Neighbourhood Battery Site Selection Criteria

Background

United Energy has partnered with groups representing councils, community energy and greenhouse alliance groups to explore opportunities to utilise neighbourhood batteries as part of the Electric Avenue Feasibility Study.

The study, funded as part of the Victorian Government's Neighbourhood Battery Initiative, will examine the best locations for batteries, considering factors such as community benefits, local power demand and network constraints.

Objective

The criteria detailed in this document are intended to provide a practical and 'plain English' summary of the factors that should be taken into consideration when assessing the suitability or appeal of a proposed battery location.

No criteria ranking has been included as the importance or otherwise of each is dependent on the site in question and a range of other project specific factors.

Criteria

Category	Responsible party or Subject Matter Expert	Criteria	Description	Notes	Standards and further resources
Location	Council/Local Government (or alternative)	Land availability	Is there appropriate land available to host the battery? Can the land be leased or sold to the battery owner as is necessary?	Size of land needed depends on the size of the battery itself as well as other requirements including necessary clearances.	
		Accessibility	Does the location offer appropriate accessibility for installation (and removal), servicing and maintenance as well as in case of an emergency such as fire.	In addition to access to the battery itself the ability to reach the site with relevant equipment (e.g. lifting machinery) must be considered.	
		Municipal or land-use zoning	Does the location have a designation or restriction relating to what it can (or cannot) be utilised for?	Most zoning restrictions provide scope for exceptions or exemptions dependent on additional criteria being met or mitigants being deployed.	Planning - Know Your Council
Environmental	DNSP Council/Local Government Acoustic Engineers	Noise	Is there potential for disturbance relating to noise emissions from the battery?	BESS (Battery Energy Storage Solution) units will typically emit an audible hum during the charging and discharging of the battery. They may also emit a constant broadband fan noise, which may be elevated above ambient background noise levels and has the potential to cause disturbance at sensitive use locations.	Applicable legislation is defined within the Environmental Protection Act 2017 as amended by the Environment Protection Amendment Act 2018, including subordinate legislation and any relevant referral and guideline documentation.
	Council/Local Government (or alternative)	Flood/Inundation risk	Is the location at risk of flooding or inundation?	Consider proximity to waterways including creeks, rivers, and ocean as well as low lying land.	DELWP (Department of Environment Land Water & Planning) Flood Warning and Mapping - Water and catchments

				Most batteries are rated against certain water penetration and are installed on an elevated rigid base such as a concrete footing. These measures are not intended to protect against the device being submerged or inundated.	The Victorian Government website provides a range of interactive mapping tools including MapShareVic which shows information about waterways and floodways.
		Overlays: *environmental, ecological, cultural, heritage considerations etc.*	Are there considerations, restrictions or added stakeholder groups that must be considered relating to one or more applicable overlays?	In many cases an overlay will not immediately prohibit the installation of a battery but introduce added controls, requirements, and oversight throughout the lifecycle of a project.	The Victorian Government website provides a range of interactive mapping tools including VicPlan which shows zoning overlays.
Community	Council/Local Government (or alternative)	Proximity to nearby properties	How close is the site to residential properties or other sensitive locations?	Sensitive locations may include childcare centres, schools, or residences for other vulnerable groups. Required clearances between a battery and a residence or other habitable structure exist but are dependent on the size and type of battery. *A good 'rule of thumb' to begin with is to seek at least 7.5m clearance on all sides.*	The EPA (Environment Protection Authority) has a role in controlling and regulating noise. Their website provides further information - EPA - Noise.
		Visual impact	To what degree does the installation impact the local visual amenity or aesthetic?	Location can be secluded. Battery can be: • Concealed through direct application of paint/colour. • Camouflaged through addition of natural (i.e. trees) or synthetic screening. *Artwork such as a mural or street-art can be commissioned to enhance the visual amenity.*	

	DNSP	Local solar adoption	Are there a high number of local properties which currently have rooftop solar? What is the likelihood of significant growth in solar adoption?	Local solar adoption should be considered as those with solar in direct proximity to the proposed location (i.e. visibility of the battery) and those local residences with solar which may contribute to the need for a battery. *More solar in the area can mean more support for these projects and a greater network need.*	A map of solar installations and further information is available on the Australian PV Institute website.
Network	DNSP	Solar export hosting capacity opportunity	Are any local customers with solar prevented from (or restricted in) selling their excess solar back to the grid due to network constraints? Have a high proportion of customers in the area installed solar?	In some cases, a DNSP must prevent or restrict the exporting of solar to maintain a safe and reliable energy supply. In these circumstances the addition of a battery may alleviate the need for such restrictions.	
		Proximity to network/cables	Is the local energy network infrastructure (e.g. cables/conductors) close to the proposed location?	Being closer to electricity network may mean it will be more efficient and less expensive to connect the battery. This will likely also result in less local disturbance during installation.	
		Demand related opportunity	Is there growing demand for electricity on this section of the network?	Installing a battery can create more capacity on the network. This can help in cases of increased housing density or in 'growth corridors.' *This may delay the requirement for a network upgrade to improve capacity.*	More information about demand related opportunities available here.

Assessment

No criteria ranking has been included as the importance or otherwise of each criterion is dependent on the site in question and a range of other project specific factors including but not limited to the chosen ownership structure and commercial model.

Some criteria, such as safety clearances or zoning, have minimum requirements set by standards or legislation. Other criteria such as visual impact are subjective and dependent on perceived impact.

Decision making and dispute resolution

Due to the complexity and diversity of criteria required to be considered when selecting a suitable site, gaining participation and agreement from all relevant parties may be challenging.

To speed up the process and maximise the likelihood of selecting an agreeable site (or sites) a highly collaborative and consultative approach is encouraged.

Such an approach would begin with an assessment of who should be included in the decision-making process to ensure that all relevant areas are considered from an early stage. Discovering that a key person has not been consulted with from the beginning may result in a project being delayed.

Disputes or opposition relating to site choice may occur. To reduce the likelihood and impact of opposition or disputes it is important that the project has strong governance and executive/leadership support, and that the goals and benefits relating to the project are clearly communicated to all stakeholders.

Stakeholders

Site assessment and selection requires input and expertise from a variety of parties across multiple groups. The specific groups and fields of expertise needed is dependent on the project. Each council and project will have a unique group of internal and external stakeholders to consider when selecting a site.

The below is a list of stakeholder groups to consider with when beginning the process.

- Council
    - Town planning
    - Sustainability / Energy
    - Zoning / Public Spaces
    - Heritage
- Public representatives
    - Community energy groups
    - Representative committees
    - Other influencers
- Electricity Distribution Network Service Providers (DNSP)
    - For example, United Energy, CitiPower, Powercor
- External parties
    - Traditional Owners
    - Community Energy Groups

Recommended approach

A recommended approach to begin assessing criteria may be to use a simple star rating table. Through this process each site and relevant criteria is assessed by the right subject matter expert who provides a score and relevant comments.

Such a table provides a simple visual summary which may form a reference point for further discussion and negotiation between relevant stakeholders.

You may wish to include your own added criteria for consideration. For example, you may include a criterion for *Level of Community and/or Council support.*

Sample Criteria Checklist

Category	Criteria	Sample Site 1		Sample Site 2	
		Score (X out of 5)	**Comments**	**Score**	**Comments**
Location	Land availability	★★	Land available in reserve however close to playground	★★★	Rarely utilized parkland
	Accessibility	★★★	*Example comments*	★★★	*Example comments*
	Municipal/land-use zoning	★★★	*Example comments*	★★★	*Example comments*
Environmental	Noise	★★★	*Example comments*	★★★	*Example comments*
	Flood/Inundation risk	★★★	*Example comments*	★★★	*Example comments*
	Overlays	★★★	*Example comments*	★★★	*Example comments*
Community	Proximity to nearby properties	★	Approx 30 meters from houses and close to playground	★★★	Approx 60m
	Visual impact	★★	Little opportunity for natural concealment	★★★	Can be situated behind existing vegetation
	Local solar adoption	★★★★	Good number of local homes with solar	★★★	Majority of ‘near neighbours’ have solar
Network	Solar export hosting capacity opportunity	★★★	*Example comments*	★★★	*Example comments*
	Proximity to network/cables	★★★	Within 5 meters of cables and in soft soil	★★★	Site 2 only able to connect to one circuit
	Demand related opportunity	★★★	*Example comments*	★★★	*Example comments*
Overall rating		★★★	Proximity to playground and homes make this the less favourable option	★★★★	Located in concealed area while maintaining network benefit