

M2G CASE STUDY

GEM-Utilities Ltd

VOL. 1, ISSUE 2

2-04-2014

GEM's M2G System Delivers 13% Gas Savings for Our Lady's Hospice



GEM Installs M2G for Our Lady's Hospice



#10 M2G Installed across #5 buildings



M2G Project part sponsored by Airtricity



M2G project delivers savings of 13%

GEM Installs M2G for Our Lady's Hospice



Our Lady's Hospice & Care Services provides specialist care for people with a range of needs from rehabilitation to end of life care. Our Lady's Hospice in Harold's Cross was established in 1879 by the Congregation of the Religious Sisters of Charity and legacy buildings from this era still remain on site. In direct contrast Anna Gaynor House is a newly purpose built 100 bed residential care unit. The building units covered in this M2G project include the Mortuary, Palliative Care Unit, Anna Gaynor Buildings and Hydrotherapy Pool

#10 M2G Units Installed across #5 Buildings



The M2G project proposal included the installation of #10 M2G boiler load controls to the heating boilers in the above listed buildings for the purpose of eliminating identified boiler nuisance cycling (i.e. dry cycling, short cycling and boiler short circuiting). **M2G** will now eliminate any attempt for the boilers to cycle as a result of standing losses (convection & radiation) or short circuiting (temperature dilution from the lag boiler) both of which engage significant additional inefficiencies due to boiler over-size and the pre-purge element of boiler plant. **M2G** will also eliminate any boiler response to very low load conditions which may be below the minimum output of the boiler/burner configuration

M2G Project Part Sponsored by Airtricity



Up to the end of 2013 all suppliers of carbon emitting products (Gas, Oil Coal Electricity etc.) signed up to a voluntary agreement with the SEAI and the DCENR that agreed a commitment on both sides to assist commercial and domestic customers in lowering their overall energy use. Reductions could be achieved through a variety of measures and had to be quantified using a monitoring and verification method that was internationally recognised (IPMVP). These efforts are to go towards Ireland's achievement of Co2 reduction under our obligations towards the EU 2020 targets. Airtricity has partnered with GEM on a number of projects with delivered savings (IPMVP) of between **13% - 29%**.

M2G Project Delivers Savings of 13% (IPMVP)



M&V Methodology: kWh consumption data was plotted against Celsius based heating degree days. A base load of 91,136 kWh gas per month was detected and subtracted from the monthly kWh data. The pre and post M2G periods were subjected to degree day regression analysis. The R² factor was 0.9541 showing a high degree of correlation between HDD and kWh indicating that the verification methodologies were robust. Using an average monthly HDD factor of 192 for the Dublin area over the last 2 years a saving of 13 % was indicated. ROI 10 months. 5 year net profit €98,516.

Full details from info@gem.ie or http://www.gem.ie/html/case_studies.html



www.gem.ie

info@gem.ie

For additional technical information about GEM's **M2G** boiler management system and how to eliminate boiler nuisance activity (dry cycling, short cycling and short circuiting) please visit the following link. <http://www.gem.ie/html/m2g.html> **Please note:** modern boilers (condensing & modulating units) are not exempt from this nuisance activity.