Building Energy Ratings (BERs)

The energy performance of buildings in Ireland is measured and expressed by way of a Building Energy Rating (BER) certificate that categorises and ranks buildings according to their energy consumption per square metre and associated CO2 emissions.[17] BER certificates range from G to A1 on a 15-point scale, where the A-rated properties are the most energy efficient. In 2013, approximately 7% of homes had a rating in the range of A to B2, 34% had a B3 to C3 rating, 22% were D rated, and 36% were rated E to G.[18]

At an average annual housing growth rate of 1% and an obsolescence rate of 0.3%, there will be almost 1 million new residential properties in Ireland by 2050. If 90% of new builds are constructed to a minimum standard of B2 in accordance with the most recent building regulations, and no further retrofits of existing buildings, 40% of homes would be rated A to B2 in 2050.[19] Trajectory 1 assumes significant non-compliance with the latest building regulations. Trajectories 2, 3 and 4 assume high compliance for new buildings and increasing levels of retrofit activity, developed through consultation with experts in the industry.[20] A share of buildings remain in lower categories due to their protected status or prohibitive cost of refurbishment.

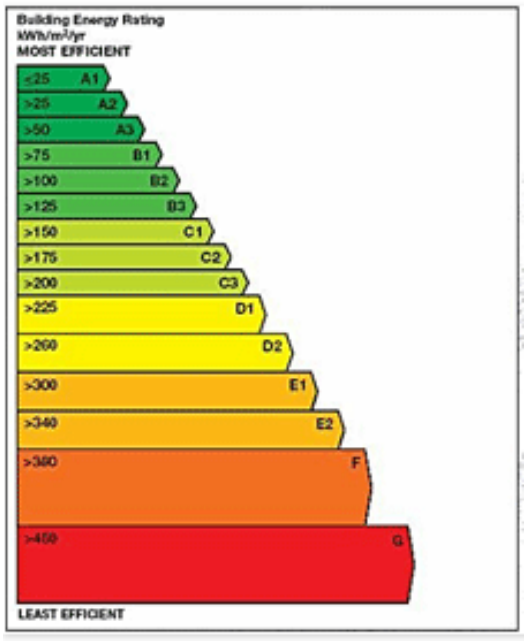

Figure 6. Building Energy Rating Scale from A1 to G in kWh/m^2/yr

Trajectory 1

Assumes low compliance with regulations for new buildings (30%) and no major retrofits. Average thermal demand per dwelling slightly lower than today (15.6 MWh/yr in 2013 to 12.6 MWh/yr in 2050). 17% of buildings have a rating in the range A to B2 by 2050.

Trajectory 2

Trajectory 2 assumes that most new builds are built to a B2 standard or higher. In conjunction with continued retrofit of existing buildings, 16% of homes having a B2 rating or higher in 2020, rising to 50% of homes in 2050.

Trajectory 3

According to Trajectory 3, significant retrofit activity leads to 20% of homes have a B2 rating or higher in 2020. By 2050, 65% of homes have B2 energy rating or higher, 21% have a rating between B3 and D2, and 14% have an E rating or lower.

Trajectory 4

Trajectory 4 assumes that 40% of homes will be B2 rated or higher in 2030 and 80% of homes will have a B2 rating or higher in 2050. Certain buildings such as protected structures remain in lower categories. Retrofits gradually increase over time driven by lower costs and higher building standards. There would be 28,000 to 38,000 home retrofits per year between 2040 and 2050.

	2013	2050 T.1	2050 T.2	2050 T.3	2050 T.4
Number of homes (million)	1.67	2.35	2.35	2.35	2.35
BER rating:					
A-B2	7%	17%	50%	65%	80%
B3-C3	16%	14%	9%	6%	3%
C2-C3	19%	17%	10%	7%	4%
D	22%	20%	12%	8%	5%
E, F and G	36%	32%	19%	14%	8%

Figure 7. Residential space and water heating demand under BER lever including conversion losses (TWh/yr).

Note: Smart meter lever set at Trajectory 1; share of electrification at A (<10%); fuel choice at A (mainly gas, biogas if available).