Attachment 4.10

Energy volume forecasts to 2018/19

12 December 2014

Ausgrid revised regulatory proposal attachment

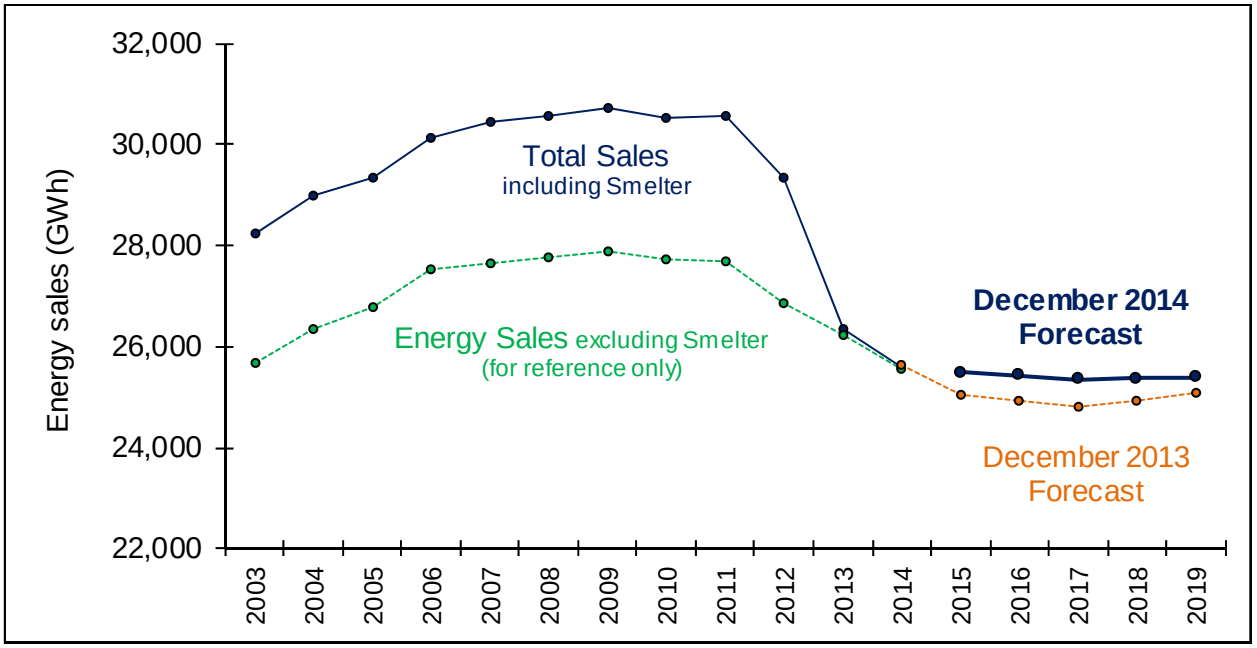
Contents

1 Executive summary

1.1 High level segment energy forecast to 2018/19

This report presents the forecasts of annual energy sales which underlie Ausgrid's revised regulatory proposal for the period to 2018/19. The forecasts are based on information which was available as at the end of November 2013, and are summarised below.

Sector Sales (GWh)	**Actual** [1]	**Forecast**					***Growth p.a.***
Year ended June -->	**2014**	**2015** [2]	**2016**	**2017**	**2018**	**2019**	***2014-19***
Residential	6,996	7,206	7,196	7,173	7,181	7,210	*0.6%*
% growth	*-5.2%*	*3.0%*	*-0.1%*	*-0.3%*	*0.1%*	*0.4%*	
Controlled load	1,121	1,132	1,079	1,023	971	922	*-3.8%*
% growth	*-6.4%*	*1.0%*	*-4.7%*	*-5.2%*	*-5.0%*	*-5.1%*	
Non-residential	17,407	17,145	17,155	17,166	17,224	17,266	*-0.2%*
% growth	*-2.0%*	*-1.5%*	*0.1%*	*0.1%*	*0.3%*	*0.2%*	
Total Energy	**25,523**	**25,482**	**25,431**	**25,361**	**25,377**	**25,397**	*-0.1%*
% growth	*-3.1%*	*-0.2%*	*-0.2%*	*-0.3%*	*0.1%*	*0.1%*	



Note 1: The actual 2013/14 sector sales shown here are those reported in the 2013/14 Regulatory Accounts and the 2013/14 benchmarking RIN (see Section 1.3 for details).

Note 2: The relative strength in projected residential and controlled load sales growth for 2014/15 is largely weather-related (see Section 1.3 for details).

Energy sales declined by an average -3.6% per annum in the 2009-14 determination period. While the decline was exacerbated by the closure of the Hydro Aluminum smelter, sales excluding the smelter still declined by an average -1.8% per annum.

Sales are projected to decline by an average -0.1% in the five years to 2018/19. Despite the projected moderation in the recent negative growth trend, 2018/19 forecast energy sales excluding the smelter would be -9% lower than 2008/09 levels.

The key reason behind the expected slowdown in declining consumption trends is that impact of retail electricity price changes is projected to moderate compared with the high and sustained price growth which

has been experienced in recent years. The projected electricity price path together with ongoing customer number and general economic growth adds positive stimulus to growth trends compared with recent years. However these positive stimuli are to a large degree offset by independently projected energy conservation outcomes associated with ongoing solar PV penetration, the NSW Energy Savings Scheme (NSW ESS) and ongoing building shell and electrical end-use efficiency improvements.

1.2 Comparison of latest forecast with December 2013 forecast

Ausgrid's latest energy forecast is compared below with the December 2013 forecast which formed input to Ausgrid's 2014 substantive regulatory proposal.

Latest Forecast (GWh)	**Actual 2014**	**Forecast 2015**	**2016**	**2017**	**2018**	**2019**	***Growth p.a. 2014-19***
Residential	6,996	7,206	7,196	7,173	7,181	7,210	*0.6%*
% growth	*-5.2%*	*3.0%*	*-0.1%*	*-0.3%*	*0.1%*	*0.4%*	
Controlled load	1,121	1,132	1,079	1,023	971	922	*-3.8%*
% growth	*-6.4%*	*1.0%*	*-4.7%*	*-5.2%*	*-5.0%*	*-5.1%*	
Non-residential	17,407	17,145	17,155	17,166	17,224	17,266	*-0.2%*
% growth	*-2.0%*	*-1.5%*	*0.1%*	*0.1%*	*0.3%*	*0.2%*	
Total Energy	**25,523**	**25,482**	**25,431**	**25,361**	**25,377**	**25,397**	*-0.1%*
% growth	*-3.1%*	*-0.2%*	*-0.2%*	*-0.3%*	*0.1%*	*0.1%*	

December 2013 Forecast (GWh)	**Forecast 2014**	**Forecast 2015**	**2016**	**2017**	**2018**	**2019**	***Growth p.a. 2014-19***
Residential	7,068	6,998	7,004	6,964	6,975	7,053	*0.0%*
% growth	*-4.3%*	*-1.0%*	*0.1%*	*-0.6%*	*0.2%*	*1.1%*	
Controlled load	1,122	1,077	1,019	957	901	846	*-5.5%*
% growth	*-6.2%*	*-4.0%*	*-5.4%*	*-6.1%*	*-5.9%*	*-6.1%*	
Non-residential	17,466	16,981	16,921	16,874	17,036	17,185	*-0.3%*
% growth	*-1.6%*	*-2.8%*	*-0.4%*	*-0.3%*	*1.0%*	*0.9%*	
Total Energy	**25,656**	**25,057**	**24,944**	**24,795**	**24,912**	**25,085**	*-0.4%*
% growth	*-2.6%*	*-2.3%*	*-0.5%*	*-0.6%*	*0.5%*	*0.7%*	

Difference (GWh)	***Difference 2014***	***Difference 2015*** [2]	***2016***	***2017***	***2018***	***2019***	***Growth p.a. 2014-19***
Residential	*-72*	*208*	*192*	*209*	*206*	*156*	*0.6%*
% growth	*-1.0%*	*4.0%*	*-0.2%*	*0.2%*	*0.0%*	*-0.7%*	
Controlled load	*-2*	*55*	*60*	*66*	*71*	*76*	*1.7%*
% growth	*-0.1%*	*5.0%*	*0.8%*	*0.8%*	*0.9%*	*0.9%*	
Non-residential	*-60*	*163*	*235*	*292*	*188*	*81*	*0.2%*
% growth	*-0.3%*	*1.3%*	*0.4%*	*0.3%*	*-0.6%*	*-0.6%*	
Total Energy	***-133***	***426***	***487***	***566***	***465***	***312***	*0.3%*
% growth	*-0.5%*	*2.2%*	*0.2%*	*0.3%*	*-0.4%*	*-0.6%*	

The key difference between the two forecasts is that 2014/15 energy consumption is projected to be 426 GWh higher than the December 2013 forecast. An estimated 239 GWh of the difference is weather-related. Milder than average weather in 2013/14 is estimated to have resulted in "lost" consumption of 181 GWh whereas harsher than average weather in the five months to November 2014 is estimated to have "added" 58 GWh of consumption in 2014/15 (compared with what consumption would have been under average weather conditions).

The longer term differences between the forecasts are the net outcome of differences between the driver growth assumptions adopted in the December 2013 forecasts and the updated assumptions which underlie the latest forecasts.

1.3 Impact of reporting deadlines and abnormal weather on short-term growth rates

As noted in Section 1.1 the latest energy forecast implies relatively high forecast growth rates for 2014/15, particularly for the residential and controlled load segments.

The short-term energy forecast is shown at right. The implied 2014/15 forecast growth rates have been impacted by both the July 2014 deadline for preparing the 2013/14 regulatory accounts (requiring that estimates of unread or accrued 2013/14 metered consumption be made) and by the abnormal weather that was experienced in 2013/14 and in year to date 2014/15.

Sector Sales (GWh)	Actual	Actual [1]	Forecast
Year ended June -->	2013	2014	2015
Residential	7,382	6,996	7,206
% growth		-5.2%	3.0%
Controlled load	1,197	1,121	1,132
% growth		-6.4%	1.0%
Non-residential	17,759	17,407	17,145
% growth		-2.0%	-1.5%
Total Energy	**26,338**	**25,523**	**25,482**
% growth		-3.1%	-0.2%

Note 1: 2013/14 Regulatory Accounts figure

For forecasting purposes it is customary to measure a particular financial year's consumption on the basis of billing for that year which has been completed in the billing run of December following the close of the year. By December the vast majority of actual meter reads for the previous financial year are available, thereby providing a truer indication of consumption than the regulatory accounts estimate.

The short-term energy forecast using the December 2014 view of 2013/14 consumption is shown at right. The regulatory accounts estimates for residential and controlled load consumption in 2013/14 have proven to have been underestimates. The implied residential and controlled load growth rates for 2014/15 are lower when based on the December 2014 view of 2013/14 consumption (2.2% growth compared with 3.0% for the residential segment and -0.4% compared with 1.0% for the controlled load segment). The non-residential segment growth differential is minimal.

Sector Sales (GWh)	Actual	Actual [1]	Forecast
Year ended June -->	2013	2014	2015
Residential	7,382	7,047	7,206
% growth		-4.5%	2.2%
Controlled load	1,197	1,137	1,132
% growth		-5.0%	-0.4%
Non-residential	17,759	17,396	17,145
% growth		-2.0%	-1.4%
Total Energy	**26,338**	**25,580**	**25,482**
% growth		-2.9%	-0.4%

Note 1: Snapshot of 2013/14 volumes taken at Dec-2014.

Compared with long-term averages the weather in 2013/14 was extremely mild and the weather in year to date 2014/15 has been abnormally harsh. As weather impacts are an important driver of consumption, for forecasting purposes it is customary to weather normalise historical consumption before undertaking modelling, and for forecasts to be based on the assumption that future years' weather will be as per long-term average.

The short-term energy forecast using the December 2014 view of 2013/14 consumption and weather normalised consumption is shown at right. The implied segment growth rates for 2014/15 are lower again. Compared with the above "raw" December 2014 view of 2013/14 consumption then abnormal weather has had a 2.0% impact on residential growth, a 0.8% impact on controlled load growth and a 0.4% impact on non-residential growth in 2014/15.

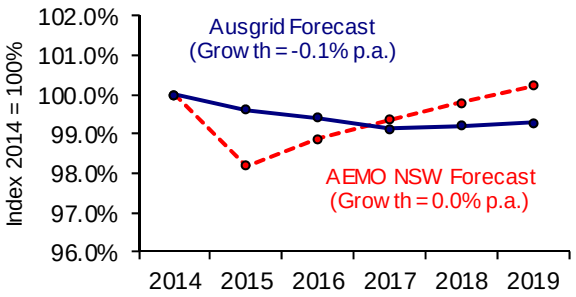
Sector Sales (GWh)	Actual [1]	Actual [1]	Forecast [1]
Year ended June -->	2013	2014	2015
Residential	7,347	7,179	7,166
% growth		-2.3%	-0.2%
Controlled load	1,198	1,147	1,134
% growth		-4.3%	-1.2%
Non-residential	17,737	17,425	17,106
% growth		-1.8%	-1.8%
Total Energy	**26,282**	**25,751**	**25,405**
% growth		-2.0%	-1.3%

Note 1: Weather corrected consumption.

1.4 Comparison of latest forecast with AEMO NSW energy forecast

Ausgrid's energy forecast is compared with the forecast for NSW consumption at right.

While the forecast average growth rates are similar (0.1% per annum difference) the trajectories of the forecasts differ significantly, particularly regarding the forecast for the current 2014/15 year where AEMO have forecast a -1.8% reduction in NSW consumption.



Ausgrid's analysis of AEMO data indicates that financial year to November 2014 NSW electricity generation was around +1.7% higher than for the corresponding period in the previous year. Arrival at the AEMO forecast for 2014/15 would require a significant turnaround to negative growth in the remaining seven months of 2014/15.

The key reason for the divergence of the two forecasts after 2014/15 is that the AEMO forecast assumes relatively stronger long-term economic growth of 2.6% per annum compared with the projected 2.1% per annum growth assumed in the Ausgrid forecast (see Section 4.3 of this report for details).

1.5 Tariff and tariff component level forecast to 2018/19

The calculation of Network Use of System (NUoS) revenue requires individual volume forecasts for each component[1] of each Network tariff. The sum of the component volume forecasts multiplied by the corresponding component price tariff gives NUoS revenue. Sections 3 to 5 of the report include a summary of the various assumptions which have been applied to translate the high level segment forecasts into the level of detail necessary to enable NUoS revenue calculations.

1.6 External review of forecasts

The methodology used to produce the latest forecasts is unchanged from that used in the December 2013 forecasts. The December 2013 forecasts were subject to external review by Frontier Economics in December 2013. A follow up of that review was undertaken in November 2014 to address Ausgrid's treatment of recommendations from the December 2013 review. Frontier Economics' assessment in its November 2014 review was that:

"Ausgrid's responses set out the steps Ausgrid has taken, or intends to take, to implement Frontier's recommendations. Where it is not practical or necessary to implement a recommendation, Ausgrid has provided the reasons why it is not practical or necessary to implement the recommendation. Ausgrid's responses address all our recommendations in an appropriate manner, and we endorse the summary document".

1.7 Report layout

The energy forecast presented in Section 1.1 is the sum of individual forecasts of the residential, non-residential and controlled load segments. Sections 3 to 5 of this report respectively set out the details behind each of the long-term segment forecasts. Section 2 of the report details the estimation of current year (2014/15) sales volumes, which forms the starting point or base year of the forecasts.

[1] Tariff components include (a) energy based charges which are further broken down into peak/shoulder/off-peak, block consumption and non-time-of-use based components, (b) Network Access Charges (or fixed "per day" charges) and (c) capacity based charges for relatively larger non-residential customers (based on each customer's maximum demand level of usage).

2 Current year (2014/15) energy forecasts

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

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 forecasts.

2.1 Current year energy forecast process

Ausgrid is required on a quarter-yearly basis to prepare projections of current year revenues for its stakeholder, the NSW Treasury. Given that Network tariffs for the current year are in place, then the key driver of the revenue projections is the forecast of tariff-related volumes for the year.

In preparing the current year volume forecasts, the following issues have been taken into consideration:

(a) Abnormal year-to-date weather: Overall harsher than normal weather in the year to November 2014 is estimated to have increased energy consumption by 59 GWh and this has been factored into the forecast for 2014/15 energy consumption.

(b) Underlying energy growth: Underlying (that is, weather and daytype corrected) Bulk Supply Point (BSP) energy growth in the September 2014 quarter averaged 0.5% before receding to average -1.5% in October and November 2014. For short-term energy consumption projection purposes it has been assumed that underlying growth for the December 2014 to June 2015 period will continue at the average October and November 2014 rate of -1.5%. On this basis projected 2014/15 BSP energy would be 26,489 GWh, which is -0.2% lower than the 2013/14 level.

(c) Assumed system losses: Translation of the projected 2014/15 BSP energy (from (b) above) into energy sales projections requires that an assumed system loss factor be applied. For short-term energy consumption projection purposes it has been assumed that system losses will be 3.8%, which is the average of the latest two completed financial year system loss factors. On this basis the projected sales for 2014/15 is 25,482 GWh, which is -0.2% lower than reported 2013/14 energy sales.

(d) Recent segment sales growth relativities: The projected total 2014/15 energy sales has been disaggregated into the residential, controlled load, non-residential and other loads segments on the basis of recent growth trend relativities among the segments.

2.2 Current year (2014/15) energy forecast

On the basis of the process set out in Section 2.1, the adopted forecast for 2014/15 energy sales is shown below.

Sector Sales (GWh)	Actual	Forecast	*Change*
Year ended June -->	2014	2015	
Residential	6,996	7,206	*3.0%*
Controlled load	1,121	1,132	*1.0%*
Non-residential	17,407	17,145	*-1.5%*
Total Energy	**25,523**	**25,482**	*-0.2%*

As previously noted in Section 1.3, the relative strength of short-term growth in the residential and controlled load segments is largely weather-related as the extremely mild weather in 2013/14, particularly during the winter months, resulted in 2013/14 residential and controlled load consumption being artificially understated. By contrast, the weather experienced in the year to November 2014 has been harsher than long-term average, meaning that the projected 2014/15 energy will (assuming average weather for the reminder of the year) artificially overstate the true underlying growth rate.

3 Long-term residential segment energy forecast

3.1 Residential segment forecast overview

The derivation of the residential energy sales forecast entails the following steps:

(Step 1) Develop an econometric model which statistically explains historical residential sales in terms of the corresponding trends in driver variables (including income, retail electricity prices, customer numbers and the weather).

(Step 2) Input projections of the identified driver variables into the econometric model. This interaction translates the projected trends in the driver variables into a Business As Usual (BAU) energy forecast. As noted in Section 2 the forecast for the current year (2014/15) energy sales factors in year-to-date weather impacts and year-to-date underlying trends in sales.

(Step 3) Overlay the assessed impacts of any identified future energy consumption developments which will not have been captured in the BAU forecast. These "post-model adjustments" are necessary because the econometric model is based on the historical interaction between energy and the identified driver variables, and so cannot take into account the impact of emerging new driver variables or expected material changes to relatively recent drivers, such as the emergence of solar PV.

3.2 Residential segment econometric model

In developing the residential econometric model the driver variables which have been tested include customer numbers, annual weather indices, disposable income, mortgage interest rates, electricity prices and gas prices. The evidence of lagged impacts in the electricity price variable has also been tested.

On the basis of statistical significance and logic of parameter estimates the econometric model adopted for the residential energy forecast is summarised below.

Residential econometric model specification

ln Average corrected [a] kWh per customer =

0.68 *ln* Real HDI [b]

-0.44 *ln* Real retail electricity price [c]

Notes:

ln = natural logarithm

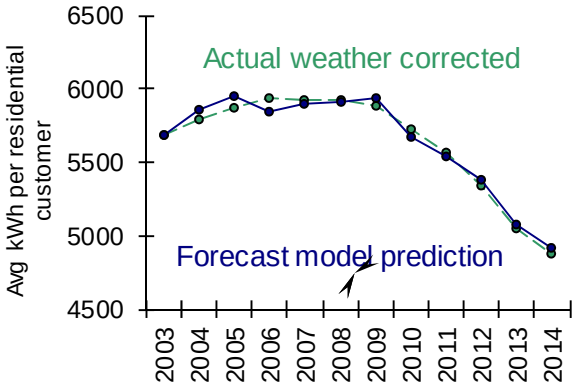
Model R^2 = 0.977

[a] Weather and day-type corrected

[b] NSW Real household disposable income per capita

[c] Average of year (t), (t-1) and (t-2) price

Residential econometric model backcast



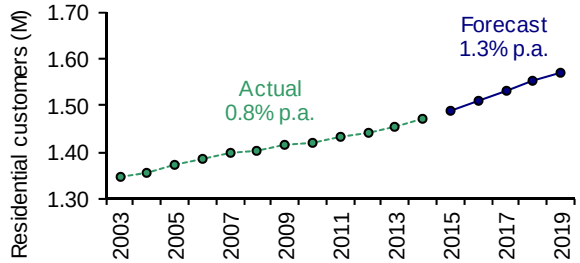
The modelling of average weather/daytype corrected energy as the dependent variable automatically incorporates weather and daytype (particularly leap year effects) impacts into the BAU forecast. Expressing the relationship in logarithmic form ("*ln*") means that the income parameter of +0.68 and the lagged price parameter of -0.44 can be interpreted as elasticities[2]. The inclusion of the two previous years' prices in the overall price parameter indicates the presence of lagged responses to price changes.

[2] Frontier Economics have carried out analysis of the statistical properties of Ausgrid's econometric modelling data and have concluded that the logarithmic form of model is appropriate for both the residential and non-residential segment econometric models.

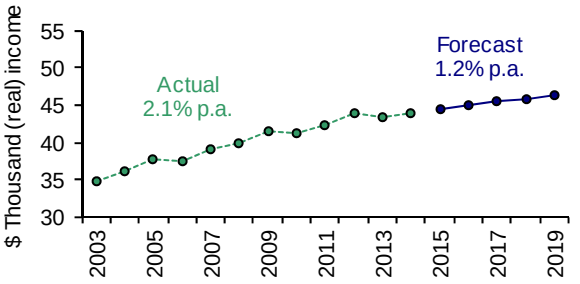
3.3 BAU Residential segment energy forecast

The BAU residential energy forecast is the product of inputting projections of the modelled driver variables (income and price) into the econometric model. The sources of the driver projections and the projections themselves are set out below.

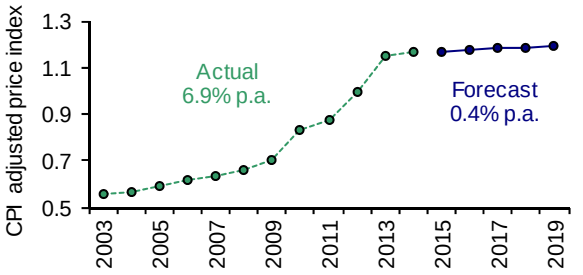
Residential customer numbers: The residential customer number projection is sourced from Ausgrid's System Planning branch which prepares projections for connections-related capital expenditure forecast purposes. The projection implies an expected moderate upturn in housing building activity, following the last decade of weakness.



Real household disposable income (RHDI) per capita: The RHDI projection is sourced from projections which the economic consultants NIEIR prepared for Endeavour Energy on behalf of the three NSW DNSPs (hereafter referred to as the "December 2014 NIEIR projections"). The projection is for slower real income growth compared with that experienced in the past decade.



Real retail residential electricity price: The residential retail electricity price projection is also sourced from the December 2014 NIEIR projections. The projection is for a marked moderation in electricity price changes compared with that experienced since 2008/09.

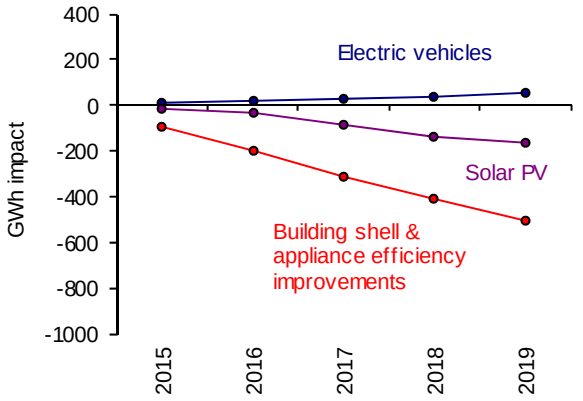


3.4 Residential forecast post-modelling adjustments

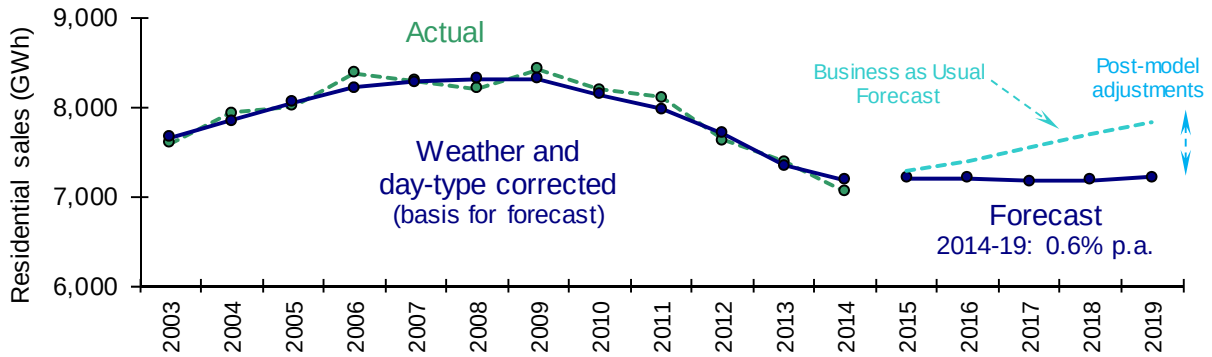
Post-modelling adjustments to the BAU forecast are required in order to capture the expected impacts of ongoing solar PV penetration, energy efficiency improvements and electric vehicle loads.

The post-modelling adjustments which have been adopted for the residential segment's share of these impacts are shown at right.

The source of the adjustments is the August 2013 report "Review of post modelling adjustments to the NSW DNSPs long-term energy forecasts", by Energy Efficient Strategies (a report prepared on behalf of the three NSW DNSPs).



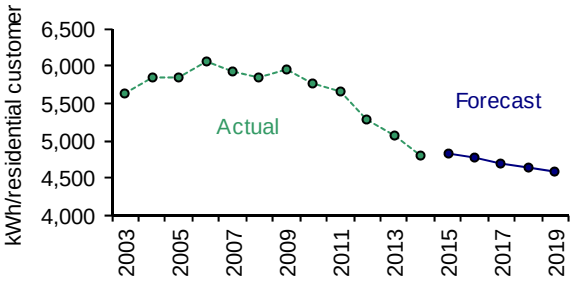
3.5 Residential energy forecast



The residential energy forecast which is the outcome of the foregoing forecasting processes is shown above.

Residential energy sales are forecast to be relatively flat during the forecast period. The positive stimulus to growth provided by the combined projected customer numbers, RHDI and electricity prices (as shown in the business as usual forecast line) are essentially offset by the net projected impacts of expected solar PV, energy efficiency and electric vehicle impacts. The one-off increase in 2014/15 is weather-related (as previously noted in Section 2.2, extremely mild weather resulted in 2013/14 residential segment consumption being artificially understated).

The projected trend in average energy consumption per residential customer which is implicit in the residential energy forecast is shown at right.



With the exception of the weather-impacted 2014/15 increase, average residential customer consumption is projected to continue the post 2008/09 pattern of a declining trend throughout the forecast period.

3.6 Residential tariff component forecast

Two residential tariffs will apply throughout the 2015-19 regulatory period, namely EA010 (Residential Inclining Block) and EA025 (Residential ToU). EA010 is the default tariff for new residential customers.

The following rules and assumptions have been applied in apportioning the overall residential energy forecast across the residential tariff components:

(a) The peak/shoulder/off-peak energy components of EA025 are assumed to grow at the forecast rate for average customer consumption (see Section 3.5.1). This assumption provides the forecast share of EA025 in overall residential energy. The residual is the forecast share of EA010 in overall residential energy.

(b) The Block 1/2/3 energy components of EA010 are assumed to be in the average of the proportions recorded in 2012/13 and 2013/14.

(c) All new residential customers default to EA010. Therefore, Network Access Charge (NAC) volumes for EA025 are forecast to remain constant throughout the forecast period, while the NAC volumes for EA010 grow in line with forecast residential customer number growth.

4 Long-term non-residential segment energy forecast

4.1 Non-residential segment forecast overview

As with the residential segment, the non-residential energy forecast relies on an econometric approach to produce a BAU forecast, upon which is overlaid the impacts of relevant post-modelling adjustments (refer back to Section 3.1 for the process step details).

4.2 Non-residential segment econometric model

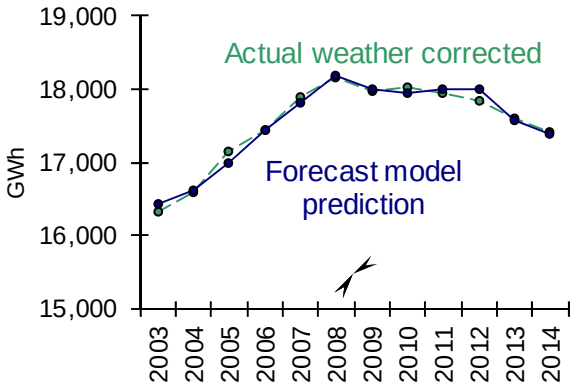
In developing the non-residential econometric model the driver variables which were tested include annual weather indices, economic activity (as measured by NSW Gross State Product or GSP), exchange rates, and electricity prices. The evidence of lagged impacts in the electricity price variable has also been tested. On the bases of statistical significance and logic of parameter estimates the econometric model adopted for the non-residential energy forecasts is set out below.

Non-residential econometric model specification

ln corrected [a] annual GWh =
0.92 *ln* GSP [b]
-0.32 *ln* Real retail electricity price [c]

Notes:
ln = natural logarithm
Model R^2 = 0.974
[a] Weather and day-type corrected (excl desal plant and aluminium smelter)
[b] NSW Gross State Product
[c] Average of year (t) and (t-1) price

Non-residential econometric model backcast

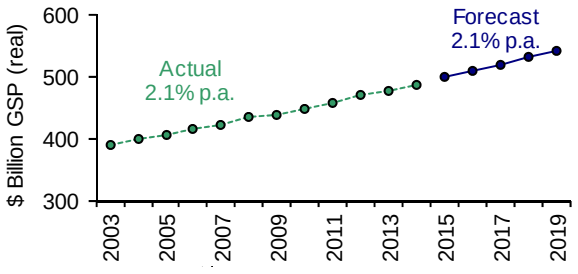


The modelling of average weather and daytype corrected energy as the dependent variable automatically incorporates weather and daytype (particularly leap year effects) impacts into the forecasts. Expressing the relationship in logarithmic form ("*ln*") means that the income parameter of +0.92 and the lagged price parameter of -0.32 can be interpreted as elasticities. The inclusion of the previous years (year t-1) price in the overall price parameter suggests the presence of lagged responses to price changes.

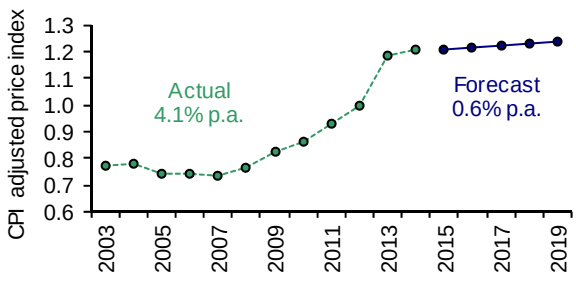
4.3 BAU Non-residential segment energy forecast

The BAU non-residential energy forecast is the product of inputting projections of the modelled driver variables (GSP and price) into the econometric model. The sources of the driver projections and the projections themselves are set out below.

NSW Gross State Product (GSP): The GSP projection is sourced from the December 2014 NIEIR projections. The projection is for similar GSP growth to that which was experienced in the past decade.



Real retail non-residential electricity price: The non-residential retail electricity price projection is sourced from the December 2014 NIEIR projections. The projection is for a marked moderation in electricity price change compared with that experienced since 2008/09.

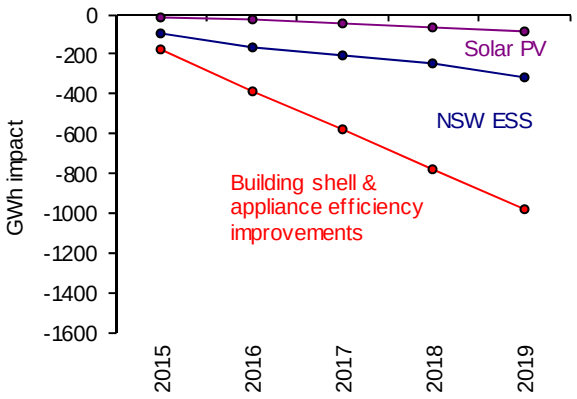


4.4 Non-residential forecast post-modelling adjustments

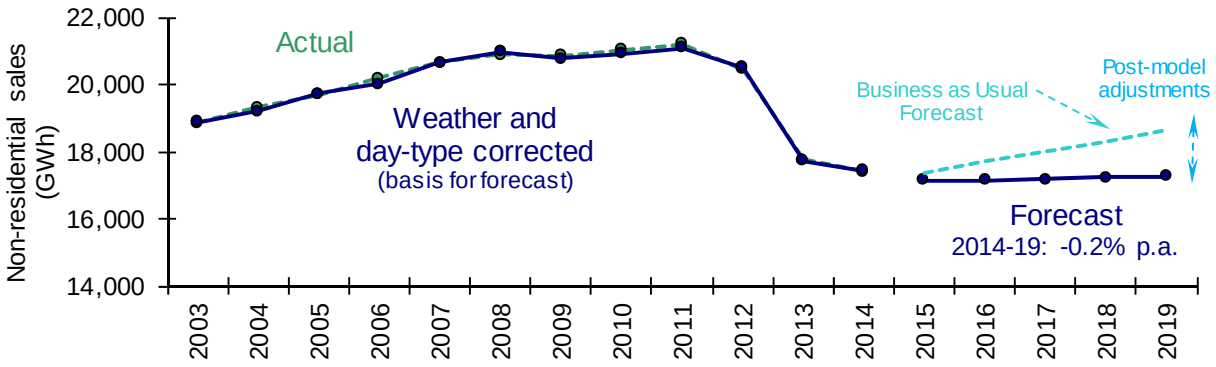
Post-modelling adjustments to the BAU forecast are required in order to capture the expected impacts of ongoing solar PV penetration, energy efficiency improvements and electric vehicle loads.

The post-modelling adjustments which have been adopted for the residential segment's share of these impacts are shown at right.

The source of the adjustments is the August 2013 report "Review of post modelling adjustments to the NSW DNSPs long-term energy forecasts", by Energy Efficient Strategies (a report prepared on behalf of the three NSW DNSPs).



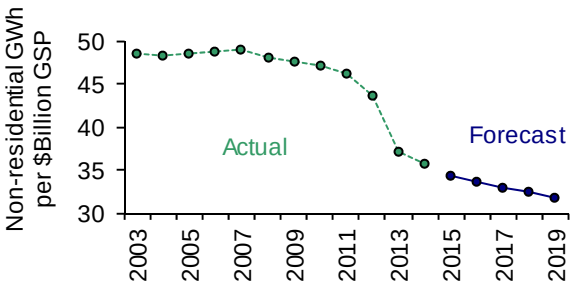
4.5 Non-residential segment energy forecast



The non-residential energy forecast which is the outcome of the foregoing forecasting processes is shown above.

Non-residential energy sales are forecast to be relatively flat during the forecast period. The positive stimulus to growth provided by the combined projected GSP and electricity prices (as shown in the business as usual forecast line) are essentially offset by the net projected impacts of expected solar PV and energy efficiency impacts. Consumption in 2014/15 is also impacted by the retirement of a large industrial customer.

The implicit projected trend (shown at right) in the electrical energy intensity of non-residential consumption as measured in GWh per $Billion of GSP is for ongoing reductions in intensity.



4.6 Non-residential tariff component forecast

The following rules and assumptions have been applied in apportioning the overall non-residential energy forecast across the non-residential tariff components:

(a) Desalination Plant consumption (one of the Cost Reflective Network Price customers) will remain unchanged during the forecast period.

(b) Ausgrid's Street Lighting Engineering section has advised that an anticipated rollout of LED street lights over the coming years will progressively reduce the annual energy consumption in tariff EA401 Public Lighting. The Street Lighting Engineering section's projected energy consumptions have been relied on.

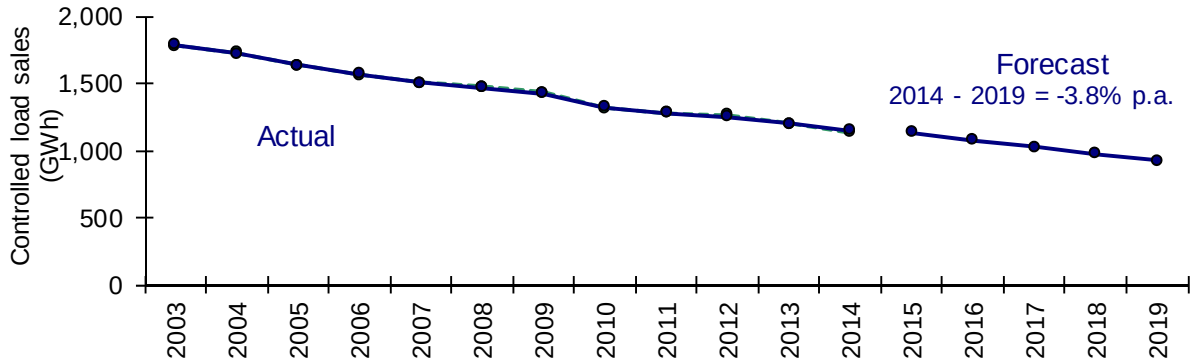
(c) Residual forecast non-residential energy (that is, total forecast non-residential energy less the Desalination Plant and Public Lighting forecasts from assumptions *(a)* and *(b)* above) is apportioned uniformly across the remaining non-residential tariffs and energy tariff components based on the projected 2014/15 tariff and tariff component shares.

(d) CRNP customer Network Access Charge (NAC) volumes are fixed throughout the forecast period. NAC volumes for the remaining generic non-residential tariffs are assumed to grow at the same rate.

(e) For those tariffs which include a kW/kVA capacity component, the capacity component volume is assumed to change at the lesser of the rate of change in (a) NAC volumes and (b) peak component energy consumption.

5 Long-term controlled load segment energy forecast

5.1 Controlled load segment forecast



Controlled load segment sales have exhibited a downward trend since the early 2000's. The declining sales trend is due to a combination of factors including substitution of electric water heating energy by gas and solar and the ongoing penetration of water efficient taps and showerheads. The controlled load energy forecast, which is shown above, is based on the assumption that recent trends in controlled load energy consumption and customer numbers and the drivers of those trends will continue into the future. The forecast also incorporates a relatively minor post-modelling adjustment of -12 GWh by 2018/19 which has been recommended by Energy Efficient Strategies in the August 2013 report "Review of post modelling adjustments to the NSW DNSPs long-term energy forecasts" (a report prepared on behalf of the three NSW DNSPs).

5.2 Controlled load tariff component forecast

Two controlled load tariffs will apply throughout the 2015-19 regulatory period, namely EA030 (Controlled Load 1) and EA040 (Controlled Load 2).

It has been assumed that the relative shares among the tariffs with regard to both energy and Network Access Charge (NAC) volumes will remain constant throughout the forecast period.