Title	→	Minutes - Community Reference Group Meeting 1
Purpose	→	To update the CRG on the project, Q&A, identify key feedback and prepare for Meeting 2
Date	→	23/11/2021
Location	→	Online – Zoom

Minutes- Community Reference Group – Fitzroy North, Meeting 1

7-8pm, 23 November 2021

Format

Zoom Meeting

https://us02web.zoom.us/j/84947611315?pwd=SkJ1eWYwdWMzUmhQU2lpcStPdU1HQT09
Meeting ID: 849 4761 1315
Passcode: 513954

Attendees

Jennifer Colbert	CRG Member
Laura Brinson	CRG Member
George Douros	CRG Member
Russell Elliott	CRG Member
Richard Ward	CRG Member
Chris Friday	CRG Member
Chris Wallin	Community Battery Project Manager, YEF
Tim Shue	Communications & Marketing Manager, YEF
Sam Green	Climate Emergency Coordinator, City of Yarra

Apologies

None

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Agenda

Time	Details	Person	Aim
19:00	Welcome and introductions In a sentence ➢ Why did you volunteer to join this CRG? ➢ What is the most interesting aspect of the project to you?	TS / All	To meet fellow CRG members and to better understand who's in the room and why.
19:12	Objectives and expectations ➢ Terms of Reference ➢ Minutes will be shared online	TS	Set the expectations of this group and the meetings.
19:16	Project update	CW	To provide the CRG with relevant project updates.
19:26	Questions ➢ Do you have any concerns, issues, key questions or **aspirations** that you would like to raise? These will be logged in the register below.	TS	For the CRG to ask questions and provide feedback. Specific questions and concerns will be logged in a register to ensure they are addressed.
19:45	Preparation for Meeting 2: To allow the project team to make final decisions on 1. Location/placement 2. Visual elements/aesthetics 3. Elements relating to the battery itself	TS	To provide any further information to CRG required for Meeting 2 (1 December)
19:55	Other business and conclude.	TS	

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Minutes – CRG meeting 1

23-11-21

Meeting commenced 7:01pm

TS: provided overview of the agenda.

Group: introduced themselves and shared what they think is the most exciting aspect of the project.

RW: interested to support project for climate reasons. Had solar panels for a long time and can see benefits of producing power, the CB idea is a great idea to then allow neighbours who don't have solar panel to access solar. Worthy of support, the group is quite small and the project is a small part of.

CF: Joined because of disappointment about not able to be part of this pilot project. With neighbours live with others who have solar panels. Also don't know a lot about how batteries work, thought idea of a CB sounded good. Many people in the area are not in their own homes and may not be able to access their own solar panels. Does sound like a great initiative, and it's the first. But this is the first one – how exciting to be part of history.

LB: Live in block of units and only one has solar. Quite a cohesive community and spoke about getting a battery for group of 10 but it turned out to be complicated. Exciting project to see a CB opportunity.

GD: Will be able to see where it goes, have had solar panels on house for past 10 years. Has been waiting for Choice to say it's economical to buy and individual battery. Keen to see new models that come up as we saw when solar first came in, slowly over the years – seeing if as a community we can actually own this rather than it going to electricity companies for profit.

JC: 5 years ago did a community project called solar neighbourhoods to help people get solar on their roofs (bulk buy). Batteries have still not affordable,

originally planned to share a battery with a neighbour but not possible. Also keeping an eye on microgrids, this seemed like Christmas – the perfect thing.

RE: Live opposite the site – have a keen interest on where it is, what it looks like, how it works. Second reason, upgraded solar earlier in the year to make it battery compatible, now producing more than can use and the battery – still have a net surplus – sounded like a great way of making available to community.

7:19pm

Chris Wallin provided an update to the group. Sees CB as next step to PV panels. CB will allow you to store and use energy that otherwise would not be used at night, but share it in a community. CB are like the heart of a microgrid which ensures energy is available for consumption. The work we're doing here is ultimately to expand to address microgrids in the future.

CW: A project like this is innovative, it's the first community battery project aimed at an inner-city environment, densely populated. Other CBs have typically been installed in outer areas. The aim here is to install a community battery where more people live to decarbonise our grid.

CW: Presented a diagram showing the journey to a CB that YEF and project partners have undertaken to get to this point today. [refer to slides]

Project Journey slide

CW: Software developed with ANU, which will be open source – available to anyone. The heart of the project is the site selection and community engagement, including wider engagement with community including education of what community batteries are.

CW: On tariff structures, working closely with counterpart at CitiPower. For most people that sign up to the battery there is likely to be a financial gain by simply signing up to the battery.

CW: Retailers and aggregators. To access the electricity market there are certain requirements. Currently in the process of selecting an aggregator to work with us.

CW: Just starting the connection design and the target date for going live is World Environment Day, 5 June 2022. We might have a street party and invite the Minister to launch the battery (if the community is interested).

Slide change to Pixii

CW: This selection is the result of 2-3 months of work with battery manufacturers. Presented a three-panel system, with an image of the energy storage modules and inverter (inside the battery panels). It's a very modular and flexible system, which is easy to maintain and easy to replace modules. You can switch modules in and out while it's running.

CW: Out of the 14 options, 10 battery manufacturers bid to YEF's request for hardware options. Pixii was the lowest cost, in just under $900/kWh. This is a significant price, CBs can service more people than if those people have battery systems at home, because not everyone consumes energy at the same time. This system is not only cheaper than a home battery but it can serve more customers than home batteries. Running costs are really low – so low that other competitors could not come close, this is important because the battery business needs to make money to survive. Maintenance was a large part of the operational expenditure. It is also the quietest of all options. 63dBa at 1 metre from the units. Battery noise levels are lower than all other options analysed. This sound is approximately equivalent to a conversation between people or a dishwasher. The units include sound insulation.

Action (CW): investigate data for sound degradation over distance (e.g. at 10m and 20m – what does 63dBa 1m actually mean in practice for nearby residents?)

CW: The footprint = 1.7m2, and for the amount of energy it's very efficient. It has a very sophisticated safety system – the most sophisticated out of all assessed. The battery cells are manufactured by Swedish company manufacturing with 100% renewable energy. All the battery cells that are used come back to the company

and they can recycle up to 95% of those cells. The same company announced last week that they manufactured the first cell made of 100% recycled materials.

Northvolt is the company and they are the supplier of the cell that goes into the modular pack (image on the right) which goes into the battery system. Company of the battery system is Pixii – also the name of inventor of alternating current (AC).

CW: We're about to announce this media release tomorrow. The CRG is the first group to hear this announcement. A lot of people are interested. Most other battery systems are owned by electricity distributors, and we have a different approach to them. We are cost driven and ensuring we are getting the best deal possible for people who use and own the battery. So it's a real win- win, and in the process we are also supporting the CitiPower network.

CW: Hope to select aggregator in the next 10 days, and by then hope to have everything we need to execute the plan.

Minutes for the next agenda item are captured in the register for key questions, aspirations and issues below.

Meeting concluded 8:16pm

Key questions, aspirations and issues register

Item	Details	Raised by	Response	Action required (Y/N)
1	Has Pixii battery been used as a CB anywhere else that you know of?	JC	CW: Pixii is a relatively new company based in Norway. They are inheritance of another company (L-Tech). L-Tech was a major electricity equip manufacturer, they sold the business to a Chinese company. But the core engineering team moved into	

			Pixii. Core IP was the basis for design of the CB. It's the next gen. design of that type of system. L-Tech systems are a standard all over the world, including for telcos such as Telstra, Vodaphone, Optus, and the experience and know-how is there. But the Pixii system is a new system – like a new generation of an existing technology. It's been installed around the world but few in Australia. This is their first CB – because CBs are brand new in the world. CW has been following development of CBs in the world, we are setting new records in what we're trying to do. The reason the system is so well-suited because they have designed for telecom companies, incl. need for small footprints and suitable for outdoors. This application is very close to what they've done they want to make it successful.	
2	What is the life expectancy of the battery?	JC	Life expectancy: The selected CB hardware can operate up to 15 years, but we have set a 10-year investment horizon so that it can deliver on all services it's expected to deliver on for full 10 years. For every battery you have degradation. The Pixii degradation is relatively small, even in year 10 it will largely be able to meet revenue streams.	
3	Can you add more to that battery? Or do you need a new battery?	CF	CW: That's the beauty, you can add another panel – when it comes to power capacity (how much	

			electricity can enter the battery in one go), there we are limited by the network not the battery itself.	
4	Recalls 200 households involved in the area being looked at, what happens if only 150 households want to join? Does that make a difference to the progress?	CF	CW: So the way we are looking at it is that every day we would like to discharge about 200kWh of energy. So we can discharge 200kwH to, e.g. 40 customers, if they sign up – they will get supply in the order of 5kwh per customer. Or 80 customers, and each would get 2.5 kwh in their evening consumption. We can also look at it differently, but by default that is likely to be the approach. Depends on how many want to sign up – in short, we are taking a flexible approach depending on how many customers participate.	
5	What happens if input exceeds the limits that CitiPower have given you?	RE	CW: It's the different between the energy that goes in at one time, so if it's 100. If we take in 100kW all the time, it would take 2.5 hours to fill the whole battery. Therefore, what we do is we actually select times at which we will take in energy (charge battery) and we have the whole morning from 9-3pm each day to do that. After 3pm we start the discharge cycle with a focus on the peak (typically 5:30-7:30pm). We could add more cabinets to the installation and get more storage into the system to store even more energy.	
6	Many people use microinverters for their solar panels, will that make a difference to	JC	CW It's the same, if you're exporting onto the network –	

	our ability to input into the battery? Or does it have to go through another inverter first?		that's all we need. As soon as the energy is on the cable we can absorb into the battery system.	
7	Who owns the battery?	JC	Today YEF is the owner because our organisation 8received the grant from Victorian Government ($800k through the Neighbourhood Battery Initiative). But this is something we would like to explore with the community. Happy to make the battery open to the community ownership, this could operate like having shares in the battery and you can decide how to run the battery. We at YEF facilitate this, so next time it may not be a grant, it may be another source of funding for the battery and we provide the services allow you to get the battery and operate on your behalf. YEF is not in the business of owning batteries, it's a topic in itself that we would like to explore later down the track.	
8	What's next?	CF	CW: What's important to us is that we agree with you on the specific location of the battery, we need to understand how it will be visually – there are different options. Having that location agreed and how it looks is the most important for us at the moment and addressing any other questions you may have. It's really important that we are hearing your input, we would like by next week that we can make decisions on these points so	

			that we can begin the planning application process.	
9	Is CitiPower not fixed on putting it within the boundaries of the wall?	JC	CW: We engaged with CitiPower on this, one of their managers is planning on being here next week (at the next CRG meeting). CitiPower began an enquiry into whether the battery can go behind the wall. They have looked at all possibilities of having the asset inside. Problem is, you're in a HV area, there are problems having a LV unit in a HV area. The estimate is $150k to put in an isolating transformer to allow it to go into a HV zone (behind the wall). It's much safer to put it outside the zone substation. So it is possible but it comes at a significant cost.	
10	Is there a cost to put it in the proposed place?	CF	CW: YEF has a budget for accommodating the environment where the battery might go, and that could include a screen or vegetation or painting of the asset. We are very open to these options and want to discuss these with the community.	
11	Comment: Rather than taking up part of the grassy area on Michael St, the McKean St side which is dirt/stones could be an option for the battery.	JC/RE	CW to investigate ownership of the land on McKean St and get images of what it could look like on McKean St.	Y
12	Would like the unit to be as discreet as possible. How quickly would the 63dBa degrades at distance (e.g. 10m and 20m)	RE	Action (CW): to investigate and provide more information about the sound over distance.	Y
13	What about security?	JC	CW: There is a security risk common to all minor utility	

			assets. We have looked into CCTV and potentially having a light over it at night, it's not clear if there is ant CCTV already in the street. CRG said they were unaware of any CCTV in the street. CW: there is an option to put in a camera; vandalism is always an issue. Have already spoken to an insurance broker about these issues, including costs to insure standing in a public space. It's not very different from similar assets installed in urban areas.	
14	Comment: Would be great if it is painted and dressed up, in a way that is attractive in the street. Would have thought that whether it needs a meshed cage first and then think about how it's going to work.	JC	CW: Shared some early photos from Pixii (not representative of what the installation would be). Noted the depth is about 2.5m. Pixii also suggested putting in continuation of the wall and who the back (which is flat) – so it opens up toward the brick wall, so you could therefore decorate the back in whichever way and put vegetation in front of it. We could add grass and plants – happy to go with what the community thinks is the most aesthetic.	
15	Has McKean St side been considered as a possible location for the battery?	JC	CW: Not to date, Michael street is more discreet, which is why we've looked at this area of the substation. Noted there is an option of wrapping options to make it 'quasi-invisible'.	

16	Are you likely to get people in behind the battery who are going to do unsavoury things?	CF	CW: Definitely creates an issue that needs to be considered.	
17	Could we get a local artist to decorate the battery?	RW	SG: We can definitely look into the staff at council who have experience in working with local artists to paint public spaces to reduce risk of graffiti. There has been wonderful community responses to murals and similar projects. Council can investigate what options would be possible. Action (SG): to look into how Council could assist in facilitating a local artist to decorate/paint the battery.	Y
18	Comment: The whole wall could be turned into an art installation.	CF		
19	Comment: Better to celebrate the fact that it's a community project with artwork rather than make it 'invisible'.	LB		
20	How much access to the battery would be required?	JC	CW: At most twice a year, more likely once a year. If people attend, it's more to check the environmental conditions. Maintenance is very minor.	
21	Prefer CB flush to the wall rather than with a space where people could hide	LB	CW: Needs to check enough space for how the battery could be placed against the wall.	
22	Prefers that it sit on the white wall, as the least obvious change to what is there. To have the panels at the front decorated to make it apparent it's a CB. Noted it is his own personal perspective.	RE		
23	What are dimensions of the battery?	CF	CW: About 2-2.1m high, about 700cm deep and 700cm wide (approximately),	Y

			plus 100mm between each units. Action (CW): To find the battery specifications (dimensions) and provide to CRG.	
	If we were likely to add modules in the future, McKean St on the front might be better so you have more room. Something to keep in mind	CF	CW: possibly, we are unsure if that land is owned by CitiPower or council. Action (CW): to investigate whether the verge of property on McKean Street is CitiPower land or not.	Y
24	Suggested more options mock up for Michael St and McKean streets.	RE	CW: noted this is CitiPower land – e.g. the land on McKean St may be Council land not CitiPower land, which adds another complication. Action (CW): do arrange for mock-ups for the McKean St side to see what the battery placement could look like.	Y
25	Comment: Suggestions all quite good, some comfort also with the visuals, it's smaller than expected.	RW		
26	Responses from others who are not connected to solar. What was their support or opinion?	RW	CW: Spoke with about 20 different people mainly along Michael St and McKean St. Pleasantly surprised by how much support there was for the project in the nearby houses. Some commented that they would love to access excess solar, real interest in the sharing aspects of local solar energy.	
27	Comment: Few renters nearby are really interested in a community battery because they haven't got solar.	LB		

28	Can the CRG get a copy of the circuit map?	JC	CW: Will ask CitiPower as it's internal information and get back to the CRG. ACTION: CW to ask CitiPower if it can share the map.	Y

Action items

Item	Details	Owner	Due	Status
1	Action (CW): To provide more information about the sound impact of the battery over further distances (e.g. 10m and 20m) to understand what 63dBa at 1m from the battery means in practice.	CW	1/12/21 (or as soon as possible)	
2	Action (SG): To look into how Council could assist in facilitating a local artist to decorate/paint the battery.	SG	1/12/21 (or as soon as possible)	
3	Action (CW): To find the battery specifications (dimensions) and provide to CRG.	CW	1/12/21 (or as soon as possible)	
4	Action (CW): To investigate whether the verge of property on McKean Street is CitiPower land or not.	CW	1/12/21 (or as soon as possible)	
5	Action (CW): Do arrange for mock-ups for the McKean St side to see what the battery placement could look like.	CW	1/12/21 (or as soon as possible)	
6	Action (CW): To ask CitiPower if the subnetwork map can be shared with CRG.	CW	1/12/21 (or as soon as possible)	