

More Efficient Street Lighting Program - Outcome Evaluation

Produced for the NSW Department of Planning
and Environment

Final Report

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Executive summary

Background

The More Efficient Street Lighting (MESL) program is the NSW Government's \$12.5 million commitment, sourced from the NSW Climate Change Fund, to assist local councils to replace Mercury Vapour (MV) lamps with low energy LED lamps. The program aims to replace over 76,000 MV lamps by mid-2022 and to save local councils up to \$24 million on their energy bills by 2035. The program also aims to increase local councils' knowledge of, and attitude to, energy efficiency to encourage them to pursue other energy efficiency initiatives in the future.

The NSW Department of Planning and Environment (DPE) selected the following outcomes to be evaluated for this outcomes evaluation:

1. Participating local councils have reduced energy use, bill expenditure and Greenhouse Gas (GHG) emissions.
2. Participating local councils and Distribution Network Service Providers (DNSPs) are given appropriate knowledge and a clear delivery model for public lighting upgrades, as well as improved awareness and confidence to pursue other energy efficiency activities.

The primary audience, and their interest in this evaluation, is:

- DPE ministers, to ensure the program delivered on strategic outcomes.
- NSW Treasury, to ensure the program was appropriately funded and represented value for money.
- DPE Executive, to ensure the program delivered its intended outcomes.
- Program board, sponsor and strategic manager, to ensure the program was appropriately designed, managed effectively and achieved its targets.

The evaluation used a four-stage, mixed-methods approach. The consultants worked collaboratively with DPE to confirm the program logic, identify stakeholders to engage, and develop an evaluation framework that guided the rest of the evaluation.

Findings were developed through an analysis of data collected by each DNSP, consolidated and provided by DPE, and through interviews with local councils, DNSPs, Regional Organisations of Councils (ROCs), consultants who operate in the local government sector, and DPE staff. Findings were validated with program staff and the evaluation conclusions and recommendations were reviewed and refined collaboratively with DPE.

Key findings

1. The MESL program has had excellent uptake. 122 of the 128 local councils in NSW participated in the program, which represents a 95% participation rate.
2. The program has upgraded over 71,000 MV streetlights above the base case¹ to June 2021. Since the program is not due to finish until mid-2022, it is on track to meet its target of 76,000 upgrades. In addition to the MV upgrades, the program has also upgraded 26,512 non-MV streetlights, a total of 97,592 upgrades overall.
3. The MESL program is having a substantial impact on energy use, bill savings and GHG emissions. The program has led to energy savings of 59.6 GWh, which is on target to meet the program's expectations, bill savings of \$14 million, and reduced emissions of 46,858 tonnes CO₂-e from program inception to June 2021.
4. Local councils' knowledge about MESL and the NSW Energy Savings Scheme (ESS) has increased, however many lack the technical and financial expertise required to make informed decisions about energy efficiency initiatives.
5. The combined delivery of MESL and ESS has led to further energy efficiency initiatives. The DNSPs have used the momentum generated by the MESL program to pursue other efficiency projects. For example, Endeavour Energy is funding the upgrade of their remaining non-LED streetlights, a direct result of the MESL program. Ausgrid and Essential Energy are also pursuing other initiatives; the MESL program has contributed to local councils having more positive attitudes towards these initiatives.
6. The MESL program improved its delivery management by implementing some of the recommendations from the mid-term review.
7. The relationships between local councils and their DNSP varies, and this can influence the degree to which attitudes change and/or knowledge develops.
8. Recognition of DPE's role in the MESL program by local councils is minimal.
9. ROCs are keen to be involved in any future programs. Their involvement would likely add value to a DPE program involving local councils.

Overall, the outcome – *participating local councils have reduced energy use, bill expenditure and GHG emissions* – has been achieved.

The second outcome – *participating local councils and DNSPs have been given appropriate knowledge and a clear delivery model for public lighting upgrades, as well as improved awareness and confidence to pursue other energy efficiency activities* – has been achieved to some degree, however, there is room for improvement.

¹ The base case refers to the number of replacements that would have occurred without MESL.

Recommendations

The following are provided for consideration:

1. Ensure future program logics have a clear theory of action/theory of change for attitude, knowledge and behaviour change objectives. Make the roles of DPE and delivery partners explicit in the program logic and, if the program design changes, update the program logic to reflect the change.

This is recommended because, even though knowledge building was an intended outcome, the evaluation found that no-one was intentionally building the knowledge of local councils, and the program logic is unclear about who is responsible for this activity.

A program logic describes the way program designers expect change to occur. If local councils require knowledge building in future programs, then the program logic should articulate the requirement in a clear, complete and up-to-date way.

2. Ensure that delivery partners are clear on their role. If their role includes activities intended to lead to knowledge or behaviour change outcomes, include these activities and outcome expectations in their funding agreements.

This is recommended because the MESL contracts between DPE and the DNSPs only focused on lamp replacement and did not mention knowledge development. If DPE expects delivery partners to contribute to outcomes other than the main focus (for example, changing lamps) then making those expectations explicit will reduce confusion and enhance the likelihood that the outcomes will be achieved.

3. Include monitoring and evaluation expertise in the design of all future programs, in particular in the development of a theory of action/ theory of change, and in the identification of data required for monitoring and evaluation.

This is recommended because the MESL program logic is unclear and the MESL evaluation plan did not adequately consider the data required to evaluate the program. Monitoring and evaluation experts would add value to future program design by ensuring more robust and logical program designs, by improving the relevance of evaluation and monitoring activities, and by improving the quality of data collected and reducing issues with data collection.

4. Consider all potential delivery partners for future local government programs.

This is recommended because the DNSPs were selected as delivery partners in order to reduce program delivery costs. While they have performed adequately in terms of lamp replacement, involving other stakeholders in the delivery of future programs may add additional value for both local councils and for DPE. For example, some ROCs are experienced in delivering streetlight upgrade programs and potentially offer advantages as delivery partners. Consultants who specialise in energy efficiency could also be considered for activities such as monitoring the performance of DNSPs, for capacity building of local councils, or for providing independent advice to local councils in their decision making.