

# LOW ENERGY DESIGN FOR COUNCIL FLATS



## CODEMA

## AIEA PROJECT SUMMARY 2

### Summary

CODEMA is co-ordinator of a high profile housing project at York Street, St. Stephen's Green, for Dublin City Council. This scheme has been designed by Sean Harrington Architects who address issues of environmental sustainability in building design. The redevelopment will include 66 new council flats arranged in five blocks with communal spaces on the ground floor. Each block will have a district heating system with a central condensing gas boiler. Domestic hot water will be provided by 5 solar thermal panels with back up from highly efficient gas boilers at peak load. A grant of €369,600 has been awarded through the House of Tomorrow Programme, which is funded by the National Development Plan and managed by Sustainable Energy Ireland (SEI) for a demonstration project at York St.

### Project Classification

END-USER AREA		TARGET AUDIENCE		TECHNICAL	
X	NEW BUILDINGS	X	CITIZENS	X	ENERGY EFFICIENCY
	REFURBISHMENT OF BUILDINGS		HOUSEHOLDS	X	HEATING
	TRANSPORT AND MOBILITY		PROPERTY OWNERS		COOLING
X	FINANCIAL INSTRUMENTS		SCHOOLS AND UNIVERSITIES		APPLIANCES
	INDUSTRY		DECISION MAKERS		LIGHTING
	LEGAL INITIATIVES	X	LOCAL AND REGIONAL AUTHORITIES		CHP
	PLANNING ISSUES		TRANSPORT COMPANIES	X	DISTRICT HEATING
X	SUSTAINABLE COMMUNITIES		UTILITIES	X	SOLAR ENERGY
X	USER BEHAVIOUR		ESCOs		BIOMASS
	EDUCATION	X	ARCHITECTS AND ENGINEERS		WIND
	OTHER		FINANCIAL INSTITUTIONS		GEOTHERMAL
			OTHER		HYDRO POWER
					OTHER

### CONTACT DETAILS



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## Duration

The project is 26 months in duration and commenced in November 2005. The completion date is set for December 2007.

## Process

Consultation with the existing residents at an early stage played a significant role in the design of the new York St. buildings. The low energy design for the new buildings will apply best practice solutions in energy efficiency, waste and water management. Environmental features include dual aspect apartments, shallow plan blocks for natural day lighting and ventilation, adaptable glazed balconies on south and west facades, green roofs, recycling and waste composting. Energy features include extra insulation within the building fabric, high thermal performance windows and solar panels. Special attention will be given to the management of the district heating system.

## Financial resources and partners

Organisation		Country
City of Dublin Energy Management Agency	CODEMA	Ireland
City Architects, Dublin City Council		Ireland
Sean Harrington Architects		Ireland
JV Tierney & Co. Consulting		Ireland

## Impact

**Fuel Poverty:** A low energy design for the York Street flats combats fuel poverty through a well insulated fabric and highly efficient heating system with solar panels. The amount of gas needed is only 49% of what would normally be required for a similar sized flat.

**Energy Cost savings:** The cost of gas is much cheaper in a district heating system than for individual boilers and of course solar energy is free. As a result, energy savings of 51% and fuel cost savings of 70% are achieved when compared with a standard construction on a domestic tariff with individual boilers.

**Energy & CO<sub>2</sub> savings:**

Totals	kWh/m <sup>2</sup> /yr	CO <sub>2</sub> /m <sup>2</sup> /yr
Business as usual	115	23
Proposed system	56	11
Savings (percentage)	51%	51%