



9.2 PORT MELBOURNE LIFE SAVING CLUB - OUTSIDE SHOWERS

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1. PURPOSE

- 1.1 To seek a decision from Councillors on proposed approach to the requested upgrade of one or more outdoor shower facilities located adjacent the Port Melbourne Life Saving Club and public toilets, along Beaconsfield Parade, to hot water.

2. EXECUTIVE SUMMARY

- 2.1 Council provides a number of outdoor showers along the foreshore for community members to utilise, particularly when visiting one of our many beaches.
- 2.2 All outdoor public showers are currently plumbed for cold water use only.
- 2.3 In February 2021, a request was received as part of the budget request process, to change the public outdoor showers adjacent Port Melbourne Life Saving Club to warm/hot water to benefit winter beach swimmers.
- 2.4 Officers initially advised that this was not feasible as the available units were not efficient and did not align to Council's environmental sustainability commitments and the request was not included as part of the 2021/22 budget.
- 2.5 Further correspondence was received with community members offering to try and fundraise for the procurement and installation of the hot water unit, based on a small unit at a cost of \$600 and Officers agreed to undertake further review and provide a briefing to Councillors on the topic.
- 2.6 At the Council meeting on 20 October, a petition was brought to Councillors signed by 178 community members requesting warm/hot water showers, identifying the benefits of cold-water swimming and suggesting more people would visit the area if these showers were available.
- 2.7 Officers have since identified and assessed four potential hot water systems. None of the options explored are without down sides.
- 2.8 Officers have identified that Option 3 being a 3-phase Electric Instantaneous Hot Water Heater, provides the best fit from a cost, installation and effectiveness of use perspective, although it has been identified as highly inefficient, with high energy and water use and yet to be quantified ongoing costs. The estimated unit price is approximately \$13-17K including supply, installation, storage cage and associated electrical works required to upgrade the power supply at this site.
- 2.9 The water use, electricity and maintenance costs will not be known until the unit has been in operation for some time, as we have been unable to find an example elsewhere where an outdoor warm water shower has been installed. Further work will



also be required to resolve risks around showers being left on for example, through use of auto shut-off timers and seasonal versus year-round hot water availability.

- 2.10 According to Sustainability Victoria a domestic electric hot water heater running during peak periods at 150 litres per day has energy costs of around \$920 and greenhouse gas emissions of 3,485 kg per year. For example, assuming 15 litres per minute this would equate to 10 x 1 min warm showers per day for the year. Add an assumed useful life of 10 years (\$1k-\$1.5k per annum) and annual servicing of say \$100 and the minimum annual cost would be estimated at \$2k-\$2.5k.
- 2.11 The other issue that will need to be considered is equity of access along the foreshore to warm water showers. One option is to implement a 'user pays' system where a community group funds the installation in a location and Council funds the ongoing costs. The community members that have expressed interest in a warm water shower in Port Melbourne have indicated that there might be appetite to self-fund the installation. Another option is to provide warm water showers at strategic locations along the foreshore or based on demand.
- 2.12 An alternative option that might be more cost effective than provision of warm water showers where the public showers are currently located, could be providing access to existing showers in the Port Melbourne Life Saving Club. This has been raised with the Life Saving Club however further discussions would be required to better assess the feasibility of this option.

3. RECOMMENDATION

That Council:

- 3.1 Notes the importance of provision of infrastructure that supports a wide range of users along the foreshore.
- 3.2 Thanks the community members for submission of their petition for the provision of warm water showers where cold water showers are currently provided at the public toilet block adjacent to the Port Melbourne Life Saving Club facility.
- 3.3 Resolves not to provide warm water showers at the requested location on the foreshore in Port Melbourne for the following reasons:
 - 3.3.1 There are no options that suitable align with Council's environmental sustainability policies and standards that would provide adequate output for the expected demand.
 - 3.3.2 Whilst the quantum of ongoing operational costs will be unknown until demand for usage is known, it is anticipated these ongoing costs will be significant.
 - 3.3.3 Provision of warm water showers in Port Melbourne could raise an equity issue regarding access along the foreshore and further installations will likely be requested further impacting the operational costs.
- 3.4 Requests that Officers engage with the Port Melbourne Life Saving Club to investigate the feasibility of providing access for swimmers to existing hot showers in that facility and report back to Council.



4. KEY POINTS/ISSUES

BACKGROUND

- 4.1 There are currently five outdoor showers, installed on the outside wall of the Port Melbourne Beach Public toilets - adjacent the Port Melbourne Life Saving Club.
- 4.2 The showers are in good condition and have been there for 10 years or longer. They are currently plumbed for cold water only.
- 4.3 In February 2021, a request was received as part of the budget request process, to change the public outdoor showers adjacent Port Melbourne Life Saving Club Toilets located at 40 Beaconsfield Parade to warm/hot water to benefit winter beach swimmers.
- 4.4 Officers initially responded advising that this concept had previously been investigated and that it was determined that electric hot water units were not suitable due to their inefficiencies, and gas, being the only suitable option, does not align with Council's environmental sustainability commitments.
- 4.5 Further correspondence was received by community members offering to try and fundraise for the procurement and installation of a single phase electric instantaneous water heater model, valued at around \$600 however Council would be responsible for the ongoing costs.
- 4.6 At the time Officers agreed to undertake further review however it was found that single-phase units were more suited to smaller hot water demands and not suited to public consumption.
- 4.7 At the Council meeting on 20 October 2021, a petition was brought to Councillors signed by 178 community members requesting instantaneous electrical hot water units be installed to replace the current five outdoor showers.
- 4.8 The petition stated that "the benefits to cold water swimming through the winter months are many. Being able to rinse off afterwards with warm water in the outside showers would attract more swimmers to the area".

This petition was received and noted by Council with the community members being advised that work was underway to investigate the feasibility and cost of installing warm showers along the foreshore and Councillors would be briefed in February.

OPTIONS ANALYSIS

- 4.9 Officers have since identified and assessed the current market options available for instantaneous hot water provision which are outlined below.
 - Option 1: Installation of a gas instantaneous hot water system.
 - Option 2: Installation of an Electrical heat pump
 - Option 3: Installation of a 3-phase electric instantaneous water heater
 - Option 4: Installation of a solar hot water system.
- 4.10 Council's commitment to environmental sustainability has been considered when assessing available options, including efficiency in performance.
- 4.11 Coefficient of performance (COP) has been identified when considering efficiency of systems. Coefficient of performance identifies how many kilowatts (kW) of output are



provided for every kilowatt of power consumed (i.e. a coefficient of performance of 5 means for every kW of power consumers, we get 5 kW of output).

4.12 Officers also engaged a plumbing company to provide a quote on a potential system to understand the procurement and installation costs. Funding for installation, equity considerations and ongoing maintenance costs are considered further below.

4.13 Table 1 below summarises the pros/cons/constraints and costs of each option:

Table 1 – Pros/cons/constraints/costs of each option

Option	Pros	Cons	Cost
Option 1 – Instantaneous Gas Hot Water System	<ul style="list-style-type: none"> • More cost effective than electric systems. • Showers can be run on a timed single push button to minimise elongated use or the risk of taps being left on. 	<ul style="list-style-type: none"> • CO2 emission is approximately 670kg per year. • Higher upfront procurement and installation costs • Does not align to City of Port Phillip sustainability commitments where it is focused to reduce gas consumption where feasible. • Council is committed to 100% green power for its own assets meaning there is no GHG emissions associated with electrical consumption. Therefore, a gas instantaneous system will always generate more GHG emissions than any electrical system. • It is against City of Port Phillip Minimum Performance Standards to install new gas connection in our assets. • City of Port Phillip, as part of its net zero commitment is engaged in degasifying its assets. 	<ul style="list-style-type: none"> • Supply and install of a 97% efficient gas heater with one shower head is approximately \$11K. • Expected cheaper ongoing operating costs (approximately \$835 per year including maintenance), however the price of gas is uncertain in the future. • Council is committed to net Zero emissions meaning the organisation will have to offset the gas emissions generated by the Gas Hot water system adding to the running cost of the infrastructure.
Option 2 – Installation of Electrical Heat Pump	<ul style="list-style-type: none"> • Relatively efficient (COP=5) • The system used CO2 as a refrigerant which is environmentally friendly and efficient in transferring heat. • Showers can be run on a timed single push button to minimise elongated use or the risk of taps being left on. 	<ul style="list-style-type: none"> • Utilises a water storage cylinder therefore it is not compatible for high consumption so would not be suitable at this site (would require 2 storage cylinders to ensure continuous hot water). • Low power consumption (COP=5) is reliant on 32.5C outdoor air temperature. In winter COP reduces by 15-20% due to the cooler temperatures. • System is noisy to run due to fan and compressor running while in use. 	<ul style="list-style-type: none"> • Ongoing running costs are less due to lower power consumption • Expected increase in water usage will result in higher water bills ongoing. • Regular ongoing servicing costs will need to also be considered.



Option	Pros	Cons	Cost
Option 3 – Installation of 3-phase Electric Instantaneous Hot Water Heater	<ul style="list-style-type: none"> Does not require water storage cylinder so more suited to higher consumption – though this may still not be suitable depending on level of consumption at the site. Showers can be run on a timed single push button to minimise elongated use or the risk of taps being left on. 	<ul style="list-style-type: none"> This model is highly inefficient (COP =1) therefore does not align to Council’s environmental sustainability commitments. Upgrade of switchboards to 3-phase electrical supply is required. To keep up with high demand, water flow and temperature is likely to decrease. <p><i>Note, that while highly inefficient and likely relatively high running costs, likely provides the best fit given the issues identified with the other options.</i></p>	<ul style="list-style-type: none"> Relatively cheap to procure and install a single unit, however does require the upgrade of power supply to public toilet building to 3-phase required, as well as upgrade to electrical switchboard at an estimated cost of \$3-5K Runs on the more expensive peak electricity tariff resulting in higher ongoing running costs to Council. Expected increase in water usage will result in higher water bills ongoing Regular ongoing servicing costs may also need to be considered.
Option 4 – Installation of Solar Hot Water System	<ul style="list-style-type: none"> Highly efficient using 60% less energy than conventional gas and electrical hot water systems Showers can be run on a timed single push button to minimise elongated use or the risk of taps being left on. 	<ul style="list-style-type: none"> Requires a water storage cylinder and therefore not suitable for public space due to high consumption. (would require 2 storage cylinders to ensure continuous hot water). Efficiency would reduce in winter time due to solar reliance. It is unknown if solar panels would be able to be mounted to the current roof structure of the public toilets at Port Melbourne due to the age of the roof and type of roofing material used. Further review would be required to determine feasibility. 	<ul style="list-style-type: none"> Expensive upfront procurement and installation costs Low ongoing running costs due to high efficiency rating, however may increase slightly in the cooler months with lower sun exposure. Expected increase in water usage will result in higher water bills ongoing Regular ongoing servicing costs will need to also be considered.

4.14 None of the options explored are without down sides however option 3 being the installation of a 3-phase Electric Instantaneous Hot Water Heater, provides the best fit from a cost, installation and effectiveness of use perspective, although it has been identified as highly inefficient, with high energy and water use with associated costs over time.

4.15 Based on a quote Officers have obtained, the unit price to supply and install a 27DHE AU electric hot water system is approximately \$13-17K including supply, installation, associated electrical works required to upgrade the power supply at this site and secure storage cage.

4.16 Whilst typical domestic households mostly utilise single phase power, these are usually to supply hot water via an electric heat pump due to efficiencies, however as identified in table 1 above, Officers do not believe a heat pump is a suitable option.



- 4.17 A 3-phase power unit is expected to be required due to the demand being too high for a single phase traditional heater to cope during peak times. Additionally, 3-phase power provides better consistency, delivering power at a steady, constant rate. During times of high usage, single phase power will likely cause the water flow and temperature to drop.
- 4.18 High level assumptions regarding water use, electricity consumption and maintenance have been made and outlined in the financial impact section above, however the true costs will not be known until a system has been running for some time.
- 4.19 In addition, equity of access to warm water showers along the foreshore should be considered.
- 4.20 One option that could be considered is to implement a 'user pays' system where a community group funds the installation in a location and Council funds the ongoing costs. Another option is to provide warm water showers at strategic locations along the foreshore or based on demand.
- 4.21 Previously community members that have expressed interest in a warm water shower in Port Melbourne have indicated there might be an appetite to self-fund the installation based on a small single-phase unit at approximately \$600.
- 4.22 Based on the Officers assessment of the options analysis, and quote received, it would not be reasonably practicable for community members to fund these costs.
- 4.23 An alternative option that might be more cost effective than provision of warm water showers where the public showers are currently located, could be providing access to existing showers in the Port Melbourne Life Saving Club.
- 4.24 Officers have reached out and engaged an initial conversation with the Life Saving Club. Currently the club are already opening their doors to the Iceburgers swimming club when the Life Saving Club club members happen to be on site.
- 4.25 Currently club members who are either patrolling, or committee members (i.e. are actively involved with and support the club functions) have access to the building.
- 4.26 Whilst the club are open to conversations, there are concerns that providing access to the general community via a 'building access' type smaller membership could compromise the security of the equipment in the club and the general safety of the club members. Further discussions and negotiations would be required to determine what options could be feasible.
- 4.27 Additionally, there are only 1x male and 1x female shower located in the Life Saving Club. Both of these showers are on the first floor, therefore have accessibility issues with the stairs.
- 4.28 The showers are in poor condition and would likely require an uplift to bring them up to a reasonable standard within their current footprint. Officers estimate that approximately \$90K would be required for repainting, re-tiling, and replacement of fixtures and fittings in both bathrooms (includes the showers and toilets).
- 4.29 The Life Saving Club have previously approached Council looking to upgrade their current amenities and increase the footprint, including the delivery of an accessible toilet. Due to the first floor location, it was noted that this would trigger permit and compliance issues throughout the whole building, including the need for a lift to be installed which is not currently feasible.



- 4.30 This option would likely require a formal membership agreement and Council commitment to renew the current amenities due to their current condition.

5. CONSULTATION AND STAKEHOLDERS

- 5.1 A petition has been received signed by 178 members of the community requesting hot water outdoor showers. It is unknown how many of these members actually partake in winter swimming activity.
- 5.2 No further community consultation has been undertaken.
- 5.3 Stakeholders from Project Services, Building Maintenance, Sustainability, and the Asset Management and Property teams have been engaged to review the potential options.
- 5.4 A plumbing company was engaged to understand the options and cost associated with possible installation in a high-profile public place.
- 5.5 An initial conversation has been held with Port Melbourne Life Saving Club who are open to further conversations.

6. LEGAL AND RISK IMPLICATIONS

- 6.1 No significant legal implications have been identified.
- 6.2 There is a risk of community dissatisfaction if the recommended option not to proceed is supported.
- 6.3 If there is preference to install a unit, water temperature will need to be regulated to ensure the public are not harmed from scorching hot water temperatures.

7. FINANCIAL IMPACT

- 7.1 Based on a quote Officers have been able to obtain, the total cost to install the best fit option of a 3-phase DHE 27 AU instant hot water heater is \$7,150 (incl. GST). This includes supply, installation and required associated electrical works to connect to the site.
- 7.2 Estimated additional costs of around \$3-5K would also be incurred to upgrade the electricity connection and switchboard to 3-phase power supply.
- 7.3 To protect from damage and vandalism, a secure cage/box would be required to be installed around the unit at a cost of approximately \$3-4K
- 7.4 Some additional minor works may be required to make good any piping or brickwork dependent on where the water heater would be required to be situated. If required these are not expected to be extensive and relatively inexpensive.
- 7.5 Community members have indicated they may be able to fundraise for these initial upfront costs, however this was based on one \$600 single phase unit which would not be appropriate for the space, therefore this offer unlikely to be feasible at the higher costs indicated.
- 7.6 Council will be responsible for the ongoing running costs which are expected to be high due to the instantaneous electric unit being more inefficient and the additional demand expected on the shower.
- 7.7 Based on usage rates of 10x 1minutes showers per day, officers estimate minimum annual utility costs of \$2-2.5K. This is based on:



- 15 litres of water use per minute/150 litres per day
- Energy costs of \$920, equating to greenhouse gas emissions of 3,485 per year.
- Assumed useful life of 10 years at \$1-1.5K per annum depreciation
- Annual servicing estimated at \$100
- These costs are high level estimates are subject to change dependent on the model of hot water unit supplied and the demand incurred.

7.8 Additionally, it is expected that if warm/hot water showers were offered, these would be utilised by many people, not only those swimming in the cooler winter months which may further increase the estimated running costs outlined above.

7.9 The unit comes with a 5-year warranty and therefore maintenance costs are not expected to be significant unless the unit is vandalised.

7.10 A single unit may total approximately \$13-17K upfront plus ongoing water and electricity costs.

8. ENVIRONMENTAL IMPACT

8.1 Council's sustainability department have been consulted to ensure the recommended option is in line with Council's environmental sustainability commitments.

8.2 As outlined in the options analysis, all potential solutions have a negative environmental impact in relation to Council's environmental sustainability commitments, as gas is against policy and, of the electrical options, heat pumps and solar hot water offer limited capacity due to tank size and sun/heat availability, whilst 3-phase instantaneous hot water systems are below performance expectations of Council's Minimum Performance Standards.

8.3 Whilst the preferred unit may be less efficient, there would be no impact on carbon emissions when using hot water as Council's electricity comes from a renewable source, however it would still generate additional electrical consumption and running costs.

9. COMMUNITY IMPACT

9.1 This will benefit a potentially small portion of the community who continue to swim during the winter months. Whilst 178 people have signed the petition, it is unknown whether all these people would utilise a warm shower during winter.

9.2 Installing hot water outdoor showers at Port Melbourne will indicate a change in service levels and it is anticipated that further community members, Sports and Lifesaving clubs are likely to expect the same level of service and request similar amenities in further locations along the foreshore.

9.3 Community members have suggested that installation of warm/hot outdoor showers will encourage more visitors to the area and will allow beach swimmers to go straight to work and other social activities from the beach during wintertime.

9.4 It is anticipated that the installation of warm/hot water outdoors at Port Melbourne will instigate additional requests for further similar amenities along the foreshore

9.5 There is a potential risk of anti-social behaviour causing damage through vandalism of any electrical units or hot water storage tanks installed in a public space and will need to be mitigated by installation of a secure storage cage.



10. ALIGNMENT TO COUNCIL PLAN AND COUNCIL POLICY

10.1 The recommendation of this report aligns to the following strategic direction:

- **Liveable Port Phillip** – A City that is a place for all members of our community where people feel supported and comfortable being themselves and expressing their identities.
- **Sustainable Port Phillip** - A City that has a sustainable future, where our environmentally aware and active community benefits from living in a bayside city that is greener, cooler, cleaner and climate resilient
- **Well-Governed Port Phillip** - A city that is leading local government authority, where our community and our organisation are in a better place as a result of our collective efforts.

10.2 Additionally, this report aligns to Council's Act and Adapt Sustainable Environmental Strategy 2018-2028:

- A city with lower carbon emissions to reduce the environmental footprint of Council and community

11. IMPLEMENTATION STRATEGY

11.1 TIMELINE

11.1.1 Pending Council decision, further engage with the Port Melbourne Life Saving Club to assess the feasibility of providing access to exiting showers within that facility for swimmers.

11.2 COMMUNICATION

11.2.1 Officers will communicate the outcomes of the discussions with Port Melbourne Life Saving Club with community members.

12. OFFICER DIRECT OR INDIRECT INTEREST

12.1 No officers involved in the preparation of this report have any material or general interest in the matter.

ATTACHMENTS

Nil