

SERVE Social Case Study for Retrofitted Households

Case Study No.1

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Tipperary Energy Agency
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1. Case study basic information

The name of the householder interviewed for the purpose of case study no. 1 is Mr. Tony Dunne.

He lives with his wife in this terraced two-storey house in an estate in a town in North Tipperary.



The house was built approximately 37-38 years ago and the Dunne's have lived here for this length of time and will live here for the foreseeable future.

"I can't see myself moving at this stage".

The house is situated in a terrace of houses in an estate in a busy town in North Tipperary. The total area of the house is approximately 88m². The Dunne's house was built as part of the original estate; more houses in the estate were built at a later stage.



The estate is situated off a roundabout close to a busy shopping centre; it is within walking distance to the town centre. The Dunne household itself faces out towards this roundabout.

The climate in this area is fairly typical for inland town in Ireland. On average the maximum daily temperature in July is 19°C, with the average minimum daily temperature in January at 3 °C. However in the winter of 2009 and 2010, temperatures plummeted well below zero in this households region.



“The last two winters have been disastrous ... the house was cold, no matter what you did”.

2. Situation of household before and after retrofitting

The Dunne household had the following types of retrofitting:

- 1) Attic Insulation
- 2) Cavity fill wall insulation
- 3) Heating controls
- 4) High efficiency cylinder
- 5) Wood stove

Energy consumption and costs – comparison

Before having the house retrofitted, the energy bills in the Dunne household were high. At an estimate the amount spent on heating oil, coal and briquettes annually was approximately €1,000 and now it is estimated to be half this amount. The main difference is the replacement of coal and briquettes with timber. Currently a load of timber is costing €150, and last winter which was extremely cold, three loads were purchased. The wood burning stove is highly rated...

” the stove was actually a great investment, it mightn’t look great but it sure throws out loads of heat”.

The wood was tested and deemed perfect for burning due to its moisture content by an energy engineer. The householder seemed particularly self-assured with the type of timber he is burning as a result of this. Prior to the stove being installed, the house was heated with an open fire in the sitting room that did not have a back boiler. The rest of the rooms were heated through the central heating system using oil.

“The heat was escaping as quickly as you were heating the room; it was escaping because there was no insulation in the walls and the attic”.

Quality of living-comparison

Since having the work done, the Dunne household is certainly more comfortable, not only is the sitting room warm but the upstairs bedrooms are too.

“If you went up last year, you’d be shaking about in the room, even with the heating on”.

As a member of this household is now retired, the comfort the retrofit has added to the house is very much appreciated and noticed.

“It was definitely worth it I am quite happy with it now I can tell you”.

Other aspects

The householder agreed that there is a certain sense of pride and with having had the work done. Along with this household another house two doors down was retrofitted as well and that householder is equally pleased with the results. *“She’s very happy too”*.

“I am very pleased with I’m delighted with it because last winter was maybe colder than the year before and the house was warm ... that’s a big difference I’d ... it was money well spent”.



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3. Main Reasons/Motivations for household retrofitting

The householder first found out about the SERVE project through the local paper, but the information regarding the grants was not what initially enticed the retrofit.

“What happened was, my son was building a new house and put in a stove I saw the heat coming from it and said they are a great idea”.

Moreover it was the first hand experience of the stove that started the idea of retrofitting the house, this was fuelled by the announcement of the grants/subsidies and in this particular case contributed to additionally by some retirement money readily available to the householder.

“I said I’ll go and do it now while I have a few pounds”.

The grants/subsidies available to the householder were a big incentive. Approximately half of the cost of the retrofit was claimed back and already after the first winter a saving can be seen. If the grants had not been available, an upgrade would have been done on a smaller scale, but not as much money would have been spent.

With regards to the energy savings and comfort the householder feels the reasons for retrofitting were a combination of both.

“it was kind of half and half I suppose”.

The householder would be familiar with the positive environmental effects of these upgrades, and how their lower energy consumption is helping the household to be more sustainable. However the price of the fuel being used before the heating system upgrade, twinned with the cold were the leading drivers behind this household’s decision to retrofit their home. Having lived in the house for approximately 38 years, and raised three children in it, the level of comfort now available in retirement is very much welcomed. Twined with the stove, the insulation provided a whole new sense of comfort for the Dunne household, which is very much welcomed and appreciated.

4. Main Barriers/Problems encountered

Financial problems

From a financial point of view, the Dunne household described all aspects relating to applying for and receiving the grants and subsidies as relatively straight forward;

“everything was paid up fairly promptly... no problems”.

There were no other financial problems encountered because as mentioned earlier the remaining capital needed for the retrofit was readily available to the householder.

Technical problems

With regards to the heating system upgrade in the household, heating controls are in place for the two zones in the house. Although technically these controls are maintained and set by the householder’s son, it is not necessarily considered a problem,

“I could probably figure it out if I wanted to, but I just couldn’t be bothered”.

The householder did have a small problem subsequent to the retrofit with the boiler, but when the local plumber, who had completed the upgrade, was informed he came very promptly and fixed it.

Other

The plumber employed to do the work for the retrofit was local, and by all accounts very reliable. The company chosen to insulate the house were sourced outside the locality. Unfortunately the householder was not happy with the level of workmanship employed by this company.

“They did a rough enough job ... I had to have a few words with them”.

A problem arose after the insulation was completed; it was encountered in the winter. When the cold weather and frost started to set in, water began to drip in the attic.

“There was water dripping all over the place ... so I got on to the chap from Insulation Company”.

The householder was assured that someone would come to fix the problem. Unfortunately this carried on week, after week, after week. It was not until a month later that they sent someone to sort the problem. The most frustrating part of the situation from the householders’ point of view was that all that was needed was to put two vent tiles on the roof.

“It took him about a half an hour ... after all that waiting ... I was really mad If anyone asked me I would not recommend this insulation company ... such a small thing, they should have done the first day.”

5. Overall satisfaction with installed measures

Subsidies

The householder found being an applicant and recipient of the SERVE project was overall a smooth process. The respondent didn’t undergo any financial problems and all subsidies were paid promptly.

Technical issues

Technically all the new systems are running very well. The householder does not feel the need to understand how to work the heating controls at the present time, because a family member helps with this aspect of the retrofit. The householder is very happy with how the temperature is regulated between the two zones and has not had any significant technical issues to date.

Quality

Overall the quality of the installed measures is satisfactory. There was an issue with the workmanship involved in the insulation but the actual quality of the insulation is deemed as good by the householder. The use of timber in the wood burning stove in particular is rated highly and gains a good deal of praise.

“ I am actually delighted with the timber ... with a coal fire you imagine the heat is best ... but the timber fire is very good ... there’s great heat out of it”.

Value for money

The householder was very happy with the value for money he gained on this investment. Taking into consideration that he was already intending to upgrade the heating system, being able to avail of the subsidies was a huge bonus and incentive for the retrofit. The householder estimated he claimed back approximately half of the money invested.

Other

When describing the difference in the house before and after the retrofit, the householder was visually and verbally very happy with the result.

“I am very pleased with it, I’m delighted with it ... last winter ... the house was warm ... it was a big difference ... I am delightedit was money well spent ... I’m delighted!”

Furthermore, at various stages of the interview the respondent made reference to his wife’s level of satisfaction by stating,

“Mrs. Dunne is very happy!”

6. Conclusion

The householder in case study No. 1 had the heating system upgraded and roof and walls insulated. This stemmed from experiencing the feeling of warmth in a new fully insulated house with a wood burning stove. Through the SERVE grant the householder was able to upgrade his home to a standard of comfort that has brought about a great sense of delight in this household. Furthermore there was a change in fuel type from coal and briquettes to timber and a reduction in heating oil consumption, thus leading to a reduction in the economic and environmental effects of heating this house.