Renewable Newstead:
Commercial Model and Business Plan for 100% Renewable Energy

Produced by Energy for the People

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Executive Summary

The township of Newstead in central Victoria is seeking to transition to 100 per cent, locally generated renewable energy. Community energy group Newstead 2021 is managing the project and received a $200,000 grant from the Victorian Government in mid-2016 for the development of a Business Case and Master Plan for the delivery of their goal, including a final detailed business case

and implementation plan for a preferred model. Newstead 2021 engaged consultants Energy for the People to deliver this work.

Over an 18-month period, Newstead 2021 and Energy for the People have undertaken extensive stakeholder engagement, desktop research and modelling. The outcomes from community engagement found that the Newstead community had three main requirements of the project; to transition to 100 per cent renewable energy; to reduce energy bills and to "do no harm"[1].

The options developed and analysed by Energy for the People show that, while challenging, it is possible to achieve these goals, subject to successfully delivering three key outcomes:

1. Securing finance and offtake agreement for the construction of at least a 2 MW solar photovoltaic (PV) farm; and
2. Leveraging a trial distribution network tariff, made available by distribution business, Powercor to customers within the Newstead postcode area, which lowers the effective c/kWh supply rate. This includes an extension of the trial network tariff from two-to-five years (which will occur if 50 per cent of Newstead residents take up the trial), and then an additional five-year extension (allowing sufficient time for the solar farm investment to be recouped) which will increase the viability of the project significantly; and
3. The participation of a willing retailer to sign up and secure long-term customers in Newstead, ensuring the output of the 2 MW solar farm is consumed locally, and thereby the value of the investment made by the retailer is maximised

To maximise the probability of project success, Energy for the People has recommended working with a single, preferred retailer, who can finance and operate a minimum 2MW solar farm within the Newstead postcode area, while retailing energy to local residents and businesses. This aligns risk and reward between the solar farm investor and offtake partner, and gives the project a higher probability of success.

Energy for the People has also recommended pursuing one or more of the following three options on the pathway to implementation, to further de-risk the project:

1. Working with the preferred retailer and where necessary market institutions, to structure a ten-year retail energy supply contracts with Newstead customers, including working with Powercor on an extension of the network tariff trial to ten years. This would give the retail partner confidence in long term customer demand for local solar farm energy; or
2. Securing Government, philanthropic, or impact investment funding support for the solar farm - we estimate approximately 30% of the all-in development and construction cost is needed at zero cost, being either a grant or donation, or a zero-interest loan, to neutralise investment risk on the project; or
3. Securing Government, philanthropic, or impact investment funding support for battery storage - batteries enhance the financial viability of the solar farm and help to de-risk investment, but are not viable on a commercial basis for this project. We estimate a total of

[1] That is, no resident should be financially or socially disadvantaged by the project.

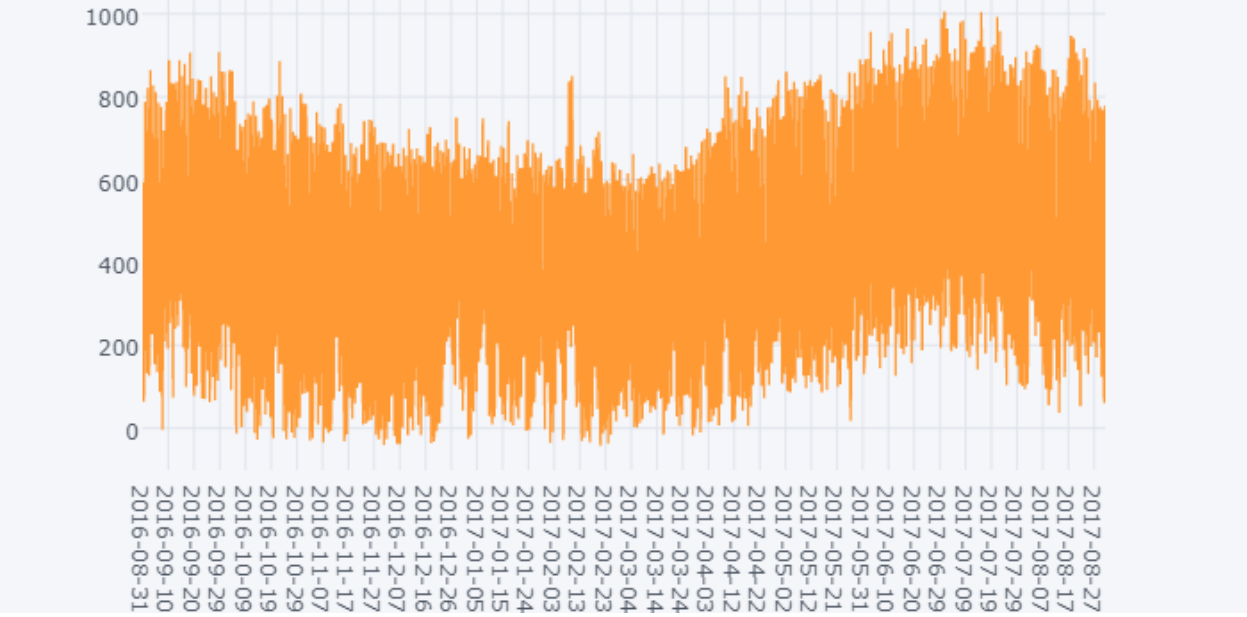
approximately 2 MWh storage is needed, with 50 per cent of battery costs is needed at zero cost, being either a grant or donation, or a zero-interest loan.

Newstead 2021 accepts the recommendation to partner with a single retailer, and is proceeding on that basis. Should the project proceed, the proposed model will be able to supply 100 per cent renewable energy to Newstead customers with the potential to decrease domestic customer bills by between 10 and 30 per cent.

Newstead in Context

For the purposes of this project, Newstead is considered to have a population of approximately 500 residential National Metering Identifiers (NMI's), and a geographic boundary defined by the Newstead postcode.

The electricity consumption of Newstead has been assessed in aggregate using anonymous smart meter data provided by distribution network business, Powercor. Annual demand is 2838MWh, and the load profile has a winter bias which is typical for the climate zone, reflecting approximately 85% of thermal energy demand being for winter heating, and 15% being for summer cooling. There is also an evening spike in demand due to customers running off peak hot water systems. This load profile is presented below for a full year, with the y-axis in kW.



Approximately 60 per cent of demand occurs at peak times, defined as 7am-11pm on weekdays, and 40 per cent at off peak times. No forecast of electricity demand growth has been made, other than acknowledging it will occur, and that any renewable energy solution for Newstead will need to

have capacity to expand over time to accommodate demand growth - planning forecasts suggest between 1-2 per cent annual population growth[2].

The total rooftop solar PV installed as at June 2016, the time of energy load assessment, was 237 kW, supplying with approximately 51 per cent of energy generated by those systems exported to the grid, and 49 per cent consumed directly by those solar customers. These rooftop solar assets are supplying approximately 11per cent of Newstead energy demand. Advice provided by Powercor suggests that at approximately 500 kW of installed rooftop solar capacity, network upgrades may be required and/or solar installations may require export limiting.

These network limits, combined with small-scale solar farms now having a lower installed cost/kW than rooftop solar[3] mean that Newstead has focused on a front of meter solar farm, over rooftop solar, as a preferred renewable energy solution. It is expected that rooftop solar installations are likely to continue to grow, but no forecast of this was made as it has an immaterial impact on the preferred business model option for delivering the project goal.

It is recognised that fuel switching from diesel, petrol, gas; or wood burning appliances to electric appliances will increase electricity demand, however no forecast of this has been made as any forecast would be speculative in nature, and unlikely to have a significant impact on the preferred business model option. However, case studies have been developed and assessed to highlight the value of fuel switching, as part of the transition to 100 per cent renewable energy.

It is also recognised that energy efficiency solutions and battery storage will be implemented alongside renewable energy solutions. The impact of this on electricity demand has not been modelled, however, case studies have been developed and assessed to highlight the value of energy efficiency and battery storage, as part of the transition to 100 per cent renewable energy.

Given the above parameters, the project has focused on defining a preferred solution for supply of at least 2800 MWh of renewable energy per annum, equivalent to the current annual energy demand of Newstead residents, that includes the capacity to grow that supply over time in response to changing energy demand. It has also worked on defining a local energy service that can help customers take advantage of fuel switching, battery storage and energy efficiency solutions where they can enhance the value proposition for renewable energy supply.

Statement of purpose

This document is produced for Newstead 2021 and relevant stakeholders. It is designed to:

[2] See https://www.planning.vic.gov.au/__data/assets/pdf_file/0030/97608/Victoria-in-Future-2016-FINAL-web.pdf

[3] Rooftop solar systems are typically installed for between $1200-$1800/kW, after small-scale technology certificates (STC) rebates, whereas a 2 MW solar farm can be installed for less than $1200/kW without any STC rebates. The value of STC rebates are typically 30% of total installed cost for residential rooftop systems

- enable all stakeholders to understand, and agree on, the recommended commercial model and assumptions underpinning it, for delivering the goals for the project which are articulated below; and
- enable all stakeholders to understand and agree on a pathway to implementation, including how risk will be mitigated and managed, and the role of Newstead 2021 as the project shifts to an implementation phase.

This report recommends a commercial model for delivering the project, including:

- Forecast capital and operational costs in a cash-flow model, including assumptions of customer uptake and customer price-points achieved;
- Technical and funding requirements for implementation, including an overview of options for raising capital;
- Governance and risk management plan;
- Proposed tariff structure, including agreements from Powercor that confirm network tariff structures;
- Roll-out timeframes and milestones; and
- Roles and responsibilities of key project stakeholders.

Problem statement and project vision

The key problem Newstead 2021 is aiming to address, concerns how to transition Newstead to 100 per cent renewable energy supply, whilst ensuring all community members can participate and benefit.

Newstead 2021 is aiming to address this problem out of two, equally important concerns. The first is for the environment and climate change, caused by burning fossil fuels to generate electricity. The second is out of concern for the potential that privately owned residential rooftop solar has to create winners and losers in the Newstead community - specifically, people that can afford solar panels and have suitable roof space can benefit, while those who don't face increasing power bills caused by shifting distribution network costs from solar customers, to non-solar customers.

Specific goals of the project are:

- *Enhance the social and economic life of the community:* this is a broad goal and aspiration to enhance the reputation of Newstead as a community, to create local employment where possible and to ensure the project strengthens community relationships;
- *Do no harm:* ensure any enterprise involved in delivering the project will meet best practice policies for managing consumer protections, including payment difficulties and hardship, and dispute resolution provisions offered by the market. No one in Newstead will be forced to participate in the solution - it will have to be appealing enough to energy customers, to encourage voluntary opt-in. No one should be worse off due to the project proceeding; and
- *Eliminate emissions from energy supply:* It is recognised this will occur in a phased way, progressively increasing the share of renewables over time before, ideally, reaching 100% renewable energy supply, recognising this will need to be a community-wide solution,

based on people opting in. The aim includes an ambition to eliminate emissions from transport energy over time.

Recommended Commercial Model

It is recommended Newstead 2021 pursue an exclusive partnership with a single retailer, who can finance and operate a solar farm in Newstead and retail energy locally. The partner retailer would develop one or more tariff offers, taking advantage of the distribution network tariff trial, and structuring a tariff to reward daytime energy consumption - this will encourage load shifting and so maximise the value of the solar farm. For a detailed assessment of options considered, please refer to the Milestone 6 report, available by request Newstead 2021.

Rooftop solar could also be deployed by the partner retailer on a case by case basis as a means of mitigating risk caused by the network tariff trial (rooftop solar assets would not be devalued in the vent the tariff trial ends). Rooftop solar may also offer additional value to customers, in combination with battery storage, as it could help extend power supply during blackouts.

Newstead 2021 will play an important role in raising awareness in the Newstead community, educating residents on the new tariff offer, and may play a role in signing customers up to the new retail offer in return for a sign-up fee - this will be negotiated with a partner retailer. Newstead 2021 can also work with a partner service provider to offer fuel switching and energy efficiency services that align to the project goals.

Forecast project cash flow and customer uptake

For full details of the project cash flow can be accessed using the following link to a shared file: <https://docs.google.com/spreadsheets/d/1YVuEXL297BABgATUJMNEIg8kj-jSH-xUweijnoG6LEI/edit?usp=sharing>. We note the file is available on a “view only” basis. To edit the file, please save a copy of the file to your computer first, or contact the lead author of this report.

The following tables show a summary of key figures for the proposed 2 MW solar farm as owned by a retail partner. All-in development costs are assumed to be just under $2.7m, with a 15-year offtake agreement, in line with market forecasts for wholesale energy prices including green energy premiums.

Table 1 summarises key project cash flow outcomes for the retail partner to the Newstead project, noting cash flows from year 5-10, and 10-15, are removed for simplicity of presentation. Costs are based on a customer base of 500, with all development and customer sign up costs occurring during a project setup phase (year 0), and revenue from year 1 onwards. The detailed cash flow shows that the project becomes cash flow positive in year 8.

Table 1: Project cash flow outcomes for the retail partner

Retail partner cash flow								
Year	**0**	**1**	**2**	**3**	**4**	**5**	**10**	**15**
billing engine updates	-$50,000							
develop marketing and sign up collateral	-$20,000							
manage marketing and sign up process	-$75,000							
Total budget before solar farm capex	-$145,000							
Total budget including solar farm capex	-$2,695,000	*415,831*	*394,770*	*378,255*	*359,487*	*346,422*	*321,051*	*303,601*
Aggregate cash flow	-$2,695,000	*-2,279,169*	*-1,884,399*	*-1,506,144*	*-1,146,657*	*-800,235*	*854,959*	*2,407,515*

Table 2 summarises key financial metrics for the partner retailer. These figures show and show that a 15-year internal rate of return of 9.93% is plausible, based on 100% customer sign up and loyalty over that time. This equates to a compounding investment return of just under 6%.

Table 2: Financial metrics for the retail partner

Retailer model financial metrics	IRR	gross cash	Simple ROI
5yr	-10.99%	*$1,894,765.27*	*-5.94%*
10yr	5.62%	*$3,549,959.20*	*3.17%*
15yr	9.93%	*$5,102,514.92*	*5.96%*

Table 3 summarises the cash flow for the solar farm, as an asset owned by the retailer. The table shows the cash flow becomes positive in year 9.

Table 3: Cash flow summary for 2 MW solar farm based on commercial offtake terms

Solar farm cash flow								
Year	*0*	*1*	*2*	*3*	*4*	*5*	*10*	*15*
Average, all in $/MWh price paid for solar output		*$131*	*$128*	*$124*	*$121*	*$118*	*$118*	*$118*
Share of customer loyalty value paid to		*$60,000*	*$60,000*	*$60,000*	*$60,000*	*$60,000*	*$60,000*	*$60,000*

solar farm								
Council rates		*$15,000*	*$15,000*	*$15,000*	*$15,000*	*$15,000*	*$15,000*	*$15,000*
Opex budget		*-$80,000*	*-$80,000*	*-$80,000*	*-$80,000*	*-$80,000*	*-$80,000*	*-$80,000*
Grid connection study budget	-$50,000							
Environmental studies and development approvals budget	-$100,000							
Site preparation and grid connection cost	-$100,000							
Solar farm build cost	-$2,300,000							
Net Cash flow	-$2,550,000	*$324,250*	*$310,768*	*$297,910*	*$285,648*	*$275,025*	*$258,839*	*$244,438*
Aggregate cash flow	*-$2,550,000*	*-$2,225,750*	*-$1,914,982*	*-$1,617,071*	*-$1,331,423*	*-$1,056,398*	*$267,776*	*$1,518,477*

Table 4 summarises key financial metrics for the solar farm as a stand-alone asset. These figures show and show that a 15-year internal rate of return of 6.86% is plausible, based on commercial offtake rates over that time. This equates to a compounding investment return of just under 4%, which is not sufficient for the solar farm to be viable as a stand-alone asset. This assessment helps underpin the recommendation to partner with a retailer, who can own and operate the solar farm.

Table 4: Solar farm financial metrics

Solar farm financial metrics			
	IRR	gross cash	Simple ROI
5yr	*-15.89%*	*$1,493,601.84*	*-8.29%*
10yr	*1.93%*	*$2,817,776.48*	*1.05%*
15yr	*6.86%*	*$4,068,476.65*	*3.97%*

Indicative tariff structures

While final tariffs will be subject to negotiation with a chosen retail partner, a review of market offers to the Newstead postcode was conducted, and modelling was undertaken of potential new tariff structures focusing on residential customers (as the distribution tariff trial has only been made available to residential customers). This has been done to ensure any tariffs offered by the partner retailer will be competitive in the market.

The following market offers were considered as price benchmarks to beat, based on a review of Newstead customer's bills and a desktop market research exercise:

- Single rate tariff, standard market rate, no discounting - 27c/kWh, $1.06/day;
- Single rate tariff, best market rate, including discounting - 19c/kWh, $1.06/day;
- Two rate tariff, standard market rate, no discounting - 35c/kWh peak, 13c/kWh off peak,

$1.2/day;
- Two rate tariff, best market rate, no discounting - 23c/kWh peak, 9c/kWh off peak, $1.2/day;

It was found that the retail partner to Newstead 2021 should be able to deliver 5-15% energy bill reductions compared to the benchmarked market rates above, and 20-30% discounts compared to standard market rates, while maintaining viability. Discounts for customers that have relatively high consumption (6000kWh/pa or more) should be easier to achieve, than customer's that have relatively low consumption (3000kWh/pa). This is due to the network tariff structure consisting of largely fixed charges ($1/day), with very low consumption based charges ($0/kWh, $2/kW/month).

It is estimated that the single rate tariffs offered to Newstead customers are likely to be in the range of 17 - 18c/kWh, with combined network charges typically ranging from $420-$520/yr.

The following table summarises customer energy cost outcomes for a range of different energy consumption assumptions.

Table 5: customer energy costs based on energy consumption assumptions.

Retail offer to Newstead customers				
peak demand/month (kW)	*3.00*	*3.50*	*4.00*	*5.00*
peak demand $/month charge	$2	$2	$2	$2
$/day network charge	*$1.00*	*$1.00*	*$1.00*	*$1.00*
Fixed network cost - $/pa	$437.00	$449.00	$461.00	$485.00
Variable before loyalty - $/kWh	*$0.1850*	*$0.1850*	*$0.1850*	*$0.1850*
Variable after loyalty - $/kWh	*$0.1795*	*$0.1795*	*$0.1795*	*$0.1795*
Annual demand (kWh)	*2,500.00*	*3,500.00*	*4,500.00*	*6,000.00*
Whole of bill cost before loyalty discount	$899.42	$1,096.39	$1,293.36	$1,594.81
Whole of bill cost after loyalty	$885.72	$1,077.21	$1,268.70	$1,561.93

Whole of energy bill savings for customers that participate in fuel switching (from gas or wood to electricity) are likely to be significant, as any additional electricity consumption effectively has an energy only charge - additional utilisation of the distribution network has a near zero cost under the new distribution network tariff.

Based on this, we can be confident that the Newstead proposed pricing model is able to supply 100% renewable energy to Newstead customers and:
- At worst, domestic customer bills could decrease by 10%+
- At best, domestic customer bills could decrease by 30%+

It is noted that volume weighted retail prices experienced by customers will naturally vary based on the level of peak, versus off peak consumption, as well as peak demand, customer by customer.

Most importantly, this confirms that it is possible to transition to 100% renewable energy, while reducing energy bills for Newstead customers.

Key Assumptions and financial metrics

Energy and financial modelling suggests the following key assumptions need to hold true, in order to deliver the forecast cash flows as modelled above, and for the project to be viable for a partner retailer, while also reducing bills for Newstead residents relative to business as usual tariffs:

- Installed cost of solar farm less than $1200/kW (assumes no solar tracking, with output starting at 3.75 peak sun hrs per day, degrading at 1%/pa);
- Value of customer sign up is $150, and loyalty/customer retention value is $150/pa to the retail partner;
- Operating costs of $40/kW for the solar farm;
- All in peak price paid to the solar farm of $139/MWh in year one, declining to $125/MWh in year 5, remaining at $125/MWh thereafter;
- All in off peak price of $125/MWh in year one, declining to $100/MWh in year 5, remaining at $100/MWh thereafter; and
- 500 residential customers sign up and stay loyal customers for 15 years

All assumptions listed above have been tested and informed in the market, and are valid assumptions to make. Should these assumptions hold true, the following key financial and project outcomes are achieved:

- The solar farm achieves an IRR of 9.9%, or simple ROI of 6% for a retail partner, over 15-years, thereby justifying the investment made by a partner retailer;
- Gross retail margins of 30% are maintained on energy sold – based on research by the Grattan Institute[4] we assume this is sufficient to cover operating costs, while delivering a commercial profit margin - it implies approximately $200 gross margin per customer, before avoided churn costs;
- A single rate retail price starting at 18c/kWh, and declining to below 14.5c/kWh by 2027, is offered to Newstead customers, with declines in price over time reflecting the value of customer loyalty, and a declining price path for energy supply costs. It is noted that while the 2027 price of 14.5c/kWh rate looks very low compared to current prices, wholesale prices are forecast to decline and revert to their long-term average from 2020 onwards. We also note that the network tariff entails a 0c/kWh charge and $1/day fixed charge, meaning that the relatively low 14.5c/kWh is likely to be coupled with relatively high fixed charges in the range of $1.50-$2; and
- Network connection charges of $1/day and $2/kW/month are passed through by the retailer, resulting in energy bills savings of 10-15% for small energy users (3000kWh/pa,

[4] Recent research by the Grattan institute suggests that in Victoria, the retailer cost to acquire, serve and hedge on behalf of a customer is approximately $200. With Newstead 2021 expected to play a significant role in customer acquisition and retention, we believe the $200 gross margin per customer is a reasonable assumption for modelling purposes. See Grattan Research here

and up to 25-30% for large energy users (8000kWh/pa)[5].

We note that should sign ups be as low as 250 customers (50% take up), we estimate the retailer achieves an internal rate of return of 4% over 10 years and 8.5% over 15 years.

Engagement with Newstead 2021 and the local community suggests that savings of this magnitude will be needed to drive towards 100% take up of the offer, and to compete with temporary discounts that are offered in the market by retailers.

Technical and Funding Requirements

Based on the technology considerations and assessment, Energy for the People recommend that Newstead proceed with developing a 2 MW, front of meter solar farm, as a priority. Rooftop solar can also be developed as an option in combination with the solar farm, focusing on rooftop locations that gives the lowest installed cost - rooftops with unimpeded, north facing space greater than 100 sqm (greater than 10 kW capacity can be installed). If additional project adaptability is required, a portable, modular solar farm can be designed and installed.

Site Selection

Newstead 2021 has consulted with a range of local landholders, with a view to gauging interest in hosting a 2 MW solar farm, with scope to increase the size of the farm towards 10 MW - the upper size being guided by Powercor feedback on the capacity of the local network, as additional network connection costs beyond that size is likely to erode any advantage from economies of scale.

A range of land options have been identified, that meet the following criteria:

- Flat, or gently sloping land falling to the north;
- Cleared land that is not exposed to bush fire risk;
- Close proximity to local distribution network assets;
- Of low agricultural or other value;
- Available on long term lease on rates that can be accommodated by solar farm economics; and
- Land of at least three hectares, and up to fifteen hectares in size.

At least three parcels of land have been identified as prospective locations, giving Newstead 2021 confidence that suitable land is available for the project.

During the next phase of project development, Newstead 2021 intends to run an open Expression of Interest (EOI) process to confirm interest from local landholders before proceeding further with negotiations.

[5] We note that any investment in a local solar farm is likely to be of low value, and potentially loss making, if the network tariff is discontinued. However, in the model recommended, this risk is borne by the retailer, and there is no risk to Newstead residents/customers

Grid Connection

Due to the complex nature of the task, and the capability available within Newstead 2021 and Energy for the People, the grid connection process is best handled by the third-party project partner that is investing in the solar farm. The process for grid connection will vary depending on the final system size chosen (a partner may choose to install a larger system than the 2MW needed for Newstead). Steps for connection will include a grid connection study to identify any impacts on the grid resulting from connection, and how they would need to be managed and an application to Powercor to connect the solar farm. An indicative budget of $50,000 - $60,000 is likely to be needed for the grid connection application and study process.

More information can be found at Powercor's website - https://www.powercor.com.au/our-services/electricity-connections/solar-and-other-generation/connecting-larger-embedded-generator-systems/

Financing Recommendation

To minimise finance costs, and maximise the probability of securing project finance, Energy for the People make two capital finance recommendations. To partner with a retailer to develop the 2 MW solar farm exclusively and to seek additional (grant, philanthropic or other) funding which would help secure project finance and / or project partners.

Partnering with a retailer to develop the solar farm ensures that any risk to the retailer involved with financing the project, is balanced by the prospect of winning and retaining long-term Newstead customers and improved brand value. It would then be the partner retailer's choice as to whether the project is financed using debt or equity.

These recommendations align with the expressed preference of Newstead 2021 to avoid investing local capital in the project, as a means of insulating the community from investment risk, and in line with its "do no harm" principle.

Implementation

The following implementation plan is based on Newstead 2021 pursuing the recommended approach of partnering with a single retailer. Newstead 2021, without any modifications to its structure, can continue to play an important role in raising local awareness, engaging the community and helping customers understand and assess retail offers being made by the partner retailer, or any other retailers/solar companies in the market.

Key implementation milestones

Several key milestones will need to be achieved on the path to implementation, with that pathway simplified by working with one retail partner. The pathway mapped out by Energy for the People with Newstead 2021 is as follows.

Table 6: key implementation milestones.

Date	**Milestone Description**	**Milestone outcomes sought**
February 11, 2018 **(completed)**	Community Forum in Newstead to discuss tariff options and gauge community buy-in.	- Key retail partner understands community needs and demand more deeply - Community builds relationship (and trust) with key retail partner)
Late April / early May	Pre-commitment confirmed prior to formal retail offers.	- Local PR and marketing drive leads to pre-commitment and expressions of interest from local customers, including more detailed customer data gathering
By July 1 2018 or as soon as practical	Retail partner commitment	- A retail partner is chosen and has committed to the project, supporting applications for funding if necessary and developing offers to local residents
By July 2018 or as soon as practical	Funding application made and funding secured	- If necessary, funding is sought and secured to ensure the project is sufficiently de-risked to proceed with a retail partner
By July 1, 2018 or as soon as practical	Commence roll out of green energy and rooftop solar PPA offers via the partner retailer.	- Early success stories from customer's switching - Capitalise on success with ongoing community engagement and awareness/support building - Continue building support for local solar farm
To be completed by 1 July 2019	Landowner agreement, network connection agreement and Development Approval for solar farm secured, noting consultation with landholders, Powercor and Local Council have already commenced with suitable land identified.	- Subject to commitment from partner retailer and sufficient customer demand, negotiate and secure landowner and Development Approval to proceed with a minimum 2 MW solar farm, and a connection agreement with Powercor.
By July 1, 2019 (subject to customer sign up)	Break ground on up to 2 MW solar farm	- Transition existing 'green grid' customers, and residual customers to a 100% renewable offer with all generation coming from Newstead

By June 30, 2020	Aim for max of 100% take up of Renewable Newstead clean energy offer. Aim for minimum of 50% take up of new distribution network tariff trial	- 100% take up of clean energy offer(s) ensures Newstead transitions to 100% renewable energy supply - Greater than 50% take up of the new distribution network tariff ensures an additional 3-year extension of the trial

Governance and risk management plan

The project will continue to be managed by Newstead 2021, working directly with a partner retailer to define and promote a 100% renewable retail offer to Newstead residential customers. This section outlines roles and responsibilities of key stakeholders, encompassing project governance, as well as key risks, mitigation and management actions.

Roles and Responsibilities

Roles and responsibilities of stakeholders are an extension of the project to date and reflect the capabilities and interests of project stakeholders.

Table 7: Overview of roles and responsibilities.

Role	**Managing Stakeholder**
Manage local PR and engagement with local community including all public forums and Q&A (online, local paper, etc)	Newstead 2021
Management of Powercor relationship including participation in any ongoing research initiatives and two-way sharing of customer insights	Newstead 2021
Manage competitive request for quotation (RFQ) process to identify partner retail and/or solar farm investor	Newstead 2021
Manage detailed design and delivery of solar farm, including any battery storage integration, retail pricing and ongoing management/maintenance of assets	Retail / solar farm investor partner, with review of pricing by Newstead 2021 and/or its partners/consultants
Manage negotiation of landholder agreements and development approval process with	Newstead 2021, with retail partner input (task division to be determined)

Council	
Manage sign up of customers to new retail offer	Retail partner, with support from Newstead 2021
Oversight and peer review of the process	Energy for the People

Table 8 below is a draft risk management plan for the coming phases of the project and as such summarises key risks identified for the implementation phase of the project, how they will be mitigated and an assessment of how effective the risk management is likely to be.

Risk impacts are ranked as follows:

- High - if this risk materialises, it has a significant impact on the success of the project for Newstead locals and / or the ability to replicate the model. Replication would be very unlikely without changes to the model;
- Medium – if this risk materialises, it has a moderate impact on the success of the project for Newstead locals and / or the ability to replicate the model. Replication would have a moderate chance of success without changes to the model; and
- Low - if this risk materialises, it has a negligible impact on the success of the project for Newstead locals and / or on the ability to replicate the model. Replication is likely without changes to the model.

Likelihood assessments are made as follows:

- Low - the risk is highly unlikely to materialise;
- Medium - the risk may or may not materialise- insufficient information is known at this stage to more accurately gauge probability; and
- High - the risk is highly likely to materialise.

Table 8: Draft risk management plan

Risk	**Impact**	**Likelihood**	**Risk Rating**	**Mitigation and management strategy**	**Risk outcome**
Longevity of the network tariff trial	*High* - Network tariffs revert to business as usual, making it difficult for the partner retailer to offer a competitive c/kWh rate	*Medium* - continuation of the trial beyond 2 years of 5 years is difficult to predict with confidence	*High*	Continue to work with Powercor on extending the trial to a minimum of ten years Pursue complementary project funding options to decrease investment risk, including funding for battery storage. Consider strategic use of rooftop solar assets, as they are not prone to de-valuation should the tariff trial end.	Risk is effectively neutralised if Powercor commits to ten-year trial, or sufficient funding support is provided to the 2 MW solar farm
Securing the all-in offtake price	*High* - Offtake pricing not	*High* - Assessment shows it is unlikely	*High*	Align risk and reward by partnering with a single	Risk is effectively neutralised by

required to make the model viable, including the impact of energy market policies on future green energy pricing	sufficient to secure investment in the solar farm, making the project a non-starter	that offtake terms would be sufficient to support third party investment in the solar farm.		retailer who will own and operate the solar farm and/or any rooftop solar and battery assets deployed as part of the project. Consider complementary offtake partnerships that would enable a larger scale solar farm to be built, and/or a high offtake price - for example an offtake partner willing to pay a green energy premium.	partnering with a single retailer, who invests in the solar farm
The ability for a retailer to absorb the all-in offtake pricing required to make the model viable, and still provide a competitive retailer offer to Newstead residents	Medium - The retailer is not able to maintain a competitive retail offer in the long run, and Newstead customers switch away from the 100% renewable energy offer	*Medium* - this risk is influenced by many variables influencing the future price of energy including how policy and markets evolve over time, making likelihood difficult to determine	*Medium*	Pursue complementary project funding options to decrease investment risk, including funding for battery storage. Consider complementary offtake partnerships that would enable a larger scale solar farm to be built, and/or a high offtake price - for example an offtake partner willing to pay a green energy premium.	Securing funding support or an offtake partnership that enhances the value of the solar farm and offtake price paid effectively mitigates this risk
Finance cannot be secured to enable project implementation	*High* - funding is critical to project success	*Medium* - it appears funding solutions are available, but cannot be guaranteed at this point	*Medium*	- Pursue a ten-year network tariff trial and partnerships that can enhance the value of the solar farm investment - Pursue funding support from Government and philanthropic organisations	Risk to project remains until network tariff trial is extended or funding support for solar farm secured
Retail / solar farm developer partner cannot be secured	*High* - partners will be critical to project delivery	*Low* - it appears there is sufficient demand from partners	*Medium*	- Partnerships will be conditional on network tariff trial being extended or investment risk being compensated for by funding support	Risk to project remains until network tariff trial is extended or funding support for solar farm secured
Retail/ solar farm developer partner pulls out of project	*High* - losing a project partner would be damaging to the project brand and credibility	*Low* - it appears unlikely a partner would willingly pull out of the project	*Medium*	- Due diligence completed to ensure robust partnership with all known issues tabled - Appropriate agreement in place with project partner - Ensure Newstead 2021 stays active in the market for alternative partners, should its preferred option pull out.	Risk will always remain.

Customer uptake of the retail offer is too low	*Medium* - our modelling suggests that a 25% drop in customer uptake reduces IRR by .5%. A 40% drop still maintains IRR of 8.85%	*Medium* - should the project go live it appears the offer will be very competitive and attract strong interest	*Medium*	- Continue to maintain diligence of project costs and retail margins, to ensure a competitive offer is made, should the project proceed to delivery phase.	Risk will always remain
Customers are not better off on new tariff	*High* - key goal of reducing bills is not realised. Customer complaints undermine viability of the solar farm and the social licence of Newstead 2021 and its partner retailer	*Low* - an assessment of existing tariffs and likely tariffs under the new model confirm that reasonable savings can be expected	*Medium*	- Pre-offer diligence, ensuring offers marketed to customers result in lower whole of bill costs - Bill comparison service - help customers assess their energy demand, current tariff, and value of new tariff - Opt in nature of the tariff means customers can always switch to alternate offer	Risk will always remain and mitigation actions will be required for the duration of the project
Customers are not loyal in the long run	*High* - Customers switch to new market offers, chasing short term discounts being offered by competing retailers. This undermines the viability of the solar farm and retail partnership	*Medium* - probability is difficult to assess as it is an unknown variable at this time and subject to the offer made by the retail partner and how this offer may vary over time to reward customer loyalty	*Medium*	- Offer rewards for loyalty - tariffs decline over time if customers stay loyal and renew contracts - Consult with Essential Services Commission and State Government on the nature of retail markets, and explore the role of long term retail contracts as a way of reducing prices	Risk remains and is borne by the partner retailer
Financial return on solar farm is not sufficient to provide commercial return	*Medium* - solar farm becomes a low value asset and may undermine the credibility of the project, with negative impacts to replica projects. However solar asset will still retain some value, and the project will	*medium* - this is very much contingent on continuation on the network tariff trial, funding support and customer loyalty, and so difficult to predict with certainty at this stage	*Medium*	- Preferred approach is that the retail partner will finance and own the solar farm, isolating Newstead residents from this financial risk - Should a vehicle be established to invest in the solar farm, standard ASIC protections are designed to ensure investors are fully informed of investment risks. - Explore funding support for solar and/or storage assets	Risk remains and is borne by the partner retailer

	deliver additional lessons to the sector, remaining a valuable contribution			to help de-risk investment.	
Distribution tariff trial is discontinued by 2020	*Medium* - Reverting to business as usual tariffs may undermine the viability of the model, particularly for customers that undertake fuel switching and/or rely on purchasing renewable energy from a centralised solar farm.	*Low/medium* - likelihood is dependant on customer uptake, which cannot be predicted with certainty at this stage	*Medium*	- Work towards minimum 50% take up - Ensure risks of tariff trial ending are explained to customers, particularly those investing in fuel switching or other measures that depend on the new tariff to realise value - Pursue funding support for the solar farm to compensate for investment risk	Risk remains and is borne by the partner retailer
Perception that the solution is not addressing climate change	*Low* - Many Newstead residents that are driven by environmental values don't trust the offer(s) being made, and fail to take it up despite it offering value.	*Low* - Given the track record of Newstead engaging and educating its community, this risk is unlikely to materialise	*Low*	Explain the story and detail behind the model, and how it fits into a broader transition of the energy market, to ensure all stakeholders understand the environmental impact.	Effectively mitigated
Perception that this is a solution being controlled by outsiders	*Medium* - Newstead residents don't trust the offer(s) being made, and fail to take it up despite it offering value.	*Low* - the engagement process to date has been effectively involving community stakeholders in decision making and so this risk is unlikely to materialise	*Low*	- Ensure local content in the final product and service mix - Explain the story behind the model, and how RN has worked to define what it needs from partners (as opposed to the other way around), to reach a compromise it believes works for all	Effectively mitigated
Longevity of the model and	*Medium* - over time, the	*Low* - probability of this risk is very	*Low*	- Establish a continuity plan for Newstead 2021	Ongoing work required to

partnerships	relationship between Newstead 2021 and partner retailer fades. Newstead 2021 either ceases to exist, or ceases to be an effective local stakeholder	much subject to final tariffs offered by a partner retailer and customer loyalty over time, but at this stage looks unlikely		- Embed measures in the partnership with retailer to ensure cheap power to Newstead residents over time.	effectively mitigate this risk
Population growth	*Low* - Additional solar capacity is needed to maintain 100% renewable energy supply	*Low* - while some level of population growth can be expected, it does not have an impact on viability of the model	*Low*	- Ensure sufficient land is available to expand a solar arm in the future (this has been factored into ongoing landholder discussions)	Effectively mitigated
Population decline	*Low* - lack of customer demand and decline over time undermines viability	*Low* - regional growth trends in Newstead and surrounds suggest this likelihood is low	*Low*	- Ensure project partners understand this risk and it is considered in their decision-making process	Effectively mitigated
Retailer sells asset	*Low* -Retailer decides solar assets are not worth keeping and decides to sell it/them.	*Low* - if the assets do not have value to the partner retailer, it is unlikely they will be able to sell them at a price that warrants selling them	*Low*	- Ensure project partners understand investment risk - Ensure participating Newstead customers understand the risk they are buying into - Ensure contingencies are developed in the event the solar asset(s) are to be sold.	Risk remains and is borne by the partner retailer
Retailer business fails	*Medium* - Retail partner ceases to exist as a business and is forced to churn customers and sell assets	*Low* - it is unlikely that a partner retailer would participate in the project, if they are financially vulnerable	*Low*	- Ensure retail partner has adequate financial backing and track record of success	Risk remains and is borne by the partner retailer

Immediate next steps

To deliver the project goals, Energy for the People recommend the following next steps be taken by Newstead 2021:

- Continue discussion and negotiation with Powercor, with a view to extending the network tariff trial beyond 2 years, ideally securing a ten-year trial commitment;
- Continue discussion and/or commence a competitive RFQ process to identify a partner retailer with a view to finalising a retail offer that facilitates investment in a solar farm with a minimum of 2 MW capacity, with scope to grow.
    - Pursue complementary financing and other risk management options outlined in Table 8, Draft risk management plan, that de-risk investment in the solar farm, including funding support for battery storage;
- Use the retail offer to complete final market testing and confirm the viability of the proposed model;
- Undertake an Expression of Interest process to identify suitable land, and negotiate the lease required to facilitate investment in the solar farm;
- Complete environmental and network connection studies, prior to securing environmental, network connection and development application approvals; and
- Finalise the retail tariff and solar farm investment package, prior to commencing solar farm construction, in parallel with launching retail offers.