

NAGA CASE STUDY

Hume City Council: Solar capital works program

What is the Solar Capital Works program?

Since 2011, Hume City Council has been increasing onsite renewable energy on council facilities – by installing solar photovoltaic (PV) panels. Hume has installed 137kW of solar PV on council buildings (as of early 2016), with a 99kW array planned for the Hume Global Learning Centre in Broadmeadows.

5 facilities had solar PV installed in 2015:

- Lynda Blundell Broadmeadows Senior Citizens Centre (25kW)
- Craigieburn Early Childhood Services (10kW)
- Broadmeadows Community Hub (11kW)
- Selwyn House, Community Centre (5kW)
- Craigieburn Child and Family Centre (29kW)



Photo: Lynda Blundell Community Centre

Why did you do it? What prompted it?

Hume is currently working collaboratively with the Northern Alliance for Greenhouse Action (NAGA) and its eight other member Councils on a regional [Solar Scale Up](#) project. The project aims to catalyse the total amount of solar PV systems installed within the northern Melbourne region by sharing information and building capacity within member Councils.

The initiative has supported substantial growth in solar installations across council corporate properties, including town halls, council depots, libraries, community and leisure centres. The NAGA Solar Scale Up helped inspire and inform recent Hume installs.

The size of installations ranges from small-scale (5kW) to 100kW systems. The common factor is matching the use profile of the facility to the solar generation to ensure maximum value from generation.

The Solar Scale Up project is guided by a roadmap which contains a detailed planning and implementation guide as well as links to key resources.

How does it align to existing policy?

The program fits within the overall objectives of Hume's Greenhouse Action Plan (2013-2016). Objective 4 for Council

Buildings in the Action Plan is to “investigate Council’s further renewable energy generation opportunities.”

Hume prioritises greenhouse reduction measures that have good financial returns. Installing solar PV competes very favourably with many energy efficiency measures. Hume selects and sizes solar installs so that most or all of the renewable energy generated is used within the facility - this optimises financial savings given current feed-in tariffs.

How was it developed?

Council requested a briefing note on renewable energy generation opportunities for council buildings. This investigation considered wind, solar PV, and cogeneration. Solar PV was identified as being the preferred option with the strongest business case.

Scoping of suitable facilities is undertaken by Hume’s Greenhouse Officer to assess:

- electricity usage and demand profile
- whether Council pays the electricity bills (or the majority share)
- size and adequacy of the roof including shading
- vandalism risks.

A panel of preferred solar providers was established through an Expression of Interest process.

The panel of suppliers were then invited to quote for the supply and install of solar systems on identified buildings through a Request for Quotation (RFQ) process.

This process includes compulsory site visits and submitters are asked to propose the size of the system to optimise financial return.

Financing and budget issues

The budget for most of Hume’s solar installs is from the annual Greenhouse Action Plan capital works budget. Councillor ward funding has also been used for community use buildings (where Council doesn’t pay the bills) including the 5kW system at Selwyn House.

The business case for solar PV on council facilities has significantly improved since early installs in 2009. The cost of solar PV systems has dramatically reduced in recent years, falling by around 30% per year between 2008 and 2013 (Source: McKinsey & Company, 2014).

Indicative simple payback calculations are shown below. Future rising costs of electricity were not taken into account. Solar PV panel systems come with a warranty of between 20-25 years.



Photo: Craigieburn Early Childhood Services

Table: Indicative business case for solar

Details of solar PV system size	Indicative costs* (\$) (excl. GST) (supply and install)	Indicative electricity generation** (\$/annum)***	Simple payback
5kW	\$7,500-\$12,500	7,300kWh /annum = \$1,300 electricity cost savings/ annum	6-10 years
10kW	\$15,000-25,000	14,600kWh = \$2,600 electricity cost savings/ annum	
20kW	\$30,000-\$50,000	29,200kWh = \$5,200 electricity cost savings/ annum	

* Indicative price range of \$1.50-\$2.50 per Watt provided by Going Solar (April 2014)

** Average solar generation in Melbourne provided by Clean Energy Council

*** Assuming 18c/kWh peak electricity rates

Lessons

A number of lessons have been learnt that could be useful for other councils:

- Having a panel of approved suppliers makes the request for quote process simpler (less onerous tendering and administration requirements) and enables ongoing relationships with a small number of suppliers.
- Selecting Council facilities that are occupied 9-5, increases financial savings and means you won't have to make as many site visits to meet contractors.
- Engaging an independent third party expert to audit the installations is worthwhile (especially for solar installers Council hasn't used before) – this picks up any issues and sends a message to installers that we expect high standards
- Ensure all paperwork from the installer lodged with the retailer is correct (e.g. site addresses match bill addresses)

Contact for further information

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