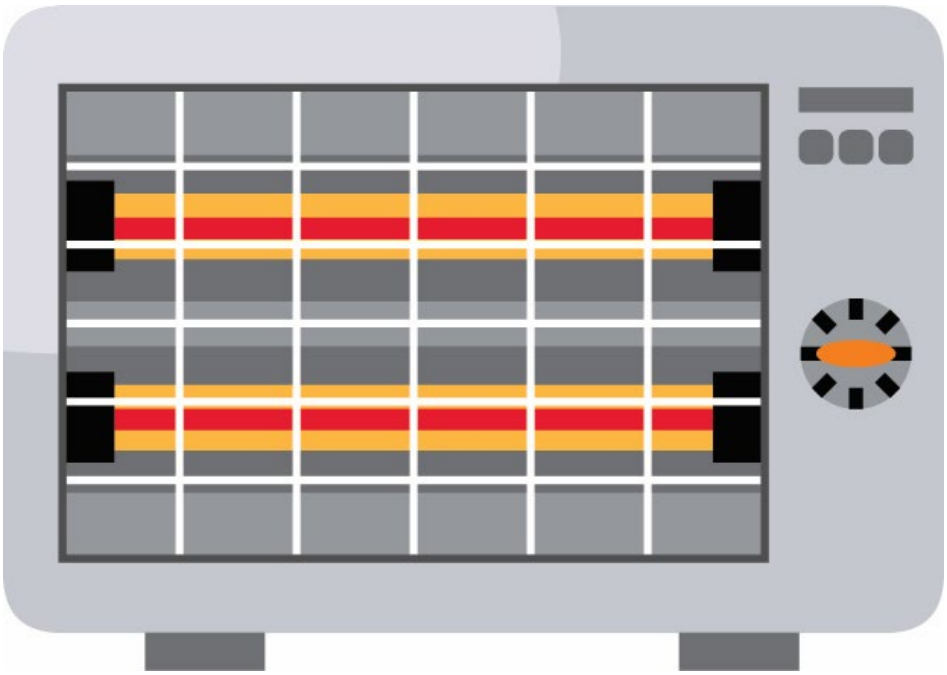
SA Residential Gas Customers

Long term analysis – Report to ECA

Dynamic Analysis

February 2026



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Summary

In December 2025, we were engaged by Energy Consumers Australia (ECA) to develop a long term model that provides insight into the direction of network prices for AGN's gas customers in South Australia, and AGN's proposed methods to mitigate risks to SA customers.

Our key findings are:

- **Accelerated depreciation is not viable** – Our results show that AGN's revised proposal to accelerate depreciation increases customers' bills without materially mitigating the risk of future asset stranding. Our findings indicate that a typical customer will pay about $170 more over the 2027-31 period, with AGN's RAB declining by only 2.8% under an accelerated depreciation method.
- **Residential gas network bills will spiral up** –Our modelling shows that a typical residential customer that does not change their energy usage will face a 64% increase in their bill in a decade's time and will face a 265% increase in their bill by 2050. This is largely due to declining energy use by residential customers as a whole as they incrementally switch from gas to electricity appliances. This forces tariffs to increase, resulting in higher unit prices.
- **Electrification provides opportunities to reduce energy bills** – Our analysis suggests that South Australian household could face a significant reduction in their electricity bills if residential gas customers make the switch by 2035. There are clear bill savings from switching to electricity for today's gas user, but the barriers are likely to be upfront costs of acquiring new appliances.

1. Approach

We have developed two models to address key questions posed by the ECA. The Price Model utilises the AER's revenue calculations and AGN's tariff structures to forecast bill impacts to customers over a 30-year period. The model provides insights on the direction of residential gas network bills and the impact of depreciation. The Electrification Model predicts the bill impacts of all existing residential gas customers switching to electricity by 2035.

Dynamic Analysis was engaged by the ECA to undertake future scenario modelling of AGN's gas network in South Australia. In this report we document key questions for the modelling exercise, the models we have developed to address the questions, and the key results for each of the questions. We note that our models are based on assumptions of the future (see section 2.4), which may not eventuate due to customer preferences, policy changes and uncertainty on technology. The results should therefore be interpreted as indicative of relative trends, risks and sensitivities under different scenarios, rather than as point forecasts. .

In this section, we set out the key questions, modelling approach and key assumptions.

1.1 Key questions

The purpose of the project was to provide insights on three questions:

1. What are the bill impacts of AGN's approach to accelerate depreciation in the FY27 to FY31 period, and does it mitigate future risks to AGN's customers?
2. What are the likely long-term trends of network prices for household gas consumers in SA?
3. What would be the likely bill impacts to South Australian energy customers if all current gas residential connections switch to electricity by 2035?

1.2 Modelling approach

We have used two models to provide quantitative insights to the questions above. The "Price Model" is used to address questions 1 and 2, while the "Electrification model" addresses question 3. Each model is discussed below.

The Price Model

The Price Model provides insight on the long- term direction of network gas prices. It is a directional model and caution should be applied in how the results are interpreted.

The "Price Model" replicates the AER's 5-year post tax revenue model (PTRM) calculations and extends the outlook by 30 years. We apply scenario modelling including assumptions on expenditure, rate of return and energy volumes. The model quantifies revenue, energy volumes, tariffs and bill impacts for each year.

For the current project, we applied the most recent revised proposal PTRM available on AGN's website as of January 2026. This included AGN's proposed approach to apply accelerated depreciation.

We developed a baseline scenario (Scenario 1) which replicates AGN's PTRM for 5 years (FY27-31). We assumed that expenditure and rate of return remain consistent with the FY27-31 over the long term. [1]We applied energy volume forecasts that are consistent with the declining trend reported in AGN's revised proposal. This provides a revenue and energy forecast at a tariff class level. We then compute the required change in tariff to meet the revenue requirement, and calculate bill impacts on that basis.

Separately, we develop a Scenario 0 which 'backs out' AGN's approach to depreciation to assess the change in revenue and the regulatory asset base.

The Electrification Model

The Electrification model is a bespoke model that has been developed specifically to address question 3. The model seeks to understand how SAPN's (the SA electricity network) residential electricity prices may change if all existing residential gas users switch to electricity by 2035.

The model takes a simple assumption that SAPN's prices and energy forecasts will remain the same as its most recent 2025-26 approved pricing proposal. While these parameters can be changed to more realistic assumptions, we note that this introduces 'noise' in the results which make it difficult to quantify the impacts of electrifying gas.

The model uses AGN data on residential gas usage, converts this to electricity units (MWh). To provide more realistic analysis, we have then assumed that electricity appliances would be modern and therefore much more energy efficient than the current gas appliance used by the customer (eg: heat pumps).

The next step is to increase SAPN's energy consumption to reflect the expected additional load from steady electrification from 2026 to 2035. In the model, we have assumed that no additional electricity upgrades are required to deliver the increase in consumption. This reflects that gas appliance usage such as hot water would be in off peak periods, and that there is some spare capacity in SAPN's network if required. This is a simplifying assumption and, while some incremental electricity network investment may be required in practice, previous modelling suggests these costs are likely to be minor relative to the scale of electrification and overall bill impacts.[2]

The model also compares the price that a gas customer would pay if they stay on AGN's network compared to the additional cost in their electricity bill.

1.3 Key Assumptions

The core assumptions consistent across all scenarios are:

- **Expenditure forecasts** – We have applied the expenditure forecasts in AGN's 2027-31 regulatory proposal. We have applied the average expenditure for capex categories and opex as a starting point for forecasting from 2031 onwards.
- **Revenue forecasts** – We have applied AGN's proposed PTRM methods including 'year on year' tracking and financial metrics directly into our 30-year PTRM model. We have used the

[1] We have assumed capital expenditure and maintenance costs are still required to connect new customers and that the asset base still requires replacement and maintenance. While there may be a decline in corporate costs such as billing, we note that abolishment of meters is a relatively high cost when customers disconnect. For this reason, we have kept operating expenditure at today's levels.
[2] Stepping Up: A smoother pathway to decarbonising homes | Energy Consumers Australia

expenditure forecasts to calculate revenue based on the logic of the PTRM with the exception of the tax building block, where we have applied a 1.5 per cent of revenue assumption.

- **Approach to 'back out' depreciation** - In the accelerated depreciation scenario we have transferred the opening RAB value in the "Future of Gas Depreciation" asset class back to the "Inlets" asset class. We have then applied the year-on-year depreciation in the AER's draft decision for Inlets and the Future of Gas Depreciation.
- **Energy forecasts** – AGN has forecast energy consumption per customer for the FY27-31 period based on the historical decline in the previous period. From FY2032, we have estimated the average annual decline in energy per customer from FY2027 to FY2031 for each tariff block in AGN's revised PTRM. We note that while AGN has forecast an increasing rate of decline over the 2027-31 period, we have taken a more conservative estimate by applying the average over the period.
- **Bill impacts** – We have used a simple approach to calculate bill impacts that calculates a tariff rate based on revenue divided by volumes by tariff structure. Our first step was to allocate the total revenue requirement to residential and commercial tariff groupings based on AGN's indicative tariffs. We have maintained the revenue allocation beyond 2031 on the premise that networks allocate residual costs based on the assets that serve customers, and asset stranding would not impact that assessment. Our next step was to apply the revenue amount to each tariff structure. The last step was to calculate the resultant tariff rate for each tariff structure.
- **Energy efficiency in new electrical appliances** – We have assumed that new electricity appliances are 60% more efficient than gas appliances. This assumption has been based on evidence from sources such as the AEMC residential price trends[3] and Rewiring Australia.[4].

[3] Residential Electricity Price Trends 2024 | AEMC
[4] Rewiring Australia

2. Depreciation findings

AGN's revised proposal includes bringing forward $80 million of revenue in the 2027-31 period via accelerated depreciation of its assets. The primary motivation for accelerated depreciation is to reduce the risk of asset stranding. Our findings are that accelerated depreciation increases the bill to residential customers in the 2027-31 regulatory period by about $170. We also find that the reduction in asset stranding risk is minimal with the Regulatory Asset Base only 2.8 per cent lower by the end of the 2027-31 period.

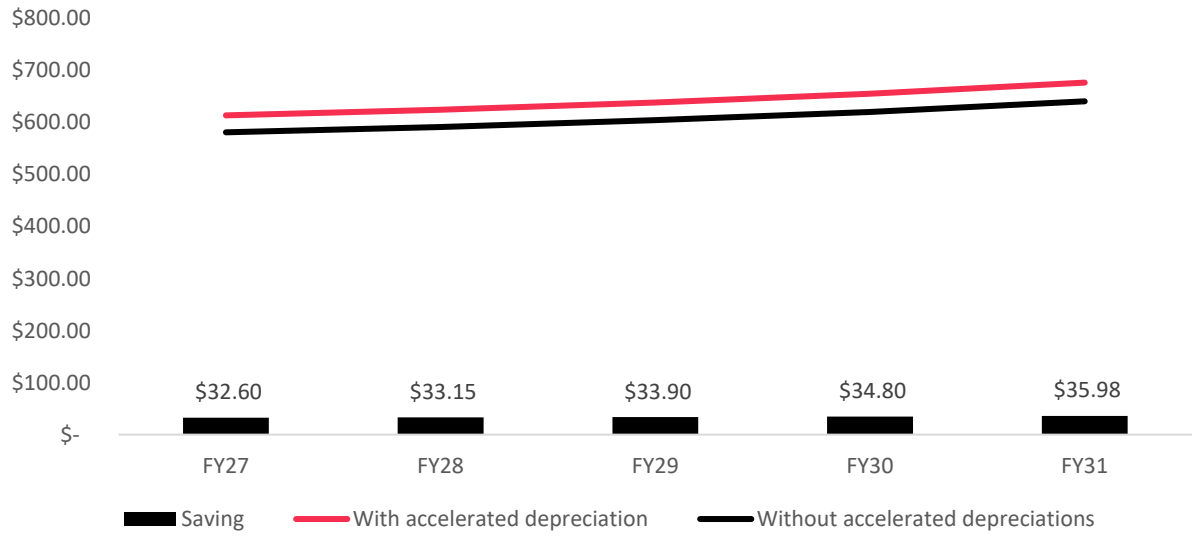
AGN's revised proposal sought to accelerate $16 million a year ($80 million over 5 years) by transferring the opening regulatory asset base (RAB) portion of the 'Inlets' asset class to a new 'future of gas' asset class that is depreciated over 5 years. The effect is to increase the regulatory depreciation building block and increase revenue by about $68 million in the FY27-31 period. This has a flow on impact to customer bills through higher tariffs but reduces the risk of asset stranding through a lower RAB by FY31.

In Scenario 0 of the Price Model, we sought to reverse AGN's approach to accelerated depreciation to analyse the impacts of the 'with' and 'without' accelerated depreciation scenarios

2.1 Bill impacts

The results show that a typical residential customer could save a total of $170 over the 5 year period if AGN did not apply accelerated depreciation. **Figure 1** below shows the price paid by a typical customer with and without accelerated depreciation, and the annual savings.

Figure 1 – Typical AGN residential customer – gas network bill ($, real 2026)



2.2 Impact on asset stranding risk

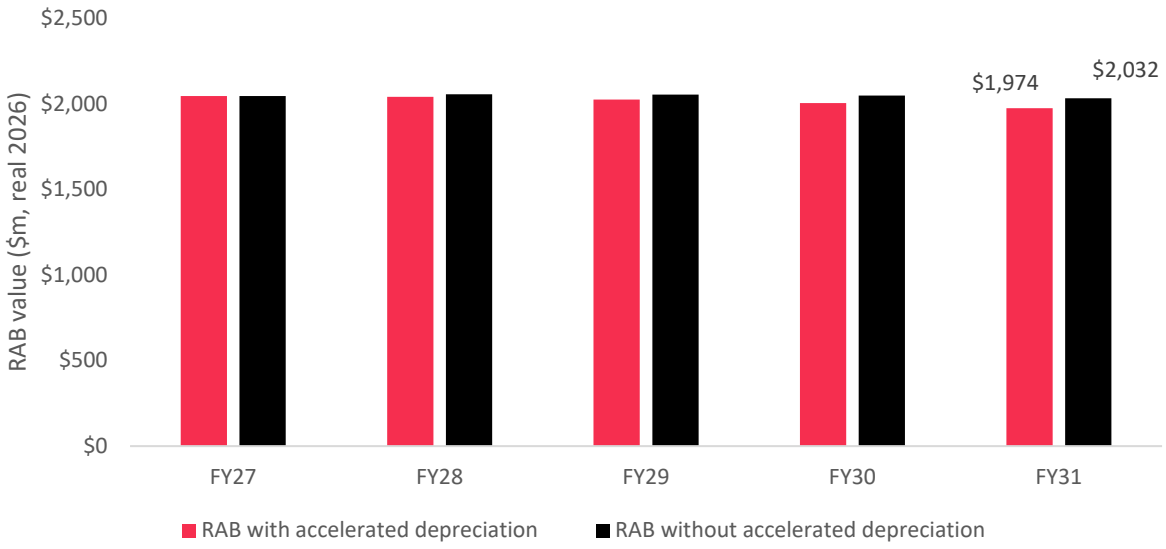
We note that key reasons for AGN's justification for accelerated depreciation is to support a more stable price path for customers now and into the future, and provide assurance to ratings agencies and financiers that the regulatory environment supports its ability to recover our efficient costs.[5] These arguments reflect a risk that the gas networks will become unviable, and AGN will be left with a stranded asset base. We note that the ECA has previously argued that asset stranding risk should not be borne by customers[6].

In any case, the key measure of stranding risk is the value of the RAB, which is the amount customers are expected to pay to AGN over time for past capital investments. We sought to analyse the extent to which the RAB declines by FY31 under AGN's accelerated depreciation approach.

Figure 2 shows that accelerated depreciation reduces the RAB by $57 million as at the end of FY2031. This represents 2.8 per cent of the opening RAB value in FY2027 of $2,045 million. At face value, it is difficult to state that accelerated depreciation has been effective at mitigating future stranding risks. Even if applied in future periods, the reduction in RAB would not be significant.

The key question for AGN's customers is whether an increase in bills of $170 over the FY27-31 period is justified for less than a 2.8 per cent reduction in the RAB.

Figure 2 – Value of AGN's RAB – with and without accelerated depreciation ($m, real 2026)



[5] AGN also note other reasons including address increasing uncertainty over the role our network will play in a low carbon energy future and supporting its price competitiveness into the future against substitutes, particularly renewable electricity. See page 5 of the Revised Plan.

[6] In the ECA Rule change proposal to AEMC of 25 February 2025, the ECA noted that the current use of accelerated depreciation shifts all risk and costs for assets that are at risk of becoming underutilised to gas consumers, while imposing no costs or risks on gas distributors.

3. Bill impacts

Our findings suggest that AGN's residential customers are likely to face a significant increase in their bill over the medium to long term. This is the results of connected customers reducing their energy consumption, a trend that AGN forecasts will persist in the 2027-31 period and which we assume will continue. Lower energy consumption requires AGN to increase its tariff rates and will result in a higher unit price for energy consumed.

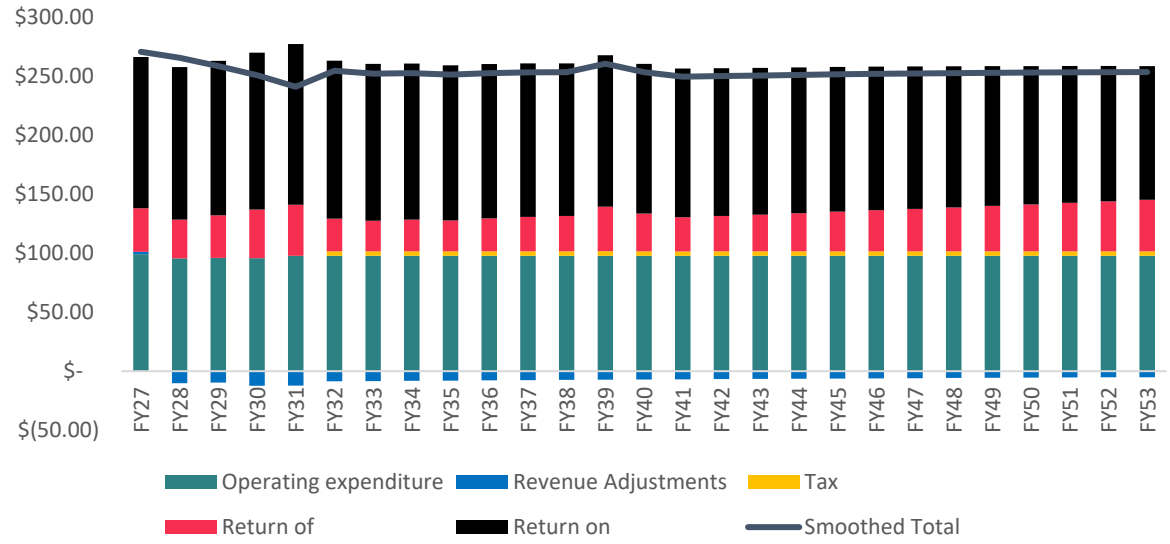
In this section, we set out the energy and revenue forecasts, and the consequential bill impacts.

3.1 Revenue forecasts

We have assumed that AGN will continue to incur capital and operating expenditure at the average levels forecast in its 2027-31 period regulatory proposal. We note that capital expenditure may fall if new connections are paid upfront by new customers. However, we note that replacement and investment in ICT are likely to stay at today's levels despite a drop off in energy consumption. We have also assumed that operating expenditure is largely fixed, due to the need to maintain the existing asset base and that AGN is forecasting only a marginal decline in residential customers. Further there is the potential for opex to increase if more customers disconnect and an abolishment fee is required.

Figure 3 sets out the forecast annual revenue requirements in the Pricing Model based on the assumptions applied to expenditure. It should be noted that the actual revenue requirement in FY2032 increases despite a reduction to the unsmoothed revenue. This is largely due to AGN's proposal for declining smoothed revenue in the FY2027 to 2031 period. In general, revenue remains relatively flat.

Figure 3 – Forecast modelling of AGN's total revenue requirement ($m, real 2026)



3.2 Residential energy consumption forecasts

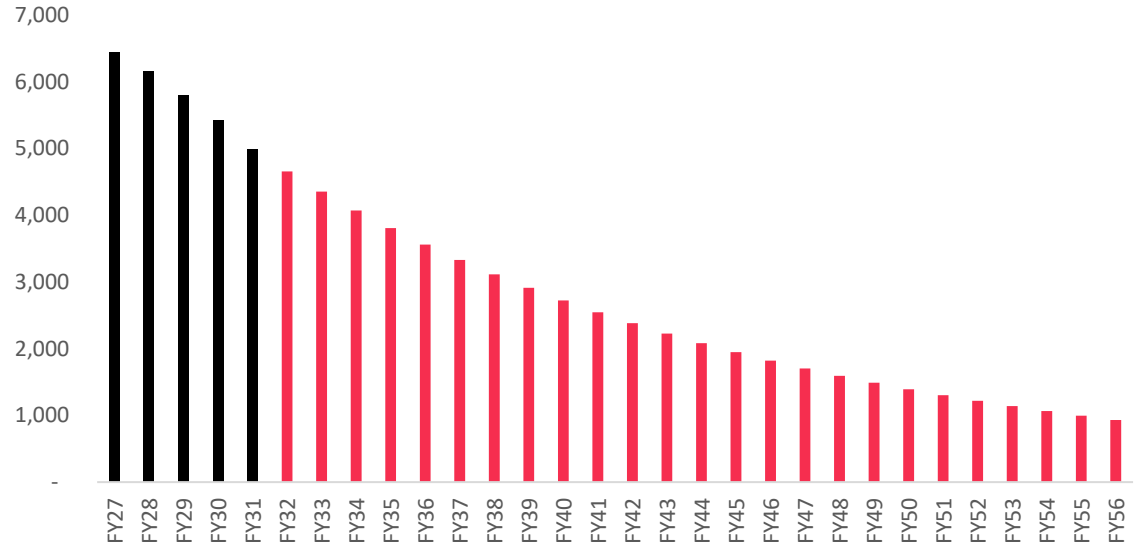
AGN has forecast a marginal decrease in residential gas connections in South Australia. This contrasts with trends in NSW and Victoria which suggest a significant decline in customers.

Regardless, AGN has forecast that residential customers will use significantly less gas per connection over the FY2027-31 period. This is likely caused by incremental electrification of gas appliances in households. We note that this is a market based (consumer-led) response rather than direct policy decisions.

For residential customers, AGN forecasts that average residential energy use will decline from 13.5 GJ per customer in FY27 to 10.7 in FY31, a total of 21 per cent (5.1 per cent annually). From FY2032, our modelling has applied the average annual percentage decline from FY2027 to FY2031 for each block tariff input in AGN's revised PTRM. We note this is a conservative estimate given that AGN's forecasts predict an increasing rate of decline.

Figure 4 shows the significant decline in residential energy consumption over the longer term.

Figure 4 – Residential energy consumption (terajoules)



3.3 Residential bills for typical AGN residential customers

Figure 5 shows that bills will increase significantly for a typical customer in FY2027 that continues their current usage of 13.5 GJ. This is due to increasing tariff rates in each of the blocks to ensure AGN can recover the relatively fixed forecast of revenue requirements. The customer's bill in FY26 real dollars will increase from $614 to $1008 over the 2027 to 2037 10-year period and will be $2,243 by 2050. [7]

[7] We note that the trend is consistent with results in other reports for gas customers in Australia. See Gratton Institute report: "Bills down, emissions down: A practical path to net-zero electricity" Alison Reeve, Tony Wood, Dominic Jones, and Ben Jefferson (October 2025).

Figure 5 - Typical AGN residential customer – gas network bill – 13.5GJ consumption ($, real 2026)

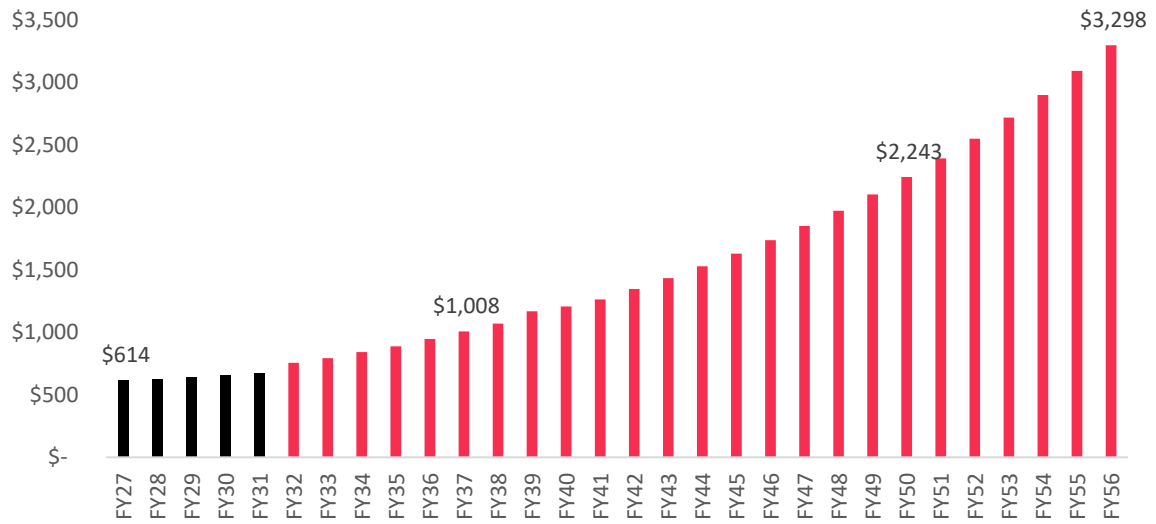
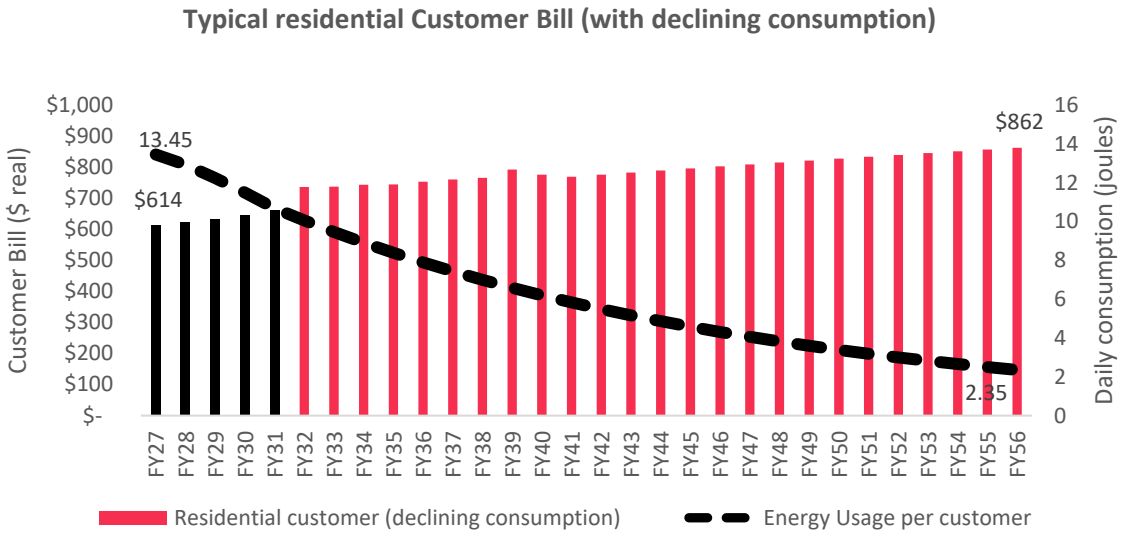


Figure 6 below shows the gas network bill of a typical customer that reduces their energy consumption in line with the modelling assumptions (5.1 per cent reduction each year). It shows that the gas network bill will continue to increase, despite consuming significantly less each year. From a practical perspective, the energy drop off is likely to relate to switching to electricity which means that the customer is paying for a new electricity appliance and a higher electricity bill, without any reduction in their gas bill.

Figure 6 - Typical AGN residential customer – gas network bill – declining gas consumption ($, real 2026)



The modelling results indicate the potential for gas customers to face significant increases in the unit cost of gas. While not modelled, we would expect this to lead to a higher drop off in customers and gas usage that could result in an accelerated and sharper increase in bills for customers that remain connected.

4. Electrification benefits

Our report suggests that South Australian households will benefit if all residential gas customers incrementally switch to electricity by 2035. The South Australian electricity network will be able to reduce their tariffs as a result of higher energy volumes from electrification, leading to lower bills. Gas customers are likely to face significant reductions in their bill from making the switch, but this would also require upfront investment in new electrical appliances.

Our modelling suggests that all South Australian electricity customers would have lower network electricity prices if all existing gas users switch by 2035.

4.1 Increase in electricity consumption and impact on revenue

The analysis shows that if all existing household gas customers switch to electricity, 6 million GJ of gas consumption would shift to electricity. On a straight conversion basis, electricity consumption would increase by 1,707GWh, about 45% of today's existing residential load of 3,645GWh. However, we have discounted the additional load by 60 per cent to 715GWh reflecting that customers would purchase energy efficient modern appliances.[8] Based on this calculation, electricity consumption would increase by about 20 per cent from 2026 to 2035 or about 2% per year.

We have assumed that SAPN would not need to undertake additional infrastructure to meet the increased loads. We note that hot water is a highly controllable load and could be moved to off-peak periods, noting that cooking would still likely occur in peak periods. We also assume there is likely to be spare capacity to meet any residual electrification that occurs in peak periods . We recognise that in some locations, the additional electrification load combined with electric vehicles may create the need for additional infrastructure.

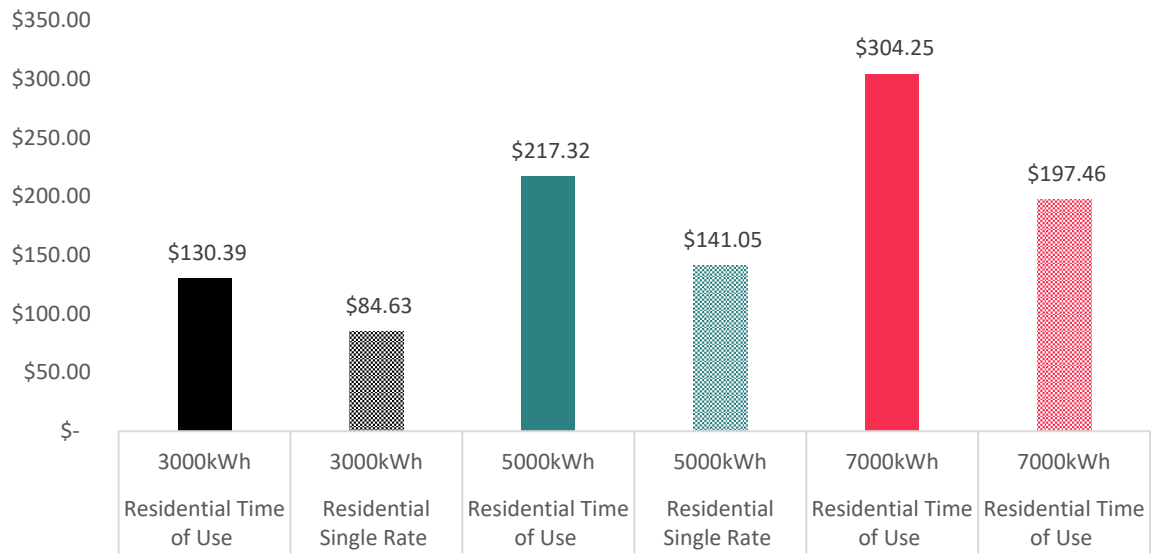
4.2 Electricity bill savings

The increased consumption means that SAPN can charge lower tariff rates for energy consumption for its residential time of use and flat tariff classes. This has a consequential impact on lowering electricity bills for all electricity customers.

Figure 7 shows that high consuming customers would make the most savings over the 10-year period. For a 5000kWh electricity customer, the cumulative savings over 10 years would be about $140 to $220 depending on their tariff structure. In total, we estimate that South Australian electricity customers would save over $150 million in the 10-year period.

[8] As discussed in section 1.3, while there is evidence to suggest significant energy efficiency from new electrical appliances, there is no literature on the presumed efficiency rate. We have examined a number of sources including Rewiring Australia to assume that the saving is about 60 per cent.

Figure 7 – Cumulative savings to current SAPN customers if all residential gas customers electrify by 2035 ($, real 2026)



We also examined the impact to individual gas user if they chose to switch to electricity. **Figure 8** shows that the individual customer would accrue significant savings. This is largely because the current gas user is very likely to currently be connected to electricity (already paying a fixed tariff) and would only be paying for an additional 2000kWh of electricity at a lower tariff rate. However, this analysis does not include the amortised cost associated with purchasing new electricity appliances. If gas appliances are replaced with efficient electric ones at end-of-life, the incremental costs would likely be negligible.

Figure 8 – Annual gas bill compared to electricity bill increase from electrification ($, real 2026)