7.2.2 Notice of Motion #1096 - Mercury Vapour Street Lighting Upgrade - Heritage Springs, Lakeside and Garfield

Responsible GM: Debbie Tyson
Author: Brett Munckton

Recommendation

That Council:

1. Notes the report;

2. Notes that Ausnet Services are currently investigating options to retain the existing light fittings and retrofit LED globes in them;

3. Receives a future report recommending a way forward following advice from Ausnet Services.

Attachments

1. Appendix A Mercury Vapour Street Light replacement program progress [**7.2.2.1** - 3 pages]

Executive Summary

At its meeting on 17 June 2024 Council, in considering Notice of Motion 1096 resolved:

> *That council stops the removal of the Heritage Streetlights in the Heritage Springs estate. That council retains the unique and heritage streetlight fittings and finds a solution to fitting these old street lamps with the new LED light globes or other appropriate lighting globe options and provides Council with a report that includes solutions*

This report responds to this Notice of Motion.

Council commenced a program to replace mercury vapour light fittings in 2022 to comply with the Minamata Convention that bans the import, export and manufacture of mercury vapour lights.

In the 2022-23 financial year, 845 mercury vapour lights were replaced with LED light fittings. In 2023-24 financial year the program continued, with 637 light fittings purchased for installation, the installation commenced in May 2024. To date, 375 lights have been changed over in Heritage Springs Pakenham as part of this stage of the program. Appendix A shows the location of the mercury vapour lights replaced to date, and those remaining.

Following the Notice of Motion, the program has been placed on hold pending further investigation on available solutions.

The replacement light fitting being used for this upgrade is the only post top LED option currently approved by AusNet Services. Following the community concerns raised, and associated enquiries made with AusNet Services, AusNet have recognised the communities

desire to retain existing fittings and are now reviewing the potential use of a retrofit LED globe to maintain mercury vapour fittings that have not been changed to LED fittings by 31 December 2026.

Of the 1,900 mercury vapour light fittings identified in the Shire in a 2021 audit, 1,220 have been replaced with LED fittings to date. The remaining 680 lights could remain on hold while AusNet Services review the use of a retrofit globe solution.

It is unclear whether a solution will be available for all of the various mercury vapour fittings remaining in Cardinia, and we wait further advice from AusNet Services on this.

Should AusNet Services provide written advice that confirms the use of the retrofit bulb is viable, it is proposed that a report is brought to Council which will include the process, costs and a community consultation plan.

Background

On 11 April 2022 Council delegated authority to the CEO to enter into agreements to purchase materials to replace mercury vapour light fittings with AusNet Services approved LED light fittings through the MAV procurement process.

The report informed that the upgrade was required as the mercury vapour lights were becoming unserviceable due to the Minamata Convention that bans the import, export and manufacture of mercury vapour lights. This direction was in-line with an AusNet Services program developed for the 2021-2026 Electricity Distribution Price Review period. AusNet Services advised their program provided funding support to replace mercury vapour lights conditional upon Council replacing all mercury vapour fittings.

Mercury vapour lighting was one of the main technologies traditionally used for street lighting in Cardinia. In recent years energy efficient alternatives have seen the replacement of many of these lights with fittings that reduce energy costs and greenhouse gas emissions. In 2021 an audit of street lights identified that 1900 mercury vapour street lights remained in the Shire. The lights that remain as mercury vapour were generally light fittings that could not be easily retrofitted to alternative technology.

The use of mercury has negative impacts on human and environmental health, and the multilateral Minamata Convention prohibits the manufacture, import and export of new mercury vapour lighting products. AusNet Services have developed a program to assist Councils to replace mercury vapour lamps.

In the 2022-23 financial year, 845 mercury vapour lights were replaced with LED light fittings. These included standard lights and decorative lights. Decorative lights are more attractive lights installed by developers to provide a point of difference for an estate. No concerns were raised regarding the 2022-23 works. Following these replacements, 1055 post top lights remained to be retrofitted, and 637 lights were purchased to install in the 2023-24 financial year in Heritage Springs Pakenham, Lakeside Pakenham, and Garfield. Works commenced on these installations in May 2024, with 375 lights changed over in Heritage Springs until works were ceased. Appendix A shows the location of the mercury vapour lights replaced to date, and those remaining.

Notification to impacted areas was undertaken in September 2022 and February 2024 prior to the commencement of the program.

Options Analysis

Council has discussed the community feedback to AusNet Services and they understand the communities wish to retain the existing fittings.

Council's understanding is that the replacement light fitting being used for this upgrade are the only post top LED option currently approved by AusNet Services.

In recent discussion, Ausnet Services have indicated there is potential for the existing fittings to be retrofitted utilising a globe that is currently being considered for approval by AusNet. At this stage we have no formal confirmation from AusNet Services that this retrofit globe can be utilised. The use of retrofit globes would be subject to AusNet Services including this in the Electricity Distribution Price Review process and this being approved by the Australian Energy Regulator for the 2027-2032 period.

The retrofit globe use over twice the energy and increase maintenance costs as opposed to the current approved replacement LED fittings. Light spill issues and compliance with the requirements of Australian Standards have been raised as potential issues with these globes and this will form part of the consideration for approval.

If approved it is noted that the lighting upgrade is partially completed in Heritage Springs and logical groupings of areas will need to be considered to not create an uneven or inconsistent appearance.

Policy Implications

The 2017 Cardinia Safer Communities Strategy outlines that Council has a key role in maintaining public lighting.

The 2014 Aspirational Energy Transition Plan sets the direction for Council to continue to replace inefficient street lighting with efficient alternatives as replacement options become available. The replacement of the remaining mercury vapour lights is consistent with these policies, however the use of retrofit bulbs may have a negative impacts on safety.

Relevance to Council Plan

1.1 We empower our communities to be healthy, connected and resilient

1.1.4 Facilitate a partnership approach to create safer communities.

2.1 We support the creation of liveable spaces and places

2.1.2 Plan and maintain safe, inclusive and connected open spaces, places and active travel routes.
2.1.5 Upgrade Council's road network to improve safety and connectivity while considering traffic demand and freight transport needs.

3.1 We value our natural assets and support our biodiversity to thrive

3.1.1 Partner with community, business and industry to take action on, and adapt to, climate change.

Climate Emergency Consideration

Street lighting electricity has shifted to a 100 percent renewable energy contract so the energy used will not generate carbon emissions. Reducing this energy use however will free up renewable energy on the network providing an indirect environmental benefit. Replacing the existing light fittings will achieve more savings sooner, than leaving them in place in anticipation of a less efficient LED retrofit bulb.

Consultation/Communication

To inform this report discussions have taken place with various lighting suppliers, AusNet Services and street lighting specialist consultant Ironbark Sustainability.

It is proposed to develop a Community Engagement Plan and undertake detailed community consultation on the retention or replacement of the remaining mercury vapour decorative light fittings, subject to AusNet Services' formal response on the potential future use of retrofit globes. A report will be brought back to the Council with these details.

Financial and Resource Implications

If Council does not replace the remaining mercury vapour fittings in the Shire, it will not be able to obtain AusNet Services funding support for this task. Council will be in possession of 262 purchased lights without a use. The AusNet Services funding is valued at $235 per light, whilst the purchased lights themselves are valued at approximately $880 each. The table below outlines the estimated additional cost to Council of replacing the remaining mercury vapour fittings with LED fittings, which will be avoided if these works do not proceed.

Item	Estimated cost
Purchase of an additional 418 LED fittings	$368,000
Installation of 680 LED fittings	$280,000
Project Management Costs and fees	$65,000
Rebates and avoided costs	-$177,000
Total	$536,000

If the existing fittings remain, Council will not be able to access the projected energy and maintenance savings by replacing them with the AusNet Services approved LED fittings.

Considering recent electricity price rises, these savings are approximately $100 per fitting per year.

The cost of energy and maintenance for the LED retrofit globes being considered by Ausnet Services is currently not known, however best estimates are that they will be $35 more expensive per light per annum compared to the existing approved option.

Conclusion

The current installation program has been placed on hold. Council Officers will continue to work with Ausnet Services on the available options to retrofit the existing Heritage Springs lights.

A further report to Council will be prepared seeking resolution of a recommended direction following this investigation.

Appendix A:
Mercury Vapour Street Lighting Replacement Program Progress

In 2021 an audit identified 1900 mercury vapour Street Lights in the Shire. This Appendix outlines the progress to date with their replacement, and details of remaining mercury vapour lights that are yet to be replaced.

In 2022/23 845 mercury vapour lights were replaced with LED fittings. Figure A1 shows the location of the lights changed in stage 1 (green dots). This stage included approximately 300 standard mercury vapour lights that were more spread out and not as concentrated as the decorative lights.

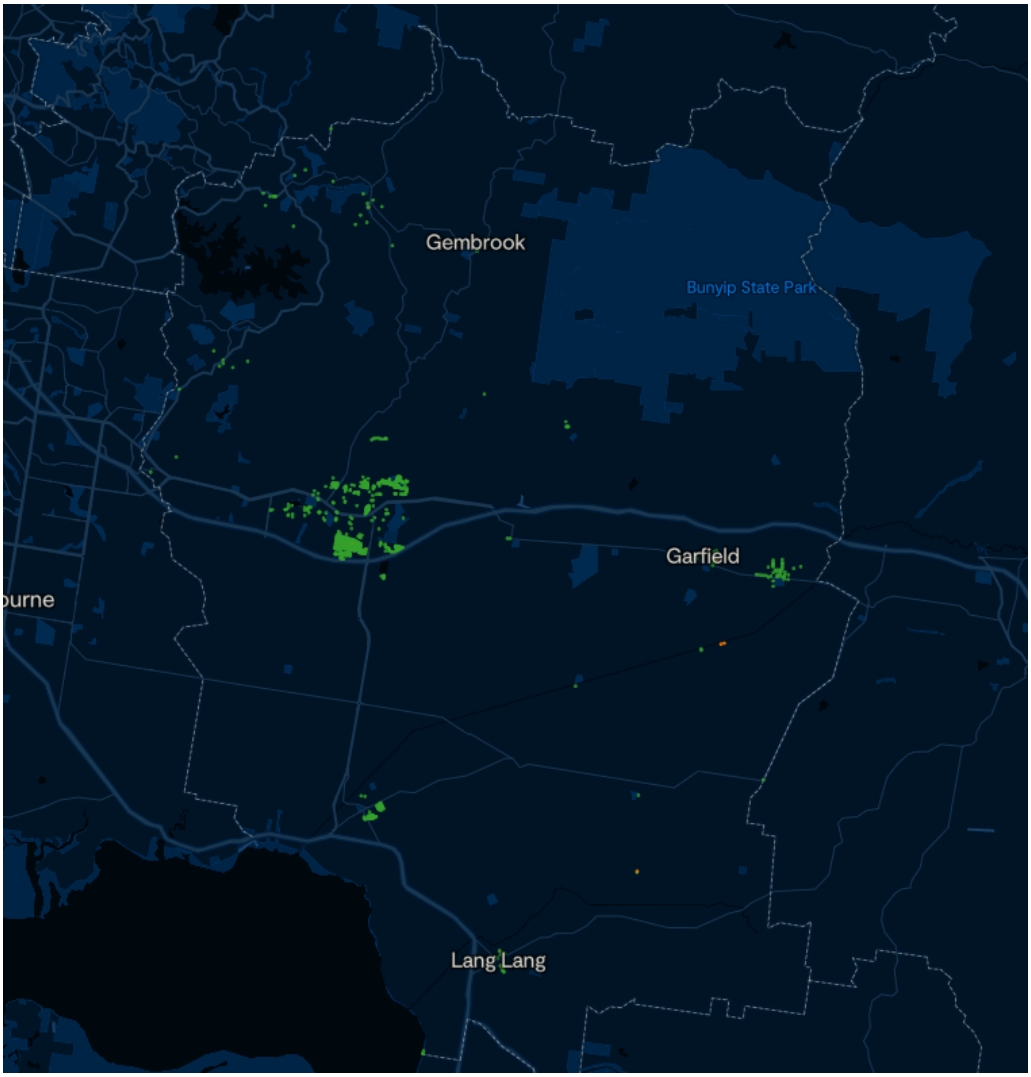

Figure A1: Lights replaced in stage 1 of mercury vapour street lighting upgrade (2022/23)

Following the completion of stage 1 in 2022/23, 1055 post top decorative mercury vapour lights remained. In 2023/24 an additional 637 LED light fittings were purchased to replace mercury vapour lights, and 375 were installed in Heritage Springs Pakenham. Figures A2 and A3 show the lights replaced (green) and intended to be replaced (red, purple and orange) in 2023/24.

Figure A2: Lights replaced (green) and intended to be replaced (red, purple and orange) in stage 2 of mercury vapour street lighting upgrade (2023/24) in Pakenham

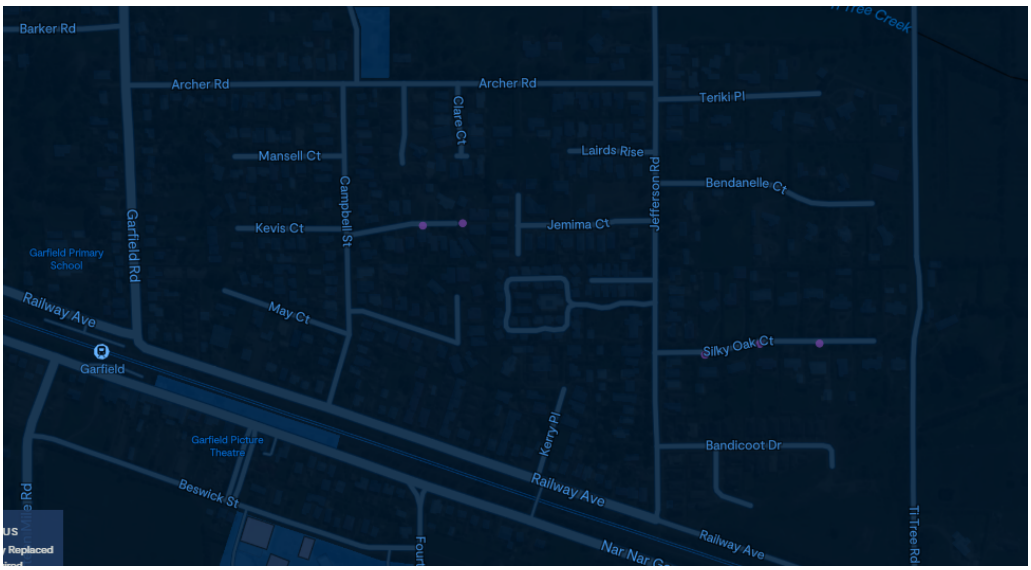

Figure A3: Lights intended to be replaced (purple) in stage 2 of mercury vapour street lighting upgrade (2023/24) in Garfield

Following the completion of stage 1 (2022/23) and stage 2 (2023/24) 418 mercury vapour lights would have been left for replacement in a future year. Figure A4 shows the location of these lights.

Figure A4: Mercury vapour lights intended to be replaced (green and orange) in stage 3 of mercury vapour street lighting upgrade