

RP-10 UPGRADES TO STREET LIGHTING NETWORK

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Summary: This report assesses the options available to Council to fund the required LED (Light-emitting diode) upgrade to the Street Lighting network throughout the Wagga Wagga Local Government Area (LGA), including multiple funding options. Council, as the road authority, can also now mandate the use of LED street lighting for all greenfield developments.

Recommendation

That Council:

- a approves the upgrades to the Street Lighting network as identified in Option 3 in the report
- b delegate authority to the General Manager or their delegate to execute any necessary agreements with Essential Energy on behalf of Council
- c authorise the affixing of Council's common seal to all relevant documents as required
- d approves the Council funded option and associated budget variations as detailed in the financial implications section of the report
- e receive a further report regarding smart technologies once Essential Energy have finalised their procurement processes
- f mandate the use of LED street lighting for all greenfield developments

Report

Essential Energy are undertaking an upgrade of the Street Lighting network to LED (Light-emitting diode) and have approached Council with an offer for Council to contribute to the cost of the upgrade, as well as giving Council the opportunity to adjust the lighting levels of any areas it may identify.

Switching the street lighting network to newer LED technology will provided both Council and the community with the following benefits:

- Proven reliability – failure rates on average around 1% per annum
- Capital investment protection – LED's have a 10 year parts and 3 year labour warranty
- Improves lighting quality – helping to improve CCTV imagery and support crime prevention
- Encourages public night time activity – promoting economic growth within CBD areas
- Savings – reduced greenhouse gas emissions and energy usage of around 1,595 MWh per year

The Wagga Wagga Local Government Area (LGA) currently has over 7,202 street lights, with 222 suspension lighting and 40 street lightings already LED. This leaves approximately 6,940 street lights to be upgraded to LED as part of this project. Due to

the non-standard nature of suspension lighting throughout the LGA, these assets will be excluded from replacement at this time. Essential Energy have identified the replacement of suspension lighting across the state as a separate priority project.

In order to review the lighting levels in each area of the LGA, Essential Energy provided Council staff with an assumed lighting classification, with the classifications ranging from P4/P5 (lowest lighting level) to V1 (highest lighting level). Under this classification, the number of lights currently assumed be to in each lighting level category are:

- V1 – 983
- V3 – 531
- V5 – 5
- P3 – 1,403
- P4/P5 – 4,018

Council staff have undertaken consultation with the relevant internal staff and externally with Essential Energy and Wagga Police, to determine the appropriate areas for lighting level upgrades. As part of the review of the current lighting levels throughout the LGA, Council staff developed the following upgrade options:

- Option 1 – Like-for-like replacement with LED equivalent lighting levels
- Option 2a – Option 1 + changes in lighting levels as a result of crime information received from Wagga Police
- Option 2b – Option 2a + Council identified crime spots including graffiti hotspots
- Option 3 – Option 2b + changes in lighting levels identified by Council staff for future growth and development, the health precinct, Active Travel Plan corridors and collector roads requiring increases.
- Option 4 – Option 3 + identified areas for smart technology (smart controllers and future Zhaga ports) including sportsgrounds, city entrances, the CBD and the health precinct.

Given Essential Energy are currently undertaking the procurement process for the proposed smart technologies, Council staff are not recommending for Council to progress with Option 4 at this time. Council staff will provide a further report to Council following the finalisation of the procurement process and after further discussions with Essential Energy around the deployment of the smart technologies are held.

The below table outlines the number of street lights in each lighting classification for each of the upgrade options outlined above, as well as the estimated upfront cost, annual savings and payback period (based on Council funding the upfront cost).

Assumed Lighting Classification	Option 1	Option 2a	Option 2b	Option 3
V1	983	983	983	983
V3	531	531	531	531
V5	5	14	14	14
P3	1,403	1,492	1,519	1,787
P4/P5	4,018	3,920	3,893	3,625
Total	6,940	6,940	6,940	6,940

Estimated Upfront Cost	\$2,587,432	\$2,596,893	\$2,598,898	\$2,617,836
Estimated Annual Savings	\$514,542	\$513,021	\$512,687	\$477,619
Payback Period	5.03 years	5.06 years	5.07 years	5.48 years

Based on the above information, Council staff are recommending Council progress with Option 3. This option has a payback period of just under 5½ years and includes an increase in lighting levels for a number of future growth and development areas and collector roads identified as requiring these upgrades for driver and pedestrian safety.

Essential Energy have advised that this project will be undertaken in two stages; with stage one including the upgrade of all lights to LED and stage two being the upgrade of selected lights to include smart technology. It is proposed that stage one will be undertaken in the second half of the 2019/20 financial year and stage two will be undertaken in the 2020/21 financial year. Stage One is due to commence in mid-February 2020 and will run for a period of 12-16 weeks.

Financial Implications

As part of this project, Essential Energy has approached Council with an offer for Council to contribute to the capital cost of this upgrade. Council has two funding options for this project - Council funded or Essential Energy funded.

Based on Council staff's recommendation to proceed with Option 3 as outlined above, the below information outlines the difference in the funding options available to Council:

	Option 3 Council funded model	Option 3 Essential Energy funded model
Cost of Upgrade	\$3,964,767	\$3,964,767
Luminaires Discount	(\$633,437)	(\$0)
Bulk Lamp Discount	(\$500,441)	(\$0)
Residual Value of Current Lights	\$102,814	\$102,814
Total Upfront Cost Payable	\$2,933,703	\$102,814
Estimated Energy Savings Certificates	(\$315,867)	(\$315,867)
Net Capital Cost to Council	\$2,617,836	(\$213,053)

The below table outlines the anticipated annual savings to Council as a result of this upgrade:

	Option 3 Council funded model	Option 3 Essential Energy funded model

Current Annual Capital/Maintenance Cost	\$483,616	\$483,616
New Annual Capital/Maintenance Cost	\$261,243	\$595,239
Annual Capital/Maintenance Saving	\$222,373	(\$111,623)
Estimated Annual Energy Savings	\$255,246	\$255,246
Total Annual Savings	\$477,619	\$143,623

As outlined in the above table, Council's current capital and maintenance costs for the street lighting network is \$483,616 per annum. If Council were to provide the upfront funding for this project, it is estimated that the new maintenance only cost would be \$261,243 per annum. In addition to estimated annual maintenance savings of \$222,373, it is also estimated that there will be a \$255,246 in annual energy savings as a result of this upgrade. In total, this upgrade is estimated to save Council approximately \$477,619 per annum.

The above tables identify the following for each of the funding models:

- Council funded model – requires Council to identify an upfront funding source, removes the capital cost recovery charge, increases the annual savings and has a payback period of approximately 5½ years.
- Essential Energy funded model – no upfront funding required, results in a higher annual capital/maintenance charge for a 10 year period and still results in net annual savings.

Attachment 1 to this report outlines the full financial modelling for both the Council funded and Essential Energy funded models. This financial modelling identifies the Council funded model as the most appropriate for funding this project – with a net increase in Council's bank account of \$2.38M over the next 10 years, compared to a net increase of \$1.91M for the Essential Energy funded model.

It is proposed to fund the estimated upfront cost of \$2.93M from external loan borrowings, over a 6-year loan term with the repayments to be funded from the estimated annual savings. Indicative commercial interest rates for this loan term are currently around 2.22%. Following the completion of this project, Council staff will request quotes from a number of financial institutions for these loan borrowings and a further report will be provided back for approval.

Due to the proposed timing of the project and to ensure Council secures a funding source prior to the commencement of the works, it is recommended to fund this project from external loan borrowings. External loan borrowings are also proposed due to recent Council adopted works which have now exhausted Council's internally restricted reserves.

Recent discussions with the Office of Local Government have identified that if Council were to request any internal loans from externally restricted funds (under Section 410 of the Local Government Act 1993) that the interest rate applied to these loans would be equal to the current return of Councils investment portfolio for each financial year.

For the one-year period to December 2019, Council's investment portfolio returned 2.83%. Attachment 2 to this report outlines the financial modelling for both external loan borrowings and an internal loan as options for the Council funded model. Given the minimal difference over the 10-year period (approximately \$65,501) and the certainty for Council to have a fixed rate external loan, it is recommended that this be funded from external loan borrowings.

Policy and Legislation

N/A

Link to Strategic Plan

The Environment

Objective: We create a sustainable environment for future generations

Outcome: We demonstrate sustainable practices

Risk Management Issues for Council

N/A

Internal / External Consultation

Council staff have liaised with both internal and external stakeholders regarding the upgrade to the Street Lighting network, including Essential Energy and Wagga Police.

Council staff have liaised with Essential Energy to develop the costings and options outlined in this report. Councillors have been consulted through two (2) Councillor Workshops, held on 5 August 2019 and 9 December 2019. The following Councillors were in attendance at each workshop:

5 August 2019

- The Mayor, Councillor Greg Conkey
- Councillor Dallas Tout
- Councillor Yvonne Braid
- Councillor Dan Hayes
- Councillor Vanessa Keenan
- Councillor Rod Kendall
- Councillor Kerry Pascoe
- Councillor Tim Koschel

9 December 2019

- The Mayor, Councillor Greg Conkey
- Councillor Dallas Tout
- Councillor Yvonne Braid
- Councillor Dan Hayes
- Councillor Vanessa Keenan
- Councillor Rod Kendall
- Councillor Kerry Pascoe
- Councillor Tim Koschel

Attachments

1. Financial Modelling - Option 3
2. Financial Modelling - Council Funding Options