

BUILDING GOOD PRACTICE

Social housing upgrade scheme - CORK, IRELAND

GENERAL INFORMATION		
Name of the public building renovated:	Social housing upgrade scheme	
Building Good Practice number (example BGP n°1 – Cork)	Good practice targets in this project were to bring all houses to a minimum standard of C1 rating using the National Building Energy Rating Scheme (approx 180kWh/m ² /annum)	
Sub-group	Social Housing	
Description	Photo	
	Address	Co. Cork, Ireland
	Public sector contractor	Mr. Henry Metcalf, professional plumbing and Insulation services
	Architect	Mr. Alan Morgan, Executive Engineer, Cork County Council
	Engineering consulting	
	Date of construction	Prior to 2005
	Legal aspects (e.g.: protected property)	N/A
	Date of renovation	2011
	Nature of the work (short description)	<p>Upgrade works to 18 social houses through out North Cork Procured under a single contract. Works include:</p> <ul style="list-style-type: none"> - Attic Insulation - Cavity Insulation - Replacement of Doors and Windows (not in all cases) - Provision of vents in line with building regulations - Upgrade of heating system and controls. - Maintenance works
Budget and source of financement	<p>Total Budget: €322,723.26</p> <p>Energy Works: €186,060</p> <p>Energy Works 70% funded through Department of Environment Social housing upgrade scheme</p>	

AVAILABLE RESULTS	
What were the big problems (in terms of energy efficiency) to tackle?	All houses in this upgrade were of varying ages ranging from early 1970's (prior to building regulations in Ireland) to 2004 and so different conditions existed in each house. Therefore full surveys had to be carried out on each dwelling and each dwelling individually specified, prior to going to market with a collective tender.
Has this building been already analysed and certified?	The 18 houses upgraded in this scheme have all been certified using the national building energy rating scheme as per EPBD requirements. The houses had BER's carried out pre works and post works.
What are the key innovative energy efficiency measures undertaken through the renovation?	The key measures undertaken were all tried and tested solutions, which could be undertaken in a cost effective manner ensuring reliable results and a reasonable payback period. The primary innovation in this project was the collective tendering process ensuring maximum cost effectiveness through bulk buying. Given that not all houses were in the same area (not one estate), effective project management was extremely important as well as permanent supervision of works.
What are the measurable improvements in terms of energy efficiency in electricity and heating (kWh saved)? <ul style="list-style-type: none"> • kWh saved, kWh before/after, kWh given in the studies/real kWh • carbonated energy kWh substituted by REN • kg CO2 saved 	Total Energy Pre-works: 7,339.63kWh/m ² Total Energy Post Works: 4,027.86kWh/m ² kWh Saved: 3,311.77kWh/m ²

ENERGY EFFICIENT MEASURES	
Energy efficient measures of the building envelope	<ul style="list-style-type: none"> - Upgrade of wall insulation by pumping cavities where possible - Upgrade of windows and doors to aid air tightness - Closure of open fires (chimneys) where practical.
Energy efficient measures of the heating system	<ul style="list-style-type: none"> - Upgrade of heating system and controls

Energy efficient measures of monitoring energy	- This was not a primary issue as when the county council gives a social house to a tenant it is there responsibility to control their own energy use and pay all utility bills.
Energy efficient measures regarding behaviour	- Tenant training handbook for all tenants
Stakeholders' involvement in the energy efficient measures	- Cork County Council are essentially the only stakeholders in social housing.
Others?	

SUSTAINABILITY OF THE RENOVATION	
Design and choice of sustainable materials?	- Recycled products were specified where possible for example all attic insulation used was produced from recycled newspaper (cellulose)
Sustainable building site management? (sorting waste, water...)	- N/A
Application of a valuation method (BREAM? HQE? Others?)	- N/A
Carrying out consultation process with dwellers? Concerted choice on the work program? Which external partners?	

BUILDING MAINTENANCE: life of the building after the renovation	
Is the building subject to energy monitoring? Is there a responsible manager?	No
Who is in charge of the maintenance of the heating system of the building?	All dwellings remain in the ownership of Cork County Council, who maintain all aspects of same.
Who is in charge of the day to day energy management?	Day to day energy management is the responsibility of the individual tenants who are personally responsible for all energy bills.
Are there some specific measures to raise energy awareness and to implicate users in energy efficiency?	The afore mentioned tenant handbook includes a section on energy efficiency including contacts and references for further information if required.

FUNDING	
What financing plan?	The project was Co-funded by Cork County Council and the

	Department of Environment, Heritage and Local Government.
Innovative or specific aspects in the method of financing (European funds or loan, energy performance contract,...)	N/A
What is the balanced budget for each stakeholder <ul style="list-style-type: none"> • Energy costs for tenant before /after • Increase in the rent 	<ul style="list-style-type: none"> • Energy costs for each tenant have reduced by approximately 45% per annum following the works. • The rent has remained the same in all cases.
Is there any specific economical indicators (payback time on investment, global cost, ...)	The overall payback for the energy efficiency works is estimated at 4.5 years.

TRANSFERABILITY	
Transferable aspects according to the partner in charge of this example of good practice	Transferability of planning (forming a partnership, choosing priorities, setting up a renovation building teams, etc.)?
	Transferability of the process of renovation (management structure, monitoring system, implication of end users, participation, etc.)?
	Transferability of results (good solutions, adaptability, change of behaviour, etc.)?
Transferable aspects according to all the partners of Serpente project	The procurement method utilised in this project ensured that value for money was ensured across the project. Tendering for collective works reduced the cost per unit (cost per m ²) compared to tendering for individual works in each area.
	The energy efficiency works in this case were undertaken in conjunction with other essential maintenance and repairs works and this template has set a precedent for future works where the possibility to include energy efficiency works as part of ongoing maintenance will be a priority.

SOURCES	
Publications	N/A
Website	N/A
Interviews	Mr. Alan Morgan, Executive Engineer, Cork County Council