

11.5 REVIEW - ENERGY TARIFFS AND SUPPLY AGREEMENTS - MOVING TOWARDS 100 PERCENT RENEWABLE ENERGY - ATTACHMENTS

Attachment Titles:

1. Chargeworks Report to SVC- Electricity Retail Agreement Review - Oct 2024

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Electricity Retail Agreements Review

October 2024

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Introduction

ChargeWorks has been engaged by Snowy Valleys Council to review pricing and offers for their **retail electricity agreements, across large sites, small sites and streetlighting**. This report identifies \$173,700 in annual savings on electricity charges, with 100% renewable supply (accounting for 2,186 tonnes in annual emissions reductions).

Council's agreements are with Shell Energy (large sites and streetlighting) and AGL (small sites).

These agreements are believed to be expiring on 31 December 2024, and Council wishes to understand the market with the intent of pursuing a new electricity agreement for 2025 and beyond.

For the large sites and streetlighting, indicative offers from retailers have been sought and compared with the Council's current retail costs.

For the small sites, a cost analysis has been made with the competitive Buy NSW Shell 3062 small sites agreement.

A summary of recommendations can be found at the end of the document. Provided with this report are the retailers offers for large sites and streetlighting, and a spreadsheet containing consumption and cost calculations.

Before this review, ChargeWorks was engaged through the Canberra Region Joint organisation to review Council's network tariffs, which are separate to the retail agreements. \$32,000 of annual savings has been identified by switching tariffs at 26 sites. More recently, Shell has provided analysis and identified another \$21,800 of savings by switching tariffs at a further three sites. ChargeWorks has checked Shell's analysis and has found it to be accurate.

These changes to network tariffs present a total saving of \$53,800 in addition to the savings identified in this report.

Large Sites & Streetlighting

Electricity Costs Explainer

A large sites' or streetlighting electricity bill usually provides a detailed breakdown of the various costs in the total invoiced amount. These can be broadly summarised into three parts:

- **Retail Rates – *The Focus of this Report***

The cost of electrical energy that is supplied to the site. This portion of the cost is the wholesale cost of making electricity, plus the retailer's costs and margin – the latter for which are a variety of retailers, and a broad range of pricing structures.

- **Network Tariffs**

The cost charged for the owner of the 'poles and wires' network to facilitate the energy supply to the site. Previous analysis has been done on Council's tariffs to find \$53,800 in annual savings.

- **Environmental and Market Fees**

Paid to the Australian Energy Market Operator (AEMO), who oversees the National Electricity Market (NEM). These are mandated by AEMO and not negotiable.

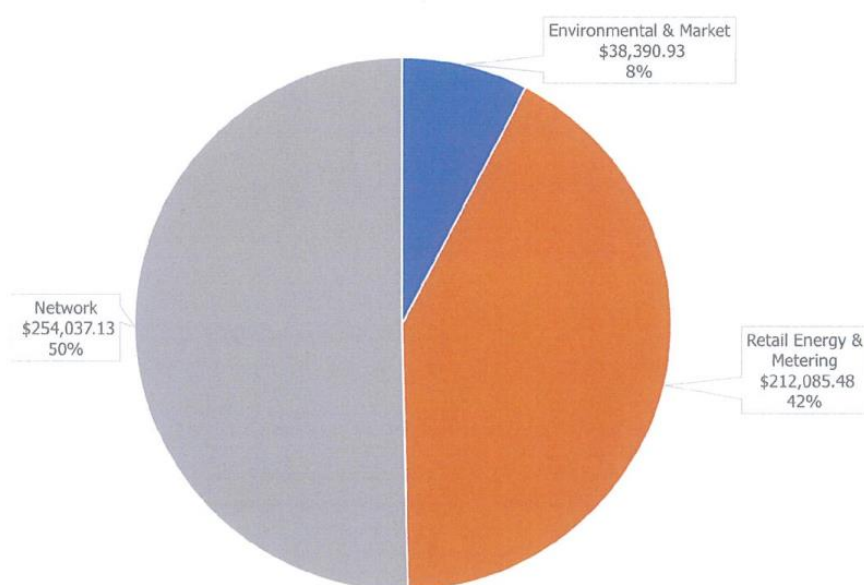


Figure 1 - Breakdown of Council's 2024FY Large Sites and Streetlighting Electricity Costs

Apart from lowering consumption and optimising network tariffs, the **only** part of Council's electricity bills that it can negotiate are the retail rates (the orange slice above).

In most instances, the retail rates are based on the wholesale cost of electricity supply, but the wholesale rate varies in 5-minute intervals every day. So, retailers calculate their fixed pricing in a way that minimises their risk, which often involves buying electricity futures. With these arrangements, a retailer buys electricity supply for a guaranteed future price, regardless of what the actual cost is at that point. This doesn't necessarily align with the best long-term price for the consumer.

Below is a graph of the pricing of electricity futures over the last twelve months. In May 2024, there were significant but short-term issues with generators and transmission on the grid. As evident in the graph below, these issues directly affected futures pricing, which has generally come down since, but is still about 20% higher than in mid-March 2024. This means that long term retail offers now are also 20% higher than in mid-March.

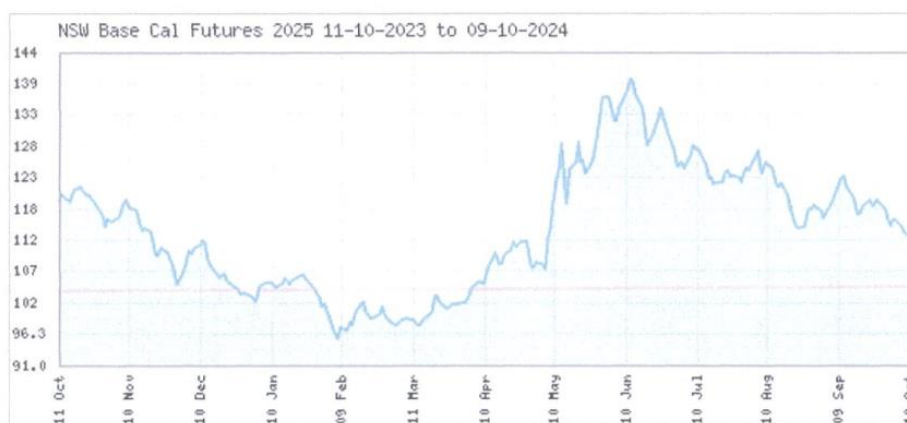


Figure 2 - NSW Electricity Futures Pricing (\$/MWh - divide by 10 for c/kWh)

Compare the above futures price with the actual wholesale cost of electricity below (i.e., the price at which electricity is sold in real-time by power stations). This graph shows a recent drop in pricing over the last year. **ChargeWorks believes that this is a correction to fall back in-line with the historical average, and that over the next two to five years, pricing should be even lower.** Therefore, it is recommended for Council's next large sites and streetlighting agreement that a 2-year term be taken, at the best possible pricing within this term. Signing an agreement for any longer will likely end up in paying higher prices than necessary.

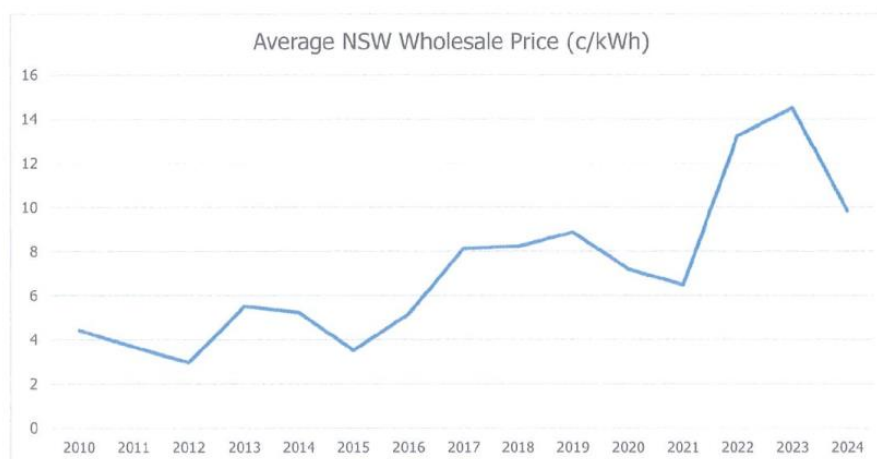


Figure 3 - NSW Average Wholesale Price of Electricity

Net Zero / Zero Emissions Target Strategies

Several quotes have been received for electricity supply including renewable sources. However, there are different methods to assess the emissions implications from these sources, and not all retailers use the same methodology.

A retailer can contract supply from a renewable source, like a solar farm, and can claim that it is 100% renewable electricity. Because generators and consumers are all connected to the same electricity grid, if a consumer consumes 100MWh per annum (for example), and their retailer buys 100MWh of renewable electricity from a solar farm, then even though the solar farm won't produce electricity 24/7, the net total production matches the net total consumption. The solar farm produces excess during the day, which is soaked up by other consumers on the grid, and then the consumer uses electricity at nighttime (for example) that comes from other sources.

However, this is only part of the picture.

The federal government's Clean Energy Regulator (CER) oversees a market for Large-scale Generation Certificates (LGCs) and GreenPower, which are mechanisms for encouraging more renewable generation to enter the electricity grid. For every MWh of electricity that a renewable power station generates, one LGC can be created and sold. The current market rate for these is around \$42/MWh (equating to 4.2c/kWh).

Large consumers and electricity retailers are mandated to purchase LGCs at a percentage linked to the energy they acquire. By introducing these compulsory purchases, it has created a market for renewable power stations to generate revenue on top of the energy they sell, thereby creating extra incentives for new renewable electricity generation.

Electricity consumers who want to consume truly zero-emissions electricity can voluntarily buy extra LGCs – as this ensures that the number of LGCs equivalent to their consumption are not sold elsewhere. This creates more demand for LGCs and forces the mandated LGC purchases to occur elsewhere in the market (this is also how GreenPower functions – essential it is the voluntarily purchasing of LGCs).

If Council wants to adopt a strategy for zero-emissions electricity supply, then regardless of the source of the electricity, the purchase of LGCs must also be factored in. If Council were to buy LGCs to match their consumption (but not necessarily sign up for a specific renewable supply), then they will still achieve a net-zero outcome, because the LGCs purchased have enabled an equivalent amount of renewable generation on the grid.

It is also possible for Council to buy LGCs at a percentage of total consumption, with many retailers offering amounts at 10% – 100% (The Red Energy PPA described below has a condition that there be 100% uptake of LGCs by the end of the agreement.)

For Council to purchase LGCs that 100% matched their large sites and streetlighting consumption, it would cost approximately \$47,000 per annum for the large sites and \$17,000 for the streetlighting.

This would reduce Council's annual emissions by 776 tonnes CO2-e.

Council's Current Large Sites and Streetlighting Agreement

Council currently has 9 sites with Shell Energy in a combined large sites and streetlighting agreement. The agreement appears to comprise of negotiated retail rates that vary year-by-year.

As observed on Council's bills, the retail rates for 2023 and 2024 are as follows:

Year	Peak (c/kWh)	Shoulder (c/kWh)	Off Peak (c/kWh)	Retail / Meter Charges (\$/year) (Average)
2023	24.5392	11.4583	11.9908	\$188.00
2024	23.6754	10.3590	11.1039	\$188.00

The supplied spreadsheet shows the consumption for each site, broken down into peak, shoulder and off-peak consumption. The total cost of electricity supply for these sites in the 2023-24 financial year (including retail, network and AEMO fees) was \$504,514 plus GST.

Of the 9 sites, three are classified as streetlighting, five are classified as large sites, and one can be classified as a small site (as its consumption is under 100MWh per annum – NMI NDD00GK84). It is advisable that this latter site move to a small sites' agreements moving forward, as the retail pricing will be 43% lower than it is currently and save \$7,511 annually. A network tariff review may also result in further savings.

For the purposes of the pricing analysis below, the current pricing has been multiplied by the 2024FY consumption (with losses disregarded) to create a benchmark for comparison.

Retail Offers

On Council's behalf, ChargeWorks sought indicative offers from several retailers that utilise a variety of pricing models.

In the figures provided, pricing estimates have been calculated on the retail energy component of the bill only (i.e., for a comparison with the costs in the orange slice of the chart on page 4).

These estimates do not include charges for loss factors, or any feed-in tariffs from solar.

There is currently no solar feed in rate for any of the sites, and the loss factors account for about 1% of the retail component of the bill.

It is understood that for the Council to engage a supplier, it must go through a RFQ process for pricing up to \$250,000, and a RFT process for pricing above this. **Note, that as the following pricing is only the retail supply, the final billed cost will be approximately 2.5 times the retail rates** (when Essential Energy's network charges and AEMO are also included). This should be factored into any further steps towards an RFQ/RFT.

As described earlier, it is advised that the next agreement be no longer than two years. For this reason, the average rates for the first two years have been calculated for comparison.

To also aid in comparison, the LGC rates have been calculated at 50% of total load, to allow for a comparison with the Red Energy Renewable PPA (described below).

Details of the offers are on the following pages.

Shell Energy

Shell currently supplies the Council for their large sites and streetlighting agreement.

They have provided pricing for a new 4-year agreement, and do not specifically source their electricity from renewable generation, but voluntary purchases of LGCs can be arranged, at an average rate of 4.1c/kWh

From	To	Peak Rate (Peak Periods)	Shoulder Rate (Shoulder Periods)	Off Peak Rate (Off Peak Periods)	ESC Rate (All Periods)	PDRS Rate (All Periods)
01/01/2025	31/12/2025	22.1356	7.9496	10.6226	0.1588	0.1617
01/01/2026	31/12/2026	22.7414	7.9097	10.9831	0.1736	0.2222
01/01/2027	31/12/2027	23.4423	7.8153	11.2668	0.1894	0.2781
01/01/2028	31/12/2028	24.4144	8.1488	11.5146	0.2062	0.3196

Figure 4 - Shell Energy Large Sites Retail Rates

From	To	Peak Rate (Peak Periods)	Shoulder Rate (Shoulder Periods)	Off Peak Rate (Off Peak Periods)	ESC Rate (All Periods)	PDRS Rate (All Periods)
01/01/2025	31/12/2025	31.1336	17.5528	12.4078	0.1588	0.1617
01/01/2026	31/12/2026	31.6667	18.0539	12.7453	0.1736	0.2222
01/01/2027	31/12/2027	32.5726	18.5350	13.0633	0.1894	0.2781
01/01/2028	31/12/2028	33.6792	19.2180	13.3837	0.2062	0.3196

Figure 5 - Shell Energy Streetlighting Retail Rates

Aside from the quoted energy charges, their metering fees are \$900/meter/annum, with no other service charges.

The average annual modelled costs under two-year agreements are as follows:

- The large sites agreement (five sites) would be \$130,087 per year.
- The streetlighting agreement (three NMI's, no meters) would be \$60,929 per year.
- 50% GreenPower is an extra \$22,706 and \$8,236 annually for the large sites and streetlighting respectively.

These figures are presented in the summary table below.

AGL

AGL have provided pricing for 3 years. Like Shell, they do not specifically source their electricity from renewable generation, but have supplied a price for GreenPower.

Period	State	Peak	Shoulder	Off Peak
01/01/2025 - 31/12/2025	NSW	15.9255	15.9255	9.1247
01/01/2026 - 31/12/2026	NSW	16.1872	16.1872	9.3188
01/01/2027 - 31/12/2027	NSW	16.1543	16.1543	9.2603

Figure 6 – AGL Large Sites Retail Rates

Period	State	Peak	Shoulder	Off Peak
01/01/2025 - 31/12/2025	NSW	15.9255	15.9255	9.1247
01/01/2026 - 31/12/2026	NSW	16.1872	16.1872	9.3188
01/01/2027 - 31/12/2027	NSW	16.1543	16.1543	9.2603

Figure 7 – AGL Streetlighting Rates

Green Energy Period	Green Energy Percentage	Green Energy Rate (cents/kWh)(GST exclusive)	Green Energy Rate (cents/kWh)(GST inclusive)
01.01.2025-31.12.2025	100%	4.0200	4.4220
01.01.2026-31.12.2026	100%	3.1500	3.4650
01.01.2027-31.12.2027	100%	2.7750	3.0525

Figure 8 - AGL GreenPower Rates

AGL's metering and service charges equate to \$1,478 per site per annum for large sites and \$608 per NMI per annum for streetlighting.

The average annual modelled costs under two-year agreements are as follows:

- The large sites agreement (five sites) would be \$149,786 per year.
- The streetlighting agreement (three NMI's) would be \$44,944 per year.
- 50% GreenPower is an extra \$19,861 and \$7,204 annually for the large sites and streetlighting respectively.

These figures are presented in the summary table below.

Engie

Engie have provided a quote for three years. Their supply comes from general sources, but they have provided additional pricing for GreenPower.

Supply Period	Peak Rate	Off Peak Rate	Shoulder Rate
01 Jan 2025 to 31 Dec 2025	13.803	9.888	13.803
01 Jan 2026 to 31 Dec 2026	14.327	10.140	14.327
01 Jan 2027 to 31 Dec 2027	10.485	12.658	10.485

Figure 9 - Engie's Large Sites Retail Rates

Supply Period	Peak Rate	Off Peak Rate	Shoulder Rate
01 Jan 2025 to 31 Dec 2025	25.267	11.071	25.267
01 Jan 2026 to 31 Dec 2026	25.411	10.779	25.411
01 Jan 2027 to 31 Dec 2027	21.175	14.688	21.175

Figure 10 - Engie's Streetlighting Retail Rates

Supply Period	Rates for 100% GreenPower ratio
01 Jan 2025 to 31 Dec 2025	4.525
01 Jan 2026 to 31 Dec 2026	3.675
01 Jan 2027 to 31 Dec 2027	3.200

Figure 11 - Engie's GreenPower Rates

Engie's metering and service charges equate to \$1,273 per site per annum for large sites and \$723 per NMI per annum for streetlighting.

The average annual modelled costs under two-year agreements are as follows:

- The large sites agreement (five sites) would be \$141,159 per year.
- The streetlighting agreement (three NMI's) would be \$59,086 per year.
- 50% GreenPower is an extra \$22,714 and \$8,239 annually for the large sites and streetlighting respectively.

These figures are presented in the summary table below.

Flow Power

Flow Power base their pricing directly on the wholesale cost of electricity (with the added option for purchasing GreenPower). They have provided an offer for three years based on their 'Power Active' product, which is tied to the (futures) wholesale price but doesn't penalise the customer if the prices increase. Their rates are calculated as follows:

- A kWh energy rate based on wholesale cost, guaranteed for the term of the agreement. There is no time of use rate, rather one rate all day, everyday.
- A 'Price Efficiency Adjustment (PEA)'. This is a dynamic cost, based on the load profile of all sites. If load is shifted from peak to off-peak periods, the PEA cost would go down. However, if off-peak load shifted to peak periods, then the PEA cost would increase.
- A retail margin.
- Plus, an 'Active Option', which means that if the wholesale price of electricity cost falls, Council can opt for a pricing review to allow their kWh cost to come down. This is an extra 0.5c/kWh for year 1 and 1c/kWh for year 2, and can be opted into up to 6 weeks before the start of each year.

Year	MWh ¹	Base energy rate ²	Indicative PEA ³	Retail margin	Indicative net rate
CY-25	1,203	11.51 c/kWh	-0.281	0.832 c/kWh	12.06 c/kWh
CY-26	1,203	11.89 c/kWh	-0.281	0.832 c/kWh	12.44 c/kWh
CY- 27	1,203	11.97 c/kWh	-0.281	0.832 c/kWh	12.52 c/kWh
CY-25, CY-26 & CY-27 Active Option ⁴ : 0.50, 1.50 & 2.00 c/kWh					

Figure 12 - Flow Power's Large Sites Rates

Year	MWh ¹	Base energy rate ²	Indicative PEA ³	Retail margin	Indicative net rate
CY-25	401	11.70 c/kWh	1.896	0.832 c/kWh	14.43 c/kWh
CY-26	401	12.02 c/kWh	1.896	0.832 c/kWh	14.75 c/kWh
CY- 27	401	12.08 c/kWh	1.896	0.832 c/kWh	14.81 c/kWh
CY-25, CY-26 & CY-27 Active Option ⁴ : 0.50, 1.50 & 2.00 c/kWh					

Figure 13 - Flow Power's Streetlighting Retail Rates

Period	Environmental Certificate	Fixed Certificate Price (\$/certificate)	Percentage %	Rate (c/kWh)
CY-25	GreenPower LGC	41.00	100%	4.100
CY-26	GreenPower LGC	35.00	100%	3.500
CY-27	GreenPower LGC	30.00	100%	3.000

Figure 14 - Flow Power's GreenPower Rates

In addition to above, Flow Power's metering and retail fees are notably higher, charged at a total of \$2,499 per site, per year for large sites, and \$1,059 per NMI for streetlighting. The average annual modelled costs for two-year agreements are as follows:

- The large sites agreement (seven sites) would be \$148,224 per year.
- The streetlighting agreement (three NMI's) would be \$61,814 per year.
- The Active Option in year 2 would be an extra \$11,080 for the large sites and \$4,019 for the streetlighting.
- 50% GreenPower is an extra \$21,052 and \$7,636 annually, respectively.

Red Energy PPA

Procurement Australia currently have a Power Purchase Agreement (PPA) through Red Energy, that is yet to reach capacity and Council could opt into. This PPA sources energy from the Metz solar farm near Armidale and participants are required to sign up to the end of 2032 (therefore an 8-year agreement). Council could sign this agreement without going to tender.

A requirement of the PPA is that the LGC's generated by the solar farm are purchased by the participants. However, it does not have to be a purchase of 100% at the outset of the agreement if it meets 100% by 2030 (when the LGC scheme is currently legislated to end).

Procurement Australia are not forthcoming with rates, but ChargeWorks are aware of these from other projects. They are as follows:

Street-lighting (c/kWh)	Peak (c/kWh)	Shoulder (c/kWh)	Off Peak (c/kWh)	Meter Charges (c/day)	Retail Charges (c/day)	100% LGC rate (c/kWh)
11.6476	15.8969	15.8969	9.6793	98.08219	80	6.6476

Costs were modelled assuming that the LGCs purchase would average 50% across the life of the contract. The average annual cost is as follows:

- The large sites agreement (five sites) would be \$183,914 per year, including LGCs.
- The streetlighting agreement (four NMI's) would be \$61,047 per year, including LGCs.

These figures are presented in the summary table below.

Summary of Large Sites and Streetlighting Offers

A summary of the average annual cost of all provided offers is as follows:

Supplier	No Renewables		50% Renewables	
	Large Sites	Streetlighting	Large Sites	Streetlighting
Shell (Existing)	\$141,089	\$49,599	N/A	N/A
Shell (new)	\$130,087	\$60,929	\$152,793	\$69,166
AGL	\$149,786	\$44,944	\$169,647	\$52,148
Engie	\$141,159	\$59,085	\$163,873	\$67,325
Flow Power	\$148,224	\$61,814	\$169,276	\$69,450
Red Energy PPA	N/A	N/A	\$183,914	\$61,047



Shell has provided the best pricing for the large sites, for both standard supply and 50% renewables.

With their standard supply offer, Council will save an average of \$11,002 (8%) annually on the retail part of the bills compared to the existing rates.

The estimated total cost of supply with Shell (including retail, network and AEMO rates) is **\$325,000 plus GST per annum on average across 2 years.**



AGL has provided the best pricing for standard streetlighting, and 50% renewables.

Under the AGL agreement with standard supply, Council will save on average \$4,654 (9%) annually on the retail part of the bills compared to existing rates.

The estimated total cost of supply with AGL (including retail, network and AEMO rates) is **\$112,000 plus GST per annum on average across 2 years.**

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Small Sites

Council's current Small Sites Agreement

Council has 150 small sites under an agreement with AGL, with rates that appear to be reviewed by the supplier every few months and are generally increasing. 12 of these sites have no consumption and should be rolled out of any agreement, to save \$9,577 per annum.

There is also one more site currently under Council's large sites agreement with Shell (mentioned above - NMI NDDDD00GK84) but is under the 100MWh/annum threshold and should be considered for inclusion on any future small sites' agreement.

ChargeWorks used data obtained from AGL to analyse Council's electricity costs and consumption. Using data for the 2023-24 financial year, and the current rates with AGL, **the total annual cost for the 138 sites has been calculated at \$741,195 plus GST**. This amount includes network tariffs, AEMO fees and the retail rates, because the AGL small site bills do not break these rates down. It also includes solar feed-in.

Shell Energy's 3062 Offer

Through Buy NSW, Council is eligible for supply of its small sites under Shell's 3062 government contract. This is currently a very competitive offer, with rates much lower than those that are generally available on the market. In addition to this, because it is a NSW Government approved offer, Council would **not** have to go to tender to move its small sites over to this agreement.

	Smart Meter			Basic Meter
	Peak c/kWh	Shoulder c/kWh	Off-Peak c/kWh	Anytime Rate c/kWh
AGL (current)	39	34	28	35
Shell 3062	28	25	13	24
Shell 3062 with Greenpower	29	26	14	25

Figure 15 - Small Sites Rate Comparison

Council should note that the term of the agreement with Shell is until 2032, however **pricing has only been provided through to June 2025**. The agreement offers unlimited site roll-out, so if future pricing is not favourable, Council can opt out of the agreement.

Under the conditions detailed above, and factoring in the FY2025 network fees, the total annual cost estimate on the Shell agreement is \$512,424. This represents a saving of **\$228,771 p.a.** (31%) compared to existing cost.

Furthermore, Shell also offers the voluntary purchasing of GreenPower at a very competitive rate (1c/kWh), and Council going 100% renewable for the 138 sites would add only \$21,750 to the annual cost. This will **reduce Council's electricity emissions by approximately 1,410T p.a.**, representing an extremely cheap way for Council to reduce its electricity emissions by 56% in one simple transaction.

If Council opts for **100% renewable supply** for the 138 sites under the Shell 3062 agreement, **it will still save \$207,022 p.a. compared to existing rates.**

Unlike most small sites agreements, Shell provides retail energy pricing separately. Even if this retail rate was to **double** next year, Council would still be better off by approximately \$76,481

p.a. (10% - which includes GreenPower). ChargeWorks recommends that Council switches to the Shell agreement, but review its small site retail electricity contract in June 2025.

Recommendations

ChargeWorks puts forward several recommendations for Council to consider:

1. Under an RFQ process, expect that the lowest price for the streetlighting retail supply will come in around \$45,000 per annum (\$4,600 cheaper than current costs - depending on the market at the time).

Engage the supplier of the cheapest quote, preferably on a 2-year agreement. At the end of this term, Council can go to market again with the expectation that prices will be lower than they are currently.

2. Under a tender process, expect that the lowest price for the large sites retail supply will come in around \$131,000 per annum (\$9,000 cheaper than current costs)

Engage the cheapest tenderer, preferably on a 2-year agreement. At the end of this term, Council can go to market again with the expectation that prices will be lower than they are currently.

3. If Council wants renewable supply for its large sites and streetlighting agreements, then that will add approximately \$64,000 to the total price to offset 100% of the load and reduce emissions by 776 tonnes, or \$32,000 to offset 50% of the load.



4. For Council's small sites, the Shell 3062 offer available through Buy NSW is extremely competitive, and with 100% Greenpower, will **save \$207,022 per annum whilst reducing yearly emissions by 1,410 tonnes**. Council can sign up to this offer without further quotes or tenders.



5. As part of the small sites transition, roll out NMI NDDD00GK84 from the large sites agreement and into the small sites Shell 3062 agreement, for annual savings of \$7,511. A tariff review for this site may yield further savings.



6. Roll out (disconnect) the twelve unused sites currently in the small sites agreement, for annual savings of \$9,577.

These recommendations, if adopted in full, can save Council \$173,700 annually and achieve 100% renewable supply (accounting for 2,186 tonnes in annual emissions reductions).