



Economic Social Research Institute (ESRI)

Economic Social Research Institute (ESRI) is a Semi State research agency. ESRI moved to its new 5-storey office building in Whitaker Square, Sir John Rogerson’s Quay, Dublin in November 2006. The building provides accommodation of 2,340m<sup>2</sup> with a mixture of open-plan offices, cellular offices and various meeting/lecture rooms serving 110 ESRI staff with one floor being sub-let to tenants.

## THE OBJECTIVE

Following on from an initial energy review, the project supported the reduction of energy losses in two areas identified:

- Lighting systems upgrading.
- **Smarter control of heating and cooling equipment:** Centred on **the re-calibration of the Building Energy Management System (BEMS)** which automatically regulates environmental conditions and mechanical and electrical services within the building.

## TECHNICAL OVERVIEW

- Upgrade lighting In the male and female toilets on all floors, 48 halogen spotlights and 76 twin CFL lights were replaced with 12W and 7W LEDs respectively. In the lobbies on each floor 62 twin CFLs have been replaced with 12W LEDs.
- **Passive Infra-Red detectors (PIRs)** were installed in the lobbies and adjacent stairwells. Previously the lights were left on day and night as there is no natural light to these areas.
- Heating and air conditioning is controlled by a Cylon BEMS installed in 2006. **Over time the controls had deviated from design set points** and this was identified by the energy audit of the premises.
- The original installers of the system (Control Technology Ltd) were asked to review the operation of the system and to make any corrective adjustments. **Settings were optimised for energy saving.** This included **correct operation of time-switches** and **the correct operation of valves and sensors.**

## SUMMARY

- Original projections estimated **annual savings of around €6,000** from these investments and an overall payback period **of 6 years at market rates** (before grant support).
- Early results indicate respective annual savings of 8% and 14.5% on gas and thus a **payback within 4 to 5 years** and electricity consumption, valued at around **€9,000 (€1,400 gas and €7,600 electricity)**, at market rates.
- The bulk of the **savings are on reduced electricity usage for air conditioning and lighting**, and reduced gas usage for heating. This is being achieved while maintaining a comfortable working environment for staff.