



Street Light Upgrade



Purpose and motivation

Street lighting represents the single largest source of greenhouse gas emissions (GHGe) for most councils and is the single largest component of council's electricity costs. While many Australian households have taken advantage of new energy efficient lighting and are enjoying the environmental and economic benefits, the technical complexities and substantial one-off cost presented a challenge to councils in undertaking a similar upgrade. A multi-council partnership saw the Watts Working Better (WWB) project recognized as the most significant and ambitious energy efficiency and sustainability project ever undertaken by Goulburn Broken Greenhouse Alliance (GBGA) councils collectively.

The WWB project has been a landmark green investment for partner councils, with over \$2 million directly leveraged from participating councils' budgets and \$2.95 million in funding from the Australian Government. The project's leadership, innovation and replicability was recognised in the Victorian Premier's Sustainability Awards as the winner of the Built Environment category in 2015. This accolade heightened public awareness of the project and in particular reinforced its value to members.

Commonwealth Government funding – Watts Working Better is born

In 2013 a \$2.95 million funding application through the Australian Government was successful and the WWB project was able to advance. The initial nine partner councils committed to a 1:3 (councils:Australian Government) funding ratio, with an additional two councils coming on board in the later stages of the project. The funding application was led by Greater Shepparton City Council.

Partnerships and collaboration

Central to the WWB project's success was the partnership between 11 northern Victorian councils. It started as a partnership between the GBGA and councils and grew to also incorporate partnerships with other stakeholders including:

- additional council project partners that joined the project
- energy distributors
- a local social enterprise
- a local waste service contractor.

The street light retrofit was also used as an opportunity to engage the community to achieve energy efficiency in their own homes, schools and workplaces.

Watts Working Better outcomes

WWB enabled 11 regional Victorian councils to collectively achieve an energy efficient street light retrofit program that, if acting individually, would not have been possible. The following table lists the achievements and results of the project.

Achievement	Details
Project funding	9 regional councils secured \$2.95m from the Australian Government.
Project expansion	<ul style="list-style-type: none"> – 2 additional councils joined the project after funding was allocated leveraging additional GHGe, kWh and financial savings. – Retrofitting increased from 12,600 to over 13,600 lamps.
Significance	The second largest collaborative street lighting retrofit project in Australia spanning 11 councils.
Scale	<ul style="list-style-type: none"> – 11 councils. – Nearly a quarter of a million people. – 15% of the total land area of Victoria.
Governance	Project participation agreements signed by the original 9 councils to support the funding agreement between Shepparton (lead) and the Australian Government.
Procurement	Tender process completed and contracts signed. Planned and undertook procurement for project Stage 1 – 2.
Against objectives	<ul style="list-style-type: none"> – Replaced over 13,600 energy inefficient mercury vapour lamps in residential streets at a total project cost of around \$5 million. – Reduced GHGe by 5,339 t CO₂-e pa and 106,785 tonnes over the projected 20-year life of the lights. – Reduced energy use by 3.8 million kWh pa. – Saved an estimated \$1.08 million annually and \$21.6 million across the 11 councils over the projected 20-year life. – Non-GBGA members Wangaratta, Indigo and Towong councils joined resulting in an additional 2,160 energy efficient street lights installed. – Recycled 98.5% of the old lights. – Generated \$22,000 income to the local social enterprise recycling the lights.
Benefits to councils	<p>Benefits of the innovative multi-council partnership include:</p> <ul style="list-style-type: none"> – GHGe and energy savings. – Financial savings. – Economies of scale resulting in lower unit prices to purchase and install the lights. – Opportunity to competitively apply for funding to afford the massive upfront cost so the project could proceed 'now' rather than later. – Coordinated and targeted access to third party specialist advice. – Capacity building of staff involved and organisations to support future sustainability projects. – Demonstrated the true benefits of GBGA's value to members. – Ran a \$140,000 regional public communications program to increase awareness and action on sustainability and energy efficiency. – Established a mandate for further action by councils on energy efficiency.
Benefits to small rural councils	The value of the multi-council approach to small rural councils was enormous. This project delivered immediate financial, environmental and social benefits to these financially constrained councils and their communities.

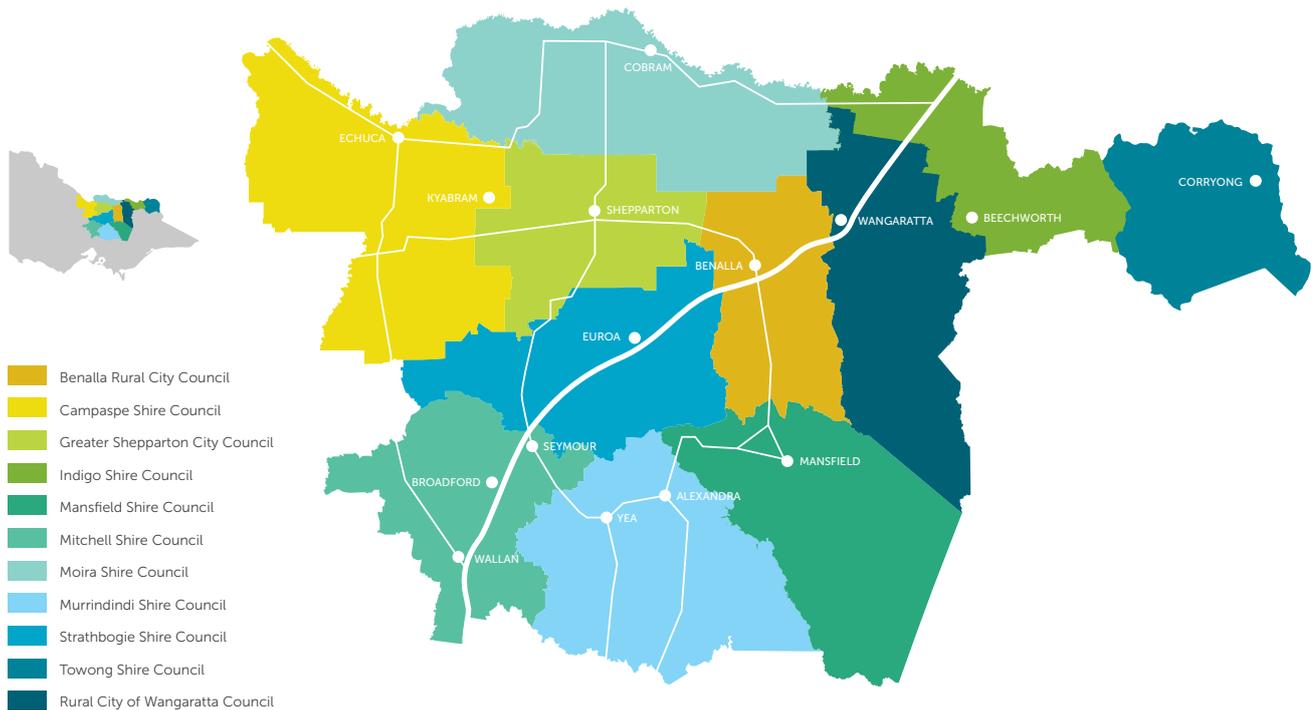


Figure 1: Watts Working Better final council project partners. Wangaratta, Indigo and Towong Shires were the non-GBGA project partners.

Innovation

For the first time this project used a multi-council procurement and governance structure across two distribution network service provider regions to take advantage of new technology and achieve triple bottom line benefits. Economically diverse councils, including very under-resourced ones, partnered to collectively realise the benefits for their communities of joint planning, procurement and coordinated project management within and outside of the region. Without this regional partnership of councils leveraging from an existing council sustainability alliance WWB would not have been possible.

A unique aspect of this project was its two-stage project delivery, implemented over three financial years. This allowed financially constrained councils to allocate costs across three financial years, which is the only way these councils could participate.

Another strength is the flexibility built into the governance structure to enable emerging opportunities to be leveraged after project delivery started. This is why the uptake of new technology, bringing on board new partners (Indigo and Towong) and collaborative procurement were possible.



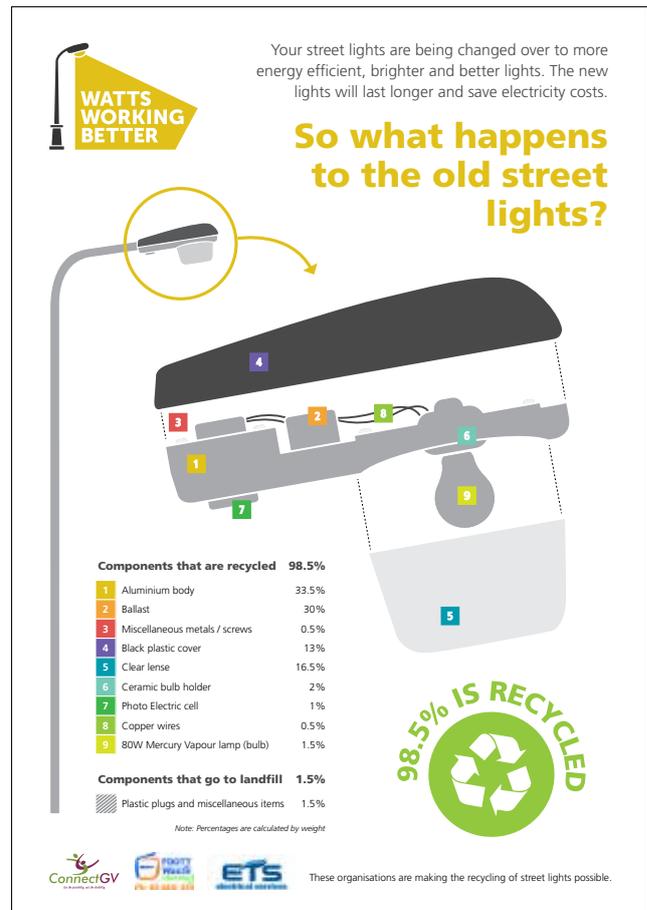
Catalyst for change

The financial and environmental benefits of this project were experienced by partner councils immediately and will continue to be for the next 20 years. The project demonstrated the returns on investment achieved through investing in environmental sustainability and how to leverage further environmental sustainability gains by reinvesting savings in future projects.

Local community partnerships established to recycle the old lights

A particularly special and valued local community partnership was established with social enterprise Connect GV and local waste contractor Foott Waste. Working in partnership allowed for the development of a local recycling program for the old street lights. Foott Waste identified the recyclable materials and market value of the old lights and provided transport assistance while Connect GV established a new outreach program breaking down the old street lights into their individual components. This created jobs and social activities for five isolated intellectually and physically disabled adults who are now active and self-motivated people in Connect GV's broader programs and social networks.

The project successfully challenged the district network service provider's direction to landfill the old lights (33 tonnes) and instead achieved a 98.5% recycling rate of the old lights. This outcome was achieved through careful integration of environmental sustainability specifications into the public tenders and other procurement processes which facilitated recycling for other lighting retrofits.



Engaging the local community to achieve energy efficiency outcomes

WWB developed and delivered a three-year \$140,000 communications and education program to help share the message and benefits achievable by participating in energy efficiency activities.

As well as TV, radio, digital, social and print media activities, WWB ran 17 community energy efficiency workshops with over 100 participants.

In addition to the community workshops WWB hosted a schools video competition – 'how would you improve energy efficiency in your school if your school won \$500?' Four winning schools received a \$500 voucher for energy efficient products to support them implementing the plan in their videos.

