

# Monitoring of energy savings from domestic deep retrofit: Ireland's EEOS



James Palmer

22<sup>nd</sup> October 2024

# Overview

Introduction



Approach to deep retrofit under Ireland's EEOS



Monitoring energy savings



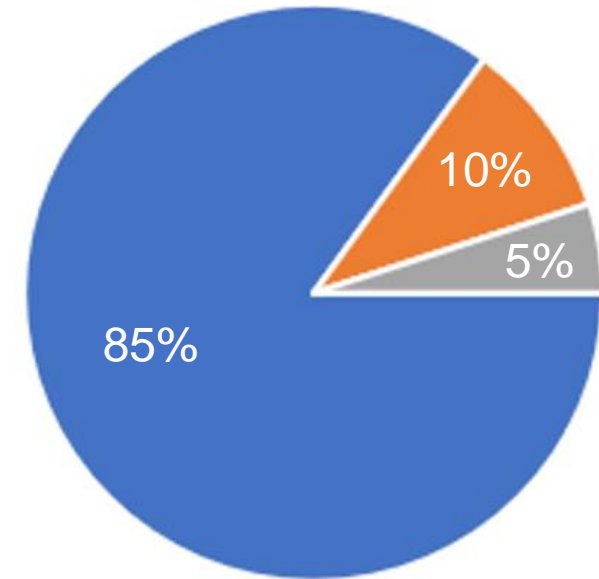
# Introduction





# Energy Efficiency Obligation Scheme (EEOS)

- Began in 2014
- New regulations introduced in 2022 which align domestic EEOS delivery with national targets for domestic retrofit.
- EEOS savings targets are divided into three savings categories:
  - Energy Poverty (5%)
  - Residential (10%)
  - Cross-sectoral (85%)
- Multiple grant schemes overlap with EEOS, which also focus on the delivery of domestic deep retrofit:
  - One Stop Shop
  - Communities Energy Grants



# National domestic retrofit targets

- Ireland's Climate Action Plan (CAP) targets a 40% reduction in residential emissions.
- National Retrofit Plan, which was published as part of the CAP in 2021, places the specific target of 500,000 home energy upgrades to B2 Energy Rating by 2030.

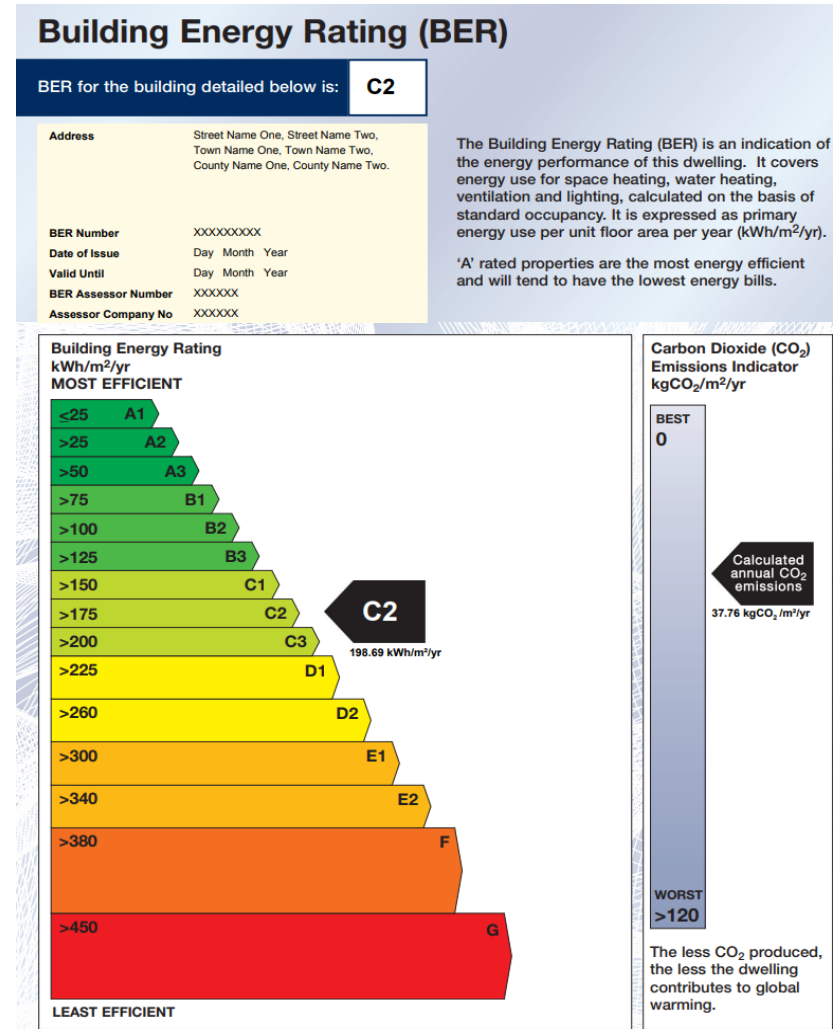


# Approach to domestic deep retrofit



# BER Certificate

- Ireland introduced a Building Energy Rating system in response to the requirement for energy performance certificates.
- BERs allow for the comparison of energy performance of dwellings on a like-for-like basis.
- Dwellings are rated from A1 to G, A1 being the most efficient.
- The calculation uses the Dwelling Energy Assessment Procedure (DEAP). This is Ireland's official method for calculating a dwelling's BER.
- The DEAP calculation framework is based on IS EN 13790.



# EEOS Residential requirements

To achieve residential energy credits by delivering energy efficiency improvement measures, the works must **EITHER**:

1. For the first set of upgrades at a dwelling carried out and notified under these EEOS rules by an obligated party:
  - a) Achieve the applicable minimum uplift requirement:
    - i. 100 kWh/m<sup>2</sup>/yr; or
    - ii. 90 kWh/m<sup>2</sup>/yr, where a domestic microgeneration measure is installed as part of the same package of works,
  - b) And either:
    - i. Achieve a post-works BER of B2 (or better) for the dwelling, or
    - ii. Meet the B2 pathway requirements:
      - Move the dwelling closer to achieving a post-works BER of B2 or better, and
      - The advisory report relating to the relevant BER certificate is discussed with, and provided to, the owner or occupant of the dwelling

**OR**

2. For the second or subsequent set of upgrades at a dwelling carried out and notified under these EEOS rules by the same obligated party:
  - a) Achieve a post-works BER of B2 (or better) for the dwelling.





# EEOS Energy Poverty requirements

To achieve energy poverty credits by delivering energy efficiency improvement measures:

1. The dwelling has:
  - a) a pre-works BER of an D2 or worse (i.e.  $> 250 \text{ kWh/m}^2/\text{yr}$ ), and
  - b) a post-works BER reaches a B2 or better

**AND**

2. The owner must be either:
  - a) a local authority or an approved housing body, or
  - b) an owner-occupier, with at least one occupant in receipt of a welfare payment that is deemed eligible under a free energy upgrade scheme administered by SEAI from the Department of Social Protection.



# Determining final energy savings from BER uplift

$$\text{Final Energy Savings} = \left( \begin{array}{c} \text{Pre-BER data} \\ \text{Total pre-works delivered energy (kWh/y)} + \text{Pre-works delivered energy produced and saved (kWh/y)} \end{array} - \begin{array}{c} \text{Post-BER data} \\ \text{Total post-works delivered energy (kWh/y)} + \text{Post-works delivered energy produced and saved (kWh/y)} \end{array} \right) \times \text{Correction Factor}$$

# Monitoring energy savings



# Monitoring savings - Energy Credit Management System (ECMS)

- ECMS is an online database where energy savings are uploaded and tracked
- Savings uploads are classified by MPRN (unique house ID):
  - Obligated party
  - Category (Energy poverty, Residential)
  - Energy savings measures implemented
  - BER data and uplift
- Linked with the BER database to automatically pull BER data for a given MPRN, determine the uplift achieved and calculate the energy savings.
- Supports monitoring of savings interaction through tracking of energy savings for individual homes.
- Each Obligated party can track their uploads, as well as their progress to targets.
- Allows SEAI to track overall progress and effectively monitor energy savings.



# Deep retrofit results

- Since January 2023, EEOS obligated parties were involved in the delivery of over 5,300 residential deep retrofits. This included:
  - Over 3,900 homes which achieved a BER uplift of over 100 kWh/year
  - Over 1,300 homes in the energy poverty sector, which received a deep retrofit from a D2 to a B2.



# Thank you

