



# **Revised Proposal**

## **Attachment 10.15**

### **Energy volume forecast,**

### **January 2019**

January 2019

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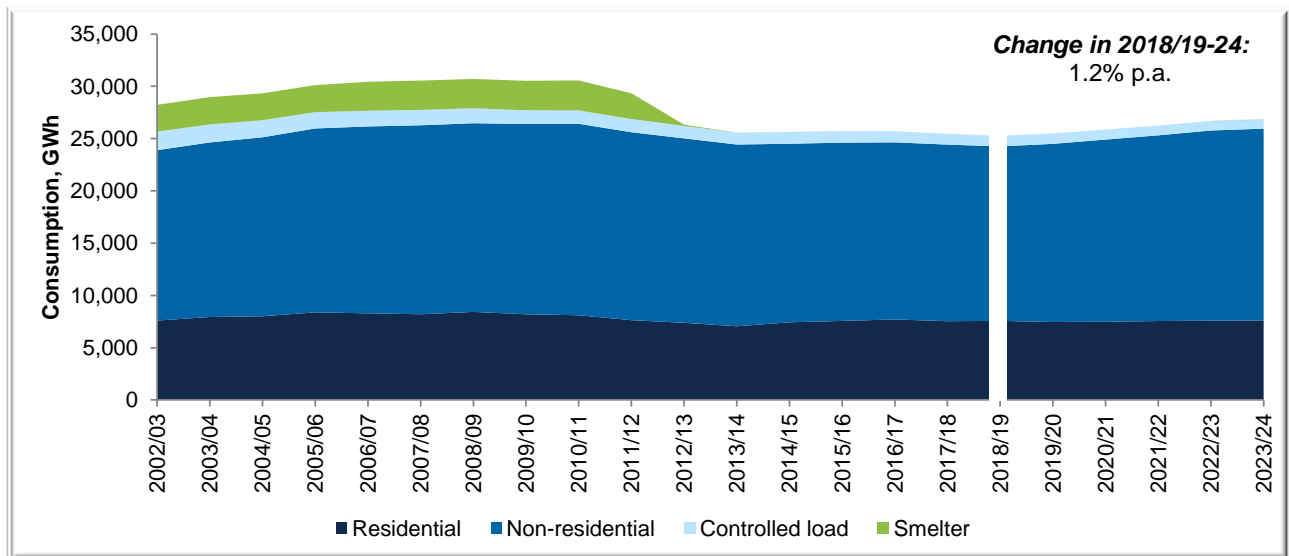
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# 1 Executive summary

This report presents the forecast of annual energy consumption which supports Ausgrid's Revised Proposal for the 1 July 2019 to 30 June 2024 regulatory period. The forecast is based on the information available as at the end of October 2018 and is summarised in Figure 1 and Table 1 below.

Figure 1

## Historical consumption and forecast



Note: Residential and non-residential customers are defined in the Tariff Structure Statement.

Table 1

## Annual energy consumption forecast to 2023/24

	ACTUAL	FORECAST	AER DETERMINATION PERIOD FORECAST					GROWTH PA
Year ended June	2018	2019	2020	2021	2022	2023	2024	2019-2024
<b>Residential</b>	7,533	7,563	7,459	7,477	7,550	7,581	7,602	
% growth		0.4%	-1.4%	0.2%	1.0%	0.4%	0.3%	0.1%
<b>Controlled load</b>	1,029	1,019	992	963	937	911	888	
% growth		-0.9%	-2.7%	-2.9%	-2.7%	-2.7%	-2.5%	-2.7%
<b>Non-residential</b>	16,897	16,692	17,041	17,434	17,764	18,197	18,354	
% growth		-1.2%	2.1%	2.3%	1.9%	2.4%	0.9%	1.9%
<b>Total</b>	25,459	25,274	25,492	25,874	26,252	26,689	26,844	
% growth		-0.7%	0.9%	1.5%	1.5%	1.7%	0.6%	1.2%

Total energy consumption is forecast to increase by 1.2% per annum in the next regulatory period. There are three key factors in the expected growth:

- The increasing customer numbers and general economic growth are positive for growth.
- These positive stimuli are, to a degree, offset by projected energy conservation due to increasing solar PV penetration, the impacts of the NSW Energy Savings Scheme, electrical appliance efficiency improvements and building energy efficiency improvements.
- Major projects under construction, mostly road and rail infrastructure, will be in operation from 2019/20 onwards, increasing the non-residential sector demand.

## 2 Changes to high level energy forecast since April 2018

### 2.1 Comparison of original and revised volume forecasts

The original volume forecast of April 2018 was prepared with the information which was available as at the end of February 2018 whereas the revised volume forecast of January 2019 is prepared with the information available as at the end of October 2018. Table 2 compares the two forecasts for the regulatory period.

**Table 2**

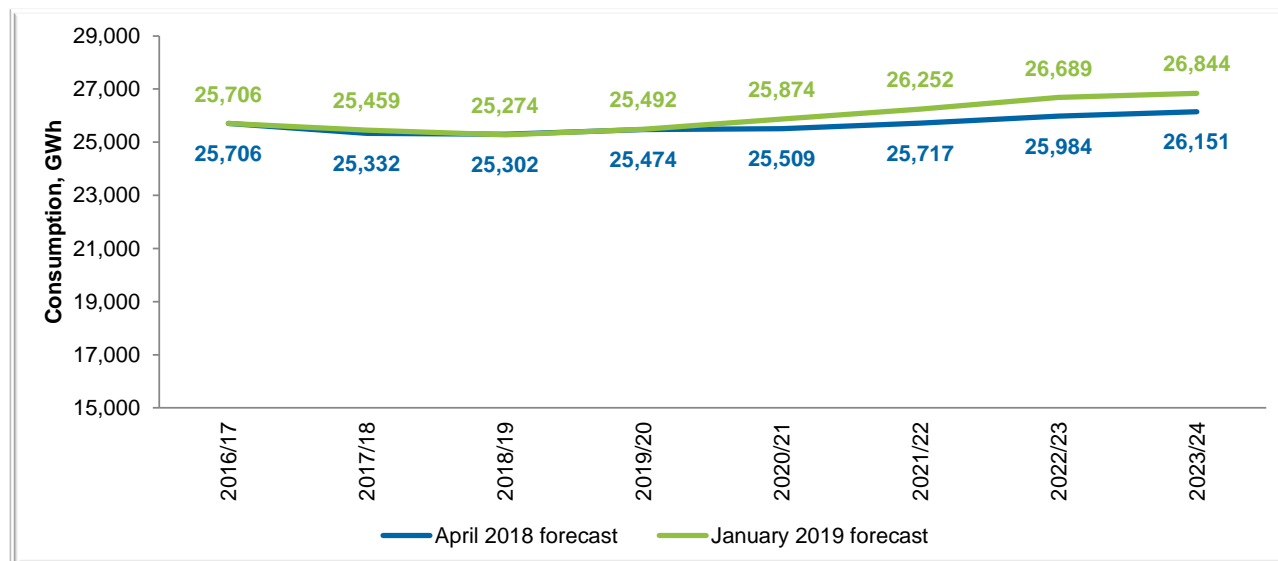
#### Annual energy sales forecast to 2023/24

	ACTUAL	FORECAST	AER DETERMINATION PERIOD FORECAST					GROWTH PA
Year ended June	2018	2019	2020	2021	2022	2023	2024	2019-2024
<b>Residential – Apr 2018</b>	7,412	7,281	7,216	7,136	7,086	7,035	7,006	-0.8%
<b>Residential – Jan 2019</b>	7,533	7,563	7,459	7,477	7,550	7,581	7,602	0.1%
<i>% change</i>	1.6%	3.9%	3.4%	4.8%	6.6%	7.8%	8.5%	
<b>Controlled load – Apr 2018</b>	1,025	983	940	893	850	808	769	-4.8%
<b>Controlled load – Jan 2019</b>	1,029	1,019	992	963	937	911	888	-2.7%
<i>% change</i>	0.4%	3.7%	5.5%	7.7%	10.2%	12.7%	15.5%	
<b>Non-residential – Apr 2018</b>	16,895	17,038	17,318	17,480	17,781	18,142	18,376	1.5%
<b>Non-residential – Jan 2019</b>	16,897	16,692	17,041	17,434	17,764	18,197	18,354	1.9%
<i>% change</i>	0.0%	-2.0%	-1.6%	-0.3%	-0.1%	0.3%	-0.1%	
<b>Total – Apr 2018</b>	25,332	25,302	25,474	25,509	25,717	25,984	26,151	0.7%
<b>Total – Jan 2019</b>	25,459	25,274	25,492	25,874	26,252	26,689	26,844	1.2%
<i>% change</i>	0.5%	-0.1%	0.1%	1.4%	2.1%	2.7%	2.6%	

Overall, the original forecast annual volume growth of 0.7% increased to 1.2% in the revised forecast mainly due to the increase in residential consumption. Residential consumption is expected to reach 7,602 GWh in 2023/24 which is ~600 GWh higher than the original forecast. Non-residential consumption, on the other hand, reaches almost the same consumption level in 2023/24 in both forecasts. Figure 2 compares the two forecasts.

Figure 2

## Comparison of original and revised volume forecast



Note: 2016/17 is actual consumption. 2017/18 is based on short-term projections in the original forecast and is actual consumption in the revised forecast.

## 2.2 Main changes to high level energy forecast since April 2018

The energy forecast is prepared on a disaggregated basis, with separate long-term forecasts made for energy consumption in each of the three segments of residential, non-residential and controlled load. The long-term forecast is overlaid onto a related although separately derived forecast of the current year's energy consumption. The forecast for the current year forms the base year starting point for the long-term energy forecast.

The original volume forecast was prepared with the information which was available as at the end of February 2018. The starting point of the forecast was the short-term forecast for 2017/18 and the econometric model was used to calculate the consumption from 2018/19 to 2023/24.

The main difference in the revised forecast is that it is based on the information available as at the end of October 2018. As the 2017/18 financial year has been completed, the starting point of the long-term forecast is now 2018/19 which is based on trends in the actual consumption trends in the first four months of the 2018/19 financial year.

In the original forecast, residential consumption in 2017/18 was forecasted to be 7,412 GWh whereas the actual consumption was 1.6% higher at 7,533 GWh. In addition, in line with the consumption trends over the first four months of 2018/19, residential consumption in 2018/19 is forecasted to be 7,563 GWh which is 3.9% higher than the original forecast. This change in the 2017/18 and 2018/19 forecasts adds 312 GWh in 2023/24 which is 52% of the total change of ~600 GWh in 2023/24.

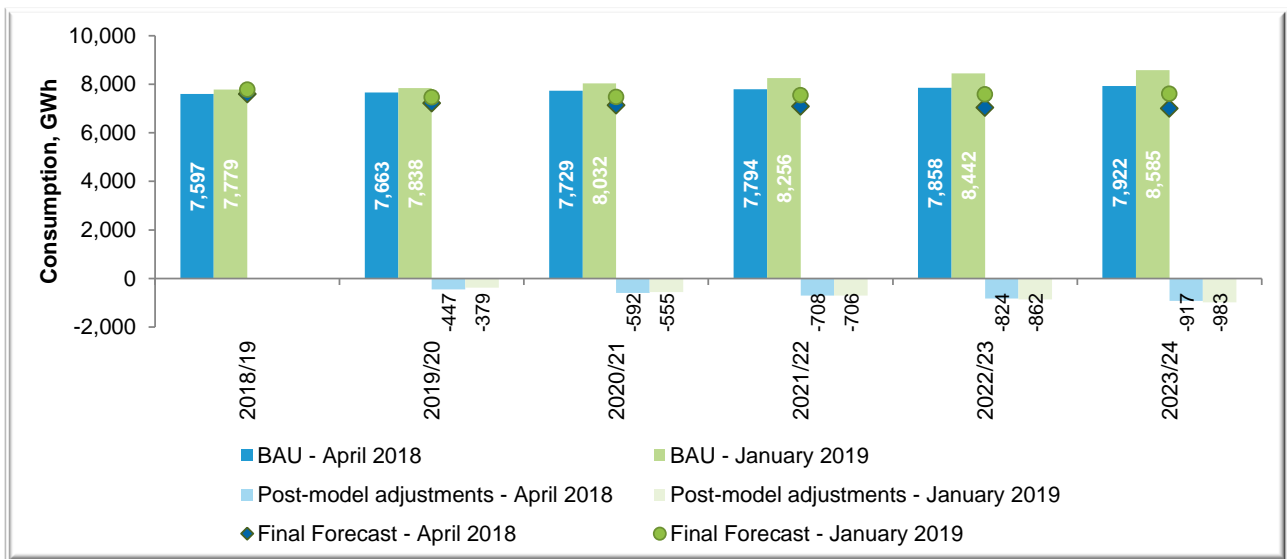
Another important change since the original forecast is the updated income projections. Ausgrid's current practice is to source the forecast data for NSW Gross State Product (GSP) and Real Household Disposable Income (RHDI) from the Australian Energy Market Operator (AEMO) who in turn sources this information from expert external economic advisors. The revised forecast uses the same data used by AEMO for their 2018 forecasts. There has been a considerable change in RHDI projections obtained from AEMO. The average annual growth of RHDI per capita of 0.5% in the original forecast has increased to 1.2% in the revised forecast. This change in the RHDI per capita forecasts adds 247 GWh in 2023/24 which is 41% of the total change of ~600 GWh in 2023/24.

In 2017, Ausgrid obtained the retail price projections from AEMO who sources this information from expert external economic advisors. In 2018, AEMO started to forecast the retail price with an in-house model and therefore Ausgrid did not obtain an updated forecast from AEMO. Instead, the 2017 price projection is adjusted to reflect the actual retail price change in 2018/19. The retail price increase in the original retail price projection from AEMO was 5.1% for residential and 8.8% for non-residential customers in 2018/19, and these increases have been set to zero to reflect the observed price change in July 2018. In line with the econometric model, 3 year rolling average of retail price indexes are used in the long-term volume forecast and therefore the impact of the changed 2018/19 retail prices continues until 2020/21.

The electricity price and income variables increase the residential business as usual (BAU) volume forecast by 0.8% on average in the next regulatory period according to the original forecast and by 2.0% on average according to the revised forecast. Similarly, the electricity price and GSP variables increase the non-residential business as usual (BAU) volume forecast by 1.4% on average in the next regulatory period according to the original forecast and by 2.2% on average according to the revised forecast.

In addition to the main inputs to the econometric model, the post-model adjustments to the business as usual forecast were also reviewed in 2018 both by external advisors and Ausgrid, and necessary changes have been made. The total post-model adjustments decrease the residential BAU forecast by -8.9% on average in the original forecast and by -8.4% on average in the revised forecast. Figure 3 compares residential consumption in the two forecasts.

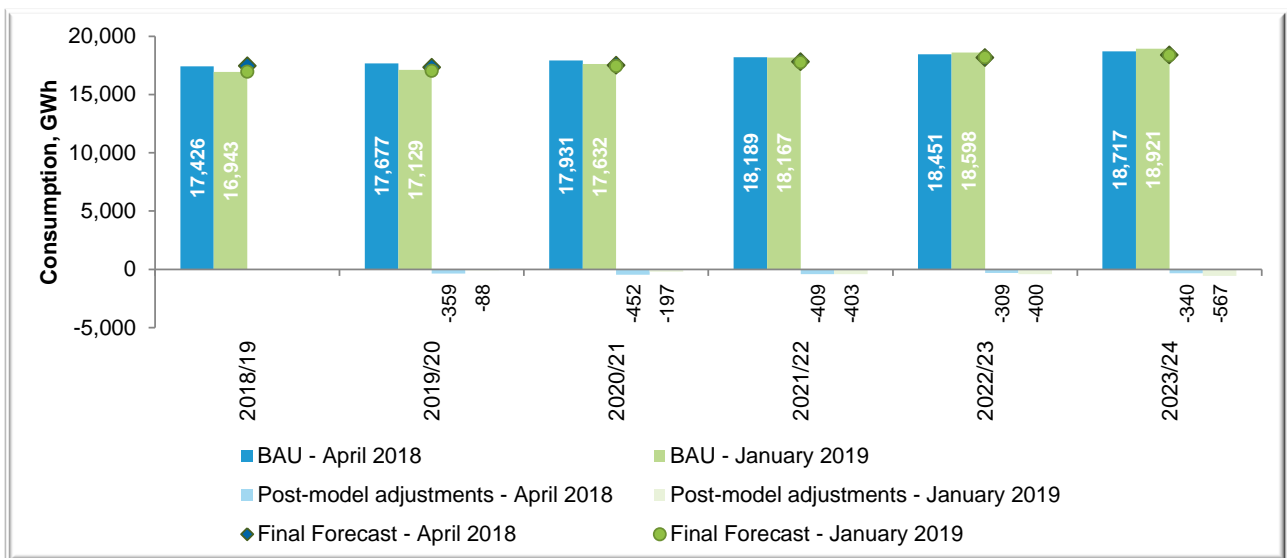
**Figure 3**  
**Comparison of original and revised volume forecast – residential**



Note: Post-model adjustments include the impacts of solar PV and batteries, energy efficiency, electric vehicles and leap year.

The total post-model adjustments decrease the non-residential BAU forecast by -2.1% on average in the original forecast and by -1.8% on average in the revised forecast. Figure 4 compares non-residential consumption in the two forecasts.

**Figure 4**  
**Comparison of original and revised volume forecast – non-residential**



Note: Post-model adjustments include the impacts of solar PV and batteries, energy efficiency, major connections and leap year.

## 2.3 Inclusion of demand forecast as an input to the pricing model

A forecast of monthly maximum demand per customer is required because the Tariff Structure Statement for the Revised Proposal for the regulatory period of 2019-24 introduces a set of new tariffs for residential and small business customers with a demand charge for High season and Low season months. The forecast of monthly maximum demand per customer is based on analysis of the sample of 5,000 customers which was submitted to respond to AER's information request #33 in August 2018.

The sample has 30 minute interval data from 3,500 residential customers and 1,500 small business customers between 1 July 2016 and 30 June 2017. The half hourly maximum demand of each customer is identified for each month based on the peak demand definitions which are given in Table 3 and Table 4.

Table 3

### Demand charge: charging windows for residential customers

DEMAND WINDOW	TIME PERIOD DEFINITION
<b>High season (8 months)</b>	<ul style="list-style-type: none"><li>From 2 pm to 8 pm on working weekdays during 1 November to 31 March (inclusive) – the 'summer months'</li><li>From 5 pm to 9 pm on working weekdays during 1 June to 31 August (inclusive) – the 'winter months'.</li></ul>
<b>Low season (4 months)</b>	<ul style="list-style-type: none"><li>From 2 pm to 8 pm on working weekdays during 1 April to 31 May and 1 September to 31 October (inclusive) – the non-summer and non-winter months.</li></ul>

Table 4

### Demand charge: charging windows for non-residential customers < 40 MWh pa

DEMAND WINDOW	TIME PERIOD DEFINITION
<b>High season (8 months)</b>	<ul style="list-style-type: none"><li>From 2 pm to 8 pm on working weekdays during 1 November to 31 March (inclusive) – the 'summer months'</li><li>From 2 pm to 8 pm on working weekdays during 1 June to 31 August (inclusive) – the 'winter months'.</li></ul>
<b>Low season (4 months)</b>	<ul style="list-style-type: none"><li>From 2 pm to 8 pm on working weekdays during 1 April to 31 May and 1 September to 31 October (inclusive) – the non-summer and non-winter months.</li></ul>

The average of monthly demand per customer is calculated for each month and then corrected by excluding the weather impact in each month, as shown in Figure 5 and Figure 6. The weather correction is done for cooler months (May to September) and warmer months (October to April) separately and is based on a regression analysis of the average maximum demand and the variance of actual heating degree days (HDD) and cooling degree days (CDD) from the standard HDD and CDD in each month. The average monthly peak demand results for residential and non-residential customers are shown in Figure 5 and Figure 6.

Figure 5

**Average monthly peak demand per residential customer**

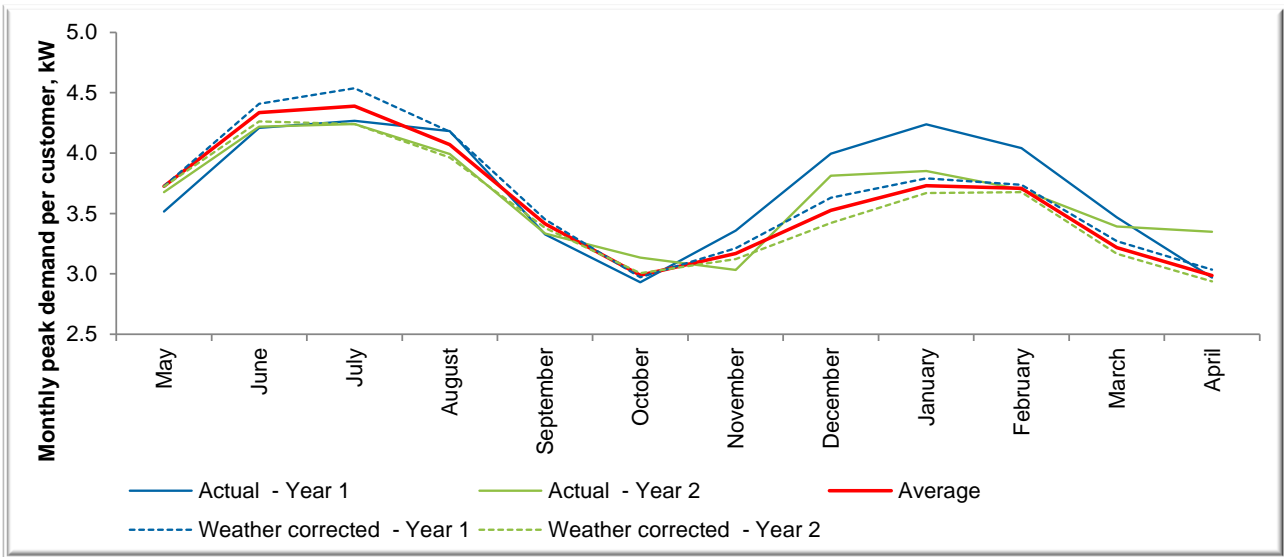
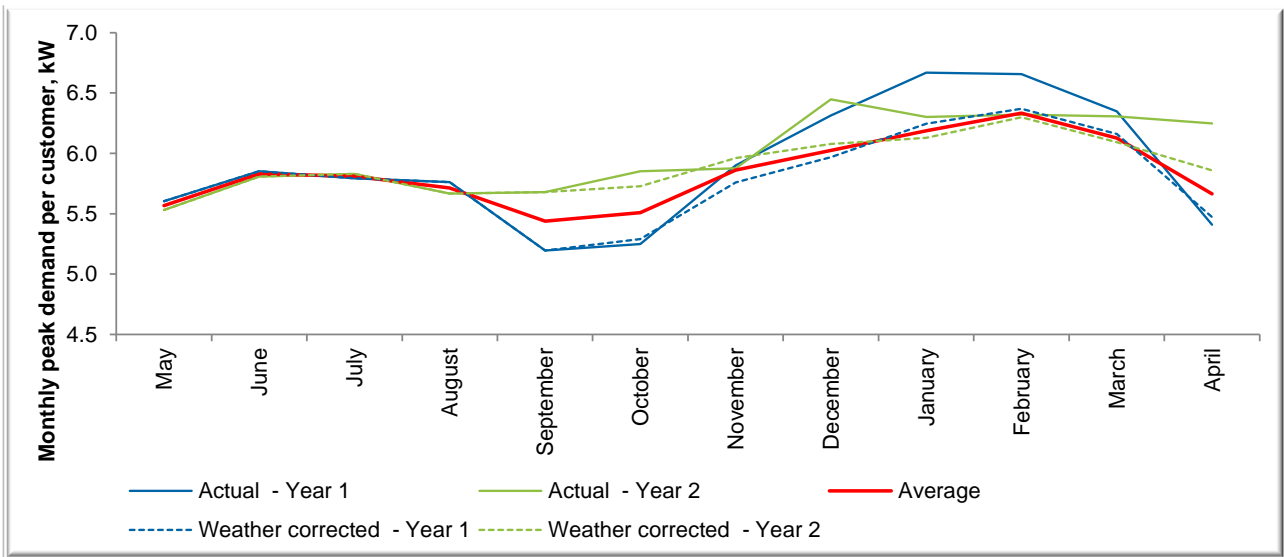


Figure 6

**Average monthly peak demand per small business customer**



To simplify the revenue calculations, averages for High season and Low season months are calculated for both residential and small business segments in Table 3. While the average maximum demand per small business customer is kept at the same level for all forecast years, the average maximum demand per residential customer is forecasted to decline at the same ratio of average demand per residential customer at summer system peak which is derived from the maximum demand forecast (total residential maximum demand divided by the number of residential customers). Details on the residential maximum demand forecast methodology are in Section 4 in Attachment 5.07 Electricity Demand Forecasts Report to the Original Proposal.

Table 5

**Average monthly maximum demand forecast (kW) per customer by season**

	2019/20	2020/21	2021/22	2022/23	2023/24
Residential – High season	3.8	3.8	3.7	3.6	3.6
Residential – Low season	3.3	3.3	3.2	3.2	3.1
Small business – High season	6.0	6.0	6.0	6.0	6.0
Small business – Low season	5.5	5.5	5.5	5.5	5.5



# 3 Reconciliation of high level energy forecast to tariff and tariff component forecasts

The energy forecast is prepared on a disaggregated basis, with separate long-term forecasts made for the energy consumption in each of the three segments of residential, non-residential and controlled load.

The long-term forecast is overlaid onto a related, although separately derived, forecast of the current year's energy consumption. The forecast for the current year (2018/19 in the January 2019 forecast) forms the base year starting point for the long-term energy forecasts.

## 3.1 Residential consumption by tariff component forecast

There are five residential tariffs in the 2019-24 regulatory period: EA010 Residential non-TOU (closed), EA025 Residential TOU (closed), EA111 Residential demand (introductory), EA115 Residential TOU demand and EA116 Residential demand.

The following rules and assumptions have been applied in apportioning the residential Network Access Charge (NAC) volumes across the residential tariffs from 1 July 2019.

- **Default tariff:** EA116 is the default tariff for new residential customers.
- **Meter upgrades:** Customers on EA010 are assigned to EA111 if they upgrade their meters due to meter failure or network-driven meter family replacement and to EA116 if they upgrade their meters due to any other reason (customer choice, solar PV requirement etc.) from 1 July 2019. Customers on EA025 are assigned to EA116 when they upgrade their meters irrespective of the circumstances.
- **Review of TOU customer meters:** Customers on EA011 Residential transitional TOU in 2018/19 are assigned to EA025 if their meter is type 5 and to EA116 if their meter is type 4. Of all EA011 customers, 53% had type 5 and 47% had type 4 in October 2018. Similarly, customers on EA025 in 2018/19 remain on EA025 if their meter is type 5 and are transferred to EA116 if their meter is type 4. Of all EA025 customers, 86% had type 5 and 14% had type 4 in October 2018. It is assumed the same meter ratios will apply when customers are reviewed for assignment for 1 July 2019.
- **1 year limit for EA111:** Customers assigned to EA111 will remain on this tariff for a maximum of one year and then be assigned to EA116.
- **Opt-out from EA116:** Customers assigned to EA116 can opt-out to EA115 at any time. It is assumed that 10% of customers will opt-out from EA116 each year.

The same allocation rules are applied to total energy forecasts assuming that new residential customers have the average consumption of a residential customer and all other customers moving from one tariff to another have the average consumption of a customer of their original tariff. The consumption is then allocated to peak/shoulder/off-peak, where applicable, based on the shares of these tariff components on EA025 in 2018/19.

The total demand by each tariff is calculated with the NACs and average seasonal maximum demand for residential customers as explained in Section 2.3.

Tables 6 to 10 summarise the details of the NAC, volume, capacity and demand forecast for each year for each tariff.

## 3.2 Non-residential consumption by tariff component forecast

There are 13 non-residential tariffs, 3 unmetered tariffs and 59 Cost Reflective Network Price (CRNP) tariffs in the 2019-24 regulatory period.

### 3.2.1 Non-residential customers with less than 40 MWh annual consumption

The following rules and assumptions have been applied to customers that consume less than 40 MWh annually when allocating the Network Access Charge (NAC) volumes across appropriate tariffs from 1 July 2019.

- **Default tariff:** EA256 is the default tariff for new non-residential customers.
- **Meter upgrades:** Customers on EA050 are assigned to EA251 if they upgrade their meters due to meter failure or network-driven meter family replacement and to EA256 if they upgrade their meters due to any other reason (customer choice, solar PV requirement etc.) from 1 July 2019. Customers on EA225 are assigned to EA256 when they upgrade their meters irrespective of the circumstances.
- **Review of TOU customer meters:** Customers on EA051 Small business transitional TOU in 2018/19 are assigned to EA225 if their meter is type 5 and to EA256 if their meter is type 4. Of all EA051 customers, 58% had type 5 and 42% had type 4 in October 2018. Similarly, the customers who are on EA225 in 2018/19 remain on EA225 if their meter is type 5 and are transferred to EA256 if their meter is type 4. Of all EA225 customers, 95% had type 5 and 5% had type 4 in October 2018. It is assumed the same meter ratios will apply when the customers are reviewed on 1 July 2019.
- **1 year limit for EA251:** Customers assigned to EA251 will remain on this tariff for a maximum of one year and then be assigned to EA256.
- **Opt-out from EA256:** Customers who are assigned to EA256 can opt-out to EA255. It is assumed that 10% of customers will opt-out from EA256 each year.

The same allocation rules are applied to total energy forecasts assuming that new non-residential customers have the average consumption of EA050 and EA225 (pro-rated based on customer numbers) and all other customers moving from one tariff to another have the average consumption of a customer of their original tariff. The consumption is then allocated to peak/shoulder/off-peak, where applicable, based on the shares of these tariff components on EA225 in 2018/19.

The total demand by each tariff is calculated with the NACs and average seasonal maximum demand for small business customers as explained in Section 2.3.

Tables 6 to 10 summarise the details of the NAC, volume, capacity and demand forecast for each year for each tariff.

### 3.2.2 Non-residential customers with more than 40 MWh annual consumption

The NAC volume of non-residential customers that consume more than 40 MWh annually is forecasted to remain stable in the regulatory period of 2019-24.

The energy volumes for these customers increase with the high-level non-residential energy growth. The default tariffs for high-voltage (EA370) and sub-transmission (EA390) are adjusted to include consumption from the major connections which are identified as 'out of trend' and added to high-level non-residential consumption forecast as a post-model adjustment. The consumption is then allocated to peak/shoulder/off-peak, based on the shares of these components for each tariff in 2018/19.

The capacity of these customers is expected to remain stable at the 2018/19 levels; only the capacity for EA370 and EA390 is adjusted for major 'out of trend' connections.

Tables 6 to 10 summarise the details of the NAC, volume, capacity and demand forecast for each year for each tariff.

Table 6

## 2019/20 Financial Year Tariff and Tariff Component Volumes

Segment	Tariff Code	Tariff Name	NAC	Energy, MWh					Demand High Season (kW)	Demand Low Season (kW)	Capacity (MVA) (MW)	
				Non-TOU	Time of Use (TOU)			Total Energy				
					Peak	Shoulder	Off-peak					
Residential	EA010	Residential Non ToU Closed	1,034,336	4,360,112								
	EA025	LV Energy40 ToU (System)	350,988		291,590	1,174,201	622,185	2,087,976				
	EA111	Residential Transitional ToU w/Demand	11,475		7,572	30,482	16,178	54,232	43,245	37,625		
	EA115	Residential ToU w/Demand	18,151		13,357	53,769	28,537	95,663	68,400	59,511		
	EA116	Residential Demand	163,356		120,262	484,457	256,246	860,965	615,603	535,597		
	<b>Total</b>			<b>1,578,305</b>	<b>4,360,112</b>	<b>432,781</b>	<b>1,742,909</b>	<b>923,146</b>	<b>7,458,947</b>	<b>727,248</b>	<b>632,733</b>	<b>0</b>
Controlled Load	EA030	Controlled load 1	332,323	663,204				663,204				
	EA040	Controlled load 2	150,551	328,410				328,410				
	<b>Total</b>		<b>482,874</b>	<b>991,614</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>991,614</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Non-Residential	EA050	Small Business Non ToU Closed	63,746	508,565				508,565				
	EA225	Small Business ToU	69,186		192,606	541,443	499,169	1,233,218				
	EA251	Small Business Transitional ToU w/Demand	1,004		1,267	3,565	3,179	8,011	6,011	5,568		
	EA255	Small Business ToU w/Demand	984		2,204	6,199	5,529	13,932	5,887	5,454		
	EA256	Business Demand	8,852		19,714	55,263	50,414	125,391	52,987	49,082		
	EA302	LV 40-160 MWh (System)	22,518		240,376	647,366	743,153	1,630,895			7,803,298	
	EA305	LV 160-750 MWh (System)	8,604		388,010	1,044,682	1,146,755	2,579,446			11,046,300	
	EA310	LV > 750 MWh (System)	3,368		729,152	1,908,907	2,363,304	5,001,363			16,143,739	
	EA325	LV Connection (Standby Tariff)	4		110	302	521	932			5,311	
	EA360	HV Connection (Standby Tariff)	8		12	52	107	171			79,017	
	EA370	HV kVA Dem ToU (System)	311		185,670	515,051	773,878	1,474,599			4,581,414	
	EA380	HV kVA Dem ToU (Substation)	12		10,286	35,989	65,934	112,209			285,079	
	EA390	ST kVA Dem ToU	65		132,316	355,636	567,598	1,055,550			3,466,377	
	EA401	Public lighting		120,365				120,365				
	EA402	Constant unmetered		50,116				50,116				
	EA403	EnergyLight		4,093				4,093				
	CRNPs		58		397,722	1,036,151	1,688,242	3,122,115			9,491,904	
	<b>Total</b>			<b>178,719</b>	<b>683,139</b>	<b>2,299,445</b>	<b>6,150,605</b>	<b>7,907,783</b>	<b>17,040,971</b>	<b>64,885</b>	<b>60,103</b>	<b>52,902,440</b>
	<b>Total</b>			<b>1,757,024</b>	<b>6,034,864</b>	<b>2,732,225</b>	<b>7,893,514</b>	<b>8,830,928</b>	<b>25,491,532</b>	<b>792,133</b>	<b>692,836</b>	<b>52,902,440</b>

Table 7

## 2020/21 Financial Year Tariff and Tariff Component Volumes

Segment	Tariff Code	Tariff Name	NAC	Energy, MWh					Demand High Season (kW)	Demand Low Season (kW)	Capacity (MVA) (MW)
				Non-TOU	Time of Use (TOU)			Total Energy			
					Peak	Shoulder	Off-peak				
Residential	EA010	Residential Non ToU Closed	954,336	3,955,016							
	EA025	LV Energy40 ToU (System)	320,988		263,347	1,060,504	561,850				
	EA111	Residential Transitional ToU w/Demand	22,951		14,990	60,344	32,026	86,316	75,098		
	EA115	Residential ToU w/Demand	29,466		21,348	85,936	45,609	110,820	96,417		
	EA116	Residential Demand	265,195		192,178	773,958	409,899	997,380	867,757		
	<b>Total</b>		<b>1,592,936</b>	<b>3,955,016</b>	<b>491,862</b>	<b>1,980,742</b>	<b>1,049,384</b>	<b>7,477,005</b>	<b>1,194,516</b>	<b>1,039,273</b>	<b>0</b>
Controlled Load	EA030	Controlled load 1	329,323	643,796							
	EA040	Controlled load 2	149,191	318,799							
	<b>Total</b>		<b>478,515</b>	<b>962,595</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>962,595</b>	<b>0</b>	<b>0</b>	
Non-Residential	EA050	Small Business Non ToU Closed	55,567	448,164							
	EA225	Small Business ToU	64,983		183,831	516,759	477,334				
	EA251	Small Business Transitional ToU w/Demand	2,152		2,759	7,761	6,921	12,880	11,931		
	EA255	Small Business ToU w/Demand	2,107		4,212	11,848	10,566	12,612	11,683		
	EA256	Business Demand	18,962		37,787	106,095	95,758	113,510	105,145		
	EA302	LV 40-160 MWh (System)	22,518		243,008	654,452	751,289			7,803,298	
	EA305	LV 160-750 MWh (System)	8,604		392,258	1,056,118	1,159,308			11,046,300	
	EA310	LV > 750 MWh (System)	3,368		737,134	1,929,804	2,389,175			16,143,739	
	EA325	LV Connection (Standby Tariff)	4		111	305	527			5,311	
	EA360	HV Connection (Standby Tariff)	8		12	52	108			79,017	
	EA370	HV kVA Dem ToU (System)	311		187,616	520,450	781,991			4,581,414	
	EA380	HV kVA Dem ToU (Substation)	12		10,399	36,383	66,656			285,079	
	EA390	ST kVA Dem ToU	65		161,581	434,294	693,137			4,081,213	
	EA401	Public lighting		107,580							
	EA402	Constant unmetered		50,665							
	EA403	EnergyLight		3,872							
	CRNPs		58		402,076	1,047,494	1,706,723				
<b>Total</b>		<b>178,719</b>	<b>610,280</b>	<b>2,362,783</b>	<b>6,321,815</b>	<b>8,139,493</b>	<b>17,434,370</b>	<b>139,003</b>	<b>128,759</b>	<b>53,517,276</b>	
<b>Total</b>		<b>1,771,655</b>	<b>5,527,892</b>	<b>2,854,645</b>	<b>8,302,557</b>	<b>9,188,876</b>	<b>25,873,970</b>	<b>1,333,519</b>	<b>1,168,032</b>	<b>53,517,276</b>	

Table 8

## 2021/22 Financial Year Tariff and Tariff Component Volumes

Segment	Tariff Code	Tariff Name	NAC	Energy, MWh				Demand High Season (kW)	Demand Low Season (kW)	Capacity (MVA) (MW)	
				Non-TOU	Time of Use (TOU)						Total Energy
					Peak	Shoulder	Off-peak				
Residential	EA010	Residential Non ToU Closed	874,336	3,576,571			3,576,571				
	EA025	LV Energy40 ToU (System)	290,988	236,888	953,992	505,321	1,696,202				
	EA111	Residential Transitional ToU w/Demand	22,951	15,011	60,426	32,070	107,507	85,330	74,241		
	EA115	Residential ToU w/Demand	42,163	30,301	121,979	64,738	217,018	156,761	136,388		
	EA116	Residential Demand	379,468	272,758	1,098,341	582,059	1,953,159	1,410,850	1,227,492		
	<b>Total</b>		<b>1,609,905</b>	<b>3,576,571</b>	<b>554,958</b>	<b>2,234,739</b>	<b>1,184,189</b>	<b>7,550,456</b>	<b>1,652,941</b>	<b>1,438,120</b>	<b>0</b>
Controlled Load	EA030	Controlled load 1	326,323	626,412			626,412				
	EA040	Controlled load 2	147,832	310,191			310,191				
	<b>Total</b>		<b>474,155</b>	<b>936,603</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>936,603</b>	<b>0</b>	<b>0</b>	
Non-Residential	EA050	Small Business Non ToU Closed	46,887	384,654			384,654				
	EA225	Small Business ToU	60,281	174,600	490,789	454,457	1,119,846				
	EA251	Small Business Transitional ToU w/Demand	2,295	3,048	8,573	7,645	19,265	13,739	12,726		
	EA255	Small Business ToU w/Demand	3,431	6,626	18,636	16,620	41,882	20,537	19,023		
	EA256	Business Demand	30,876	59,505	167,177	150,252	376,935	184,832	171,210		
	EA302	LV 40-160 MWh (System)	22,518	247,179	665,687	764,186	1,677,053			7,803,298	
	EA305	LV 160-750 MWh (System)	8,604	398,991	1,074,248	1,179,210	2,652,450			11,046,300	
	EA310	LV > 750 MWh (System)	3,368	749,788	1,962,933	2,430,190	5,142,911			16,143,739	
	EA325	LV Connection (Standby Tariff)	4	113	310	536	959			5,311	
	EA360	HV Connection (Standby Tariff)	8	12	53	110	176			79,017	
	EA370	HV kVA Dem ToU (System)	311	190,702	529,009	794,852	1,514,563			4,581,414	
	EA380	HV kVA Dem ToU (Substation)	12	10,577	37,008	67,800	115,385			285,079	
	EA390	ST kVA Dem ToU	65	170,217	457,507	730,185	1,357,908			4,251,404	
	EA401	Public lighting		94,795			94,795				
	EA402	Constant unmetered		51,534			51,534				
	EA403	EnergyLight		3,663			3,663				
	CRNPs		58	408,978	1,065,476	1,736,023	3,210,477			9,491,904	
<b>Total</b>		<b>178,719</b>	<b>534,647</b>	<b>2,420,337</b>	<b>6,477,408</b>	<b>8,332,065</b>	<b>17,764,456</b>	<b>219,107</b>	<b>202,960</b>	<b>53,687,467</b>	
<b>Total</b>		<b>1,788,624</b>	<b>5,047,821</b>	<b>2,975,295</b>	<b>8,712,146</b>	<b>9,516,253</b>	<b>26,251,516</b>	<b>1,872,049</b>	<b>1,641,080</b>	<b>53,687,467</b>	

Table 9

## 2022/23 Financial Year Tariff and Tariff Component Volumes

Segment	Tariff Code	Tariff Name	NAC	Energy, MWh					Demand High Season (kW)	Demand Low Season (kW)	Capacity (MVA) (MW)
				Non-TOU	Time of Use (TOU)			Total Energy			
					Peak	Shoulder	Off-peak				
Residential	EA010	Residential Non ToU Closed	794,336	3,180,675							
	EA025	LV Energy40 ToU (System)	260,988		209,284	842,866	446,350	1,498,500			
	EA111	Residential Transitional ToU w/Demand	22,951		14,689	59,132	31,383	105,204	83,616	72,749	
	EA115	Residential ToU w/Demand	54,860		39,044	157,173	83,417	279,634	199,869	173,894	
	EA116	Residential Demand	493,740		351,443	1,415,089	750,172	2,516,704	1,798,825	1,565,044	
	<b>Total</b>		<b>1,626,874</b>	<b>3,180,675</b>	<b>614,459</b>	<b>2,474,261</b>	<b>1,311,322</b>	<b>7,580,717</b>	<b>2,082,310</b>	<b>1,811,687</b>	<b>0</b>
Controlled Load	EA030	Controlled load 1	323,323	609,240							
	EA040	Controlled load 2	146,473	301,688							
	<b>Total</b>		<b>469,796</b>	<b>910,928</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>910,928</b>	<b>0</b>	<b>0</b>	<b>0</b>
Non-Residential	EA050	Small Business Non ToU Closed	38,208	317,022							
	EA225	Small Business ToU	55,579		164,060	461,141	428,208	1,053,409			
	EA251	Small Business Transitional ToU w/Demand	2,295		3,093	8,700	7,759	19,552	13,739	12,726	
	EA255	Small Business ToU w/Demand	4,769		9,092	25,574	22,807	57,472	28,547	26,443	
	EA256	Business Demand	42,920		81,702	229,609	205,941	517,252	256,925	237,991	
	EA302	LV 40-160 MWh (System)	22,518		249,995	673,270	772,890	1,696,155			7,803,298
	EA305	LV 160-750 MWh (System)	8,604		403,536	1,086,484	1,192,641	2,682,661			11,046,300
	EA310	LV > 750 MWh (System)	3,368		758,328	1,985,291	2,457,870	5,201,489			16,143,739
	EA325	LV Connection (Standby Tariff)	4		114	314	542	970			5,311
	EA360	HV Connection (Standby Tariff)	8		12	54	111	178			79,017
	EA370	HV kVA Dem ToU (System)	311		192,784	534,786	803,532	1,531,102			4,581,414
	EA380	HV kVA Dem ToU (Substation)	12		10,698	37,429	68,572	116,699			285,079
	EA390	ST kVA Dem ToU	65		201,324	541,116	863,625	1,606,064			4,892,150
	EA401	Public lighting			94,795			94,795			
	EA402	Constant unmetered			52,121			52,121			
	EA403	EnergyLight			3,466			3,466			
	CRNPs		58		413,636	1,077,612	1,755,796	3,247,044			9,491,904
	<b>Total</b>		<b>178,719</b>	<b>467,404</b>	<b>2,488,376</b>	<b>6,661,379</b>	<b>8,580,294</b>	<b>18,197,452</b>	<b>299,211</b>	<b>277,160</b>	<b>54,328,213</b>
<b>Total</b>			<b>1,805,594</b>	<b>4,559,007</b>	<b>3,102,835</b>	<b>9,135,639</b>	<b>9,891,616</b>	<b>26,689,097</b>	<b>2,381,521</b>	<b>2,088,847</b>	<b>54,328,213</b>

Table 10

## 2023/24 Financial Year Tariff and Tariff Component Volumes

Segment	Tariff Code	Tariff Name	NAC	Energy, MWh				Demand High Season (kW)	Demand Low Season (kW)	Capacity (MVA) (MW)	
				Non-TOU	Time of Use (TOU)						Total Energy
					Peak	Shoulder	Off-peak				
Residential	EA010	Residential Non ToU Closed	714,336	2,786,800							
	EA025	LV Energy40 ToU (System)	230,988					1,301,906			
	EA111	Residential Transitional ToU w/Demand	22,951	181,834	732,362	387,709	2,786,800				
	EA115	Residential ToU w/Demand	67,557	14,427	58,077	30,823	103,327	82,019	71,360		
	EA116	Residential Demand	608,013	47,615	191,677	101,728	341,020	241,428	210,051		
	<b>Total</b>		<b>1,643,844</b>	<b>2,786,800</b>	<b>672,456</b>	<b>2,707,728</b>	<b>1,435,244</b>	<b>7,602,229</b>	<b>2,496,295</b>	<b>2,171,869</b>	<b>0</b>
Controlled Load	EA030	Controlled load 1	320,322	593,903							
	EA040	Controlled load 2	145,114	294,093							
	<b>Total</b>		<b>465,437</b>	<b>887,996</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>887,996</b>	<b>0</b>	<b>0</b>	<b>0</b>
Non-Residential	EA050	Small Business Non ToU Closed	29,529	246,513							
	EA225	Small Business ToU	50,876	152,463	428,519	399,220	980,202				
	EA251	Small Business Transitional ToU w/Demand	2,295	3,094	8,701	7,760	19,555	13,739	12,726		
	EA255	Small Business ToU w/Demand	6,107	11,557	32,505	28,989	73,051	36,558	33,864		
	EA256	Business Demand	54,963	103,882	291,992	261,582	657,456	329,019	304,772		
	EA302	LV 40-160 MWh (System)	22,518	251,530	677,405	777,637	1,706,573	7,803,298			
	EA305	LV 160-750 MWh (System)	8,604	406,015	1,093,157	1,199,967	2,699,139	11,046,300			
	EA310	LV > 750 MWh (System)	3,368	762,986	1,997,485	2,472,967	5,233,438	16,143,739			
	EA325	LV Connection (Standby Tariff)	4	115	316	545	976	5,311			
	EA360	HV Connection (Standby Tariff)	8	13	54	112	179	79,017			
	EA370	HV kVA Dem ToU (System)	311	193,920	537,937	808,266	1,540,123	4,581,414			
	EA380	HV kVA Dem ToU (Substation)	12	10,763	37,659	68,994	117,416	285,079			
	EA390	ST kVA Dem ToU	65	208,307	559,884	893,579	1,661,770	5,033,793			
	EA401	Public lighting		94,795					94,795		
	EA402	Constant unmetered		52,441					52,441		
	EA403	EnergyLight		3,279					3,279		
	CRNPs		58	416,177	1,084,231	1,766,580	3,266,988	9,491,904			
	<b>Total</b>		<b>178,719</b>	<b>397,028</b>	<b>2,520,820</b>	<b>6,749,846</b>	<b>8,686,197</b>	<b>18,353,891</b>	<b>379,316</b>	<b>351,361</b>	<b>54,469,856</b>
<b>Total</b>		<b>1,822,563</b>	<b>4,071,824</b>	<b>3,193,277</b>	<b>9,457,574</b>	<b>10,121,441</b>	<b>26,844,116</b>	<b>2,875,611</b>	<b>2,523,230</b>	<b>54,469,856</b>	