adopts a different forecasting approach to derive its opex forecast, we develop an alternative estimate and assess any differences with the business's forecast opex.

Figure 6.3 summarises the base–step–trend forecasting approach.

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12 AER, *Expenditure Forecast Assessment Guideline*, November 2013, p. 22.

13 Productivity Commission, *Electricity Network Regulatory Frameworks, volume 1, No. 62*, 9 April 2013, pp. 27–28.

14 NER, cl. 6.5.6(a).

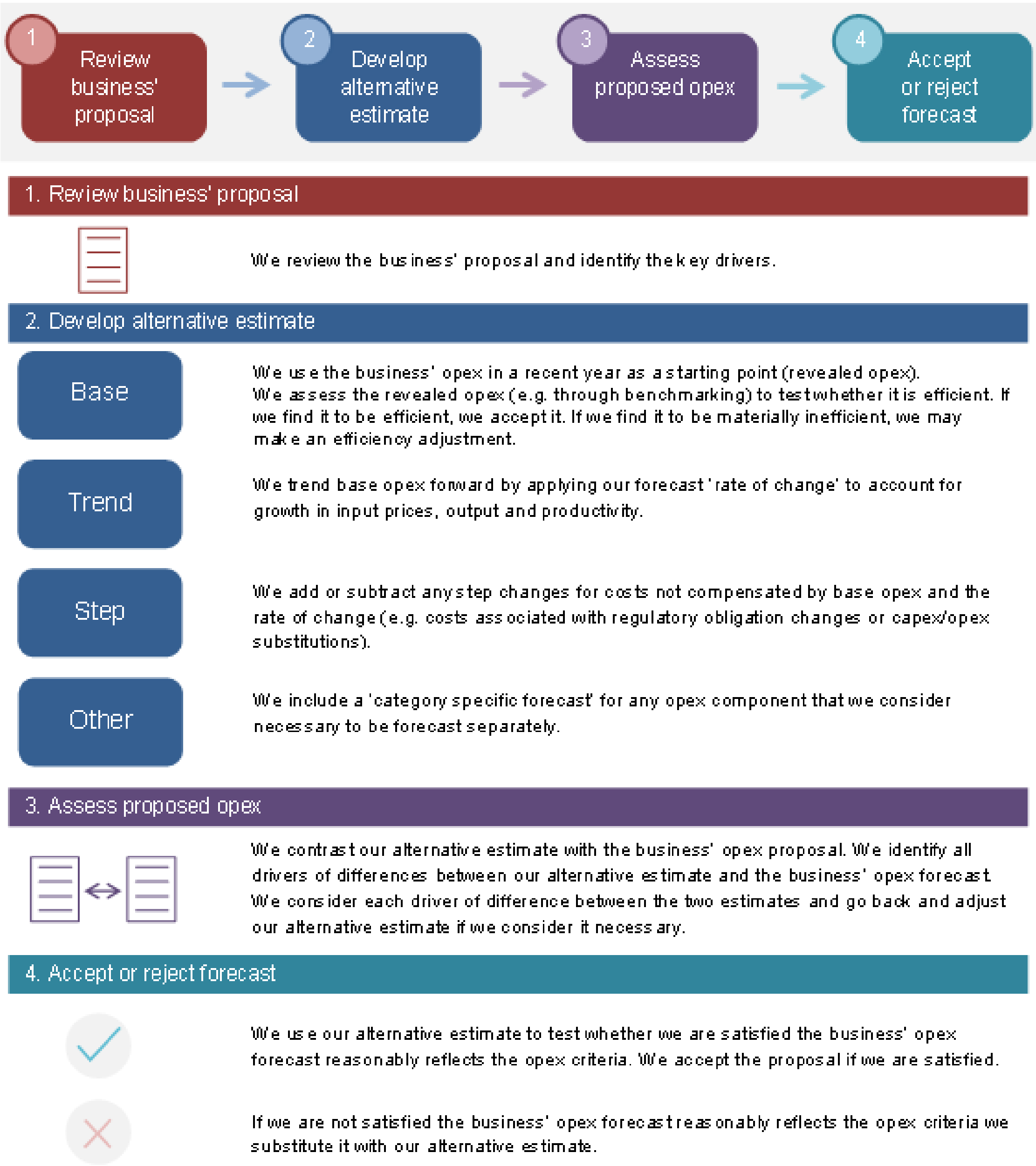
15 NEL, s. 7.

16 NER, cl. 6.5.6(c).

17 AEMC, *Contestability of energy services, Consultation paper*, 15 December 2016, p. 32.

18 NER, cl.6.5.6(e).

Figure 6.3 Our opex assessment approach



Base opex

If we find the business is operating efficiently, our preferred methodology is to use the business's historical or 'revealed' costs in a recent year as a starting point for our opex forecast.[19]

[19] NER, cl.6.5.6(e)(5).

We do not simply assume the business's revealed opex is efficient. It may include an ongoing level of inefficient expenditure. We use our benchmarking results[20] and other assessment techniques to test whether the business is operating efficiently.

We consider revealed opex in the base year is generally a good indicator of opex requirements over the next regulatory period because the level of *total opex* is relatively stable from year to year. This reflects the broadly predictable and recurrent nature of opex.

A business may experience fluctuations in particular categories of opex, and the composition of total opex can change, from year to year. While many operation and maintenance activities are recurrent and non-volatile, some opex projects follow periodic cycles that may or may not occur in any given year, and some opex projects are non-recurrent.

Even if disaggregated opex categories have high volatility, the total opex varies to a lesser extent because new or increasing components of opex are generally offset by decreasing costs or discontinued opex projects. Further, we expect the regulated business to manage the inevitable 'ups and downs' in the components of opex from year to year—to the extent they do not offset each other—by continually re-prioritising its work program, as would be expected in a workably competitive market. Our incentive-based, revealed cost, framework incentivises them to do so.

Rate of change

We trend base opex forward by applying our forecast 'rate of change'. We estimate the rate of change by forecasting the expected growth in input prices, outputs and productivity. We consider that the rate of change takes into account almost all drivers of opex growth.

We forecast input price growth using a composition of labour and non-labour price changes forecasts. Labour costs represent a significant proportion of a distribution business's costs.[21] To determine the input price weights for labour and non-labour prices, we have regard to the input price weights of a prudent and efficient benchmark business. Consistent with incentive regulation, this provides the business an incentive to adopt the most efficient mix of inputs throughout the regulatory control period.

We forecast output growth to account for annual increase in output. The output measures used should be the same measures used to forecast productivity growth.[22] Productivity measures the change in output for a given amount of input. If the output measures differ from the productivity measures, they would be internally inconsistent and we cannot compare them like for like.

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[20] NER, cl.6.5.6(e)(4), AER, *Annual benchmarking report—Electricity distribution network service providers*, November 2017.

[21] AER, *Expenditure forecast assessment guideline, Explanatory statement*, November 2013, p. 49.

[22] AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, p. 23.

The output measures we typically use for distribution businesses are energy delivered, ratcheted maximum demand, customer numbers and circuit length. We do not typically adjust forecast output growth for economies of scale because we account for these in our forecast of productivity growth.

Our forecast of productivity growth represents our best estimate of the shift in the industry 'efficiency frontier'.[23] We generally base our estimate of productivity growth on recent productivity trends across the industry. However, if we consider historic productivity growth does not represent 'business-as-usual' conditions we do not use it to forecast future productivity growth.

Our standard approach to forecasting the productivity component of our opex the rate of change in past decisions has been to apply zero productivity growth. In its submission to our issues paper, CCP10 submits that a zero productivity improvement over five years is not in the best interests of customers. CCP10 contends that:[24]

> … meeting the national energy objective (NEO) means that network businesses, including Evoenergy, need to be looking for positive productivity improvements each year, though not necessarily at the recent rate of opex productivity growth.

We are currently reviewing our approach to forecasting productivity.[25] This review may change our approach going forward. As part of this review we will consult with all distributors and any other interested stakeholders. We will take the outcome of this review into consideration in our final decision.

Step changes and category-specific forecasts

Lastly, we add or subtract any components of opex that are not adequately compensated for in base opex or the rate of change, but which should be included in the forecast total opex to meet the opex criteria.[26] These adjustments are in the form of 'step changes' or 'category-specific forecasts'.

Step changes

Step changes should not double count costs included in other elements of the total opex forecast. As explained in the Guideline, the costs of increased volume or scale should be compensated for through the output growth component of the rate of change and it should not become a step change.[27] In addition, forecast productivity growth may account for the cost of increased regulatory obligations over time—that is, 'incremental changes in obligations are likely to be compensated through a lower

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23 AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, p. 24.

24 Consumer Challenge Panel (Subpanel 10), *CCP10 Response to Evoenergy regulatory proposal 2019–24 and AER issues paper*, May 2018, p.15.

25 See https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-our-approach-to-forecasting-opex-productivity-growth-for-electricity-distributors

26 AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, p. 24.

27 AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, p. 24.

productivity estimate that accounts for higher costs resulting from changed obligations.'[28] Therefore, we consider only new costs that do not reflect the historic 'average' change as accounted for in the productivity growth forecast require step changes.[29]

To increase its maximum allowable revenue, a regulated business has an incentive to identify new costs not reflected in base opex or costs increasing at a greater rate than the rate of change. It has no corresponding incentive to identify those costs that are decreasing or will not continue. Information asymmetries make it difficult for us to identify those future diminishing costs. Therefore, simply demonstrating that a new cost will be incurred—that is, a cost that was not incurred in the base year—is not a sufficient justification for introducing a step change. There is a risk that including such costs would upwardly bias the total opex forecast.

The test we apply is whether the step change is needed for the opex forecast to achieve the opex objectives in the NER.[30] Our starting position is that only exceptional circumstances would warrant the inclusion of a step change in the opex forecast because they may change a business's fundamental opex requirements.[31] Two typical examples are:

- a material change in the business's regulatory obligations
- an efficient and prudent capex/opex substitution opportunity.[32]

We may accept a step change if a material 'step up' or 'step down' in expenditure is required by a network business to prudently and efficiently comply with a new, binding regulatory obligation that is not reflected in the productivity growth forecast.[33] This does not include instances where a business has identified a different approach to comply with its existing regulatory obligations that may be more onerous, or where there is increasing compliance risks or costs the business must incur to comply with its regulatory obligations. Usually when a new regulatory obligation is imposed on a business, it will incur additional expenditure to comply. The business may be expected to continue incurring such costs associated with the new regulatory obligation into future regulatory periods; hence, an increase in its opex forecast may be warranted.

We expect the business to provide evidence demonstrating the material impact the change of regulatory obligation has on its opex requirements, and robust cost–benefit analysis to demonstrate the proposed step change expenditure is prudent and efficient

[28] AER, *Expenditure forecast assessment guideline, Explanatory statement*, November 2013, p. 52.

[29] AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, p. 24.

[30] NER, cl. 6.5.6(a).

[31] AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, p. 24.

[32] NER, cl.6.5.6(e)(7).

[33] AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, p. 11.

to meet the change in regulatory obligations.[34] We stated in the explanatory statement accompanying the Guideline:[35]

> [Network services providers] will be expected to justify the cost of all step changes with clear economic analysis, including quantitative estimates of expected expenditure associated with viable options. We will also look for the [Network services providers] to justify the step change by reference to known cost drivers (for example, volumes of different types of works) if cost drivers are identifiable. If the obligation is not new, we would expect the costs of meeting that obligation to be included in revealed costs. We also consider it is efficient for [Network services providers] to take a prudent approach to managing risk against their level of compliance when they consider it appropriate (noting we will consider expected levels of compliance in determining efficient and prudent forecast expenditure).

By contrast, proposed opex projects designed to improve the operation of the business, which we consider as discretionary in the absence of any legal requirement, should be funded by base opex and trend components, together with any savings or increased revenue that they generate—rather than through a step change. Otherwise, the business would benefit from a higher opex forecast and the efficiency gains.[36]

We may also accept a step change in circumstances where it is prudent and efficient for a network business to increase opex in order to reduce capital costs. We would typically expect such capex/opex trade-off step changes to be associated with replacement expenditure.[37] The business should provide robust cost–benefit analysis to clearly demonstrate how increased opex would be more than offset by capex savings.[38]

In the absence of a change to regulatory obligations or a legitimate capex/opex trade-off opportunity, we would accept a step change under limited circumstances. We would consider whether the costs associated with the step change are unavoidable and material—such that base opex, trended forward by the forecast rate of change, would be insufficient for the business to recover its efficient and prudent costs. We would also consider whether the business would continue to incur the costs of a proposed step change in future regulatory periods.

Category specific forecasts

A category specific forecast may be justified if, as a result of including a specific opex category in the base opex, total opex becomes so volatile that it undermines our assumption that total opex is relatively stable and follows a predictable path over time.

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34 AER, *Expenditure forecast assessment guideline, Explanatory statement*, November 2013, pp. 51–52; AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, p. 11.

35 AER, *Expenditure forecast assessment guideline, Explanatory statement*, November 2013, p. 52.

36 AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, p. 11.

37 AER, *Expenditure forecast assessment guideline, Explanatory statement*, November 2013, p. 74.

38 AER, *Expenditure forecast assessment guideline, Explanatory statement*, November 2013, p. 52.

We may also use category specific forecasts to avoid inconsistency or double counting within our determination. We have typically included category specific forecasts for debt raising costs, the demand management incentive allowance mechanism (DMIAM) and guaranteed service levels (GSL) payments. There are specific reasons for forecasting these categories separately from base opex. For example, we forecast debt raising costs separately to provide consistency with the forecast of the cost of debt in the rate of return building block of allowable revenue. For DMIAM, we forecast these costs separately because we fund them through a separate building block.

Absent such exceptions, we expect that base opex, trended forward by the rate of change, will allow the business to recover its prudent and efficient costs. Again, the business has demonstrated its ability to operate prudently and efficiently at that level of opex while meeting its existing regulatory obligations, including its safety and reliability standards. We consider it is reasonable to expect the same outcome looking forward. Some costs may go up, and some costs may go down—so despite potential volatility in the cost of certain individual opex activities, total opex is generally relatively stable over time. As we stated above in relation to step changes, a business has an incentive to inflate its total opex forecast by identifying new and increasing costs, but not declining costs. Consequently, there is a risk that providing a category specific forecast for opex items identified by the business may upwardly bias the total opex forecast. By applying our revealed cost approach consistently and carefully scrutinising any further adjustments, we avoid this potential bias.

6.3.3 Interrelationships

In assessing Essential's total forecast opex we took into account other components of its revenue proposal, including:

- the impact of cost drivers that affect both forecast opex and forecast capex. For instance, forecast labour price growth affects forecast capex and the opex rate of change
- its proposed strategic initiative step change which has an upfront opex and capex investment, and subsequent efficiencies in opex and capex
- the approach to assessing the rate of return, to ensure there is consistency between our determination of debt raising costs and the rate of return building block
- concerns of electricity consumers identified in the course of Essential's engagement with consumers.[39]

6.4 Reasons for draft decision

39 NER, cl. 6.5.6(e)(5A).

Our draft decision is to accept Essential's proposed total opex forecast of $1,718.4 million ($2018–19) for the 2019–24 regulatory control period.[40] We consider that this forecast reasonably reflects the opex criteria.

We assessed Essential's proposed operating expenditure by comparing it to our alternative opex forecast over the 2019–24 regulatory control period. Our alternative estimate of $1,790.5 million is $72.1 million, or 4.2 per cent higher than Essential's proposal.

- We and Essential both used Essential's estimated 2017–18 opex as the base year.
- Essential included productivity savings of $101.1 million ($2018–19), whereas our alternative forecast did not include any productivity growth. We are currently reviewing this approach and will take the outcome of this review into account in our final decision.[41]
- Essential included higher output growth and labour price increases than our alternative forecast, which led to a difference of $29.4 million ($2018–19).
- There were minor differences in debt raising costs of $0.4 million ($2018–19).

Table 6.3 compares the differences between our alternative estimate and Essential's opex proposal.

Table 6.3 Our alternative estimate compared to Essential's proposal ($ million, 2018–19)

	Essential	Our alternative estimate	Difference
Based on reported opex in 2017-18	1750.5	1750.5	0.0
Base year adjustments	–6.2	–6.2	0.0
Output growth	49.1	41.7	–7.5
Price growth	52.0	30.0	–21.9
Productivity growth	–101.1	0.0	101.1
Step changes	–46.4	–46.4	0.0
Debt raising costs	20.6	21.0	0.4
Total opex	**1718.4**	**1790.5**	**72.1**

Source: Essential Energy - *R11 Opex rate of change*, 30 April 2018; AER analysis.

Note: Numbers may not add up to total due to rounding.

[40] NER, cl.6.12.1(4)(i); Includes debt raising costs.

[41] https://www.aer.gov.au/communication/aer-to-review-its-approach-to-forecasting-opex-productivity-growth-for-electricity-distribution.

We discuss the components of our alternative estimate below. Full details of our alternative estimate are set out in our opex model, which is available on our website.

6.4.1 Base opex

This section provides our view on the prudent and efficient level of base opex that Essential would need for the safe and reliable provision of electricity services over the 2019–24 regulatory control period.

Essential proposed to use its forecast opex for 2017–18 as the base to forecast its opex over the 2019–24 regulatory control period. It estimates that this opex, adjusted for ongoing expenditure, will be $348.8 million ($2018–19). We assessed the efficiency of Essential's estimated opex in 2017–18 using multiple techniques and information sources, including its revealed opex over the 2014–19 regulatory control period, recent economic benchmarking analysis, and a review of its expenditure cost categories.

As outlined in our Expenditure Assessment Forecast Guideline, our preferred approach for forecasting opex is to use a revealed cost approach.[42] This is because opex is largely recurrent and stable at a total level between regulatory periods. Where a distributor is responsive to the financial incentives under the regulatory framework, the actual level of opex it incurs should provide a good estimate of the efficient costs required for it to operate a safe and reliable network and meet its relevant regulatory obligations.

The revealed cost data shows that Essential achieved significant reductions in opex between 2012–13 and 2016–17, including a 37.8 per cent reduction to its full time equivalent staff. [43] This reflects its various business reforms since 2012. Essential has forecast these savings into the next regulatory period by using its estimated opex in 2017–18 as the starting point for its forecast.

We assessed Essential's revealed costs using economic benchmarking to see if there is any evidence that its opex is materially inefficient. Our most recent economic benchmarking analysis indicates that Essential's opex in 2016–17, which is below the opex we set in our April 2015 final decision, is not materially inefficient. We consider Essential's estimated opex in 2017–18, which is also below our April 2015 forecast of efficient opex, is similarly not materially inefficient.

Taken together, this indicates Essential's opex in 2017–18 should provide a reasonable estimate of the prudent and efficient level of base opex that Essential will need for the safe and reliable provision of electricity services. Therefore, we propose to rely to Essential's estimated opex in 2017–18 as our base year for the purposes of forecasting opex over the 2019–24 regulatory control period.

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[42] AER, *Better Regulation, Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013, p.31.

[43] AER, *Draft decision Essential Energy distribution determination*, March 2018, p.27.

The following sections set out our assessment of Essential's revealed opex and our economic benchmarking analysis in more detail.

Essential's revealed costs over 2014–19

This section examines Essential's revealed and estimated costs between 2012–13 (its proposed base year for its 2014–19 revenue proposal) and 2018–19 (the end of the current regulatory control period).

In April 2015, we made a decision on Essential's opex forecast for the 2014–19 regulatory control period. In our decision, we found that the actual opex incurred by Essential in its proposed 2012–13 base year was materially greater than what a prudent and efficient network service provider would incur in delivering safe and reliable network services to customers. As a result, we did not use Essential's actual opex for this year as the basis to forecast opex over the 2014–19 regulatory control period.[44]

Consistent with the NER, we substituted a lower base opex amount as the starting point of our alternative estimate for this period. We relied on one of our economic benchmarking models to estimate our substitute base opex amount. Our base year forecast was 26.3 per cent lower than Essential's opex in 2012–13.[45]

Our April 2015 decision was set aside by the Australian Competition Tribunal, and we were required to remake our decision in accordance with the Tribunal's directions.[46] On 30 November 2017, Essential submitted a proposal for the remaking of our 2014–19 decision.[47] Essential's proposal was consistent with the opex forecast we determined in our April 2015 decision and our remade decision accepted this position.[48]

Essential faced a very strong incentive to reduce its costs over the 2014–19 regulatory control period given that our opex forecasts were significantly below its actual costs at the start of the regulatory period. Further, it also faced uncertainty around its final revenue allowance and the outcome of the appeals process.[49]

As shown in Figure 6.4, Essential reduced its total opex by 25.7 per cent between 2012–13 and 2016–17. Over the same period, it also reduced its permanent workforce by 37.8 per cent. This significant reduction meant that its actual opex in 2015–16 and 2016–5.7, and estimated opex in 2017-18, is below the opex forecast in our April 2015 final decision. Further, Essential estimated that its opex in 2018–19 will be at a similar level to what we previously forecast.

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44 AER, *Final decision Essential Energy distribution determination*, April 2015.

45 AER, Attachment 7 Operating expenditure, Essential Energy final decision, 2014–19, April 2015.

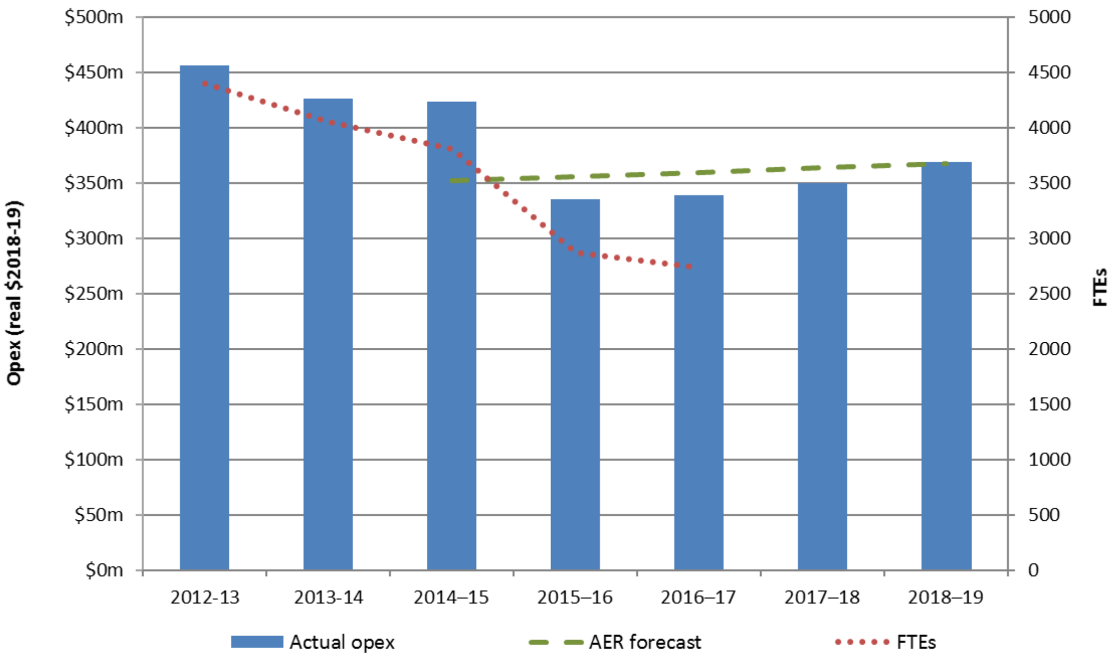
46 *Applications by Public Interest Advocacy Centre Ltd and Essential Energy* [2016] ACompT 3, direction 1.

47 Essential Energy - *Proposal - remittal of 2014–19 revenue determination*, 30 November 2017.

48 AER, *Final decision Essential Energy's 2014–19 distribution determination*, May 2018.

49 *AER, NSW and ACT remittal roundtable (16 August 2017) summary note,* August 2017: https://www.aer.gov.au/communication/aer-hosts-nsw-act-electricity-distribution-network-revenue-roundtable

Figure 6.4 Essential's opex, AER forecast opex in 2015 final decision, including movements in average staffing levels



Source: AER 2015 final decision; Essential Annual RIN; Essential 2019–24 regulatory proposal; Annual reports.

Note: Actual opex has been normalised by excluding metering and ancillary costs prior to 2014–15. Opex in 2017–18 and 2018–19 are estimates taken from Essential's 2019–24 regulatory proposal opex model and regulatory RIN.

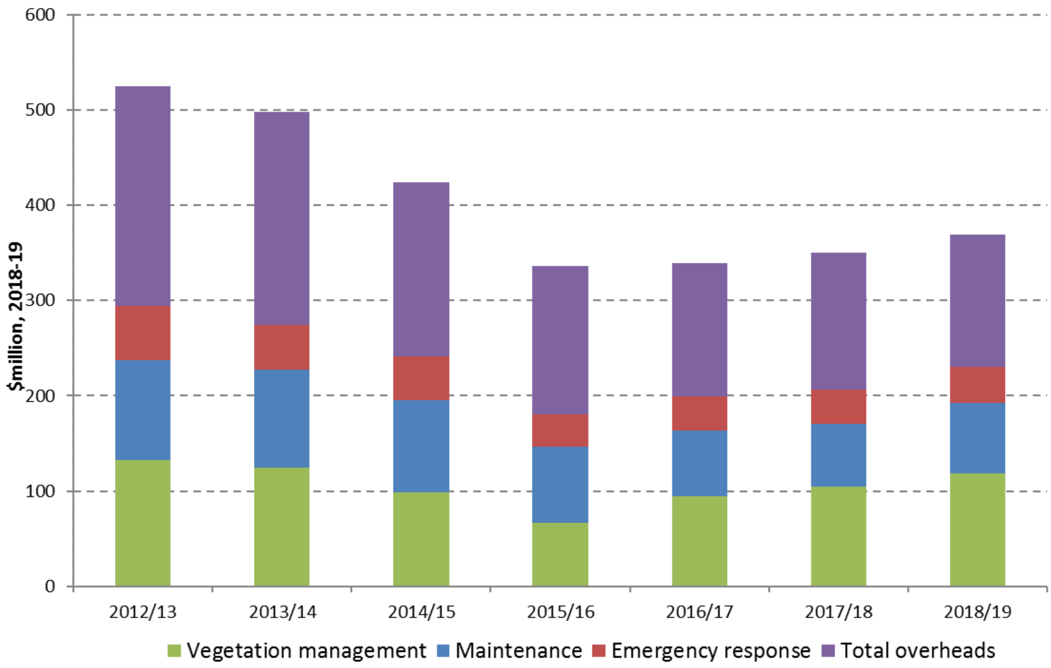
Essential stated that it has achieved its opex savings through several operational changes, including:[50]

- cash containment initiatives that largely impact fleet, property and ICT
- organisational restructuring and workforce reductions
- value and risk assessment of existing inspection programs
- defect reclassification and optimisation
- capitalisation of specific defect types in accordance with company policy, and
- field force automation.

This has led to reductions across all of Essential's major cost categories between 2012–13 and 2015–16, including vegetation management and labour expenditure which we considered were sources of inefficiency in our April 2015 final decision. This is shown in Figure 6.5.

50 Essential Energy, *11.3 - Standard control opex approach,* April 2018, p. 6.

Figure 6.5 Essential's opex cost breakdown



Source: Essential Category Analysis RIN; Reset RIN; AER analysis.

While Essential has estimated an increase in vegetation management expenditure over 2017–18 and 2018–19, it states this is part of its 'cut hard' strategic initiatives strategy, which is designed to reduce vegetation management costs in the next regulatory period through a negative step change.[51] Its estimated vegetation management opex in 2017–18 and 2018–19 remains 21.2 and 10.9 per cent lower respectively than its vegetation management opex in 2012–13.

Overall, Essential's proposal suggests that it will be able to sustain its reduced level of opex in 2017–18 into the 2019–24 regulatory control period, and deliver further efficiency savings:[52]

> During the 2019–24 regulatory period, we will build on our reform program and the efficiency improvements already delivered… The forecast operating expenditure decrease is enabled through step changes that mean we can deliver operating expenditure reductions throughout the 2019–24 regulatory period.

Economic benchmarking analysis

We use economic benchmarking as supporting analysis to cross-check whether Essential's revealed opex shows signs of material inefficiency. Benchmarking broadly

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[51] Essential Energy, *11.3 - Standard control opex approach*, April 2018, p. 13.

[52] Essential Energy, *11.3 - Standard control opex approach*, April 2018, p. 4.

refers to the practice of comparing the economic performance of a group of service providers that all provide the same service as a means of assessing their relative performance. Our 2017 annual benchmarking report includes information about the use and purpose of economic benchmarking, and details about the techniques we use to benchmark the efficiency of distributors in the NEM.[53]

Our most recent economic benchmarking analysis indicates that Essential's actual opex in 2016–17, which is below the opex we set in our April 2015 final decision, is not materially inefficient. As a result, we consider Essential's estimated opex in 2017–18, which is also below our previous forecast of efficient opex, is similarly not materially inefficient and can be used to forecast opex in the 2019–24 regulatory control period.

Figure 6.6 presents our opex multilateral partial factor productivity (MPFP) results, one of our primary economic benchmarking techniques. This allows for the comparison of opex productivity levels between service providers and across time.[54] When opex productivity improves, this implies there is improvements in efficiency. The chart shows Essential's own performance (the blue line) and that of other networks in the NEM over time (the grey lines).

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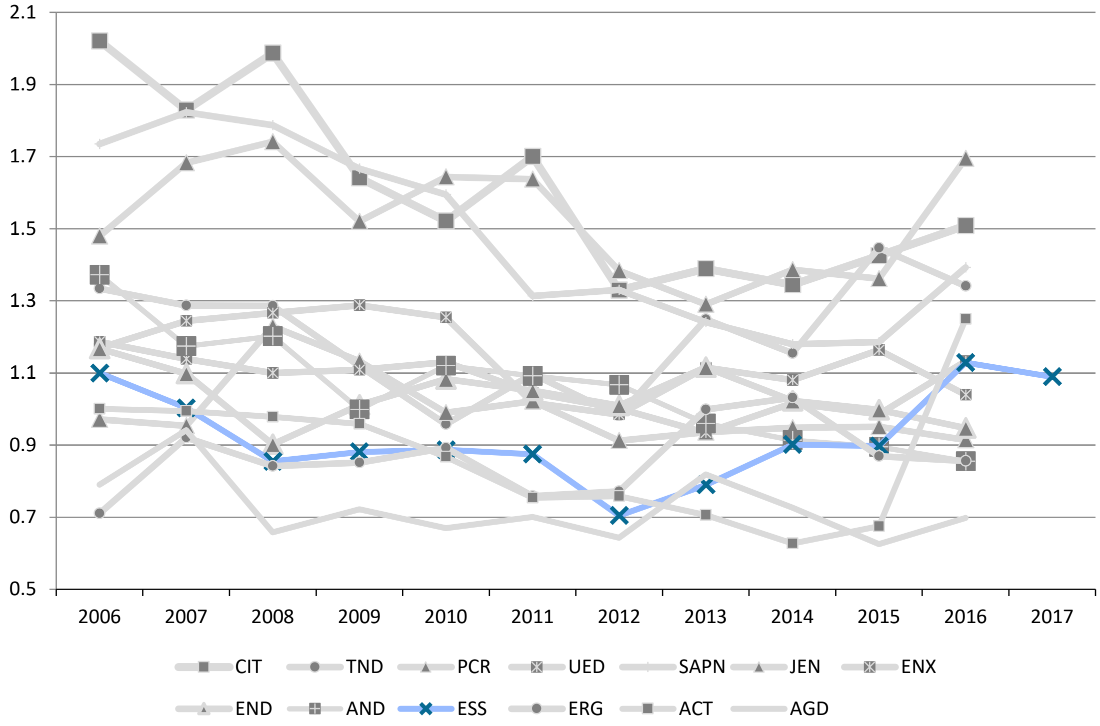
53 AER, *Annual Benchmarking Report for electricity distribution network service providers*, November 2017. Available at https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/annual-benchmarking-report-2017

54 The opex multilateral partial factor productivity (MPFP) technique examines the contribution of operational expenditure to overall productivity. Productivity is a measure of the quantity of output produced from the use of a given quantity of inputs.

Figure 6.6 Opex multilateral partial factor productivity (MPFP)



Source: AER 2017 annual benchmarking report.

Note: The chart compares Essential's actual and estimated opex up to 2016–17 with other distributors using data up to 2015–16.

This opex MPFP analysis indicates that Essential has significantly improved its opex productivity over the current 2014–19 regulatory control period. Between 2011–12 and 2016–17, Essential improved its measured opex productivity from the second worst within the NEM to the sixth best. This coincides with its reduction in opex, as shown in Figure 6.4. While these MPFP results do not account for some differences in operating environment factors, Essential's improvement in productivity suggests that it is no longer materially inefficient compared to its peers in the NEM. We consider Essential's estimated opex in 2017–18, which is also below our previous forecast of efficient opex, is similarly not materially inefficient.

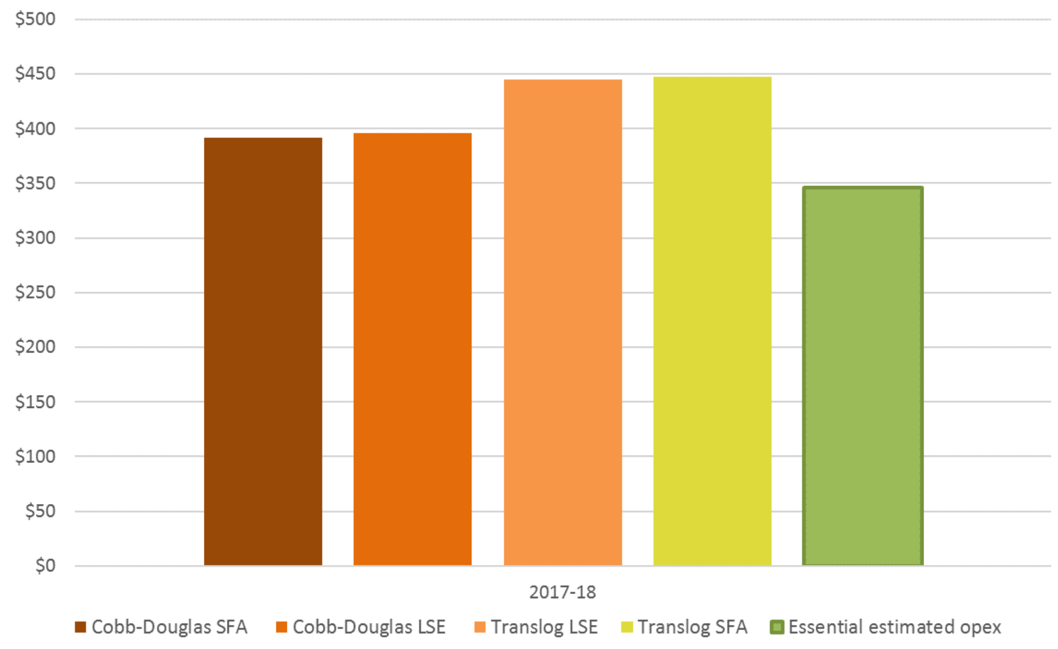
We further examine the efficiency of Essential's 2017–18 opex using the results of our econometric modelling.[55] Among other things, our econometric models produce

55 Our econometric models are published as part of our annual benchmarking report, and were developed by our consultant Economic Insights. The results presented in this section reflect analysis undertaken for the purpose of this draft determination and are consistent with the results that we intend to publish in our 2018 benchmarking report before the end of November 2018. The econometric models we have used for this analysis are: Cobb-Douglas SFA, Cobb-Douglas LSE, Translog LSE and Translog SFA.

average opex efficiency scores for distributors across the 2011–17 period.[56] We use these results to estimate the 2017–18 costs of a benchmark service provider operating in Essential's circumstances, and compare this to Essential's proposed 2017–18 base year opex. Where Essential's proposed opex is similar to, or below the estimated opex of a benchmark service operator, this gives us confidence that Essential's opex is not materially inefficient.

Figure 6.7 presents this range of estimated opex from each of our four econometric models, and compares this to Essential's estimated opex in 2017–18. This shows that Essential's estimated opex in 2017–18 is below the average opex from our four models. This suggests that Essential's proposed opex in 2017–18 is not materially inefficient when compared to its peers. This is consistent with our observations of Essential's opex MPFP and our revealed cost analysis, which shows that Essential has substantially improved the efficiency of its opex since 2012-13 and its opex in 2017-18 is below the efficient forecast we set in our April 2015 decision.

Figure 6.7 Estimated benchmark opex and Essential's estimated actual opex in 2017–18 ($million, $2018–19)



Source: AER analysis.

[56] We have used the 2011–17 period because the data across this six year period provides for statistically robust benchmarking results and also provides a relatively current estimate of opex efficiency. We note it may take some time for improvements in efficiency by previously poor performing distributors to be reflected in the efficiency scores. For more detail, please see our 2018 annual benchmarking report for distribution service providers that we will publish by the end of November 2018.

To derive our estimates of opex of a benchmark service operator as shown in Figure 6.7, we follow the following steps for each of the four sets of econometric modelling:

- We first average Essential's actual opex over the 2011–17 period.
- We then compare Essential's efficiency score over 2011–17, against a benchmark comparison score of 0.75. This reflects the upper quartile of possible efficiency scores, and reflects our conservative approach to setting a benchmark comparison point. This is consistent with the comparison point we adopted in our April 2015 decision.[57]
- We then adjust the benchmark comparison point for potential differences in operating environment factors (OEFs) between Essential and the reference firms.[58] For the purposes of this decision, we have chosen to adopt the OEFs we applied in our April 2015 decision. This is a conservative estimate of the impact of OEFs as it accounts for both material and immaterial factors.[59]
- Where Essential's efficiency score is below the adjusted benchmark comparison score, we adjust Endeavour Energy's average level of opex over 2011–17 by the difference between the two efficiency scores. This results in an estimate of period-average opex that we consider is not materially inefficient at the midpoint of 2011-17 period.
- We then roll forward this period-average opex estimate to a 2017–18 base year using the rate of change. This results in an estimate of opex that we consider is not materially inefficient in 2017–18.

These calculations are set out in a spreadsheet that we have published alongside this draft decision.

Essential's proposal included supporting advice from Frontier Economics on assessing efficiency of its proposed opex, and the AER's use of benchmarking.[60]

We note Frontier Economics' benchmarking analysis and its concerns with the AER's use of benchmarking. As we outlined above, we have used a range of techniques to assess the efficiency of Essential's proposed base year opex. Collectively, our techniques do not suggest that Essential's proposed base year is materially inefficient.

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57 See AER, *Ausgrid Final Decision 2015-19, Attachment 7 Operating Expenditure*, April 2015, p. 7-276

58 Operating environment factors (OEFs) are factors that our benchmarking models do not directly account for (e.g. climate, geography, legislative obligations). These may materially affect the operating costs in different jurisdictions and hence may have an impact on our measures of the relative efficiency of each DNSP. For the purpose of this decision, we have not updated the OEF adjustment made relative to the chosen benchmark reference group from our April 2015 decision.

59 In October 2018, we published a report from our consultants Sapere Research Group and Merz Consulting (Sapere-Merz) that reviewed material differences in operating environments in the NEM. The report identified a limited number of OEFs that materially affect the costs of each DNSP in the NEM. However, Sapere-Merz acknowledged that its analysis was preliminary and could be improved through better data. We intend to consult further with the distribution industry to further refine the assessment and quantification of OEFs.

60 Essential Energy - *13.2 Economic Benchmarking Analysis*, 30 April 2018.

Further, we operate an ongoing program to review and incrementally refine elements of our benchmarking methodology and data. Among other refinements we have made to our methodology this year, we have updated the output weights for productivity index models with additional data across the 2014–17 period. Further information can be found in our 2018 Economic Benchmarking report that will be published in November 2018.[61]

Base opex adjustments

To finalise our estimate of Essential's base year opex, we made a net adjustment of –$1.2 million ($2018–19) to Essential's base year. Essential's proposal stated this $1.2 million ($2018–19) adjustment was due to a combination of redundancy costs and the costs of delivering its network programs in its base year not reflecting ongoing costs.[62]

6.4.2 Rate of change

Having determined an efficient starting point, or base opex, we trend it forward to account for the forecast growth in prices, output and productivity. We refer to this as the rate of change.

For the purpose of this draft decision, we have largely applied our standard approach to forecasting the rate of change. Specifically we have:

- Used a weighted average of forecast labour price growth and non-labour price growth to determine price growth.
- Used output weights derived from the results of the four benchmarking models we presented in our 2017 annual benchmarking report. This is a refinement of our previous approach, which used the weights from a single econometric model.
- Applied a zero productivity growth forecast.

We have forecast an average annual rate of change of 1.1 per cent, compared to Essential's forecast of zero per cent. The reasons for our forecast, and its difference compared to Essential's forecast, are set out below.

We are currently conducting an industry-wide review of our approach to forecasting productivity. This is a result of our observations that productivity has grown over three per cent each year (since 2012) across the distribution industry. This is consistent with our expectations that distributors would make positive productivity growth in the medium to long term (historical productivity growth has been negative).

Further, we have received feedback from various parties suggesting we review this aspect of the rate of change. Our review may change our approach to forecasting productivity going forward. As part of this review, we will consult with all distributors

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61 AER, *Annual Benchmarking Report for electricity distribution network service providers*, November 2018.

62 Essential, *11.3 - Standard control opex approach - April 2018, p. 7.*

and any other interested stakeholders.[63] Stakeholders will be given multiple opportunities to engage in the review and provide us with their views.

Our final decision for Essential will take the outcome of this review into consideration.

Forecast price growth

We have included forecast real average annual price growth of 0.5 per cent in developing our alternative opex estimate. This increases opex from the base year by $30.0 million ($2018–19). In contrast, Essential forecast price growth of 0.8 per cent.

Our price growth forecast is a weighted average of forecast labour price growth and non-labour price growth.

To forecast labour price growth, we have used the average forecast growth in the wage price index (WPI) for the New South Wales utilities industry from our consultant Deloitte Access Economics and Ausgrid's consultant, BIS Oxford Economics.[64] In contrast, Essential applied an average WPI forecast by its consultant CEG (which used a combination of DAE's 2017 WPI forecast and Essential's committed EBA salary increases), and BIS Oxford Economics' WPI forecast for the Australian Capital Territory.[65]

We have not used Essential's CEG and ACT WPI forecast in our price growth estimate. First, we do not consider an ACT WPI forecast is appropriate for Essential who operates in NSW. Second, we consider using a firm's committed EBA salary increases creates poor incentives.[66] Instead, we consider it is more appropriate to average our price forecast with Ausgrid's BIS Oxford Economics forecast, which forecasts WPI for NSW utilities.

To forecast non-labour price growth, we, like Essential, have applied the forecast change in CPI.[67]

We have applied our standard benchmark weight approach to account for the proportion of opex that is labour and the proportion that is non-labour (59.7:40.3). We apply this across all network service providers. Our reasons for adopting these weights are set out in our 2017 Economic Benchmarking report.[68] Essential has instead

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63 See https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-our-approach-to-forecasting-opex-productivity-growth-for-electricity-distributors

64 Deloitte Access Economics, *Labour Price Growth Forecasts Prepared for the Australian Energy Regulator*, 19 July 2018, Table vii, p. xiv; Ausgrid - *Attachment 6.01 - Ausgrid's proposed operating expenditure*, April 2018, p.28.

65 Essential Energy - *9.2.1 - CEG - Labour escalation factors affecting expenditure forecasts* - April 2018; Essential Energy, response to AER information request IR#039, 5 September 2018; Essential Energy - *R11 Opex rate of change*, 30 April 2018.

66 For more information, please see the EBA discussion in our CitiPower determination: AER, *Final decision CitiPower distribution determination*, attachment 7, operating expenditure, May 2016.

67 Essential Energy - *9.2.1 - CEG - Labour escalation factors affecting expenditure forecasts*, April 2018, p.2.

68 Economic Insights, *Economic Benchmarking Results for the Australian Energy Regulator's 2017 DNSP Benchmarking Report*, 31 October 2017, pp. 1–2. This is also consistent with the weights in our 2018 annual benchmarking report, which will be published before the end of November 2018.

adopted firm specific weights. We consider using a network business' actual input price weights distorts the incentive to use the most efficient mix of labour and non-labour inputs.[69] As a result, we have retained our standard benchmark weight approach.

Forecast output growth

We have included forecast average annual output growth of 0.6 per cent in developing our alternative estimate of forecast opex. This increased our alternative estimate by $41.7 million ($2018–19). Our output growth forecast is an average of the output growth rates forecast using the specification and weights from the four models presented in our 2017 annual benchmarking report. These models are:[70]

- Opex multilateral partial factor productivity (MPFP)
- Cobb Douglas stochastic frontier analysis (SFACD)
- Cobb Douglas least squares estimation (LSECD)
- Translog least squares estimation (LSETLG).

Table 6.4 shows the output specification and weights from each model as reflected in the 2017 annual benchmarking report.[71]

Table 6.4 Output specification and weights derived from economic benchmarking models

Output	MPFP	SFACD	LSECD	LSETLG
Customer numbers	45.8%	77.1%	69.7%	59.8%
Circuit length	23.8%	9.7%	11.2%	11.2%
Ratcheted maximum demand	17.6%	13.1%	19.1%	28.9%
Energy throughput	12.8%			

Source: AER analysis; Economic Insights, Economic Benchmarking Results for the Australian Energy Regulator's 2017 DNSP Benchmarking Report, 31 October 2017.

We have forecast our year on year output growth by:

- Calculating four model specific output growth rates, each as a weighted average growth in specified outputs. For example, the output growth rate based on the

69 For more information, please see the input price weight discussion in our TransGrid determination: AER, Attachment 7, *Operating expenditure*, September 2017.

70 Economic Insights, *Economic Benchmarking Results for the Australian Energy Regulator's 2017 DNSP Benchmarking Report*, 31 October 2017, p. 1 and pp. 18–20.

71 We will release our 2018 annual benchmarking report before the end of November 2018, which contains updated output weights. Stakeholders will have the opportunity to comment on the benchmarking results, including these weights, before the report is finalised.

MPFP model is a weighted average of growth in customer numbers, circuit length, ratcheted maximum demand and energy throughput; and that based on SFACD model is a weighted average of growth in customer numbers, circuit length and ratcheted maximum demand.

- Calculating the average of four model specific output growth rates.

This is a refinement of our previous approach, which only used the output weights from a single econometric model (the SFACD model).[72] Full details of our refined approach to forecast output growth are set out in our opex model, which is available on our website.

CCP10 recently raised concerns about the weight applied to customer numbers under our previous approach. In its submission on Evoenergy's regulatory proposal, CCP10 stated that trend customer growth accounts for a significant part of Evoenergy's output growth. It noted that this outcome flows from our underlying econometric model. CCP10 encouraged us to test whether our output growth rates are reasonable, and whether too much weight has been allocated to customer numbers when we forecast output growth.[73]

We have reviewed the output weights derived from the four models presented in our economic benchmarking reports over the period 2014–17. Our review shows that the weight of customer numbers derived from the SFACD model is relatively high and it has increased over time. The customer numbers weight does not increase as much in the other econometric models (LSECD and LSETLG).[74]

Our refined approach, which uses an average of the output weights from the four models, helps to address concerns raised by the Australian Competition Tribunal (the Tribunal) in its merits review of our 2015 decision for NSW electricity determinations. The Tribunal raised concerns about our reliance on a single model and in remitting the NSW decisions directed us to use a broader range of modelling and benchmarking.[75]

We are currently updating our economic benchmarking analysis to incorporate data for 2016–17. We will publish this analysis in our 2018 annual benchmarking report in late November 2018. In our final decision, we will update our forecast output growth to reflect the 2018 economic benchmarking results.

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72 This previous approach was used to inform our alternative forecast in our April 2015 decision.

73 Consumer challenge Panel (subpanel 10), *Response to Evoenergy regulatory proposal 2019-24 and AER issues paper* - 16 May 2018, p. 10.

74 We note that the weights from the MPFP model have remained constant over time. The MPFP model is a functional output index number model. It is the standard practice with such models to estimate the output cost shares initially (using cost functions based on the data available) and to then leave these shares constant for an extended period. This allows changes in the MPFP scores to reflect changes in performance (and possibly exogenous factors) only. Our 2018 annual benchmarking report will update outputs weights for the MPFP model.

75 Applications by Public Interest Advocacy Centre Ltd and Essential Energy [2016] ACompT 3, direction 1(a). The Tribunal's decision was upheld by the Full Federal Court. For more details, see: Australian Energy Regulator v Australian Competition Tribunal (No 2) [2017] FCAFC 79, [285].

We note we have adopted Essential's forecasts for its outputs of customer numbers, circuit line length and energy throughput. However, we used ratcheted maximum demand instead of Essential's annual peak demand. Ratcheted maximum demand is the highest value of peak demand observed in the time period up to the year in question for each distributor. It thus recognises capacity that has actually been used to satisfy demand and gives the distributor credit for this capacity in subsequent years, even though annual peak demand may be lower in subsequent years.

Further, we use the measure of maximum demand that is consistent with our benchmarking models:

> Non-coincident Summated Weather Adjusted System Annual Maximum Demand 50% POE forecast at the transmission connection point – MW measure

We do this to ensure consistency between the weighting we apply to each output growth factor and the relevant measure of that output.

In comparison, Essential's forecast growth in annual peak using:

> Coincident Summated Weather Adjusted System Annual Maximum Demand 50% POE forecast at the transmission connection point – MV measure.

Forecast productivity growth

For the draft decision, we have forecast zero productivity growth in our alternative opex forecast. This has been our standard approach to forecasting productivity in past decisions. However, we are currently reviewing whether this remains appropriate.[76]

In comparison, Essential has forecast its investment in strategic initiatives will lead to productivity improvements that offset the effect of its forecast input price growth and output growth of $101.1 million ($2018–19). AGL, CCP10, ECA and the EUAA were supportive of Essential's inclusion of productivity improvements in its proposal.[77] They also submitted improvements in productivity is consistent with the pressures on businesses in competitive markets.[78]

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76 https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-our-approach-to-forecasting-opex-productivity-growth-for-electricity-distributors.

77 AGL - *Submission on Essential Energy 2019–24 regulatory proposal,* 14 September 2018, p.4; CCP10 - *Submission on Essential Energy 2019–24 regulatory proposal*, 8 August 2019, p.2; ECA - *Submission on Essential Energy 2019–24 regulatory proposal*, 14 August 2018, p.3; EUAA - *Submission on Essential Energy 2019–24 regulatory proposal*, 10 August 2018, p.6.

78 AGL - *Submission on Essential Energy 2019–24 regulatory proposal*, 14 September 2018, p.4; CCP10 - *Submission on Essential Energy 2019–24 regulatory proposal*, 8 August 2019, p.31; ECA - *Submission on Essential Energy 2019–24 regulatory proposal*, 14 August 2018, p.3; EUAA - *Submission on Essential Energy 2019–24 regulatory proposal, 10 August 2018*, p.1.

6.4.3 Step changes

We add (or subtract) step changes for any costs are not captured in base opex or the rate of change that are required for forecast opex to meet the opex criteria.[79] In the absence of a change to regulatory obligations or a legitimate capex/opex trade-off opportunity, we would accept a step change under limited circumstances.

Essential proposed two negative step changes to opex totalling $46.4 million ($2018–19). These step changes are:

- $22.2 million ($2018–19) net reduction in opex over the 2019–24 regulatory period that accounts for the investment and corresponding benefit it receives from implementing its planned strategic initiatives
- $24.2 million ($2018–19) reduction in opex to meet the new accounting standard AASB16 on leases, which replaces the previous standard AASB117.

We have included both step changes in our alternative estimate.

First, we consider that Essential's proposed capitalisation of leases is consistent with the new accounting standard AASB16, and is reflective of ongoing expenditure. We have also assessed the corresponding capex increase, which is discussed in more detail in attachment 5.[80] CCP10 welcomed this step change, and stated there should not be an expectation that step changes only add to costs.[81]

Second, we have reviewed the information provided by Essential on each of its strategic initiatives, which span capital projects, maintenance and replacement, vegetation management, outage response, field force productivity, external spend, and support functions. [82] Collectively, Essential has proposed an investment of $130.1 million ($2018–19) across capex and opex, with a corresponding benefit of $272.8 million ($2018–19). We are satisfied Essential's proposed strategic initiatives leads to an overall reduction in expenditure. In addition to the individual opex benefits of each initiative, Essential has forecast productivity that will offset its forecast output and price growth. Further, the capex component of this step change includes a $110 million ($2018–19) reduction to Essential's repex forecast, a $22 million ($2018–19) reduction to augex, as well as smaller reductions to forecast connections, LiDAR and overheads. We consider that Essential's strategic initiatives step change is prudent and efficient.[83]

6.4.4 Category specific forecasts

We have included a category specific forecast for debt raising costs.

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79 NER, cl.6.5.6(c); AER, *Expenditure forecast assessment guideline for electricity transmission*, November 2013, p. 24.

80 AER*, Attachment 5 Capital expenditure, Essential Energy draft decision*, November 2018.

81 CCP10 - *Submission on Essential Energy 2019–24 regulatory proposal*, 8 August 2019, p.26.

82 Essential Energy, response to AER information request IR#002, 24 May 2018.

83 AER, *Attachment 5 Capital expenditure, Essential Energy draft decision*, November 2018.

Debt raising costs

We have included debt raising costs of $21.0 million ($2018–19) in our alternative opex forecast. Debt raising costs are transaction costs incurred each time a business raises or refinances debt. Our preferred approach is to forecast debt raising costs using a benchmarking approach rather than a service provider's actual costs in a single year. This provides for consistency with the cost of debt forecasting in the rate of return building block. We discuss this in Attachment 3 of this determination.

6.4.5 Assessment of opex factors under the NER

Opex factor	Consideration
The most recent annual benchmarking report that has been published under rule 6.27 and the benchmark operating expenditure that would be incurred by an efficient distribution network service provider over the relevant regulatory control period.[84]	There are two elements to this factor. First, we must have regard to the most recent annual benchmarking report. Second, we must have regard to the benchmark operating expenditure that would be incurred by an efficient distribution network service provider over the period. The annual benchmarking report is intended to provide an annual snapshot of the relative efficiency of each service provider. We have estimated the benchmark opex that an efficient service provider would require over the forecast period and have compared our estimate with Essential's proposal over the relevant regulatory control period. In doing this we relied on approaches set out in our most recent benchmarking report.
The actual and expected operating expenditure of the Distribution Network Service Provider during any proceeding regulatory control periods.[85]	Our forecasting approach uses Essential's estimated opex in 2017–18 as the starting point. We have examined Essential's historical expenditure to form a view about whether or not its revealed expenditure is sufficiently efficient to rely on it as the basis for forecasting required opex in the forthcoming period.
The extent to which the operating expenditure forecast includes expenditure to address the concerns of electricity consumers as identified by the Distribution Network Service Provider in the course of its engagement with electricity consumers.[86]	We understand the intention of this particular factor is to require us to have regard to the extent to which service providers have engaged with consumers in preparing their regulatory proposals, such that they factor in the needs of consumers.[87] CCP10 stated Essential was proactive in addressing consumer concerns and responded more holistically to consumer and stakeholder input. Further, it is satisfied that Essential has effectively integrated consumer and stakeholder input into all aspects of it regulatory proposal and has effectively applied input that Essential has sought and heard.[88] PIAC and the ECA submitted that Essential responded to consumer concern about energy affordability by proposing to significantly reduce its capital

[84] NER, cl.6.5.6(e)(4).

[85] NER, cl.6.5.6(e)(5).

[86] NER, cl.6.5.6(e)(5A).

[87] AEMC, Rule Determination, 29 November 2012, pp. 101, 115.

[88] CCP10 - *Submission on Essential Energy 2019–24 regulatory proposal*, 8 August 2019, p.89.

Opex factor	Consideration
	and operating expenditure in the 2019–24 regulatory control period.[89] Based on the information provided by Essential in its proposal and from the submissions noted above, we consider Essential has engaged with its electricity consumers and considered consumer concerns in its operating expenditure forecast.
The relative prices of capital and operating inputs.[90]	We adopted price escalation factors that account for the relative prices of opex and capex inputs. We have also considered capex/opex trade-offs in considering Essential's proposed step changes. One reason we will include a step change in our alternative opex forecast is if the service provider proposes a capex/opex trade-off. We consider the relative expense of capex and opex solutions in considering such a trade-off. Essential proposed two step changes as capex/opex trade-offs.
The substitution possibilities between operating and capital expenditure.[91]	As noted above we considered capex/opex trade-offs in considering Essential's proposed step changes. We considered the substitution possibilities in considering this step change.
Whether the operating expenditure forecast is consistent with any incentive scheme or schemes that apply to the Distribution Network Service Provider under clauses 6.5.8 or 6.6.2 to 6.6.4.[92]	We normally apply the EBSS in conjunction with our revealed cost forecasting approach. Essential did not have an EBSS in place over the 2014–19 regulatory control period. We have applied the EBSS for the 2019–24 period.
The extent the operating expenditure forecast is referable to arrangements with a person other than the Distribution Network Service Provider that, in the opinion of the AER, do not reflect arm's length terms.[93]	Some of our techniques assess the total expenditure efficiency of service providers and some assess the total opex efficiency. A service provider which uses related party providers could be efficient or it could be inefficient. Likewise, for a service provider who does not use related party providers. If a service provider is inefficient, we adjust their total forecast opex proposal, regardless of their arrangements with related providers.
Whether the operating expenditure forecast includes an amount relating to a project that should more appropriately be included as a contingent project under clause 6.6A.1(b).[94]	This factor is generally only relevant in the context of assessing proposed step changes (which may be explicit projects or programs). We did not identify any contingent projects in reaching our draft decision.
The extent the Distribution Network Service Provider has considered, and made provision for, efficient and prudent non-network options.[95]	Essential did not propose expenditure for non-network alternatives in its opex forecast.

89 ECA - *Submission on Essential Energy 2019–24 regulatory proposal*, 14 August 2018, p.6; PIAC - *Submission on Essential Energy 2019–24 regulatory proposal*, attachment A, 8 August 2018, p.3.

90 NER, cl.6.5.6(e)(6).

91 NER, cl.6.5.6(e)(7).

92 NER, cl.6.5.6(e)(8).

93 NER, cl.6.5.6(e)(9).

94 NER, cl. 6.5.6(e)(9A).

95 NER, cl.6.5.6(e)(10).

Opex factor	Consideration
Any relevant final project assessment report (as defined in clause 5.10.2) published under clause 5.17.4(o), (p) or (s).[96]	In having regard to this factor, we identify any RIT-D project submitted by the business and ensure the conclusions are appropriately addressed in the total forecast opex. Essential did not submit any RIT-D project for its distribution network.

96 NER, cl.6.5.6(e)(11).