

Energy Efficiency / Retrofitting Programme

Dublin City Council
Mechanical & Energy Efficiency Unit



Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council

Phase 1 of the Fabric Upgrade Programme began in June 2013 with funding from the Department of the Environment and Local Government.

Phase one of the scheme involved :

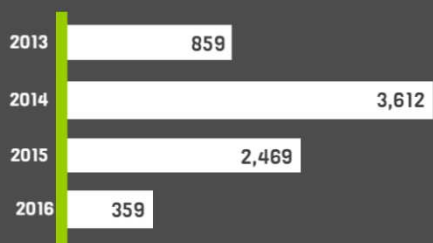
- **Cavity wall fill insulation**
- **300 mm attic, Tank, pipes, insulation**
- **Roof /Wall ventilation**
- **Draught proofing**
- **Lagging jackets**



Dublin City Council Fabric Upgrade Programme Phase 1

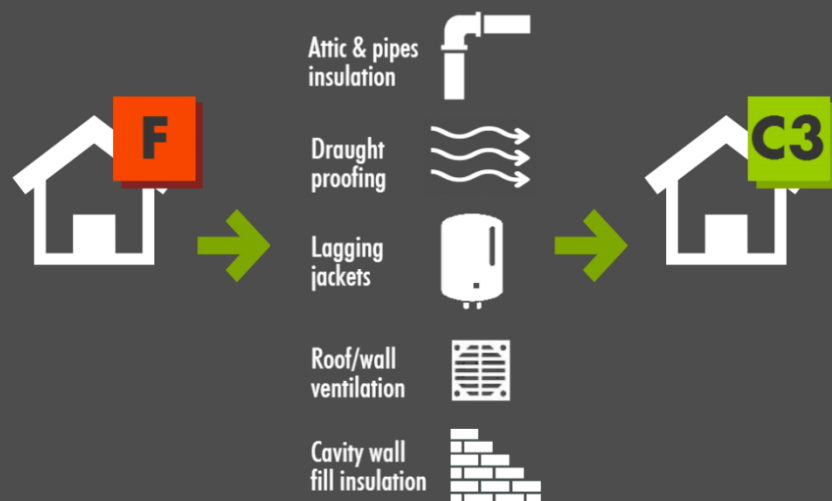
Since 2013, Dublin City Council has upgraded 7,299 of its social housing units. The upgrades were carried out as part of Phase 1 of its Fabric Upgrade Programme and have resulted in significant energy and cost savings and improved comfort levels for tenants. One of the schemes - Cromcastle Court - was upgraded using Ireland's first local authority Managed Energy Services Agreement (MESA). It is estimated to achieve savings of €834,700 on maintenance and energy costs over 10 years.

Units upgraded



282,000 MWh → **€16.6 million**
 estimated energy saved from 2013-2016 saved on energy bills from 2013-2016

Building Energy Rating (BER) on average improved from 'F' to 'C3'*



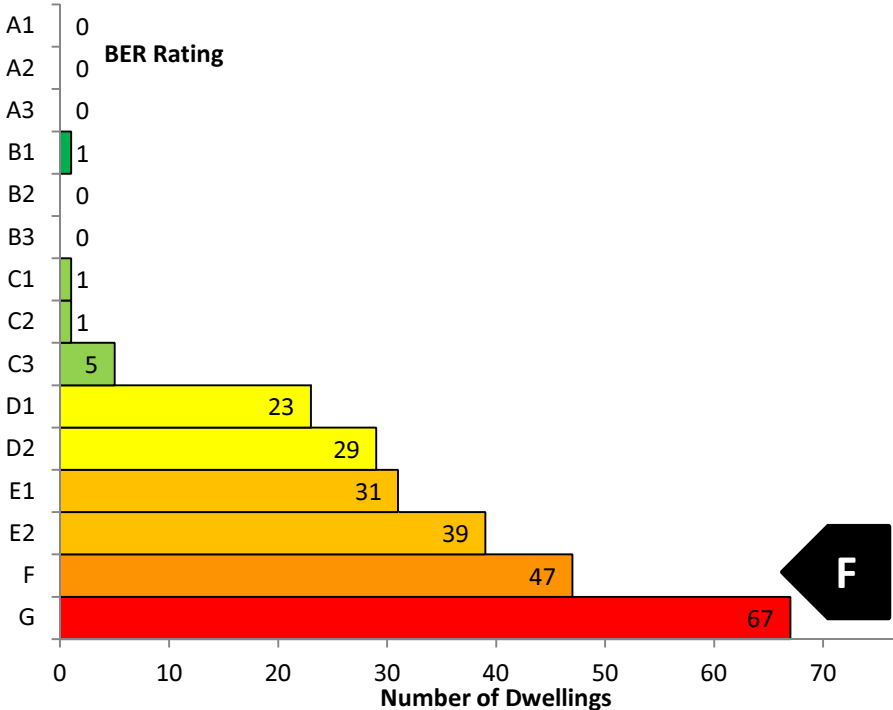
*Taken from a typical sample of 244 properties that underwent Phase 1

Year	Units Upgraded
2013	859
2014	3612
2015	2469
2016	359
TOTAL	7299

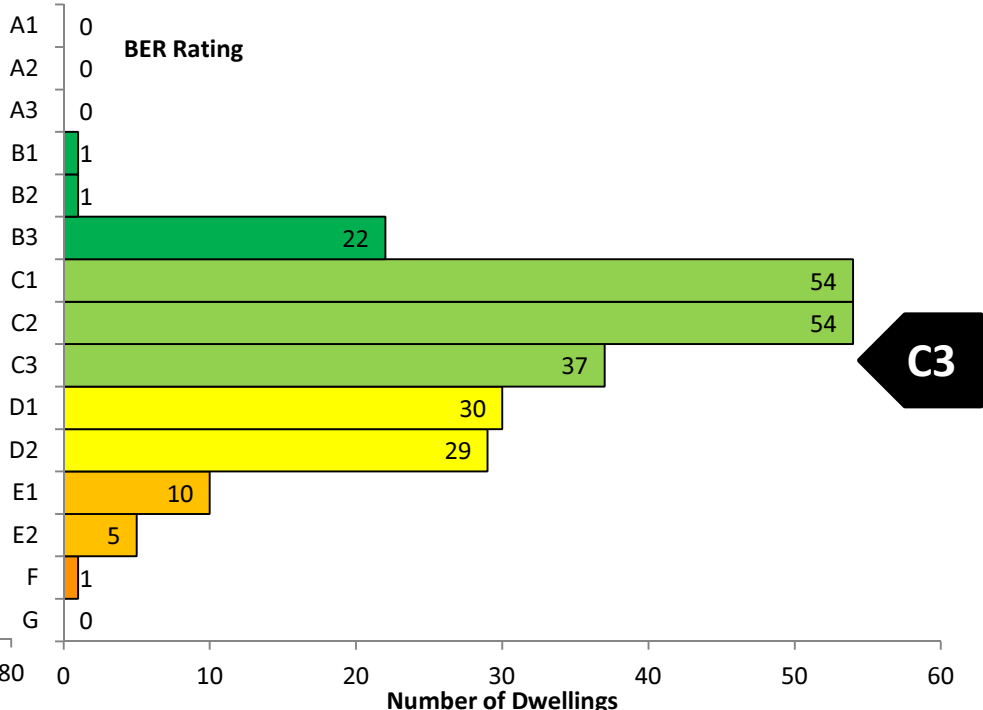


Comhairle Cathrach
 Bhaile Átha Cliath
 Dublin City Council

*Typical Sample of 244 properties that underwent Phase 1 Retrofitting

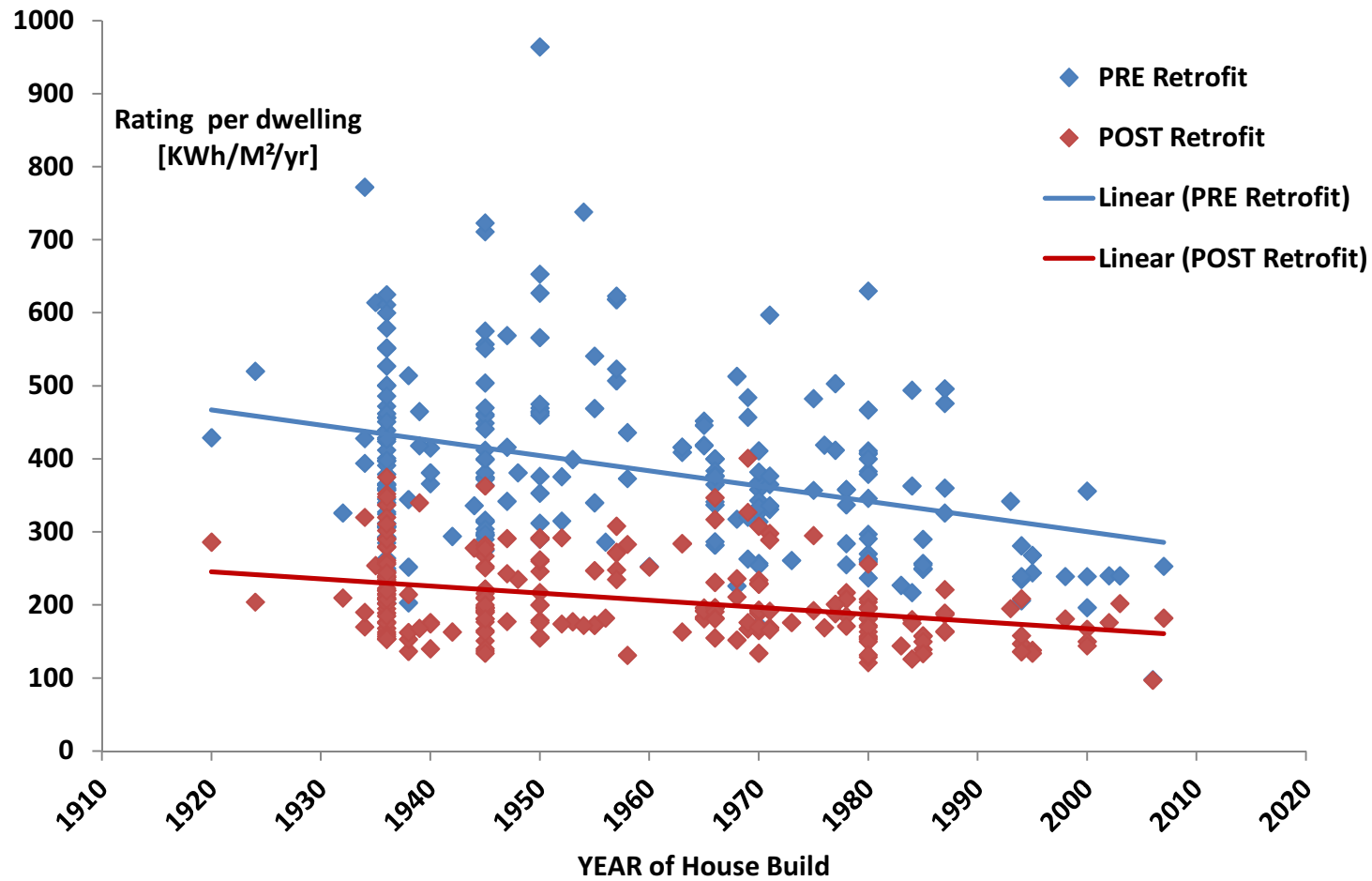


**BEFORE
RETROFITTING**



**AFTER
RETROFITTING**

Improvement of Building Energy Rating by Retrofit and by Year of Construction



2020 CO₂ Emissions Reduction Target and Results to date

Residential CO ₂ emissions	
Household emissions in 1990	10,764 kt
Household emissions in 2014	9,103 kt
Estimate of DCC household emissions	145 kt
Ireland 2020 CO ₂ reduction target	2,153 kt

	Households	2020 Target (20%)
Ireland	1,658,243	2,153 kt
Dublin	468,122	608 kt
Dublin City	208,716	271 kt
DCC Target	27,760	36 kt

DCC 2020 CO ₂ Reduction Target	36 kt (20%)
DCC CO ₂ Reduction Achieved under Phase 1	50 kt (28%)

Year	Units Completed	CO ₂ (kt)
2013	859	5.92 kt
2014	3612	24.92 kt
2015	2469	17.03 kt
2016	359	2.48 kt
Total	7299	50.30 kt

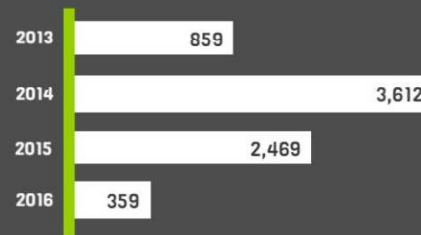


Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council

Dublin City Council Fabric Upgrade Programme Phase 1

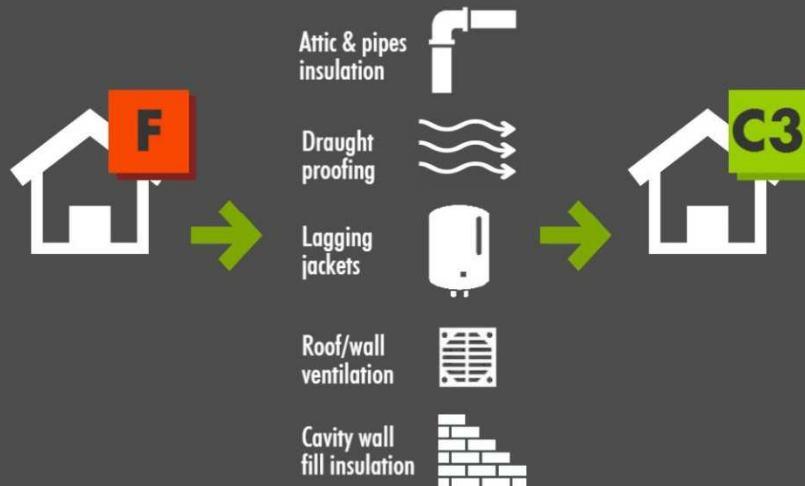
Since 2013, Dublin City Council has upgraded 7,299 of its social housing units. The upgrades were carried out as part of Phase 1 of its Fabric Upgrade Programme and have resulted in significant energy and cost savings and improved comfort levels for tenants. One of the schemes - Cromcastle Court - was upgraded using Ireland's first local authority Managed Energy Services Agreement (MESA). It is estimated to achieve savings of €834,700 on maintenance and energy costs over 10 years.

Units upgraded



282,000 MWh → **€16.6 million**
estimated energy saved from 2013-2016 saved on energy bills from 2013-2016

Building Energy Rating (BER) on average improved from 'F' to 'C3'*



*Taken from a typical sample of 244 properties that underwent Phase 1



Case Studies

Greendale Court

€13,190
Savings on heating bills in 2014 after upgrade

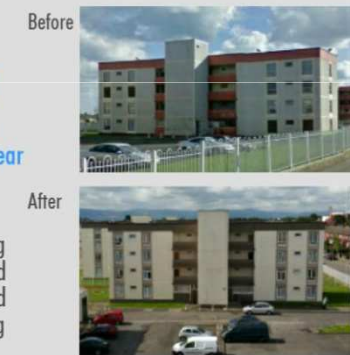
The upgrade included external wall insulation, double-glazed uPVC windows and improved heating controls.



Cromcastle Court

€83,470
Average savings on heating costs and maintenance per year over next 10 years after upgrade

The upgrade was completed using Ireland's first local authority Managed Energy Services Agreement and included new plantroom equipment, heating controls and air-to-water heat pumps.



Sandyhill Gardens / Cromlech Court / Burren Court

€88,700
Total annual savings on heating bills after upgrade

The upgrades in three estates in Ballymun included a mix of cavity wall insulation, uPVC windows, attic and roof insulation and new condensing boilers with controls.



ch
cil

Phase 2 will involve some of the same components of the upgrade in Phase 1

- **300 mm attic, Tank, pipes, insulation**
- **Roof /Wall ventilation**
- **Draught proofing**
- **Lagging jackets**

With the inclusion of

- **External wall insulation**
- **uPVCwindows (where required**

(Approximately 9,034 units)



Average Dublin City Council Property undergoing Phase 2 Retrofit

	ENERGY EFFICENCY WORKS
	MID TERRACE HOUSE
YEAR	1945
M²	66.15

Step	Proposed Interventions	Revised Energy Value	Rating
	Pre Work Energy Value	377	E2
1	Windows, Install low e argon filled 16mm double glazing with k-glass	371	E2
2	Fit 300mm of ceiling insulation in Attic space	284	D2
3	Fit external wall insulation (include gross wall area inc windows)	193	C2
	Post Work Energy Value	193	C2

