

# VALUE FOR MONEY IN ENERGY EFFICIENT RETROFITS IN IRELAND GRANT PROVIDER AND GRANT RECIPIENTS

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# VALUE FOR MONEY IN ENERGY EFFICIENT RETROFITS IN IRELAND: GRANT PROVIDER AND GRANT RECIPIENTS<sup>1</sup>

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## POLICY CONTEXT

As part of an ongoing series of energy efficiency directives from the European Union, Ireland is obliged to promote energy efficiency and achieve a targeted reduction in energy consumption of 20% by 2020. One means of contributing to this reduction is to improve the energy efficiency of the nation's building stock. The Sustainable Energy Authority of Ireland (SEAI) administers the Better Energy Homes scheme, which provides grant aid to homeowners for residential energy efficiency improvements. This research identifies characteristics of both dwellings and specific retrofits which provide the greatest energy efficiency improvements, the findings of which can help to guide efforts to optimise the grant aid scheme.

## OVERVIEW

The Better Energy Homes scheme provides grant aid for up to four retrofit measures. These are attic insulation, one of three types of wall insulation, a boiler with heating controls or heating controls only upgrade and solar collector installation. For the purpose of wall insulation, varying levels of grant aid are currently provided for differing building types. Detached houses received the greatest level of aid, followed by equal levels of aid for semi-detached and end-of-terrace houses. Finally, the lowest level of aid is provided to apartments and mid-terrace houses. This analysis aims to identify housing characteristics and combinations of retrofit measures which provide greater value for money, both for the household and the grant provider. The results of this analysis can

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therefore provide information on the most efficient retrofit measures, at an individual household level.

This research examines value for money for both home owners participating in the scheme and the grant provider, SEAI. From the home owners' perspective, we calculate household net benefit as the net present value of energy cost savings over a 20-year time horizon, accounting for the costs of investment, grant aid awarded, the differing useful lifetimes of certain measures and comfort taking after retrofitting.

Grant provider value for money is calculated as the euro amount of grant aid awarded for every unit improvement in a home's Building Energy Rating, measured in €/kWh/m<sup>2</sup>/yr. As such, lower values represent more preferable levels of value for money.

## **FINDINGS**

Homes with more energy savings potential are found to provide the greatest value for money. With regard to building types, mid-terrace houses are found to provide the greatest value for money, with apartments extracting the weakest value for money from the Better Energy Homes scheme. At present, these two building types receive the same level of grant aid despite this variation in outcome.

A large variation in value for money is found across the combination of retrofit measures undertaken. The greatest value for money for home owners is found in retrofits comprising combinations of attic insulation, cavity wall insulation and either a boiler with a heating controls upgrade or a heating controls upgrade itself. Solid wall insulation is found to provide the lowest value for money to households in net benefit terms. This is particularly true of external wall insulation.

For the grant provider, we find retrofits including solid wall insulation and solar collection to be most expensive per unit energy efficiency improvement. The least costly retrofit combinations are found to be shallower retrofits, such as attic and cavity wall insulation retrofits and boiler with heating controls retrofits. Semi-detached and terraced homes are found to provide greater value for money than detached houses, while apartments are found to be the most costly.

## **POLICY IMPLICATIONS**

As a significant variation in value for money is found between mid-terrace houses and apartments, it may be worth considering whether these properties should be included in the same category of building type for the provision of grant aid. As each type of wall insulation provides such different levels of value for money, consideration could also be made toward prioritisation of certain home types in the short term, with a view toward reducing the energy requirements of the residential building stock by 2020. Awarding aid based on a proportion of absolute

costs causes significant variation in net benefit. For this reason, a more economically efficient system of aid might be based on energy efficiency improvements. This would lead to a requirement for both a pre-works and post-works energy efficiency assessment.

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