

# Ballinamore

## Community Transition Roadmap to 2025

The Northwest Energy Communities Start-up project was delivered by Good Energies Alliance Ireland in partnership with the Institute of Technology, Sligo and funded by the Sustainable Energy Authority of Ireland (SEAI)





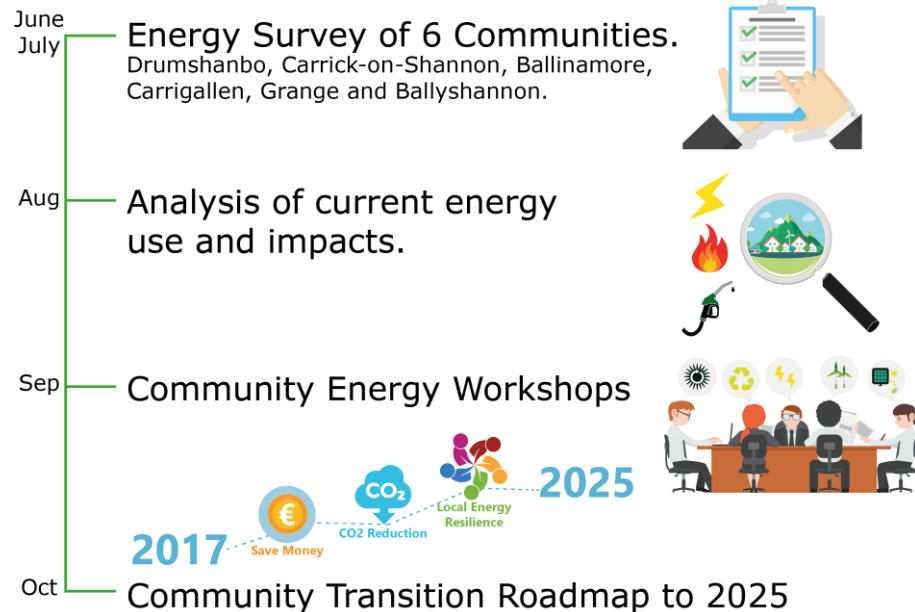
# Contents

<b>Your Community Transition Roadmap</b>	<b>1</b>	<b>Renewable energy</b>	<b>16</b>
Northwest Energy Community Start-up project	1	Switch from coal to locally sourced wood fuel	16
How to use this Roadmap	2	(H16) Install a Solar Thermal (hot water) system (G)	16
Roadmap Sections	2	Electricity	17
Notations	2	(H14) LED lighting	17
<b>Household and Community energy</b>	<b>3</b>	Exemplar housing	18
Average annual energy costs per household	3	(H17) Deep retrofit (G)	18
Average annual CO <sub>2</sub> emissions per household (kgCO <sub>2</sub> )	4	<b>Transitions for transport</b>	<b>19</b>
Ballinamore Community	5	Public transport	19
<b>Transitions for knowledge</b>	<b>6</b>	(T1) Keep up to date with the public transport options	19
Knowledge and understanding	6	(T1) Consider a hire car at your destination	19
Understanding Home and car energy use	7	Reducing car journeys	20
(K1) Your Energy File	7	(T2) Car pooling and lift sharing	20
(K2) Submit electricity meter readings	8	(T3) Work from home	20
(K3) Switch energy suppliers	8	Electric/hybrid vehicles	21
(K4) Be your own energy manager	8	(T4, T5, T6) Switch to an electric or hybrid vehicle (G)	21
Grants and support schemes	9	<b>Transitions for community</b>	<b>22</b>
SEAI Better Energy Warmer Homes	9	Community groups	22
SEAI Better Energy Homes	9	(C1) SEAI Sustainable Energy Communities programme (G)	22
SEAI Better Energy Communities	9	(C2) Energy clubs	22
SEAI Electric Vehicle Grant	10	(C3) Group procurement	22
ESB Free home charging point for EVs	10	(C4) Better Energy Communities programme (G)	23
Energy supplier initiatives	10	(C5) Local grant advisor	23
<b>Transitions for homes</b>	<b>11</b>	(C6) Energy awareness events	23
Understand your home	11	<b>Transition Scenario for 2025</b>	<b>24</b>
(H1) Get a Building Energy Rating (G)	11	Energy reduction and savings	24
Estimate your own BER	11	Knowledge transitions	25
Home heating	12	Key points	25
Find out your comfortable temperature	12	Home transitions	26
(H2) Draught proofing (G)	12	Key points	27
(H3) Open fireplaces – install a chimney blocker	13	Transport transitions	27
(H3) Open fireplaces – install a solid fuel stove (G)	13	Key points	28
(H12, H13) Upgrade to a Condensing Oil Boiler (G)	13	Community transitions	28
(H11) Upgrade Heating Controls (G)	14	Where to go from here	28
Insulation upgrades	15	Ballinamore Community – Transition by 2025?	29
(H5) Attic insulation (G)	15	Annual savings and reductions	29
(H6) Cavity wall insulation (G)	15	<b>Transition timeline for 2025</b>	<b>30</b>
(H7, H8, H9, H10) Internal & external wall insulation (G)	15	Transition timeline	30



# Your Community Transition Roadmap

## Northwest Energy Community Start-up project



The NECS project was designed to work directly with communities with an ambition for energy understanding and to utilise the outcomes to encourage greater momentum and participation in energy transition for the benefit of the local community.

The project timeline shown here demonstrates the steps taken to develop this Community Transition Roadmap to 2025.

The next step is up to you individually and more importantly as a community. A study by the UK Department of Environment and Climate Change<sup>1</sup> showed that transition is impeded by a lack of awareness and/or the inconvenience involved. The same study also highlights the increased value of team based approaches which use peer support to drive energy efficiency.

Transition is not expected to happen without effort, but tackling this at a local community level helps to share the burden, and the value.

*"The really helpful things will not be done from the centre; they cannot be done by big organizations; but they can be done by the people themselves."*

E.F. Schumaker – Small is Beautiful, 1973

<sup>1</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69797/6921-what-works-in-changing-energyusing-behaviours-in-.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69797/6921-what-works-in-changing-energyusing-behaviours-in-.pdf)

# Your Community Transition Roadmap

## How to use this Roadmap

### Transitions for knowledge - Getting 'Smart' about energy

- Understand your costs and what you're paying for
- Record your energy use to check for improvements



### Transitions for homes

- How to run an energy efficient home – what to look out for and change
- Appropriate efficiency upgrades – 1<sup>st</sup> measures, 2<sup>nd</sup> and 3<sup>rd</sup> measures
- Available supports – financial and technical



### Transitions for transport

- Public transport options
- Electric/hybrid vehicle options



### Transitions for community

- Setting up a Sustainable Energy Community
- Using the Roadmap to start your community transition



This Roadmap gives transition recommendations for Knowledge, Homes, Transport and Community. It is not an exhaustive list. The transition types are not discrete, but overlapping and complementary. The transitions for knowledge are a foundation for all other transitions. Transitions for community can add value to all transitions.

## Roadmap Sections

### Household and Community energy

Summary of survey and research findings

### Transitions for knowledge

### Transitions for homes

### Transitions for transport

### Transitions for community

### Transition Scenario for 2025

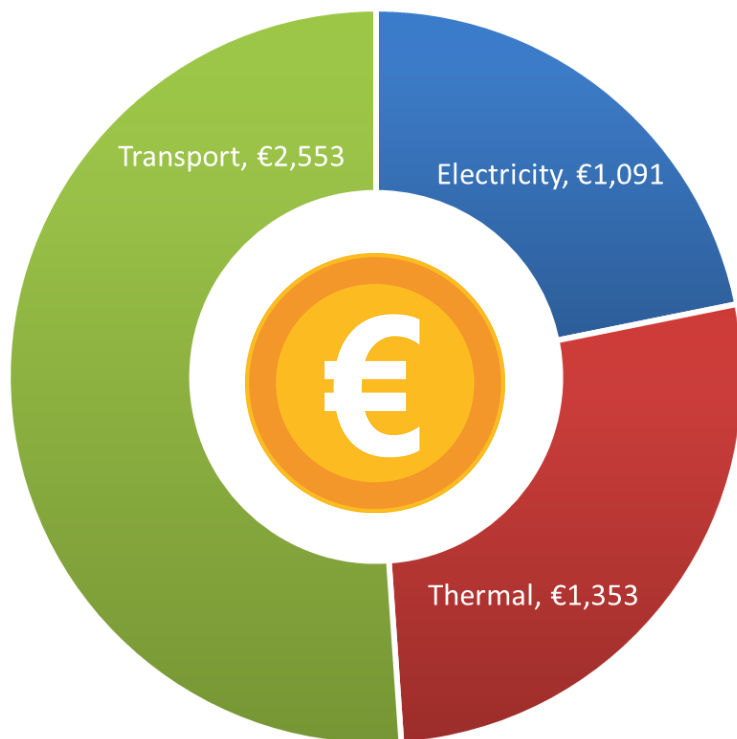
Targets for your community

## Notations

Some transitions have a prefix, e.g. the first Transition for home has **(H1)** as its prefix. These then refer to the Transition Scenario section.

Transitions which may be eligible for grants will have a **(G)** postfix. Brief details of some grant schemes are included in the Transitions for knowledge section.

## Average annual energy costs per household



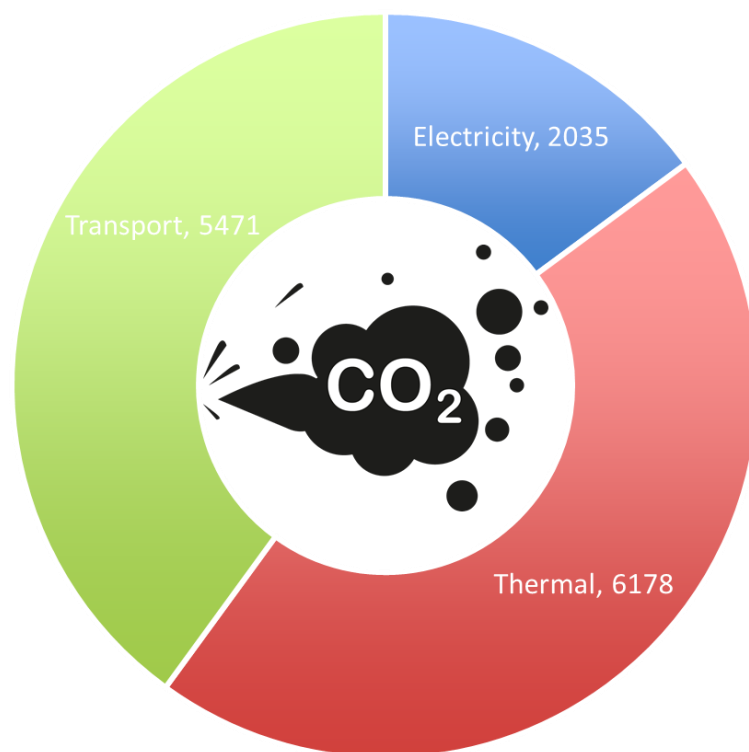
Based on the survey of your community these are the typical energy costs per household.

- Electricity bills are higher for homes with small children – washing machines and dryers
- Average total cost per person is approx. €2,200
- Transport costs are c.40% higher than the national average per household<sup>2</sup> (€1,813 in 2015)
- **How does your home compare to this?**

---

<sup>2</sup> [www.cso.ie](http://www.cso.ie)

## Average annual CO<sub>2</sub> emissions per household (kgCO<sub>2</sub>)



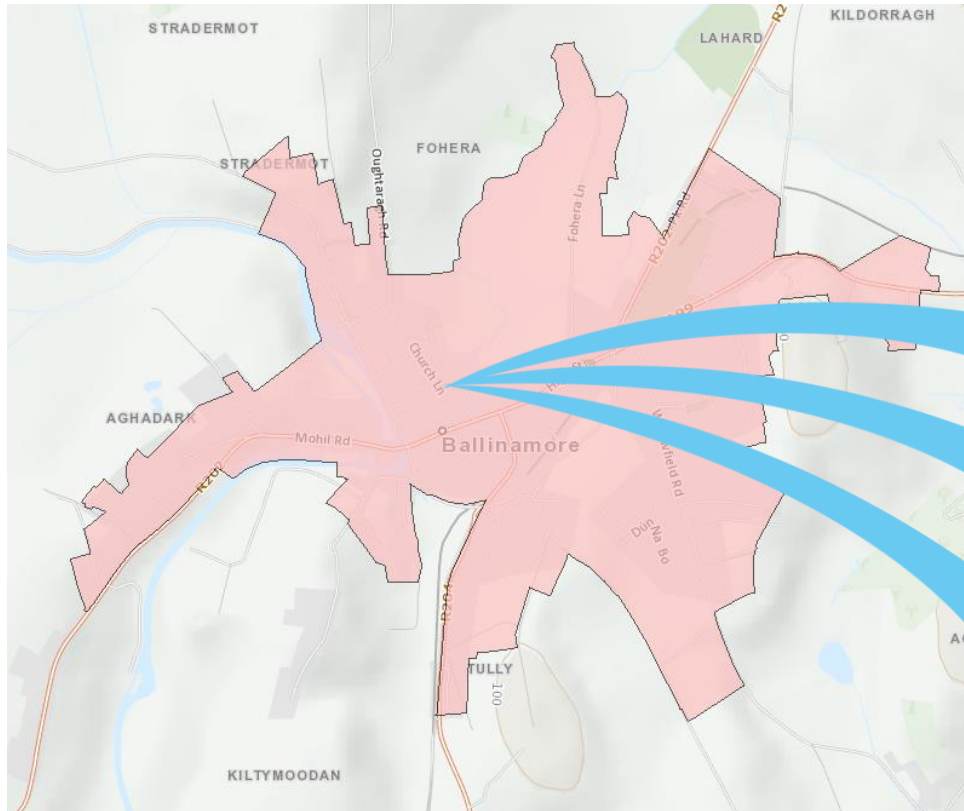
The climate impact of a typical household is shown based on the survey of energy costs.

- Thermal energy has the largest impact: oil, coal, peat
- Transport energy has the next largest impact: reliance on private petrol/diesel cars
- **Total climate impact per household is:**
  - 8,213 kgCO<sub>2</sub> for heating and electricity (*c.50% higher than national average in 2015<sup>3</sup>*)
  - 5,471 kgCO<sub>2</sub> for transport

<sup>3</sup> SEAI, Energy in Ireland 1990 – 2015, (2016 Report)



## Ballinamore Community



Based on CSO 2016 data we can estimate the costs and climate impact for the local community.

- Population 914
- 467 occupied dwellings (of 603 in total)
- >830 private cars



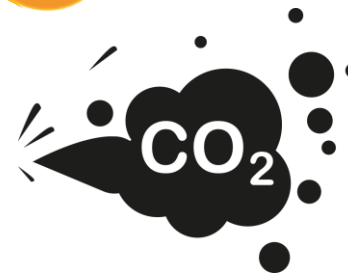
○ €1.14m heating and electricity



○ €1.19m transport



○ 6,400 tonnes CO<sub>2</sub>



**HOW CAN WE  
CHANGE THIS?**



## Knowledge and understanding

One of the key findings of the surveys is that most residents are not clear on their total energy use. To implement any changes we first need to understand the energy use. The transitions for knowledge outlined here don't all guarantee savings, but they are key to making decisions and making real changes.

The starting point is to know how much energy you use in your home and car. You can record energy use in quantities such as litres of oil, litres of petrol, kWh and CO<sub>2</sub> emissions. But the easiest way to start is by recording costs.

The measures highlighted here should be thought of as a starting point. Getting to understand your energy use and learning how your home uses energy will help you to make further behavioural changes, many of which can bring real cost savings. Transitions for knowledge are a foundation for all other transitions.

## Understanding Home and car energy use

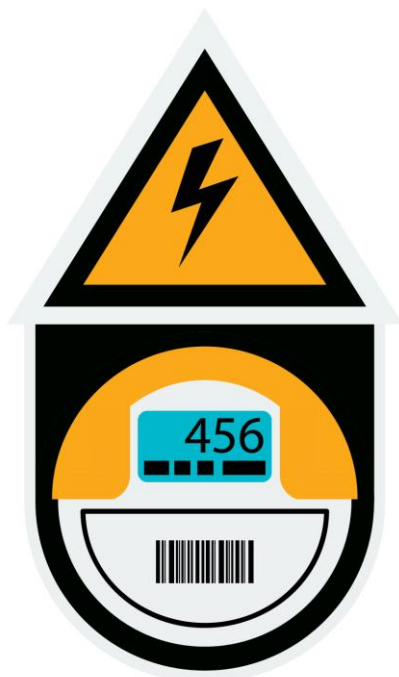


### (K1) Your Energy File

**Put together a file or folder** for all your home and car energy bills: electricity, oil, gas, solid fuels, petrol, diesel.

- This can be a paper file, especially if you receive all your bills by post or paper receipt.
- Computer files e.g. in excel, can be very useful to see trends or changes.
- For oil or gas deliveries, put the receipt into the file each time. The receipt should have quantities as well as costs.
- For solid fuels keep a notebook and note each time you buy bags of coal, briquettes or have fuel delivered e.g. timber blocks. Date each entry and try to note quantities as well as the cost.
- For your car, keep a small notebook and note each time you fill or top up with petrol or diesel. Date each entry and try to note the litres as well as the cost.

**Sum up your costs** for each type of energy at least once a year, maybe even every 3 or 6 months. This will help you to see changes in use and costs. This will also allow you to look for improvements as you make further changes, e.g. insulation, LED light bulbs.



### (K2) Submit electricity meter readings

Submit electricity meter readings every month. This will help to avoid sudden changes in bills and make the bills more accurate for your Energy File.

- Learn how to read and submit the reading from your supplier. There are usually a number of options e.g. by phone, text or online.
- Set a reminder on your phone for the last day of each month

### (K3) Switch energy suppliers

**Switch electricity supplier** every 1 or 2 years. Most suppliers offer short term discounts for new customers for the 1<sup>st</sup> year, but then you are automatically moved onto the standard rate. Cost savings of more than 10% should be expected.

- Use online price comparison websites e.g:
  - [www.bonkers.ie](http://www.bonkers.ie)
  - [www.switcher.ie](http://www.switcher.ie)

**Switching oil supplier** is not always practical. However you can compare current oil prices online to make sure you are getting a good deal, using [www.cheapestoil.ie](http://www.cheapestoil.ie)

### (K4) Be your own energy manager

There are a number of useful guides to help with this transition. A very useful source is the SEAI booklet – **Householders, be your own energy manager** (available from SEAI)

## Grants and support schemes



There are numerous grants, incentives and support schemes which can help individuals and communities with energy transitions. The list below is not exhaustive.

### SEAI Better Energy Warmer Homes

This scheme funds energy efficiency improvements to the homes of vulnerable people in, or at risk of, **energy poverty, at no cost to the homeowner**. The works available include: Attic insulation, Cavity wall insulation, Draught proofing, Lagging jackets, Low energy light bulbs, Energy advice

- <https://www.seai.ie/grants/home-grants/warmer-homes-scheme/>

### SEAI Better Energy Homes

This scheme provides fixed grant amounts for insulation upgrades, heating upgrades, solar thermal systems and BERs. All homeowners, including landlords, whose homes were built and occupied before 2006 can apply.

- <https://www.seai.ie/grants/home-grants/better-energy-homes/>

### SEAI Better Energy Communities

Better Energy Communities (BEC) is a national retrofit initiative. Upgrades can take place across building types and sectors to reduce energy use and costs throughout the community. This scheme is particularly valuable to engage cross community and private business support.

- <https://www.seai.ie/grants/community-grants/project-criteria-and-funding/>



## SEAI Electric Vehicle Grant

This grant is up to **€5,000** for the purchase of eligible private Electric Vehicle (EV) or Plugin Hybrid Electric Vehicles (PHEV).

- <https://www.seai.ie/grants/home-grants/warmer-homes-scheme/>

## ESB Free home charging point for EVs

ESB is providing free home charge point for the first 2,000 purchasers of EVs that qualify for the SEAI grant, making it easy to charge the vehicle at home availing of low cost night time electricity.

- <https://www.esb.ie/our-businesses/ecars/register-for-charging>

## Energy supplier initiatives

A number of large energy suppliers offer support incentives to homeowner energy efficiency projects. These initiatives can generally be used along with SEAI grants. One example is the Electric Ireland Energy Efficiency Incentive.

- <https://www.electricireland.ie/residential/products/heating-services-repair/energy-efficiency-incentive>

# Transitions for homes

## Understand your home



Making changes at home can be simple efforts such as learning how to set your heating, or more complex investments such as major insulation upgrades. A number of key opportunities were highlighted in the surveys.

### (H1) Get a Building Energy Rating (G)

A Building Energy Rating (BER) certificate indicates your building's energy performance. The BER should be accompanied by an 'Advisory Report' that will include recommendations for energy improvements. This is a very good way to get professional advice on what kind of improvements you can make to your home. A BER will cost approx. €150-€200. You can get quick quotations at [www.bercert.com](http://www.bercert.com)

### Estimate your own BER

You can estimate your own BER from the year your home was built and the main heating system.

Oil/gas central heating		Standard electric heating		Solid fuel central heating	
Year of construction	Typical energy rating	Year of construction	Typical energy rating	Year of construction	Typical energy rating
2012+	A3	2012+	A3	2012+	A3
2010-2011	B1	2010-2011	B1	2010-2011	B1
2008-2009	B3	2008-2009	C3	2008-2009	B3
2005-2007	C1	2005-2007	D1	2005-2007	C2
1994-2004	C3	1994-2004	E1	1994-2004	D1
1978-1993	D1	1978-1993	E2	1978-1993	D2
Pre 1978	D2/E1/E2	Pre 1978	G	Pre 1978	F

These tables indicate the typical BER rating for houses by age for various fuel types. The data reflects typical Building Regulations and practices at the time of construction.

## Home heating



### Find out your comfortable temperature

Use room thermometers in different areas of the home to find out what your comfortable temperature is. Bedrooms and hallways shouldn't need to be kept as warm as main living areas. Use your heating controls to set the room temperature, rather than opening windows or doors.

### (H2) Draught proofing (G)

Air leakage and draughts in your home lose heat and can cause discomfort. Draught proofing is a low cost improvement option and a simple DIY solution that you can do in stages. Start with the main entrances and living areas of your home. There are numerous products available for different areas of the home.

- Draught strips for doors and windows
- Sealants for joints
- Brushes for letterboxes and door bottoms





### **(H3) Open fireplaces – install a chimney blocker**

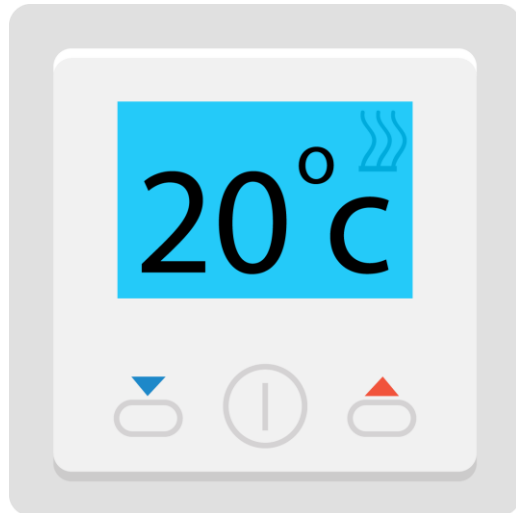
The majority of homes in the community still have open fireplaces, which are inefficient and are an easy escape route for heat from your home. For open fireplaces which are used for long periods, a simple chimney blocker can be installed. Chimney draught excluders/balloons are available from most DIY stores for approx. €30.

### **(H3) Open fireplaces – install a solid fuel stove (G)**

Open fires are approx. 30% efficient, which means that 70% of the heat (and cost) goes up the chimney and is lost from your home. A solid fuel stove achieves typically >60% efficiency, and higher efficiencies are common. Stoves are also safer than open fires and reduce draughts.

### **(H12, H13) Upgrade to a Condensing Oil Boiler (G)**

Start by having an efficiency test carried out on your existing boiler at your next service. Standard boiler efficiency is typically 60%-70%. Condensing oil boiler efficiency will be greater than 90%, offering at least 20% energy savings. This investment should be prioritised for standard boilers that are over 15 years old, but is certainly worth considering once the efficiency drops below 65%.



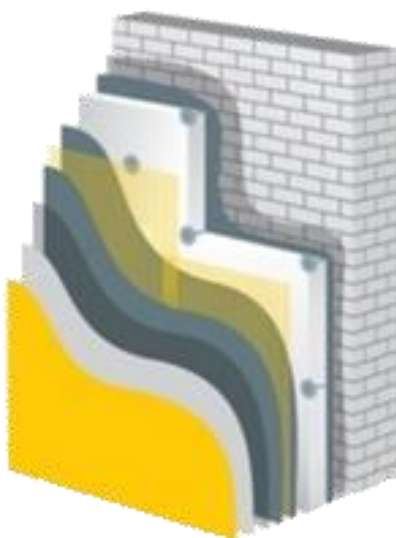
### (H11) Upgrade Heating Controls (G)

Most homes in the community have simple clock timers as their main heating controls. Improved heating controls have the potential to provide 20% energy savings. Typical upgrade measures include:

- Separating the space heating and water heating
- 7-day programmable timers
- Creating different heating zones in your home e.g. living areas, bedrooms
- Thermostatic Radiator Valves (TRVs)
- Room or area thermostats

It is important that you get clear instructions on how to use your heating controls. Make sure you talk to the installer about this.

## Insulation upgrades



The survey showed that there are significant opportunities to increase insulation in the majority of homes. The simplest options start with attic insulation and cavity wall insulation. If this is already in place in your home, deeper retrofit options can also be considered.

### (H5) Attic insulation (G)

Ceiling level attic insulation is very cost effective and can be completed quickly. The current standard for attic insulation is 300mm (1 foot) of rockwool or equivalent. Check your attic to see what depth of insulation is in place. If it's less than 150mm this work should be on your list.

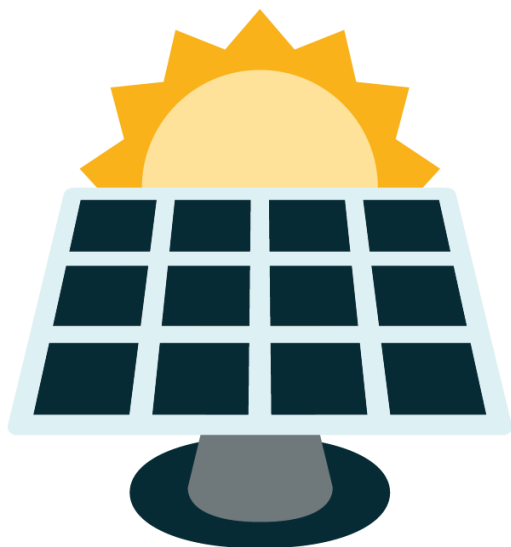
### (H6) Cavity wall insulation (G)

If you have cavity walls this should be your first measure. Pumped cavity insulation is cost effective and can be completed quickly without any interruption the inside of your home. Working with neighbours, especially in semi-detached and terrace housing, can often bring group discounts.

### (H7, H8, H9, H10) Internal & external wall insulation (G)

For solid walls internal or external insulation may be an option. You might also consider this as a 2<sup>nd</sup> measure for cavity walls. These measures are significantly more costly and intrusive than pumped cavity insulation, but you can expect at least 25% heating cost savings when upgrading from a solid wall.

## Renewable energy



The most common renewable energy used in your community is wood fuels. The survey showed that there are also a small number of solar thermal (hot water) systems. Both of these measures should be exploited where appropriate.

### Switch from coal to locally sourced wood fuel

Coal is cheap (at the moment), has high energy content and is readily available on the market. But it also pollutes the local environment, has very high CO<sub>2</sub> emissions and is imported. This last point means that most of the money you spend on coal leaves the local and national economy.

SEAI price comparisons indicates that switching from coal to wood could incur an increase of up to 60% per kWh, but that choosing bulk wood delivery could save you 8% per kWh. Switching to a local wood fuel supplier will also support a local, sustainable industry and help to support local jobs.

### (H16) Install a Solar Thermal (hot water) system (G)

Solar thermal systems can meet 50-60% of your overall hot water requirement, saving you money on your heating bills. This option should be considered for family homes with a daily hot water demand and a south facing roof.

## Electricity



Many of the transition opportunities for electricity use in the home relate to understanding and behavioural changes. Choosing A rated electrical equipment is also widely recognised by consumers as a way to reduce electricity bills.

### (H14) LED lighting

Lighting can be approx. 20% of the total electricity cost for the home. This should be a course of action for all homes on an ongoing replacement basis. While LED bulbs are more expensive, they last much longer and have much lower running costs. 80% savings can be expected when upgrading from incandescent and halogen bulbs.

One of the key issues with LED bulbs for homes is the colour temperature, noted in Kelvin (K), which tells how 'warm' the light colour is. Most people tend to prefer a warm yellow light in living rooms and bedrooms, with perhaps a 'cooler' whiter light in kitchens and bathrooms. Be sure to check the colour temperature of the bulbs when you buy them.



[www.lowes.com](http://www.lowes.com)

## Exemplar housing



### (H17) Deep retrofit (G)

This refers to higher investments for comprehensive home energy improvements. This is worth considering especially for homes which are likely to stay in the family for next generations. Typical measures will include multiple insulation levels, airtightness works, heating and controls upgrades, as well as adoption of renewable technologies such as solar thermal or heat pumps. A number of support programmes offer more information on typical works:

- Deep Retrofit programme <https://www.seai.ie/grants/home-grants/deep-retrofit-programme/>
- Suprehomes <http://superhomes.ie/>

## Public transport



The research and survey feedback has shown as very low use of public transport in daily travel habits. There are a number of clear contributing factors to this:

- Lack of public transport on suitable routes and schedules
- Cost of public transport
- Need for private transport at the destination

Taking these factors into account and knowing the general need for private transport in rural communities there are still some transition opportunities to increase public transport use and reduce car journeys.

### **(T1) Keep up to date with the public transport options**

Your community is served by public bus routes and nearby rail stations. These services can change from time to time, so it is important to stay informed on what's available. Ballinamore is currently served by bus routes to Sligo, Carrigallen and Enniskillen. Rail services to Dublin run daily from Carrick-on-Shannon.. Check your options at <https://www.transportforireland.ie/>

### **(T1) Consider a hire car at your destination**

If you need a private vehicle at your destination you could check local car hire companies, or use the GoCar service which is now available in a number of urban centres. Check <https://www.gocar.ie/locations/>

## Reducing car journeys



Even if a private car is necessary for you, there are options to reduce your transport costs.

### (T2) Car pooling and lift sharing

In rural communities this is often simply accomplished by talking with family, neighbours and colleagues. There are a number of websites and apps which can be used to find lift sharing options also:

- <https://www.carpoolworld.com/dashboard.html>
- <https://www.carpling.com/ie/>

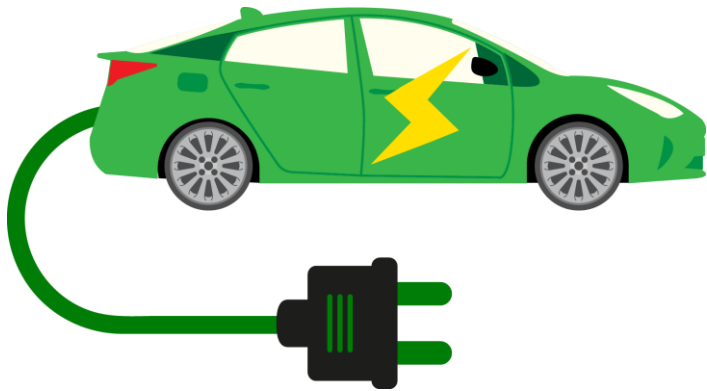
This is a good option if you have a car but simply want to share costs and travel with company.

### (T3) Work from home

Check with your employer if you can work from home, even on a limited basis. Even 1 day per week will reduce your annual travel costs by 10% to 15%.



## Electric/hybrid vehicles



### (T4, T5, T6) Switch to an electric or hybrid vehicle (G)

Because of the need for private transport in rural communities, switching to Electric Vehicle (EV) or Plugin Hybrid Electric Vehicles (PHEV) is a major transition opportunity to tackle the climate impact of private transport. However, due to the significantly lower running costs, this is also a chance to reduce transport costs for the community.

There is still a great deal of concern about switching to electric vehicles, in particular the 'range anxiety' issue and current lack of public charging points in rural areas. But changing the second car for an electric vehicle allows you to retain the 'safety net' of your petrol/diesel car.

The running cost comparison below is based on a 500km weekly commute and shows the annual fuel cost savings against a petrol and diesel equivalent. EVs will also benefit from the lowest road tax bracket.

Car	Weekly Fuel Cost (€)	Annual Fuel Cost (€)
Nissan LEAF	€7	€364
Petrol equivalent	€54	€2,808
Diesel equivalent	€40	€2,080

## Community groups



Many communities already have a local team working to improve their town or village e.g. community development teams, tidy towns. This value can also be brought to the community energy transition.

### **(C1) SEAI Sustainable Energy Communities programme (G)**

The Sustainable Energy Communities (SEC) programme support a community team to join a nationwide network of like-minded groups to share knowledge and experience. The SEC programme also provides the opportunity to form a 3-year partnership with SEAI which will include funding and technical support to build your own Energy Master Plan. More information can be found at [www.seai.ie](http://www.seai.ie). Below are a few examples of community led projects by teams already on the SEC network.

### **(C2) Energy clubs**

Some SEC teams have set up energy clubs for local residents to help them understand their energy costs and how to reduce them e.g. helping to read bills, submit meter readings, keep energy records. A key target group is elderly residents who need support with e-billing and online information.

### **(C3) Group procurement**

One SEC team have grouped to buy a bulk load of 'green' wood fuel which they will season themselves and process for firewood for the team members. This reduces the cost of purchasing wood deliveries individually.



### **(C4) Better Energy Communities programme (G)**

Numerous SECs have used their community engagement in successful BEC grants projects, providing energy upgrade works for homeowners, community buildings and local businesses.

### **(C5) Local grant advisor**

SEC teams have been able to assign one of their members to make themselves familiar with the various grants and supports, in order to be a local point of contact for advice on these schemes.

### **(C6) Energy awareness events**

SEC teams regularly hold local energy awareness events, with the support of SEAI, to provide information and knowledge sharing to the local community e.g. energy clinics for business, breakfast briefings, Energy Awareness open days, SEC team stands and local shows.

### Energy reduction and savings



The transition opportunities presented in the Roadmap will each lead to or provide a saving in energy costs or reduction in CO<sub>2</sub> emissions. Based on the research carried out, conservative estimates of the savings for the typical household and private car have been calculated for the transitions. These estimates are then applied to target sectors and quantities of homes and cars in order to give a Transition Scenario of the community wide impact which can be achieved. The Transition Scenario presented here is conservative and intended to be realistic.

The target numbers for homes and cars (shown yellow in the tables) can be used as a starting point, but should not be seen as a limit.

# Transition Scenario for 2025

## Knowledge transitions

No.	Opportunity transition /	Target % for homes	No. of homes	Investment	Savings (annual)
				€0	€63,829
				Costs (with grants where available)	Savings (annual)
K1	Your Energy File	50%	418	€0	€0
K2	Submit meter readings	50%	418	€0	€0
K3	Switch electricity suppliers	70%	585	€0	€63,829
K4	Be your own energy manager	50%	418	€0	€0

## Key points

- Switching electricity suppliers is likely to provide in excess of 10% costs savings in the first year. This should be repeated on an annual basis to maximise the 'shopping around' discounts.

# Transition Scenario for 2025

## Home transitions

No.	Opportunity / transition	Target sector	Target % for homes	No. of homes	Investment	Savings (annual)	Payback (years)	Energy savings (kWh)	tCO <sub>2</sub> reduction
					€1,466,380	€293,725	5.0	3562702	1114
No.	Opportunity / transition	Target sector	Target % for homes	No. of homes	Costs (with grants where available)	Savings (annual)	Payback (years)	Energy savings (kWh)	tCO <sub>2</sub> reduction
H1	Get a BER	Homes without current BER	60%	280	€28,020	€0	N/A	0	0
H2	Draught proofing DIY	Homes built pre 2006	60%	280	€42,030	€18,962	2.2	287194	87
H3	Open fireplaces – install a chimney blocker	Homes with open fireplaces not used regularly	30%	140	€4,203	€3,792	1.1	57439	17
H4	Open fireplaces – fit a solid fuel stove	Homes with open fireplaces not used regularly	30%	140	€280,200	€14,203	19.7	193338	67
H5	Attic insulation	Homes built pre 2006, with less than 100mm insulation	50%	234	€163,450	€63,207	2.6	957312	289
H6	External cavity walls - cavity insulation	Homes built pre 1990, with no cavity insulation	30%	140	€98,070	€47,406	2.1	161115	55
H7	Internal insulation on solid walls	Homes built pre 1960, with no wall insulation	5%	23	€98,070	€7,901	12.4	119664	36
H8	External insulation on solid walls	Selected terrace housing	2%	9	€73,786	€3,160	23.3	10741	4
H9	External cavity walls - 2nd measure internal insulation	Selected housing	2%	9	€39,228	€1,896	20.7	28719	9
H10	External cavity walls - 2nd measure external insulation	Selected housing	1%	5	€36,893	€948	38.9	3222	1
H11	Heating controls upgrade only	Homes paying €600 or more on oil	20%	93	€37,360	€11,208	3.3	189782	49
H12	Combined boiler and controls upgrade	Homes paying €1,500 or more on oil	10%	47	€107,410	€28,020	3.8	474456	122
H13	Combined boiler and controls upgrade	Homes paying €1,000 or more on oil	25%	117	€268,525	€46,700	5.8	790760	203
H14	LED lighting	Homes with no LED lighting	30%	140	€28,020	€22,921	1.2	104561	43
H15	Switch from coal to local wood fuel supply	Homes with solid fuel stoves and room for bulk deliveries	10%	47	€0	€0	N/A	0	74
H16	Install a Solar thermal hot water system	Selected housing - south facing roof, daily hot water use	5%	23	€77,055	€14,268	5.4	89225	29
H17	Deep retrofit	Selected housing	2%	9	€84,060	€9,132	9.2	95174	31

# Transition Scenario for 2025

## Key points

- The calculated payback for external insulation measures (H8, H9 and H10) is based on a conservative investment cost.
- The combined payback for all home transitions is 5 years.
- The considerable kWh savings may be tradable for additional financial support from obligated Energy Suppliers. This will further offset the investment costs and reduce the payback periods.
- It should be noted some of the investment costs will contribute to the local economy.

## Transport transitions

No.	Opportunity transition /	Target sector	Target %	No. of cars	Investment	Savings (annual)	Payback (years)	Energy savings (kWh)	tCO <sub>2</sub> reduction
					€961,400	€378,886	2.5	393415	617
No.	Opportunity transition /	Target sector	Target %	No. of cars	Costs (with grants where available)	Savings (annual)	Payback (years)	Energy savings (kWh)	tCO <sub>2</sub> reduction
T1	Public transport	All	0%	0	N/A	€0	N/A	0	0
T2	Car pooling	All, focusing on commuters	5%	42	N/A	€32,019	N/A	262277	69
T3	Work from home	Commuters	5%	42	N/A	€16,009	N/A	131138	34
T4	Switch to hybrid cars	All new car buyers, focusing on homes with 2 cars	5%	42	€41,800	€10,673	3.9	0	57
T5	Switch to electric cars	All new car buyers, focusing on homes with 2 cars	10%	84	€83,600	€160,093	0.5	0	229
T6	Switch to electric cars	2nd hand car buyers, focusing on homes with 2 cars	10%	84	€836,000	€160,093	5.2	0	229

# Transition Scenario for 2025

## Key points

- The combined payback for all transport transitions is less than 3 years.
- T4 and T5 and based on new car buyers in which case the investment cost is largely neutral.
- T6 is based on car buyers who typically spend €10,000 on the 2nd hand market when changing cars. For the purpose of assessing this transition, an investment cost of €15,000 has been assumed for the additional cost of a new EV.
- Hybrid cars are more suited to town and city driving and tend to provide fewer savings for long commutes.

## Community transitions

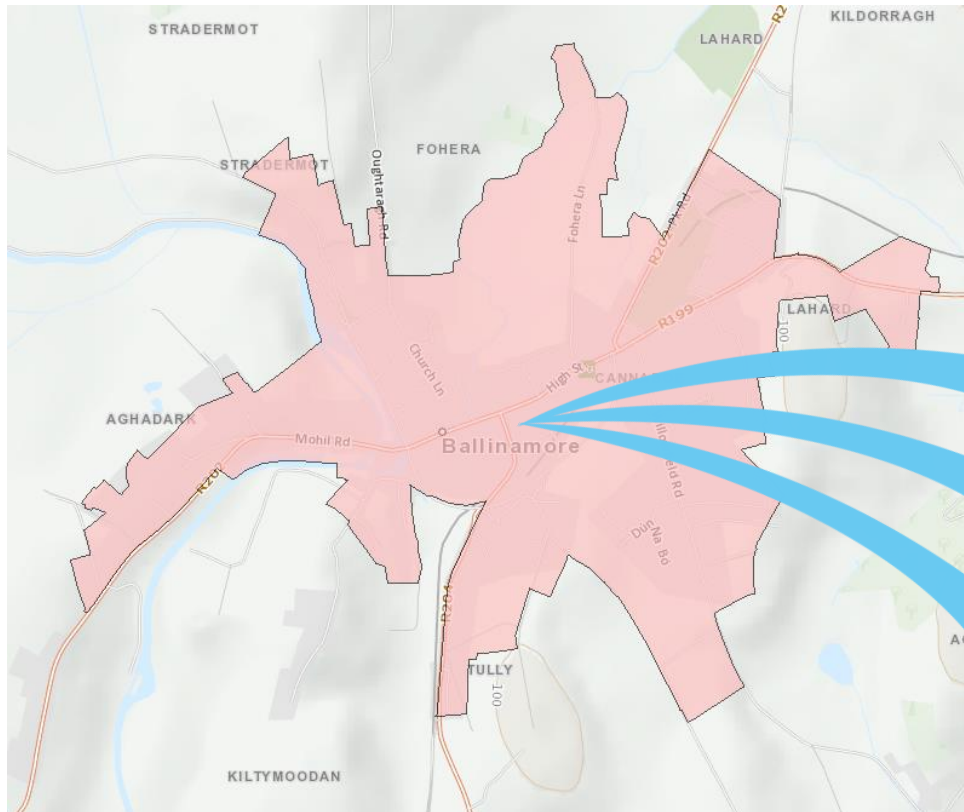
As stated previously the community transitions will add value and momentum to the other transition types. The Transition Scenario presented here will be far less likely if left to an individual basis.

## Where to go from here

The research of the NECS project is a simplified picture of your current community energy use, and an achievable Transition Scenario for 2025. The next step is up to you individually and more importantly as a community. The aim is to bring about the energy savings and resilience to the local community that are illustrated here.

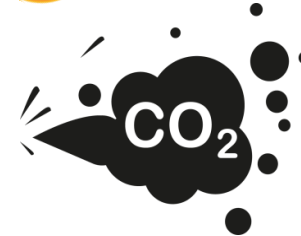


## Ballinamore Community – Transition by 2025?



## Annual savings and reductions

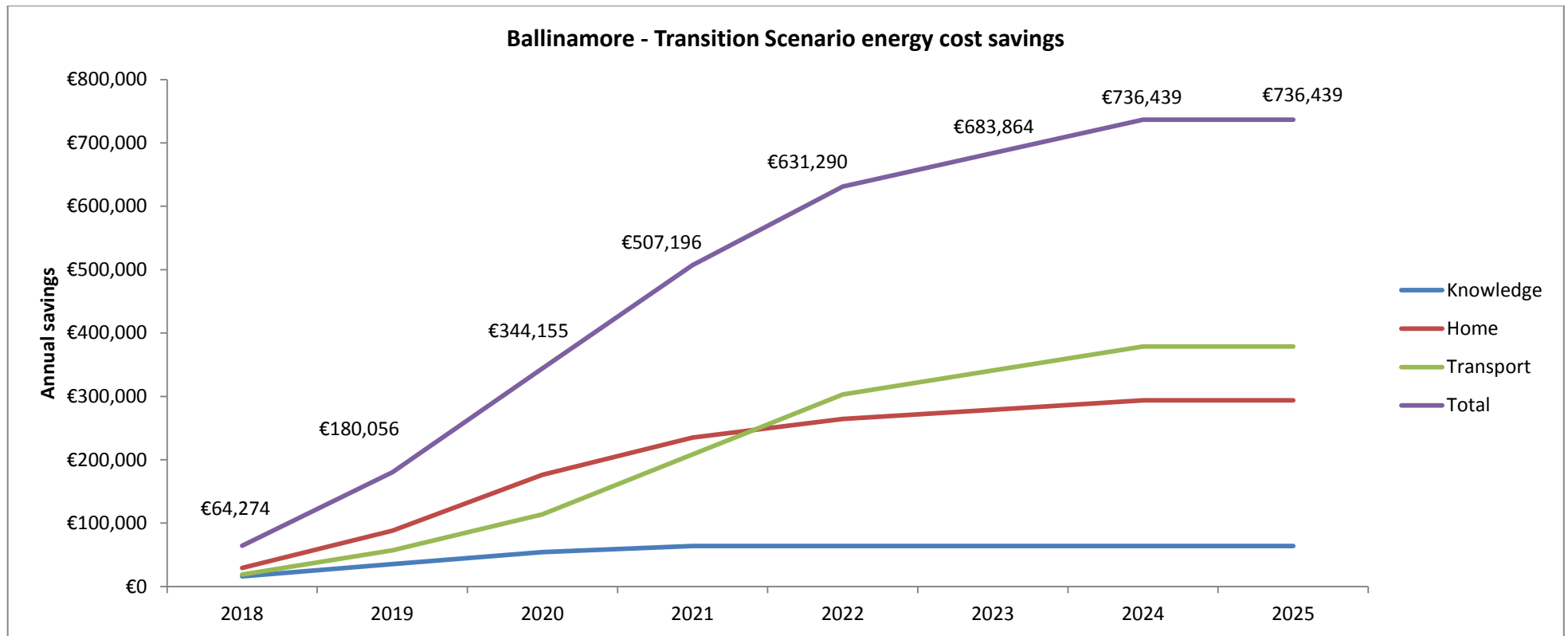
- **€357K heating and electricity savings**
- **€379K transport savings**
- **1,730 tonnes CO<sub>2</sub> reduction**



# Transition timeline for 2025

## Transition timeline

While the Transition Scenario is intended to be realistic, it won't happen all at once. Some transitions can be implemented with little fuss, but those requiring investment and support will take longer. The timeline below takes account of this and presents the potential annual energy cost savings for your community. These costs savings will continue annually beyond 2025, supporting investment in new community targets.





The Northwest Energy Communities Start-up project was delivered by Good Energies Alliance Ireland in partnership with the Institute of Technology, Sligo and funded by the Sustainable Energy Authority of Ireland (SEAI)

If you have any questions about the project contact:

**Mel Gavin**

R&D Coordinator – Contract Research Unit  
Innovation Centre  
Institute of Technology, Sligo  
F91 WFW9  
Ext 5825  
00353-71-9305825 (T)  
00353-86-3099184 (M)  
[gavin.mel@itsligo.ie](mailto:gavin.mel@itsligo.ie)



[www.itsligo.ie/research/contract-research-unit/](http://www.itsligo.ie/research/contract-research-unit/)

**Aedín McLoughlin**

Director  
Good Energies Alliance Ireland  
Ballinagleragh Community Hall  
Ballinagleragh, Carrick-on-Shannon  
Co. Leitrim F91 WFW9  
[goodenergiesalliance@gmail.com](mailto:goodenergiesalliance@gmail.com)



[www.goodenergiesalliance.com](http://www.goodenergiesalliance.com)

