

SUMMARY OF ELECTRICITY PROCUREMENT OPTIONS

South Gippsland Shire Council

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1. Executive Summary

Large electricity users have begun to consider alternative electricity purchasing approaches as a result of increasing electricity costs and market volatility. These have included local government, commercial, and large institutional energy customers. South Gippsland Shire Council's existing electricity supply contracts expire over the course of 2020. In managing the upcoming contract transition, the Council is presented with a range of electricity procurement models and opportunities.

In order to understand the relevance, impact and benefit of electricity purchasing models to any customer's operations, it is necessary to understand the broader operating, policy and market context. South Gippsland Shire Council is a relatively small electricity customer compared to other Councils and other commercial and institutional customers. It has a preference for purchasing solutions which offer procedural and administrative simplicity which prioritising solutions which will deliver a competitive cost. Council has committed to emissions reduction goals. However the relatively modest emissions reduction target does not present a primary consideration when considering Council's electricity purchasing choices.

Several models have been identified. There include:

- 'Business as usual' purchasing arrangements involving 'fixed-term, fixed price' contracts through aggregated group purchasing arrangements facilitated by either Procurement Australia or MAV Procurement;
- Power Purchase Agreements (PPAs) which feature long-term (10 year) electricity supply contracts through group purchasing arrangements with other Councils – facilitated by a range of organisations;
- 'Progressive Purchasing' electricity supply contracts over relatively short-term periods (a few months to 3 years) facilitated by Procurement Australia or the State Government standing electricity contract;
- Development of a Council-owned solar farm which would supply Council sites thorough an electricity retailer, either undertaken through a partnership with other Councils, or singularly.

Each approach features different project attributes, involving a different set of costs, timeframes, risk, and the need for administrative involvement. These can be weighed and evaluated using a set of criteria focussed on procurement timeframe, procurement process cost, contract simplicity and procurement simplicity, emission reduction and renewable energy benefits, and project risk.

A summary of the various models along with benefits, disbenefits, risks, timeframes and alignment with objectives is provide in the following report to assist with prioritisation and Council decision making.

2. Summary of Policy Context and Drivers

Any energy strategy adopted by an organisation should be aligned to the organisation's short-term and long-term needs and objectives. In considering energy procurement strategy options, it is important to appreciate the market and policy context as well as organisational priorities and objectives that will lead to any energy purchasing decisions.

2.1. South Gippsland Shire Council Context and Drivers

South Gippsland Shire Council is a relatively small electricity consumer compared to other Victorian local governments. Annual consumption is approximately 1,500MWh/yr. Larger Councils typically consume between 6,000MWh – 15,000MWh/yr and some councils consume even more.

Securing price competitiveness has been identified as Council's primary consideration when entering into energy contracts. Due to Council's relatively limited ability to commit extensive resources to the administration of procurement processes, procedural simplicity was also identified as a high priority.

South Gippsland Shire Council has adopted a 20% greenhouse gas emission reduction target on 2009/10 levels by 2020. Council's Sustainability Strategy 2016-2020 identifies a number of initiatives related to renewable energy. These include the following:

3.7	Promote the introduction of renewable energy and resources efficiency initiatives in public and community buildings.
3.8	Continue to implement energy efficiency and renewable energy initiatives across Council facilities via Council's Revolving Sustainability Fund.
3.9	Support the implementation of community-owned renewable energy projects within the municipality.

South Gippsland Shire Council Sustainability Strategy 2016-2020.

Council's relatively modest greenhouse gas emission reduction target results in relatively low priority being placed on renewable energy or Green Power in selecting an electricity contract.

Council's current electricity contracts for small market sites expire on 01 July 2020 for small sites and contracts for large sites and metered streetlight accounts expire on 13 December 2020. Current contracts are sourced through arrangements with MAV Procurement – an arm of the Municipal Association of Victoria.

The Victorian Government has legislated long-term emission reduction targets by 2050 with five-yearly interim targets required under the *Climate Change Act 2017*. South Gippsland Shire Council has committed to the Government's Take2 pledge programme which commits Victorians and Victorian organisations to take action to reduce greenhouse gasses to net zero and limit global temperature increases to below two degrees.

The State Government has also adopted renewable energy targets for the State overall and for the Government's own operations. In order to achieve these, the State Government has imposed renewable energy consumption targets on State-owned water utilities. While there are no stated government intentions to extend these obligations to local government or other public sector agencies, Council officers have identified this as a possibility which should be considered when considering energy purchasing strategies in future.

2.2. Market context.

Trends in the Australian east coast electricity market have seen wholesale prices rise continually since 2015. There is generally continued volatility in wholesale electricity prices caused by a range of

supply and demand factors. These effects are in part due to the closure of aging generation assets, as well as changes in demand patterns and ongoing uncertainty regarding electricity market policy. This volatility is expected to continue over coming years.

To respond to this uncertainty, many large energy users, including universities, local governments and private sector corporate customers are looking to alternative procurement solutions. These include:

- long term power purchase agreements (PPAs). (These have included retail-linked contracts supplying electricity as well as financial contracts delivering effective hedges against electricity market movements).
- progressive purchasing arrangements, and
- investing in on-site power plant.

Corporate and institutional customers have demonstrated that there are opportunities to source electricity from renewable sources at rates competitive with business-as-usual approaches through long-term power purchasing arrangements (based on market forecast modelling).

These procurement strategies enable customers to contract for the purchase of energy which typically constitutes approximately 40% to 50% of their electricity bills (but varies from customer to customer). The remainder of customer's electricity costs are the result of regulated network charges and other regulated charges which are not contestable.

3. Electricity purchasing options available to South Gippsland Council.

Several actual and potential procurement approaches are available to the Shire of South Gippsland. These include traditional and emerging procurement models. Each of these existing and emerging options are outlined below, along with a discussion about the respective benefits, risks, and where know, procedural or transaction costs.

The options which have been identified include:

- Procurement through procurement agents:
 - Procurement Australia
 - Short-term fixed-price
 - Progressive purchasing
 - Power Purchase Agreement
 - Municipal Association of Victoria
 - Short term fixed price
- State Government contract
- Local Government PPA (led by City of Darebin)
- SECCCA – SEMREP Project (PPA)
- Council undertaking its own tender
- Council developing its own generation asset
- Local governments development of own solar farms (aggregated or singular)

Historically, local governments have engaged in several established methods to undertake electricity and gas procurement. These have involved group procurement tenders facilitated by Procurement Australia and Municipal Association of Victoria. Local Governments have also had the option of adopting the State Government’s standing electricity contract or undertaking their own procurement process.

In recent years several new and emerging electricity procurement options have been considered by local government and are increasingly being adopted by local governments, universities, state governments and large private sector customers. These include PPAs, progressive purchasing models, and development of customer-owned renewable energy generation assets.

3.1. Procurement Australia

Procurement Australia a recognised procurement agency which offers three types of energy procurement options available to local governments. These include ‘fixed term fixed price’ group tenders, progressive purchasing, and power purchase agreements. PA is able to leverage purchasing power through tenders for large aggregated volumes.

Procurement Australia (PA) a is a procurement agency which operates as a private company owned by a number of Local Government shareholders. PA undertakes procurement processes on behalf of private and public sector customers. Procurement Australia is Authorised by the Minister for Local Government to act as a procurement agent on behalf of local governments for the purposes of procurement requirements under the *Local Government Act*. Historically, PA has undertaken group energy tenders for electricity and gas on behalf of local governments and other customers. These have included universities, sporting and event venues, cultural institutions and health service providers and private companies. PA has in the past tendered for one of the largest, if not the largest, aggregated purchasing groups by load volume in Australia.

Benefits:

- Scale
- Significant purchasing power
- Contracting simplicity
- Relatively competitive price compared to single-council electricity procurement
- Extensive procurement experience with broad customer base

Disbenefits:

- PA Tenders require pre-commitment from customers
- Group purchasing nature results in limited control over tender scope

3.1.1. Fixed-term fixed-price.

Procurement Australia has historically undertaken tenders for 'fixed-term fixed-price' gas and electricity contracts on behalf of customers. These have typically involved contract terms in the range of 2-3 years with the option of extending for 1-2 years. This model involves a trailing commission paid by suppliers and consequently results in negligible up-front cost of participation (other than the customer's internal administration costs) with costs incorporated into the price of the electricity product. Tenders are generally issued to market several months prior to expiry of the customer groups' existing contracts.

Benefits:

- Contracted price is more likely to reflect prices in the market at the time of contracting.
- Mitigates the risk of unexpected decreases in electricity demand over a long-term contract period
- Procedural and contracting simplicity
- Does not involve managing development risks and project due diligence.

Disbenefits:

- Modelling indicates greater likelihood of higher electricity costs over time.
- No renewable energy or socio-economic benefits
- Potential for scale of the group may diminish in future as councils adopt long-term PPAs contracts
- No promotional and marketing benefits that result from being associated with a specific renewable energy project

3.1.2. Progressive Purchasing

Recently, PA has also offered a 'progressive purchasing' contracting model. This is an approach aimed at managing the risk associated with spot wholesale market volatility. Progressive Purchasing is a cost management strategy which enables the underlying electricity price to be reset periodically according to prevailing market conditions. The price reset is typically undertaken when a fall in electricity futures prices are observed in the electricity futures market. There is a risk that the price reset will occur at a high point in the market and that customers will pay relatively high pricing compared to subsequent market movements. Tender timeframes and contract terms are similar to those under the fixed-term fixed-price' model. Unlike the 'fixed term fixed-price' model, prices under this model are not fixed and may vary according to market movements. This model includes

some risk that customers would pay above-market rates if the price reset occurred during a high point in the market. The re-pricing strategy would seek to select timing that would mitigate this risk.

Benefits:

- Seeks to manage electricity market volatility through a strategy where pricing 'follows the market' and take advantage of downward movements in spot pricing.
- Relatively procedurally simple – procurement managed by PA
- Does not involve managing development risks and project due diligence.

Disbenefits:

- No renewable energy or socio-economic benefits
- There remains some risk that contracting and price reset will occur at high points in the market, resulting in relatively higher pricing
- No promotional and marketing benefits that result from being associated with a specific renewable energy project

3.1.3. Power Purchase Agreements (PPAs)

PA is currently undertaking a tender for a retail-linked PPA on behalf of 12 Victorian local governments. A retail-linked power purchase agreement is a long-term contract for the supply of electricity backed by generation from a contracted powerplant in the grid. The cost of electricity supplied is tied to the contracted price of energy generated by the power plant. Under a retail-linked contract, a retailer is involved to manage the supply of the electricity to the customer which includes the provision of 'firming'. Firming ensures supply from the grid at times when the contracted powerplant may not be generating.

It is expected that PA the tender will result in a 10-year electricity contract backed by a renewable energy power plant. The contract will commence in late 2020. Participation in the tender requires a pre-commitment to adopt the contract is a satisfactory supplier is selected that meets the contract criteria. The customers have committed to an expected price ceiling. A contract will not be executed if the price expectation is not met. The tender is not open to new participants however PA expects that future tendering rounds will be held.

Benefits:

- Modelling indicates greater likelihood of lower electricity costs over time.
- Provides greater long-term price certainty.
- Delivers renewable energy and potentially socio-economic benefits.
- Marketing and promotional benefit that results from association with renewable energy project.
- Scale and purchasing power resulting from PA aggregation.
- Participation in group purchasing provides a degree of procedural simplicity (although more complex than 'fixed-term fixed price'.

Disbenefits:

- Involves greater degree of development risks and project due diligence (managed by Procurement Australia on behalf of customers).
- Some risk that prevailing wholesale electricity prices may fall after a long-term contract has been executed
- Still a relatively emerging contracting model.

3.2. MAV Procurement

Similar to Procurement Australia, MAV is a member-based peak body for Victorian Local Governments acting as a recognised procurement agent.

MAV Procurement has undertaken group tenders for fixed-price fixed-term electricity and gas supply for local governments for 2-3 year terms. The tenders benefit from the purchasing power that results from aggregated scale. Historically, pricing has generally been comparable to the competitive pricing secured through Procurement Australia and State Government contracting. Generally speaking, differences in pricing between the agencies have reflected difference in market conditions at the time of contracting rather than any particular strategic advantage held by either agency.

MAV *may* eventually facilitate the tendering process for the LGA PPA procurement process currently being led by City of Darebin (discussed below) however this is yet to be determined.

As many Victorian Governments consider long-term PPA tendering arrangements, it is likely that MAV's ability to continue to offer large aggregated fixed-term fixed-price PPAs will diminish.

Benefits:

- Scale
- Purchasing power
- Contracting simplicity
- Relatively competitive price compared to single-council electricity procurement

Disbenefits:

- Not a renewable energy product
- No emission reduction benefit
- Potential for scale of the group may diminish in future as councils adopt long-term PPAs contracts

3.3. State Government Electricity Contract

Local Governments are able to adopt the State Government electricity contract standing offer which is available to State Government Agencies. Under Local Government procurement arrangements, a competitive tender process is not required to enter into these contract arrangements. The current State Government contract is a progressive purchasing arrangement. Progressive Purchasing is a cost management strategy which enables the underlying electricity price to be reset periodically according to prevailing market conditions. The price reset is typically undertaken when a fall in electricity futures prices are observed in the electricity futures market.

The State Government contract benefits from the purchasing power that results from the government's aggregated electricity demand across its various departments.

Benefits:

- Scale and purchasing power that results from State government aggregate load.
- Procedural simplicity – LGAs can adopt the State Government contract without undertaking a procurement process.
- Short term commitment – Councils can roll in and roll out of the contract for relatively short-term periods (eg:6, 12 or 24 months) while other procurement processes are underway.
- Presents a relatively simple and low-cost bridging solution in the event that contracts expire before alternative arrangements are in place

Disbenefits:

- Not a renewable energy contract
- Does not provide a short-term strategy as it isn't known what procurement strategies the State Government will adopt in the long term.

3.4. Local Government PPA (led by City of Darebin)

The City of Darebin has led the development of a business case for a group purchasing arrangement on behalf of 39 Victorian LGAs. A business case has been prepared and LGAs have been asked to commit to a tender process to be undertaken in late 2019. The purchasing group is now open to new Councils to participate.

The tender is for a 10-year retail-linked Power Purchase Agreement (PPA) to supply electricity from an existing or new renewable energy powerplant, or several power plants, in Victoria. The project will supply renewable energy certificates (RECs) allowing emission reductions to be accounted for.

The tender benefits from the aggregated scale of including multiple LGAs. The City of Darebin expects that over 40 Councils will participate. The collective volume will enable a new powerplant to be developed at scale resulting in competitive pricing that would not otherwise be achievable from Councils participating on their own.

The business case, based on specialist energy market modelling, indicated that long-term renewable energy contracting is likely to deliver electricity costs comparable or favourable to a business-as-usual short-term electricity contracting approach.

Undertaking a tender for a renewable energy PPA involves significant cost resulting from the need to engage specialist legal and energy market advice. A group tendering approach is able to distribute these costs among multiple Councils.

Each participating council will be expected to contribute to the costs of undertaking the tender process. These costs will be tiered according to Councils size. It is expected that this will be approximately \$4000 per rural council.

Features:

- Retail electricity supply backed by generation from renewable power plant located in Victoria.
- Will involve supply of renewable energy certificates resulting in emission reductions.
- Supply expected to commence January 2021. Supplier to provide interim supply arrangements if necessary.

Benefits:

- Procedural simplicity – aggregation enables simpler process for individual councils.
- Procurement costs - Aggregation enables procurement costs to be distributed among multiple councils.
- Scale – aggregation enables contracting for utility scale power plant, which would not be possible with Councils acting individually.
- Price – modelling indicates that long-term contracting enables purchase of renewable energy at comparable pricing to short-term ‘business as usual’ contracting.
- Long-term price certainty.
- Renewable energy, emission reduction, and socio-economic benefits.
- Marketing and promotional benefit that results from association with renewable energy project.

Disbenefits:

- As the tender hasn’t been run, the final costs and supplier, including renewable energy power plant, are unknown.
- Some uncertainty about the procurement process remains, including cost.
- Large size of group may present project management challenges.
- Large size of group results in limited control over tender specification (although a representative working group has been established with Council involvement).
- Involves greater degree of development risks and project due diligence.
- Some risk that prevailing wholesale electricity prices may fall after a long-term contract has been executed
- Still a relatively emerging contracting model.

3.5. SECCCA – SEMREP Project

Similar to the Darebin-led Local Government PPA initiative, the South East Councils Climate Change Alliance has developed a business case for undertaking a group tender for long-term (10-year) electricity contracting from renewable energy sources. Unlike the Darebin-led LGA PPA project, the SECCCA project places strong emphasis on local socio-economic benefits tied to the South East Melbourne region. Primary drivers involve increasing renewable energy uptake, achieving competitive electricity price, and delivering positive socio-economic benefits and community engagement benefits.

Due to the small number of Councils involved (between five and eight), it will be necessary to partner with private sector and other public sector partners (such as universities and TAFEs) to achieve the necessary scale to make the tender attractive to the market. Due to the small number of Councils participating, the costs associated with undertaking the tender will be able to be spread across a smaller group of customers. These are expected to be in the range of \$50,000 per participating customer.

The need to involve a greater number of energy customers in the tender group will increase the complexity of the procurement process, however, potentially also presents the opportunity to spread renewable energy and emission reduction benefits to the broader community.

SECCCA seeks to deliver a tender in time to enable supply of electricity by July 2019. It is possible that interim electricity supply arrangements will be required due to the tight contracting timeframe. The SECCCA Councils have not yet formed a purchasing consortium with non-LGA purchasing partners, which represents a risk to the project timing.

The business case for renewable energy purchasing over a long-term contract period indicates that electricity costs are likely to be comparable or favourable to a short-term business-as usual purchasing approach.

Benefits:

- Renewable energy and emission reduction benefits.
- Local socio-economic benefits in the South East Melbourne region.
- Likely lower-cost electricity compared to a business as usually approach.
- Aggregation enables some procedural simplicity and procurement costs to be spread among customers.
- Ability to spread renewable energy and emissions reduction benefits to community (businesses and institutional customers).
- Marketing and promotional benefit that results from association with renewable energy project.
- Long-term price certainty.

Disbenefits:

- Small size of purchasing group:
 - Likely higher participation costs.
 - Potentially less competitive tender process due to smaller load.
- Still not certain whether the tender will proceed due to sufficient scale.
- Need to attract external (non-council) customers will increase timeframe and complexity.
- Final costs will not be known until after tender is run
- Involves greater degree of development risks and project due diligence.
- Some risk that prevailing wholesale electricity prices may fall after a long-term contract has been executed

3.6. Council undertaking its own tender

Councils are able to undertake their own tender process for electricity procurement. This has not been a favoured option due to the costs involved in tendering, the specialist energy market knowledge required in developing energy market forecasts and evaluation, and the lack of scale and purchasing power than results when councils undertake energy tenders individually. Nevertheless, in recent years, the Rural City of Mildura chose to undertake an electricity tender on its own due to lack of satisfaction with service levels from the previous contracted supplier. Rural City of Mildura reported that they were able to secure a retail electricity supply from a second-tier retailer at comparable rates to the PA and MAV contracted price. To achieve this, Council needed to fund the procurement costs.

Benefits:

- Greater control over tender specification
- Complete control over supplier selection – no reliance on aggregated group decision
- Greater flexibility over timing

Disbenefits:

- Greater procurement costs born by council
- Greater administrative complexity
- Reduced scale and purchasing power

3.7. Local governments development of own solar farms (singular or aggregated)

The development of medium-scale solar parks has been undertaken by the Sunshine Coast Regional Council, the City of Newcastle and the University of Queensland. This approach involves either selling electricity to the grid, or engaging a retailer to supply electricity to Council sites. The retailer would manage the grid and electricity market interface and provide a billing and metering service. This model includes significant lead-times and detailed project planning, project management, and work involving engineering, design, due diligence, contractor management and grid connection. The model has the potential to deliver lower cost of energy over the 25-year life of the project however the likelihood of cost over-runs and project delays is significant. The model requires up-front capital investment or finance which can be provided by Council or sourced through community energy initiatives. This model would not deliver electricity in-time to meet the South Gippsland Shire Council's expiring contracts.

The concept of aggregating several council-owned solar farms is being explored by South East Councils Climate Change Alliance. This would potentially streamline some project management and development processes and costs however may also add time and complexity to the project.

Under this model, council would become the owner of a small-medium scale power plant. Council will ultimately be responsible for the operation and maintenance of the plant, even if these functions are outsourced. These risks have the potential to affect power plant performance and output which may impact on the economics of the power plant and the business case.

Benefits:

- Positive community engagement initiative
- Local employment and socio-economic benefits
- Potential lower cost of electricity
- Renewable energy and emission reduction benefits

Disbenefits:

- Highly complex project delivery
- Requires up-front capital or finance
- Significant technical, development and due diligence risk
- Ongoing operational and maintenance responsibilities

4. Decision making considerations – timelines and cost.

Several criteria are proposed to assist in determining which electricity purchasing strategy delivers on Council's needs. Council decision makers can weigh each option against the criteria, in the context of Council's particular operational and strategic priorities. These are discussed briefly below. A summary table listing attributes of each model is provided in section 4.7.

4.1. Councils primary drivers (Cost, procedural simplicity)

The primary drivers identified in section 2 need to be considered. Council has a preference for ensuring cost competitiveness and administrative simplicity. Both the development of a Council-owned solar farm and the administration of a stand-alone tender involve considerable complexity. A stand-alone tender also lacks purchasing power which is considered an advantage of participating in a group purchasing approach. For these reasons, neither of these approaches are favoured. The remaining options provide greater procedural simplicity and purchasing power, and should be weighed against the remaining criteria.

4.2. Timeframe

South Gippsland Shire's existing electricity supply contracts variously expire in July 2020 and December 2020. A replacement electricity contract will be required before those dates. The various procurement strategies identified have procurement lead-times ranging from a period of weeks (in the case of adopting the standing State Government electricity contract) to several years (in the case of developing a council owned generation asset and selecting a retailer to manage the grid and market interface).

In devising a procurement strategy, the timing surrounding Council's short and long-term needs will need to be taken into account. A combination of options may be considered in order to meet Council's timing requirements. For example, Council could adopt a short-term contracting option (such as the State Government contract) as a bridging arrangement while undertaking an alternative strategy with a longer lead time (such as running a tender or developing a Council owned asset). In adopting a multi-step approach such as this, any transactional costs – including staff costs – associated with each option should be considered.

4.3. Procurement costs / cost to participate

The costs in administering the various procurement processes vary significantly. These range from little up-front cost for participating to considerable development costs over a long timeframe.

The Procurement Australia and MAV purchasing groups both adopt a commission-based fee structure paid for by the supplier for the fixed-price fixed term tender, and progressive procurement options. This results in no-up-front cost to the supplier. Procurement Australia's PPA purchasing model involves an up-front fee understood to be in the range of \$15,000 per customer with any funds collected surplus to requirements refunded at the end of the process.

Development of Council-owned generation assets, such as solar farms, involved considerable planning and technical design and engineering costs, business case development, legal and contracting, due diligence, and may also involve community engagement. These costs can extend into the millions of dollars and there is likelihood that projects will encounter unexpected costs and delays.

4.4. Renewable and Carbon reduction objectives.

Some of the procurement models identified will deliver emission reduction benefits as a result of contracting with a renewable energy powerplant. The powerplant will generate renewable energy

certificates which in most cases will be supplied to Council under the contract terms. The certificates can either be surrendered to reduce Council's emission footprint, or can be sold to generate revenue.

4.5. Risks

In determining a preferred procurement model, the various risks associated with each purchasing approach need to be considered and managed. These vary for each procurement approach and may range from electricity market volatility, project management and powerplant development risks, to governance and collaboration frameworks – such as those associated with group purchasing, or aggregated solar farm development. A summary of the main risks associated with the high-level models is identified at the summary table in section 4.7. The risks associated with each specific procurement approach will vary depending on factors such as purchasing group size and composition, the location and technology associated with any particular project, or the experience of the organisations and personnel involved. A detailed analysis of the specific risks will need to be carried out before embarking on the preferred option/s.

4.6. Cost of Energy

The ultimate cost of energy supplied through each procurement option will be determined through a competitive procurement process. The exception is the State Government standing electricity contract for which electricity prices can be supplied by the Department of Treasury and Finance. The various procurement models however do provide either lesser or greater exposure to short term price volatility, or conversely, long-term price stability. The relative expected profile of the cost of energy associated with each model is listed in the summary table in section 4.7.

4.6.1. Diversifying a portfolio?

To mitigate the risk of adopting a single contract which might prove to be deliver a high-cost into the longer term, some customers have taken a diversified portfolio approach. This involves entering into multiple contracts from multiple suppliers at different intervals to deliver electricity for different parts of the customer's portfolio. Each different electricity supply contract involves contract management and administrative overheads, separate billing and data management arrangements, and separate tendering and procurement costs. The potential benefit from contract diversification needs to be weighed against these cost overheads.

4.6.2. Considering Market Risks.

High volatility and ongoing uncertainty in electricity markets mean that predicting future electricity prices with certainty is impossible. While expert energy market advisors undertake modelling to inform expectations about likely energy market movements. Corporate and Institutional customers which have adopted long-term PPA procurement strategies have done so on the expectation that these will deliver lower long-term costs a short-term 'business as usual' purchasing strategy. This is consistent with modelling undertaken by energy market advisors to local governments. There remains some risk that changes in the policy and market environment will result in long-terms contracts will prove to be more expensive than prevailing short-term electricity prices at the time. In determining whether to adopt a power purchase agreement purchasing approach, decision makers must consider whether the *actual* contract price offered is acceptable, without referencing any *modelled* alternative price scenarios.

Procurement approach	Projects	Timeframe	Procurement costs	Renewable energy	Carbon savings	Contract term	Risks	Costs of energy
Business as usual	MAV	Expected 2019-2020	Commission-based cost structure	No (1)	No	2-3 years	Increasing energy costs in a volatile market	Continued price volatility
	Procurement Australia	Expected 2019-2020	Trailing commission paid by supplier	No (1)	No	2-3 years	Increasing energy costs in a volatile market; pre-commit to tender outcome without knowing price before-hand.	Continued price volatility
	State Gov Contracts	Able to join contract at short notice.	Negligible	No	No	6 months – 3 years	Increasing energy costs in a volatile market	Continued price volatility
Power Purchase Agreement	Darebin	Expected tender late 2019. Contract commencement 1 July 2020.	Expected \$4,000.	Yes – new or existing renewable power plant	Yes	10 years	Tender outcome unknown. If new powerplant, may involve development risks.	Expected equal to or better than business as usual
	SECCCA	Expected tender late 2019	Expected ~\$50,000 Per Council	Yes – new or existing renewable power plant	Yes	8-12 years (10 years expected)	Small group – requires partnering with other customers. Uncertain whether tender will proceed. Tender outcome unknown. If new powerplant, may involve development risks.	Expected equal to or better than business as usual
	PA	Currently underway. Future tender rounds 2020 likely but not committed.	~ \$15,000 per Council	Yes – new or existing renewable power plant	Yes	8-12 years (10 years expected)	Tender outcome unknown. If new powerplant, may involve development risks.	Unknown

Council-run tender		Can be run at any time but need to resource appropriately.	\$20K-\$80K Probity Evaluation Legal Admin	Possibly	Potentially yes	TBD (2-3 years likely)	Volatility in marketplace, Contracting expert energy market advice, Low buying power due to small load.	Unknown
Solar Farm		Significant lead times – 18 months to 4 years +	\$100,000s	Yes	Potentially yes	25 years	Various project t development risks, including grid connection, technology risk, planning approvals, project timeframes, etc..	(2)
Solar Farm – aggregated with other Councils.		Significant lead times – 18 months to 4 years +	\$100,000s	Yes	Potentially yes	25 years	Various governance and project t development risks, including grid connection, technology risk, planning approvals, project timeframes, etc.	(2)

1. A default retail electricity supply contract will not deliver renewable energy or emission reduction benefits, however many retailers will offer 'Green Power' and supply renewable energy certificates at additional cost. It is expected that long-term PPAs will generally deliver renewable energy at considerably lower cost than sourcing renewable energy through 'Green Power' in addition to a standard retail electricity supply contract.
2. The economics, and therefore the cost of energy associated with developing solar farms are highly dependant on specific project details such as: siting and location, proximity to the grid, grid constraints, site access, project scale, geotechnical conditions, cost of finance, among others. The economics of a customer-owned project when compared to a business-as-usual purchasing approach can range from favourable to unfavourable.