

CASE STUDY

Our Lady of Mercy National School Cahir – Lighting Upgrade

On behalf of Our Lady of Mercy National School Cahir, Tipperary Energy Agency applied for a SEAI (Sustainable Energy Authority of Ireland) Better Energy Community (BEC) grant in 2015. The grant was sought to improve the quality of light in classrooms using energy efficient lighting and technology while simultaneously reducing the annual energy cost. Standard lighting can account for up to 55% of the electrical energy usage within most educational buildings. Savings of approximately 60% - 70% can be achieved using energy efficient lighting.

Tipperary Energy Agency acted as Project Managers for the duration of the project to ensure works were carried out to the required specification. All major works were carried out during the 2015 summer holidays.

Cahir School consists of:

- 10 classrooms
- Computer room
- Assembly hall
- 2 Offices
- 2 sets of Toilets
- Corridors
- Total Number of staff and pupils: 285



Project by Numbers

Savings - Proposed savings of € 2,532 per annum

Total Cost – After a 50 % SEAI grant the cost was € 10,876

Payback - 4.3 years

CO2 Savings – The lighting upgrade will save 8,119Kgs of CO2 per annum and can help with Green Flag benefits.

| Summary | |
|---------------------------------|---------|
| Project Cost | €21,752 |
| Potential Annual Savings in KWh | 14,897 |
| Annual Savings @ €0.017/KWh | €2,532 |
| Pay Back in years | 8.6 |
| Pay Back with 50% Grant | 4.3 |
| CO2 Saving in Tonnes | 8,119 |

The previous lighting consisted of:

| Luminaire Name | Quantity | Lamp Type | Gear Type | Lamp Wattage | No. Lamps | Circuit Wattage | Total Circuit Wattage |
|-------------------------------|----------|---------------|--------------|--------------|-----------|-----------------|-----------------------|
| 150W GLS Blub | 64 | Metal Halide | HID | 150 | 1 | 169 | 10,816 |
| 2x58w T8 on Switch Start Gear | 11 | T8 (25mm DIA) | Switch Start | 58 | 2 | 140 | 1,540 |



150W GLS Blub HID Metal Halide

The new lighting consists of:

| Luminaire Name | Quantity | Lamp Type | Gear Type | Lamp Wattage | No. Lamps | Circuit Wattage | Total Circuit Wattage | Smart | | |
|------------------------------------|----------|----------------|----------------|--------------|-----------|-----------------|-----------------------|-----------------|------------------|-----------------------|
| | | | | | | | | Daylight Factor | Occupancy Factor | Total Circuit Wattage |
| 2 x 49 W T5 on DSI Electronic Gear | 69 | T5 (16mm DIA) | HF Electronics | 49 | 2 | 10 | 7,383 | 60 | 20 | 2,363 |
| 38W 2D on DSI Electronic Gear | 6 | 2D Fluorescent | HF Electronics | 38 | 1 | 41 | 246 | 50 | 50 | 62 |



2 x 49W T5 Smart Luminare

New technology controls include occupancy sensors where lights are on only when there is someone present in the room. Daylight sensors will dim the light depending on the amount of natural light entering the building and adjusting the light (LUX) level to meet the required standards.

If you have any queries about this project please contact Fearghal McDonnell at Tipperary Energy Agency at T: 052 7443090 E: fmcdonnell@tea.ie

About Tipperary Energy Agency

Tipperary Energy Agency has been successfully supporting Tipperary to reduce its energy demand for 17 years. The agency has a proven ability in enabling people, communities and the public sector to become more sustainable in their energy use.

As a result of our work, Tipperary County Council continues to be a leading local authority in energy performance. Our efforts have resulted in pioneering projects such as Ireland's only community operated wind farm in Templederry, Ireland's first Ecovillage in Cloughjordan and a massive Photovoltaic project across 9 public buildings. We have spearheaded major housing retrofit schemes and our county's adoption of biomass has resulted in €1.1M being spent on local fuel versus €2.5M of imported oil.

We have identified a €500M sustainable energy opportunity for the county and will continue to work to accelerate the transition of Tipperary to a low carbon future.

For more information on our work please visit www.tea.ie