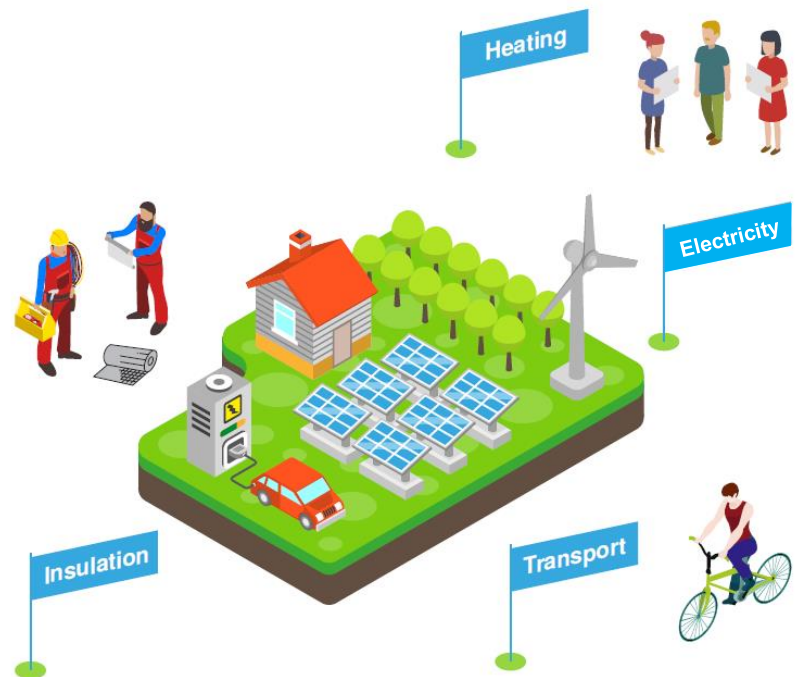


# POWERFUL COMMUNITY PATHWAY

## BOYLE

KEY FINDINGS | 2019



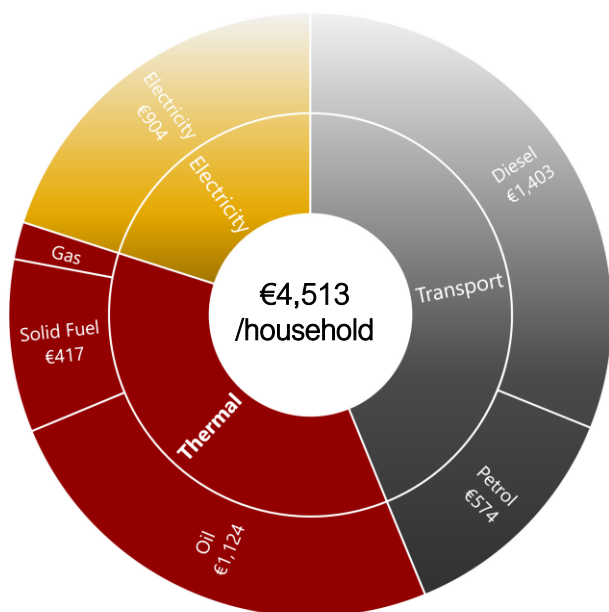
# Introduction

Irish households have the highest carbon footprint in Europe. With this comes a set of downsides that impact people health and standard of living. The goal of this study is to draw a baseline of the typical household energy profile in the town of Boyle (Co. Roscommon), in order to model an energy transition scenario that unlocks benefits for the community. A household energy survey was designed and administered to 103 households representing roughly 10% of the occupied housing stock in Boyle. Key findings are reported below. The full report is available on the GEAI website.

Boyle is a rural town located in County Roscommon. As of 2016, the population of the town was 2,568. The housing stock amounts to 1,411. The occupancy rate is nearly 80%, with 1,123 houses occupied.<sup>1</sup> The surveyed population clusters lie in and on the outskirts of Boyle. In those areas, 25% of the houses were built before 1978, 23% between 1978 and 1993, 35% between 1994 and 2004, and 20% since 2005.

## Average annual energy cost and CO<sub>2</sub> emissions per household

Figure 1: average annual energy cost per household

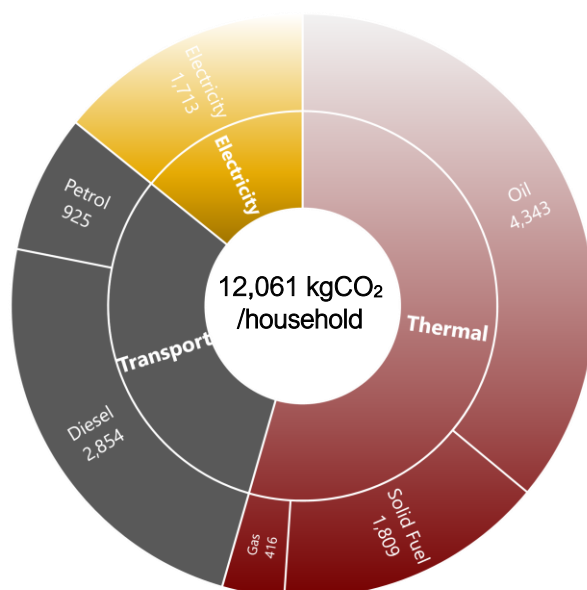


Every household spends €4,513 per year on average to meet its energy needs:

- €1,977 for Transport (44%)
- €1,632 for Heating and Cooking (36%)
- €904 for Electricity (20%)

Spending on renewable energy is estimated to be only 8.6%, the rest is spent on fossil fuels. Home renewable energy systems are found only in 4% of houses.

Figure 2: average annual kgCO<sub>2</sub> emissions per household



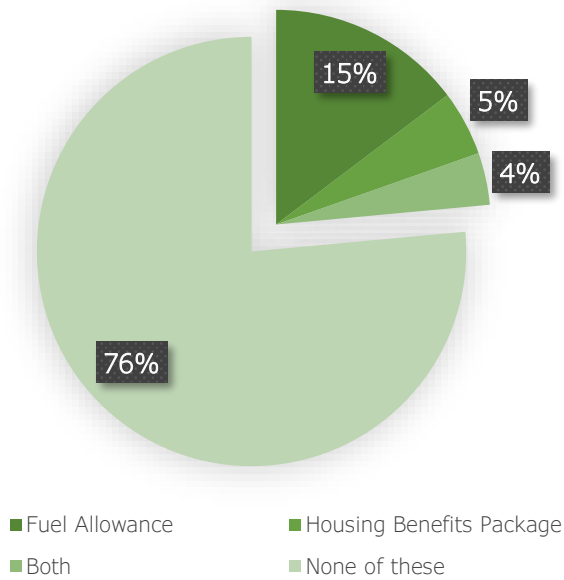
Thermal energy costs make for one third of the total, but their associated carbon emissions share is more than half, at 54%. This is due to the heavy reliance on oil and solid fuels for heating purposes, which have a high carbon content per euro.

Transport energy, at 31%, has the second largest climate impact, followed by electricity at 15%.

<sup>1</sup> National Census, Central Statistics Office, 2016.

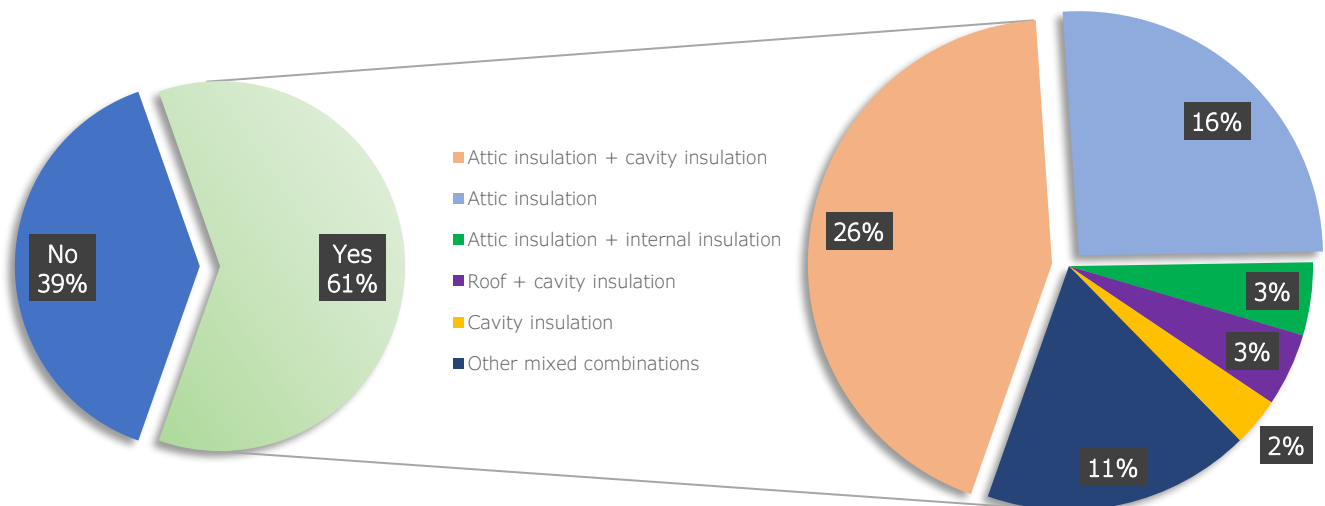
## Focus: Energy poverty

Figure 3



If we take the group of households that is recipient of fuel allowance and/or housing benefit package as our proxy of fuel poverty, then about .25% of Boyle families are deemed to be energy poor.

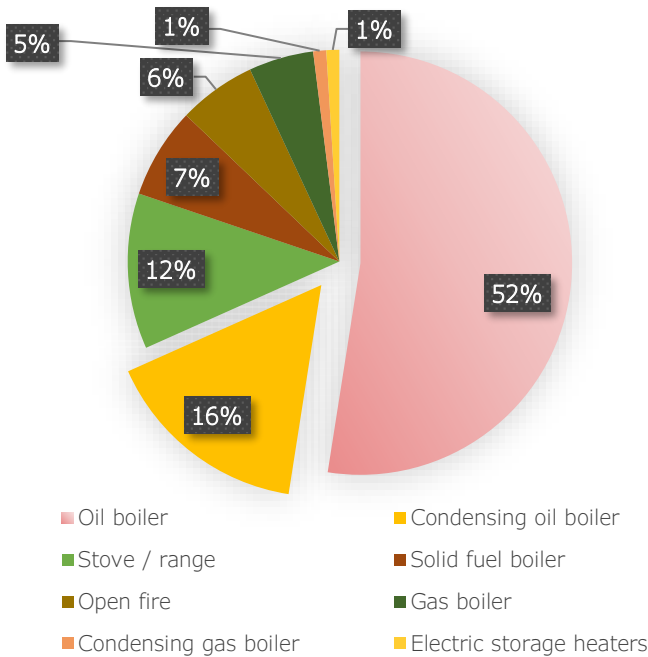
## Focus: Space heating



More than half of the households (61%) had some insulation upgrades since construction. Of the households that carried out heat retention works, 75% had installed attic insulation.

Over 90% of our household sample don't have a BER (Building Energy Rating) or are unclear about it.

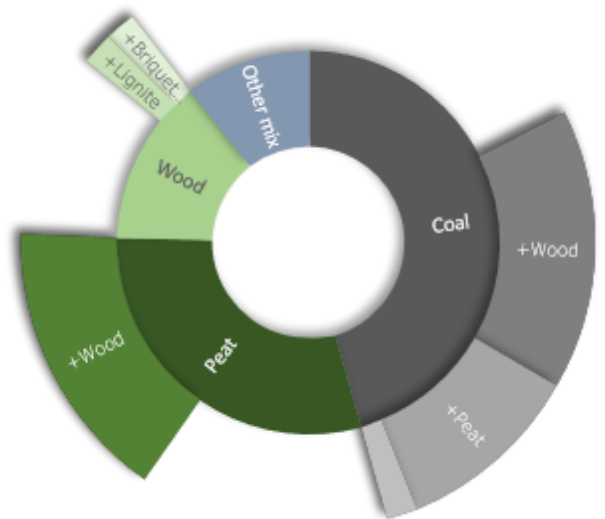
Figure 4: Primary Heating System



Oil boilers are by far the most commonly used central heating system in Boyle (68% of households), reflecting the overall situation of rural Ireland settlements. 81% of households use a secondary heating system, with solid fuels systems being the most common back-up solution.

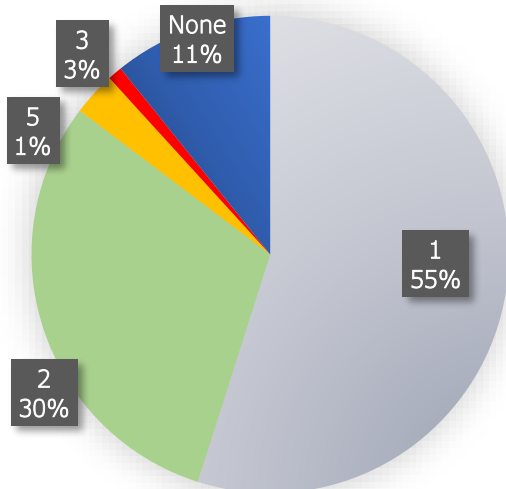
46% of households use coal as their primary solid fuel, alongside other back-up fuels. Peat is used as a primary solid fuel by 30% of households, followed by wood (14%).

Figure 5: Solid fuel usage



## Focus: Transport

Figure 6: Household car ownership



With about 1,514 circulating cars, the private car is the ruling means of personal transportation in Boyle. 68% are diesel cars, the rest being petrol.

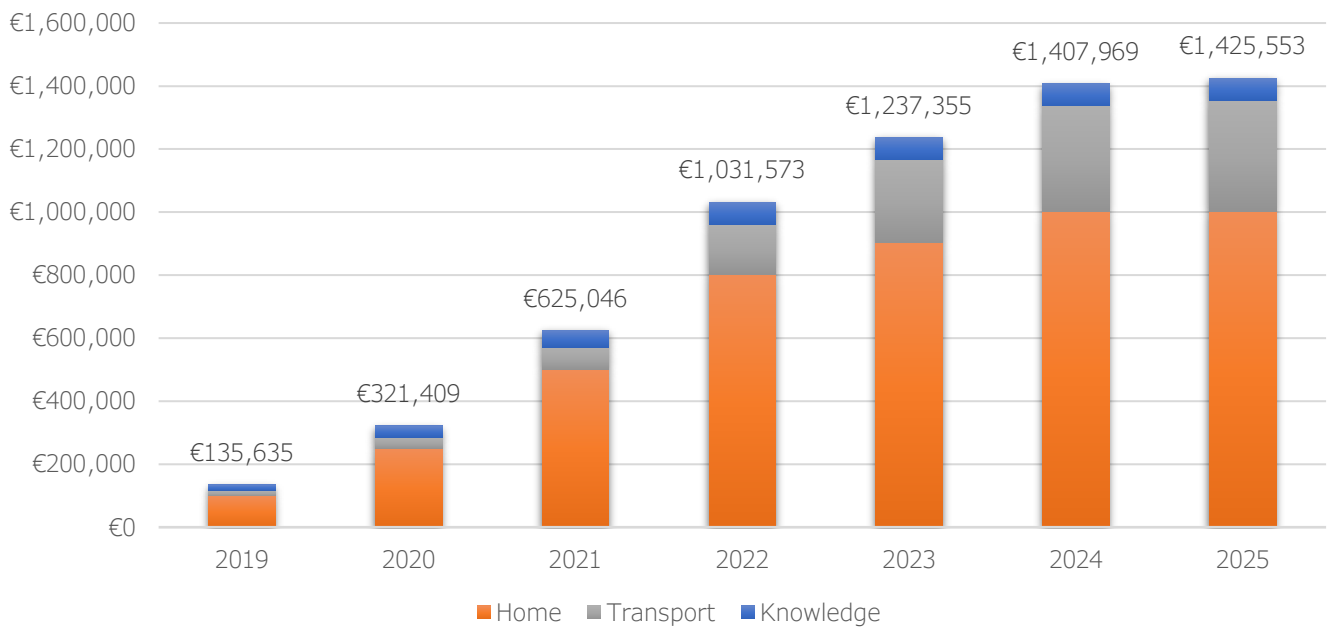
The average household owns 1.45 cars. There are about 6 cars for every 10 residents.

54% of the interviewed population is considering switching to an electric vehicle.

## Transition timelines

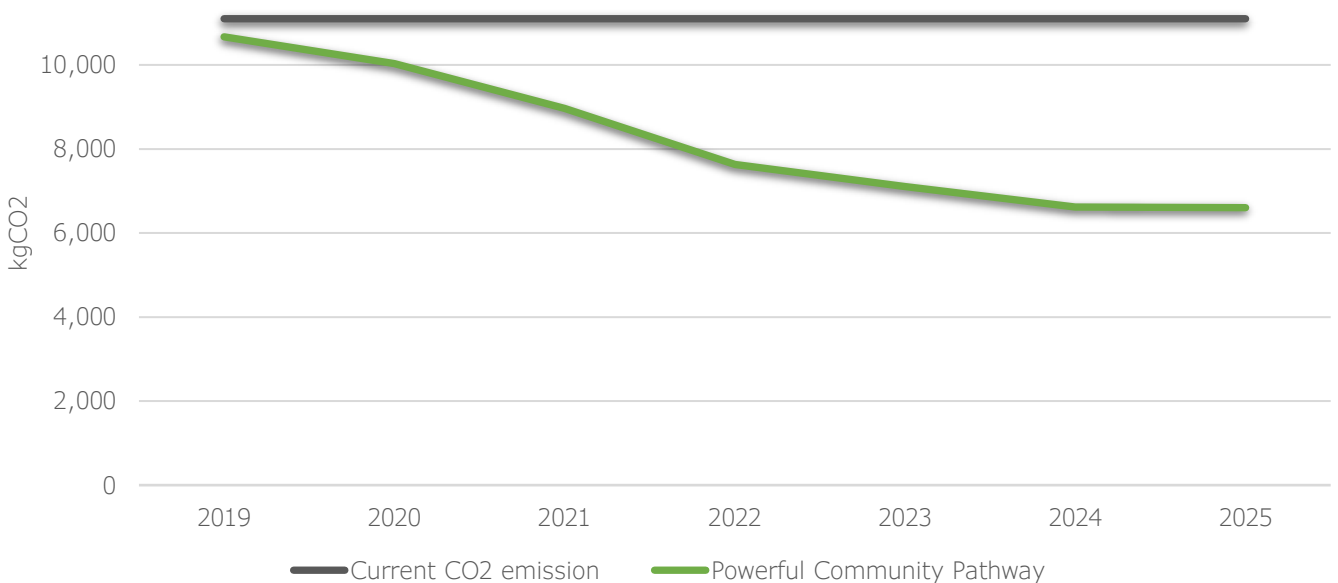
An energy transition scenario for Boyle can be forecasted, with energy saving actions taking place in the areas of Knowledge, Houses, and Transport. Most of the savings originate from home energy efficiency upgrades. Savings display an increasing trend over the considered time horizon of 7 years. According to our projections, the community of Boyle can cut over €6.1 million off energy expenditure by 2025.

Figure 7: Avoided energy costs



This is equal to a 41% drop in carbon emission lev.

Figure 8: Avoided emissions





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