



## Submission to the Committee on Communications, Climate Action and Environment

### Executive Summary

Tipperary Energy Agency has been retrofitting homes since 2005 and has successfully completed 75 deep retrofitted homes under a variety of SEAI supported schemes since 2015, all of which have heat pumps for heating. All homes in Ireland will need to be retrofitted by 2050 to A or B standard with renewable heating if we are to achieve our climate and energy targets as established in the white paper on energy (2016). Essential to achieve this is the creation of the business case for householders to wish to do this. This is not currently available with the low cost of fossil fuels currently. This business case can be achieved by a mixture of carrots, sticks (grants & taxes) and low cost finance. It will be eye wateringly expensive (€10Bn-€20Bn) for the exchequer to fund this incentive without any additional carbon tax. In order to facilitate low cost financing of this renovation, a clear market demand and a stable long term policy framework must be established. In addition, an independent advice mechanism where householders can get independent impartial advice with competent qualified contractors delivering the work will be central to delivering the energy transition for Irish buildings.



## Main Part Of Speech

Chairperson and members of the committee, Thank you for the opportunity to present to the committee today. I represent the Tipperary Energy agency, one of a number of Local energy agencies, established as non profit social enterprises at a local level to support the energy transition. We have 24 staff working to support Tipperary and Ireland reduce it's energy related carbon emissions.

First of all, we are all aware of the 2050 climate and energy targets both at a Global, EU and white paper driven national targets. In order to achieve an 80-95% cut in carbon emissions, allowing for heavy transport, aviation and agriculture we will essentially fully decarbonise homes, both heat and electricity. This will only be achieved through deep retrofit of buildings with renewable heat.

The consequences of not meeting these targets are a legacy for us, and our children contending with migration, floods and all the negative consequences that climate change will bring.

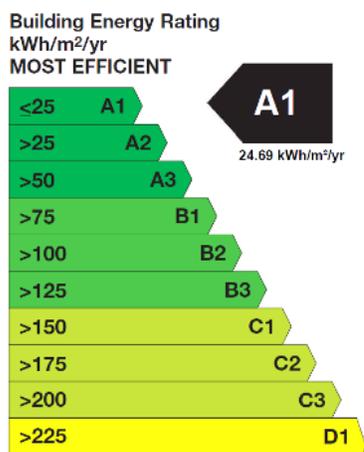
## What is deep retrofit with renewables?

Deep retrofit with renewables is taking each building, insulating it, reducing air leakage, installing ventilation systems to ensure high indoor air quality, PV to supply available solar energy and putting in a heat pump to supply low carbon heating. The Tipperary Energy Agency, supported by the Sustainable energy authority of Ireland and ESB group, has implemented 75 of these near zero energy building retrofits, or as our communications manager has called them Superhomes.ie.

At the end of this process homes are heated to 20 degrees all year round for €300 to €400 per annum for an average home (€600 for a larger home). This is about 60-80% reduction in energy costs, carbon and fuel use. One homeowner detailed to me

**“If I didn't save any money this is the best money I have ever spent”**

In addition, Locally we have deep renovated 20 homes with people with lung diseases such as COPD & asthma. Several of the homeowners have contacted us they have detailed that the deep retrofit is life changing in terms of eliminating their need for frequent trips to A&E and excessive courses of medical treatment. The homeowners will be featured on Eco-eye next week, and I would encourage the members and observers to tune in. What's the catch? The catch is the capital cost- with the average home costing 30-40k. The simple payback before grant aid is 10-20 years with current fuel prices (it was 7-15 in 2015 with the higher oil prices).



## Why Renewables?

It is critical, as part elimination of fossil fuel carbon emissions that all homes include renewable heat in the form of a heat pump. We need to ensure that no new home is built with a fossil fuel heating system, as we will need to retrofit them in the future. Approximately 37% of new homes in Ireland in 2017 were built with heat pumps, we need to ensure this is 100% as soon as possible. In addition, all homes supported for deep renovation are also supported for the installation of renewable heating. We should also ensure that there are as many other incentives as possible in addition to regulation (i.e. the banning of installation of fossil fuel heating systems in buildings, with a phased approach). All the Nordic countries have phased out fossil fuel boilers, with even the UK indicating the banning of fossil fuel boilers in the near future. We're sleepwalking into a high cost of decarbonisation by allowing the installation of new fossil fuel assets (boilers and gas infrastructure) that we will need to incentivise their early retirement at a high cost to the exchequer.

## Financing deep retrofit

The Simple payback for deep retrofit is such that it is currently not sufficiently attractive for householders to complete right now with out incentives. In Denmark, the tax on fossil fuels incentives people to take up renovation, with their homes using 1/3 less energy than ours with a similar climate. To incentivise deep retrofit the current pilot scheme right now will detail that it is expensive to retrofit homes, it is important that the w of this committee and the government realise that the addition of carbon taxes (with protection for the vulnerable in society) will be a much cheaper method from the exchequer's point of view to decrease the cost of renovation. It is important that when we say Grants are unsustainable – that we understand Taxes and subsidies are two ends of the same spectrum.

In order to bring in private finance into the domestic deep renovation sector, we need to have trusted counter-parties who can design and implement deep retrofit with local contractors. Banks to date have been reluctant to finance deep renovation outside of standard loans. Superhomes is looking to create a financing method that provides low cost finance where homeowners will be able to deep renovate their homes at a small additional cost to their annual energy bills (ie. Would you be happy to upgrade your home to a A rating from a D rating for an additional 2-4€ per day or w-100 per month for 10 years. That is a reasonably simple concept and we should strive to have low cost loans, Local delivery, and renewable renovation to achieve our targets. Note the spectacular failure of the UK Green deal at 7.5% cost of finance and the huge success of the German KfW renovation at 2-4%. One will not get private finance into the deep renovation market until there is a widespread market need. The market need will only come when paybacks are less than 10 years. Those paybacks will only happen with a carbon tax of sufficient amount to encourage people to actively seek alternate means of heating homes.

## Market capacity and Jobs

The European Commission and European parliament have identified “one stop shops” where homeowner's can get advice, access to contractors, quality control, grants and finance in one place. That is one of the aims of the Superhomes Ireland initiative.

Renovation happens to each building, it is local and it supports local jobs. A deep renovation of one home supports approximately one job year in terms of direct, indirect and induced jobs. Widespread take up of deep renovation will decrease energy costs, carbon emissions, will improve air quality, health, will support local jobs and will strengthen our economy. However, as we have managed the

deep renovation of 75 buildings to date, significant market development work is required. We need to upskill the construction sector. The 2005-2008 Greener homes scheme had significant failings in terms of quality of works (the common Irish conception is pellet boilers don't work, with approximately 50% of Upper Austrian buildings heated by biomass it is clear that the technology can work). While the SEAI have an excellent quality control system in place, we need to start urgently with standards and training for the introduction of the heat pump grant. We see that the poor installations of heat pumps using about 25% more energy than necessary, if this happens again, we will unlikely achieve societal support for this transition.

## Solar Energy

One final Point I would like to make on solar energy. The Tipperary Energy Agency have managed the installation of about 5% of the total installed capacity in Ireland from 1 kW to 200kW projects (most of which has been supported by SEAI. If an SME or homeowner or dairy farmer installs a kW of solar PV, they will use a large portion (improving costs and competitiveness). The state will only need to support the balance that is unused, and this should be supported below the retail price of energy (about 16c) and above the wholesale price (4-6c). At about 13c per unit it provides sufficient incentive to allow a large uptake, with the state only needing to support the spill, in contrast to utility scale where the state will need to support every unit of energy produced.

It is important that the state first works to reduce the "soft costs" of solar PV, with awareness, training, reduction in planning constraints by updating the out of date exemptions and potentially low cost financing schemes will enable uptake with lower PSO costs than would ultimately be available otherwise.

The opportunity for rooftop solar to engage Irish people in the energy transition is huge, once a home starts to look at energy generation and use, it will start to understand where energy is wasted and how best to optimise their lifestyles, as Deputy Dooley mentioned about the electric car on the 15th of January. The Solar PV opportunity presents a unique opportunity right now, with low cost solar, rapid deployment available. I would encourage policy makers to urgently support microgeneration. Deployment of smart meters, an export tariff of approximately 13 c/ kWh will support the deployment of a large amount of solar PV on agricultural, community buildings, SME's and homes. We should ensure that the right conditions that SMES, communities, farmers and Homeowners can engage in the energy transition in line with the large scale developers.

