



# Energy Consumption Plummets for Local Council Civic Centre

Whilst many building owners and facility managers have been investigating ways to reduce energy usage and greenhouse gas emissions one of Melbourne's Councils has been quietly putting real measures in place with astounding results.

Moreland City Council is located in Melbourne's Northern suburbs and serves a population of around 140,000 people. The Civic Centre Precinct, located in well-known Bell Street, Coburg, consists of a range of period to modern buildings; from the 1890s old town hall through to the more recent office blocks built in the 1970s, very typical of many of inner Melbourne Council buildings.

## THE VISION:

In 2005 the Council made a commitment to reduce its greenhouse gas emissions by 20% by the year 2015. In 2009 it further committed to become carbon neutral by 2012. This was followed by the development of a Carbon Management Strategy (CMS) which recommended a significant energy efficiency program be developed.

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Moreland has long had a reputation for its commitment to action on climate change; the development of the CMS included the appointment of an in-house energy efficiency project manager. This created additional momentum in energy efficiency initiatives. The Officer's role is to analyse the entire energy use across the Council's operation and put some real solutions in place to reduce the Council's greenhouse gas emissions.

A number of programs were put in place to help staff reduce their impact on the environment, making them more aware of how they could save energy in the workplace (i.e.) improving lighting efficiency; turning off computers when not in use; and optimising the heating, ventilation and air conditioning systems.

Amongst other projects identified for efficiency upgrades, the Council made a commitment to improve the thermal performance of the numerous Council buildings which make up the Civic Centre Precinct. The buildings had older style air-conditioning systems and lighting technology, and many older doors and windows (mostly single glazed) that didn't seal very well.

The real changes became evident, when the Council undertook a program to improve the building envelope of each of the various buildings in the precinct. This involved improvements of insulation in many of the older buildings as well as professional draught proofing of all external doors.



## REAL CHANGES ARE MADE:

The buildings on the North Side of the precinct had well designed shading systems installed in the 1990s, providing full shade from the strong summer sun whilst still allowing radiant heat to hit the glass in the winter months enabling the building to warm naturally. However, the vast amounts of single glazing still allowed for significant heat transfer through the glass panes.

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In late 2010 the Council undertook a major project to secondary glaze all windows of the offices in the Civic Centre Precinct. By early 2011 all windows of the various buildings were treated with the new *ecoGlaze*<sup>®</sup> system which allowed additional components to be added to the existing frames to create a still air space of around 12-18mm (the desired separation for the best thermal performance).

The choice of system was important as the building had a range of different window types from large etched early 1900 windows (heritage significant), double hung sash windows, 1970 timber framed windows spanning two levels and a large number of commercial grade aluminium windows. The *ecoGlaze*<sup>®</sup> system was able to cater for the varying types of windows with only a few custom fittings needing to be specially manufactured. The installed system boasts a reduction of heat transfer by at least 50% via the window pane and does not prevent the unit from opening and closing as normal.

With the draught proofing of all external doors, insulation of the older hall buildings and the completed installation of the *ecoGlaze*<sup>®</sup> secondary glazing system being in place for the past twelve months the Council have been able to collect real data confirming the energy reduction and subsequent savings. The reduction in energy consumption from 2010 to 2011 has been a whopping 60% from natural gas and 27% from electricity at the Civic Centre precinct. Although this included some optimisation of HVAC systems & lighting improvements, the Council's energy efficiency project manager says the majority of savings can be directly attributed to the building envelope improvements.

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The Council is expecting to see further energy consumption reductions in the coming twelve months with the implementation of another major project to upgrade the precinct's HVAC system. The Council and its commitment to the reduction of greenhouse gases should stand as a great example of what can be achieved if plans are put in place and acted upon in a strategic manner.

