TIPPERARY energy AGENCY

Portarlington Business Association Sustainable Energy Community

LOCAL ENERGY MASTER PLAN

23 May 2024

Sustainable Energy Portarlington

Portarlington Business Association Sustainable Energy Community

Portarlington Business Association Sustainability Group was formed in late 2020 as a subgroup of the newly created Portarlington Business Association (PBA). The main remit and purpose of the Sustainability Group was to bring several existing SEC's (i.e. Tidy Towns and Community Centre) together to form a cross-sectoral, town-wide, SEC group for Portarlington and under the framework and governance of the PBA.

The vision of Portarlington SEC is to build on the potential of Portarlington to be a sustainable, thriving and energy efficient community – focusing on cross-community engagement to improve quality of life, reduce energy costs and safe-guard our cultural and natural heritage.

Portarlington BA SEC is a Level 2 SEC.

Outline

1. Powering The Future With Renewable Energy
2. Approaches In Community
3. Baseline Energy Balance
4. Residential Sector Analysis
5. Non-residential sector analysis
6. Transport sector analysis
7. Changing Energy Landscape
8. Roadmap to 2033
9. Next steps for Portarlington SEC

Powering The Future With Renewable Energy

- Combat Climate Change: Reduce carbon emissions and protect our planet.
- Healthier Communities: Improve air and water quality.
- Sustainable Growth: Create jobs and foster innovation.
- Energy Independence: Rely on abundant and inexhaustible resources.

"The future depends on what you do today"- Mahatma Gandhi

Approaches In Community

- CSO Analysis:
  - Focus areas: Population, BER (Building Energy Rating), Housing, Transport, Commercial Sector

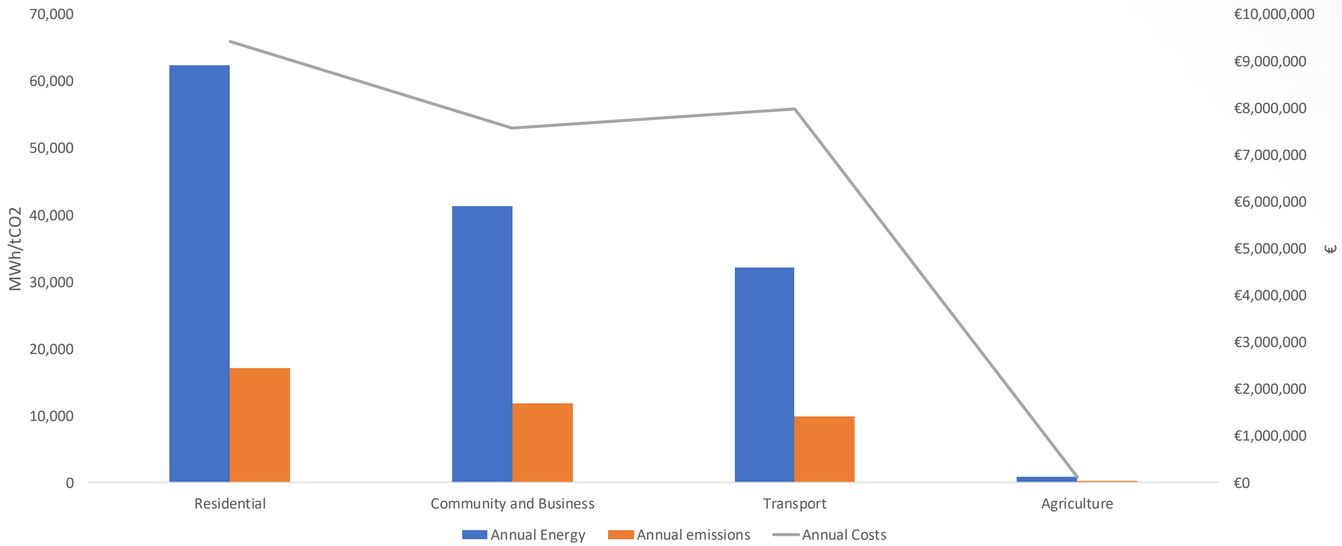
- Energy Audits:
  - Conduct 3x Residential and 1x Non-Residential Energy Audits

Baseline Energy Balance for Portarlington

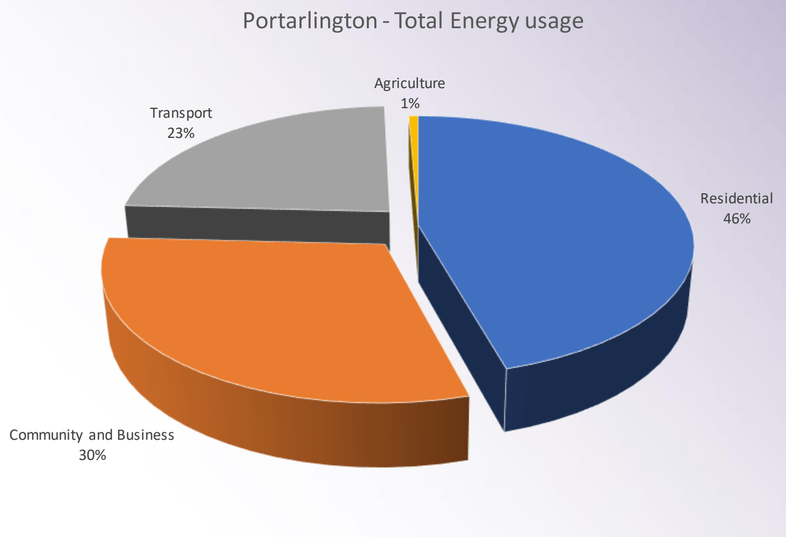
The four energy sectors of Portarlington are: Residential, Non-residential, Transport and Agriculture

Baseline Energy Balance for Portarlington

Sector	MWh	CO_2 tons	Annual Costs €	% Energy	% CO_2	% Cost €	Primary Energy (toe)
Residential	62,388	17,185	€9,429,081	46%	44%	38%	5,364
Non-residential	41,367	11,842	€7,580,169	30%	30%	30%	3,557
Transport	32,235	9,827	€7,976,979	23%	25%	32%	2,772
Agriculture	869	229	€123,908	1%	1%	0%	75
Total	**136,859**	**39,084**	**€25,110,137**	**100%**	**100%**	**100%**	**11,768**



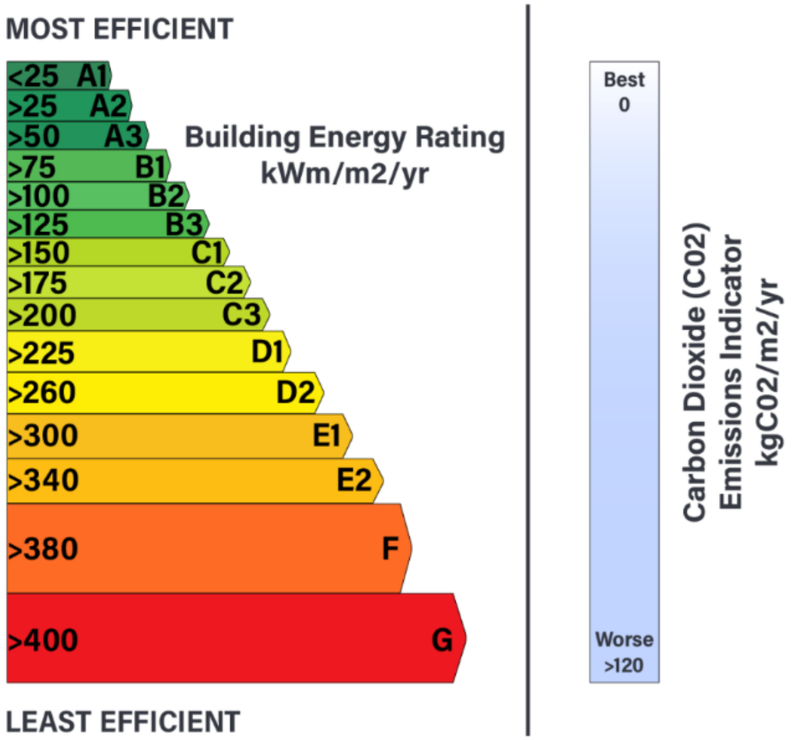
*Source: Central Statistical Office, Ireland



Residential Analysis

What is BER?

Building Energy Rating (BER) certificate rates your home's energy performance on a scale between A and G.



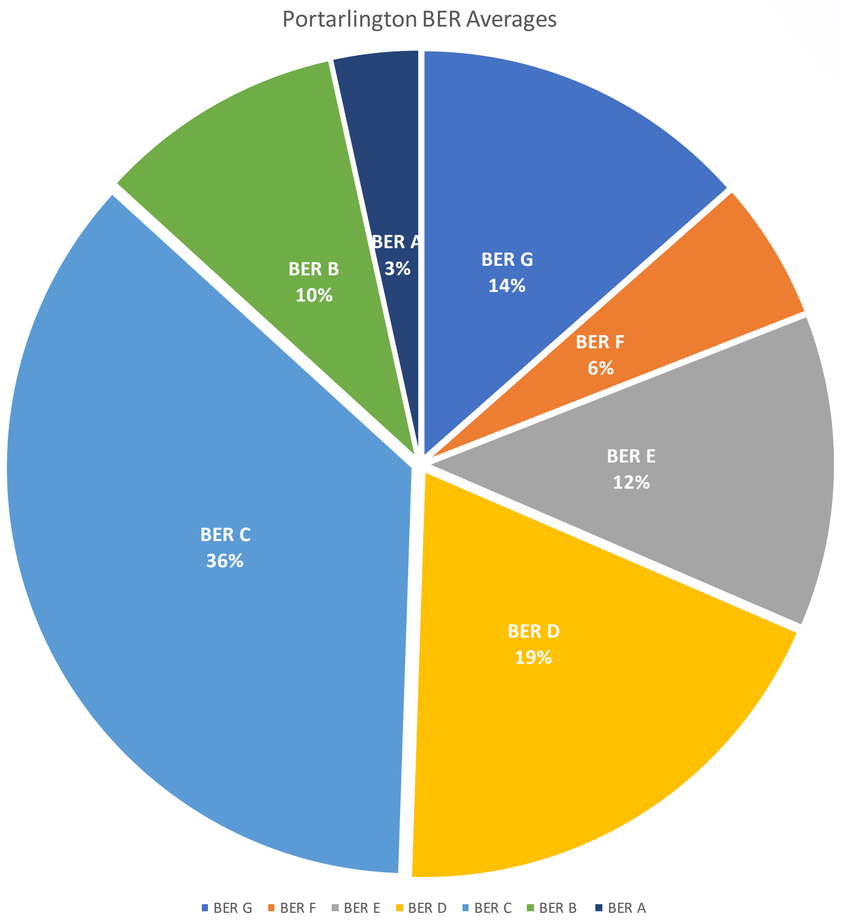
Houses with a BER of B2, emit approx 2 tons of CO_2 per year (electricity & heating)

This is equivalent to driving a car only 20% around the world every year, or less than one full fill of kerosene

Houses with a BER of G, emit approx 10 tons of CO_2 per year (electricity & heating)

This is equivalent to driving a car once fully around the equator every year, or 4 full fills of kerosene

Residential Analysis

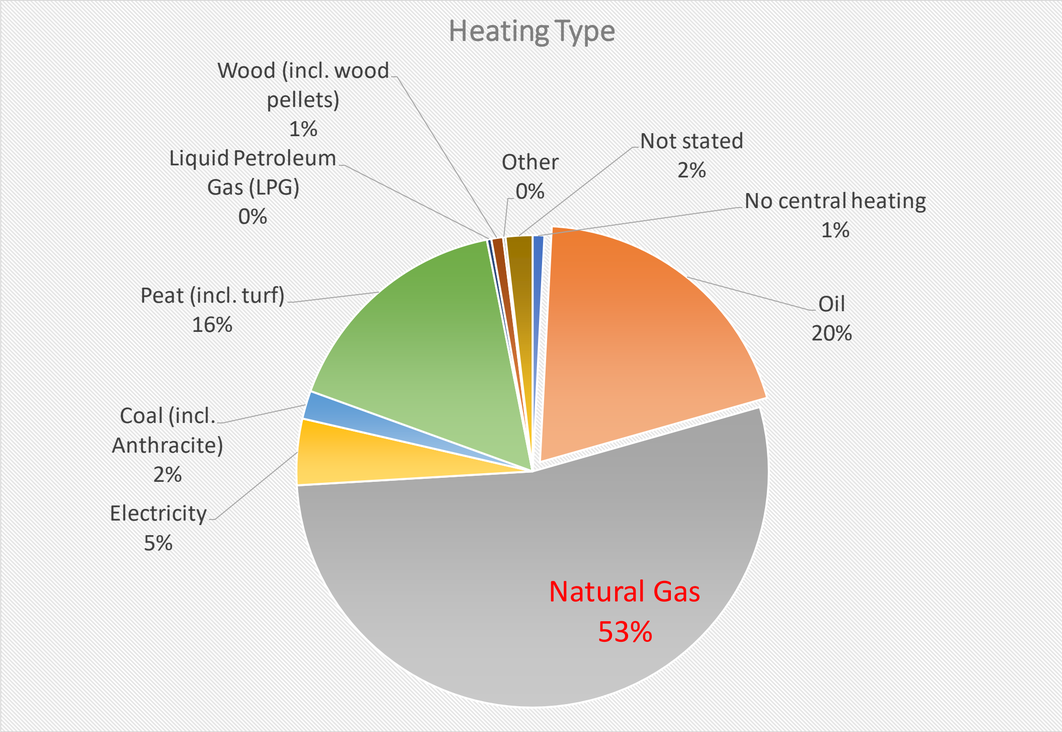


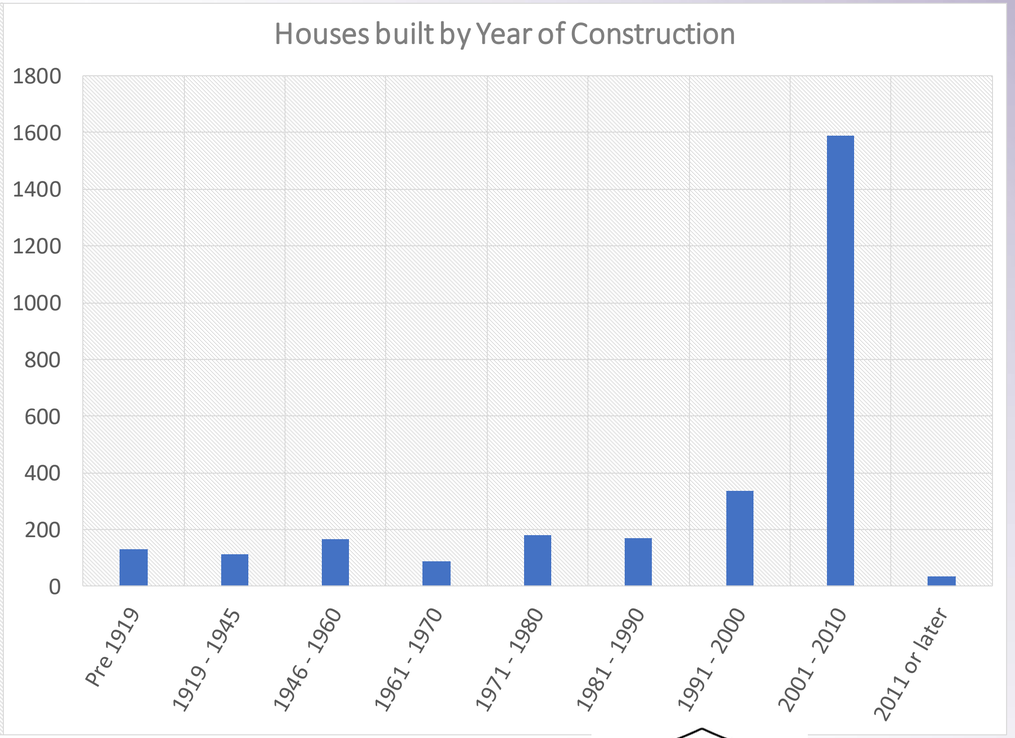
- 2,999 Households in Portarlington (CSO)
- 32% of houses in Port with BER D or worse. (22% for all Co. Laois and 21% for all Ireland)
- 13% of houses in Port with BER B or above (22% for all Co. Laois and 25% for all Ireland)

*Source: SEAI National BER Research tool

Residential Analysis

- >50% constructed 2001 or later
- Major source of residential heating: Natural Gas





*Source: Central Statistical Office, Ireland

Residential Analysis

Cost and Carbon

	Annual Cost in Euros		Annual Carbon Emissions in tons	
Bill Type	**Per House**	**SEC**	**Per House**	**SEC**
Heating	**€1,343**	**€4,027,283**	**3.4**	**10,311**
Electricity	**€1,801**	**€5,401,799**	**2.3**	**6,874**
Total	**€3,144**	**€9,429,081**	**5.7**	**17,185**

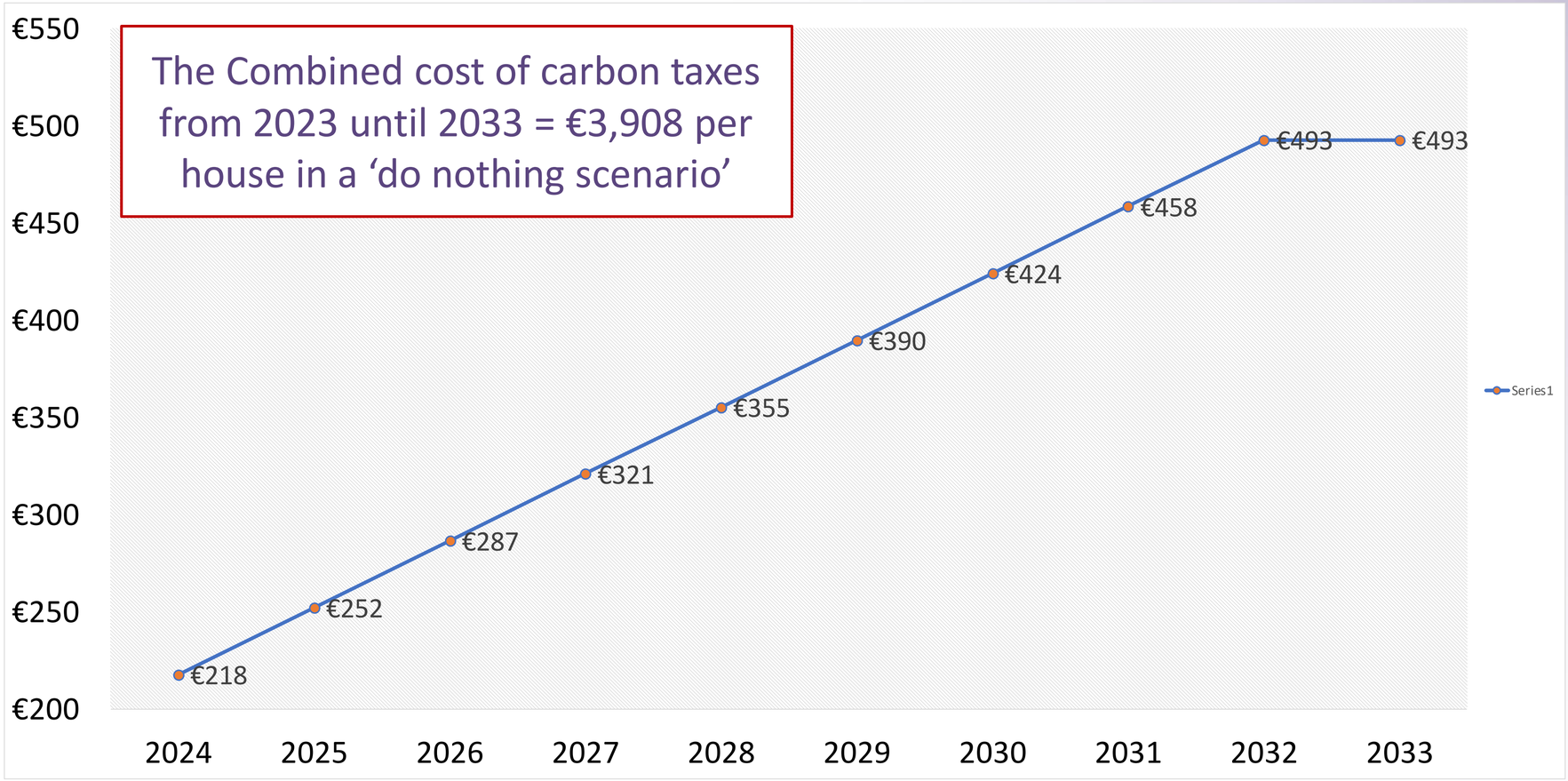
*Source: *Source: Central Statistical Office, Ireland

Total The average house in Portarlington, with a BER of C3, emits approx 5.7 tons of CO_2 per year (electricity & heating). This is equivalent to driving a car 21,333 kms or driving from Portarlington to Croke Park and back 116 times.

The total annual residential CO_2 emissions from Portarlington SEC, 17,185 tons, which is equivalent of 3,469 petrol cars driven for a year.

Residential Analysis

Residential Carbon taxes



*Source: CSO

Residential Analysis

Residential Survey results

Year built	Type	Floor Area [m^2]	Estimated current BER	Current HLI	New BER	New HLI	% improvement in energy consumption
1850	Mid-terrace	260	D1	3.9	B2	1.9	54%
2004	Detached	123	D1	2.7	B2	1.8	56%
2005	Semi-detached	127	B3	2.0	B1	1.6	37%
1982	Detached	189	C2	3.1	A3	2.2	61%

All residential emissions must reduce from 7 million tons of CO2 to 4 million tons per annum by 2030
- (Climate Action Plan 2023)

For Ireland, this reduction in CO_2 is the equivalent of 1.2 million full-fills of home heating oil.

Residential Analysis

What is a retrofit?

Retrofitting involves updating and enhancing existing buildings with modern, energy-efficient technologies. This not only reduces energy consumption and costs but also improves comfort and extends the lifespan of buildings.

Deep Retrofit	Shallow Retrofit
• Comprehensive Upgrades • High Investment, Long-Term Saving • Enhanced Comfort and Property Value	• Limited Scope • Low to Moderate Investment, Quick Payback • Incremental Improvements

Residential Analysis

What is a retrofit?

Wall insulation types

Cavity Pumping

External insulation

Internal insulation

Residential Analysis

What is a retrofit?

Attic insulation

Mineral wool

Spray foam

Residential Analysis

What is a retrofit?

Window and Door replacement

Residential Analysis

What is a retrofit?

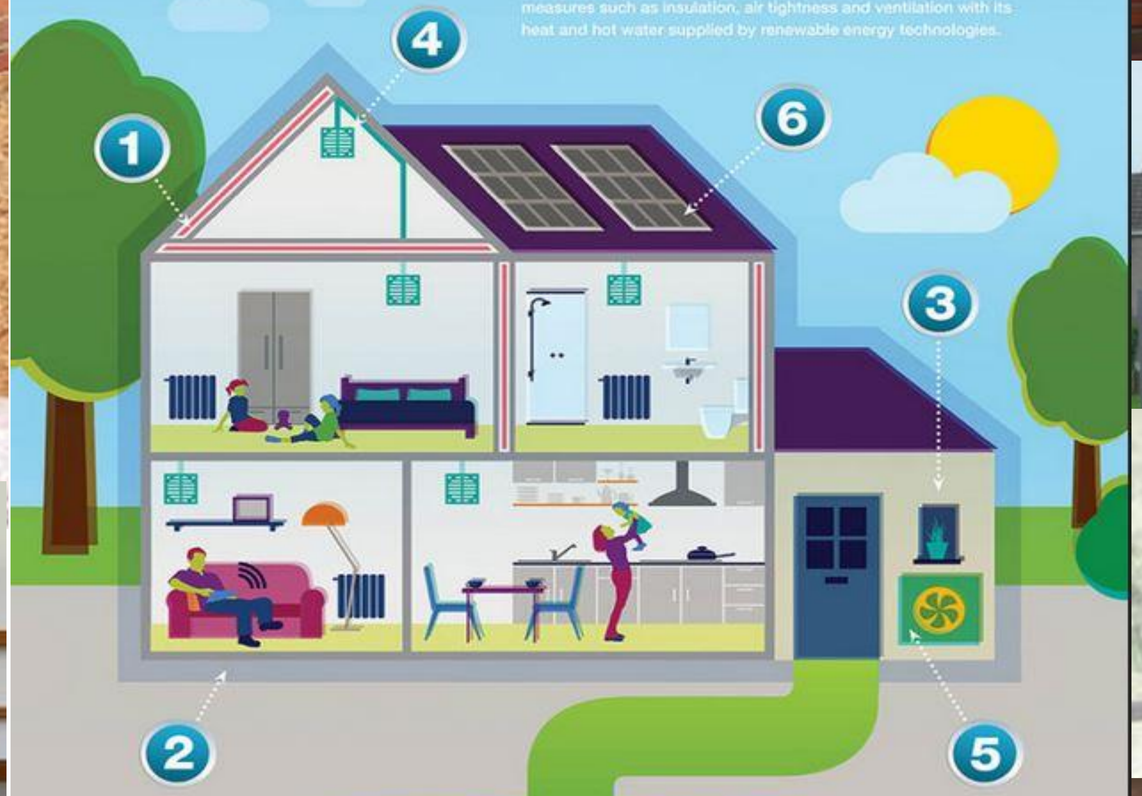
Heat Pump

Solar Panel

What is a SuperHome?

superHOMES

A SuperHome is a comfortable, warm, draught free energy efficient home. It's a home that has all the cost effective energy retrofit measures such as insulation, air tightness and ventilation with its heat and hot water supplied by renewable energy technologies.



What are the features of a SuperHome?

1. Cavity wall, attic, flat roof, external wall insulation
2. Air tightness throughout the house
3. High performance windows and doors
4. Demand Control Ventilation
5. Air Source Heat Pump
6. Solar PV Panels on roof

www.superhomes.ie

@super_homesIrl

Tipperary energy Agency

An initiative of Tipperary Energy Agency

Residential Analysis

Retrofit cost to achieve 50% reduction in CO2

Retrofit Type	Retrofits per year (starting in 2023)	Capital Cost (estimated)
Shallow	150	€4,500,000
Deep	75	€3,600,000
Total	**225**	**€8,100,000**
Total by 2033	**2475**	**€89,100,000**

Under the Better Energy Communities Scheme, 30% grant funding maybe available
Specific measures are subject to specific grant support – see SEAI website

Monetary values given are guide pricing only as some material costs have increased by 30-40%

Each housing project will need to be assessed on a case-by-case basis.

Residential Analysis

Energy Bill and CO_2 savings after the retrofits:

Retrofit Type	Energy Savings (%)	€ savings (incl. carbon tax)		CO_2 savings (tCO_2)	
		by 2034	Per year thereafter	by 2034	per year thereafter
Shallow	28%	€16,865,050	€2,881,439	26,339	4,390
Deep	23%	€13,700,020	€2,340,685	25,152	4,192
Total	**50%**	**€30,565,070**	**€5,222,125**	**51,491**	**8,582**

8,582 tons reduction in CO_2 per annum is same as:

- Having 1,082 less houses in Portarlington per year
- Taking 1,910 cars off the road per year

Residential Analysis

Home Energy Grants

Refer SEAI website for additional information on availa grants: [Home Energy Upgrades]

Individual Energy Upgrade Grants

(Comprising Better Energy Homes and Solar PV schemes)
Selection of individual grants for home energy upgrades

Who this is for

For homeowners and private landlords who want:

- individual energy upgrades
- to manage their own project
- to apply for the grant themselves
- to pay for full cost of works and claim grants afterwards

Criteria for homes

For homes built and occupied before:

- 2011 for insulation and heating controls
- 2021 for heat pumps and renewable systems

What is included

Homeowners manage their upgrades including:

- contractor selection
- grant application
- contractor works
- follow up BER

About Individual Grants >

One Stop Shop Service

A complete home energy upgrade solution

Who this is for

For homeowners and private landlords who want:

- multiple energy upgrades
- to upgrade to a minimum B2 BER
- a fully managed solution including grant applications
- to pay for the works net of eligible grant

Criteria for homes

For homes built and occupied before:

- 2011 for insulation and heating controls
- 2011 for renewable systems
- All homes must complete a minimum level of energy upgrades and achieve a minimum BER rating of B2

What is included

A One Stop Shop will manage your upgrade including:

- home energy assessment
- grant application
- project management
- contractor works
- follow up BER

About One Stop Shops >

Fully Funded Energy Upgrade

(Comprising Warmer Homes)
For qualifying homeowners

Who this is for

For qualifying homeowners in receipt of certain welfare benefits:

- Fuel Allowance
- Job Seekers Allowance for over six months with a child under seven
- Working Family Payment
- One-Parent Family Payment
- Domiciliary Care Allowance
- Carers Allowance
- Disability Allowance for over six months with a child under seven

Criteria for homes

For homes built and occupied before:

- 2006 for insulation and heating systems

What is included

This service is managed by SEAI and includes:

- home survey
- contractor selection
- contractor works
- follow up BER

About Fully Funded Energy Upgrades >

Residential Analysis Summary

Opportunities Identified :

Energy Efficiency Improvements:

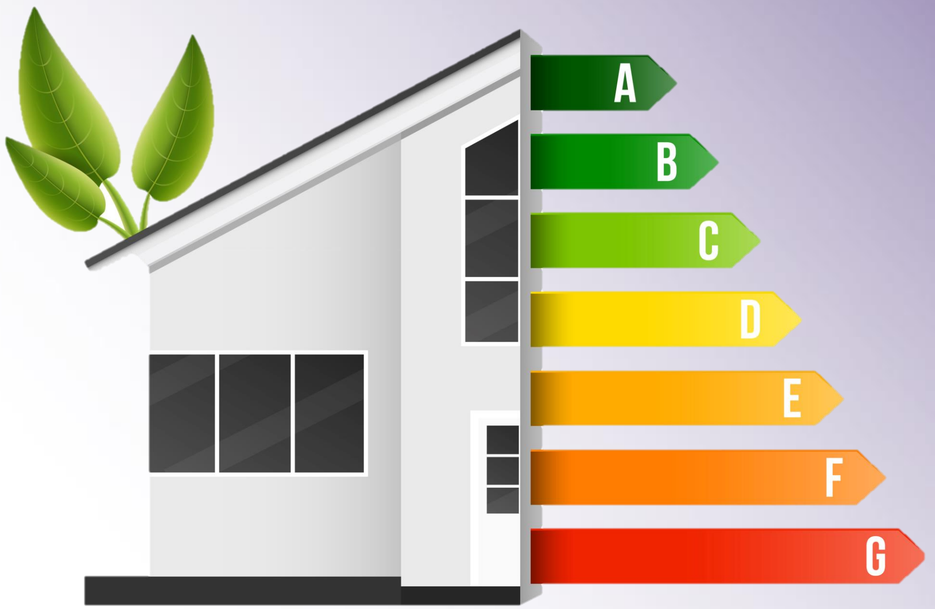
- Building envelope upgrades
- Walls, roof, windows & doors
- High-efficiency heat pumps

Renewable Energy Infrastructure:

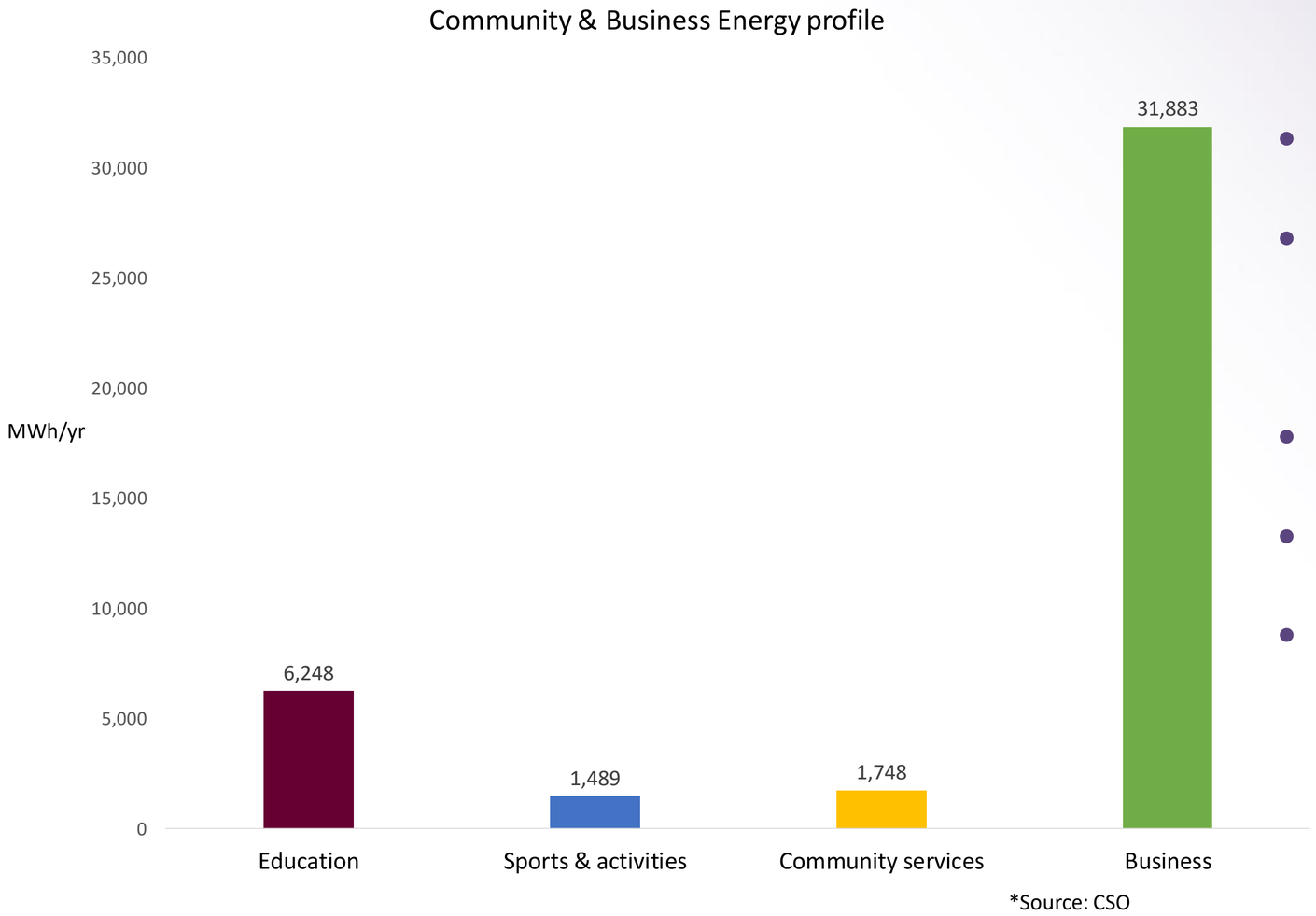
- Solar panels, battery, EV charging.

Behavioural Changes:

- Energy-saving habits and practices



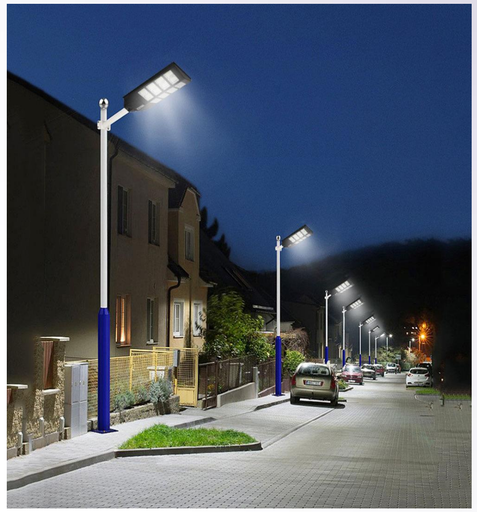
Non-Residential Analysis



- 97 non-residential properties/businesses.
- 30% of the total energy demand: 41,367 MWh
- Total Carbon Emission: 11,842 tons
- 77% energy consumption for Businesses.
- The estimated cost of non-residential energy usage is €7,580,169 (34%) per year

Non-Residential Analysis

Opportunities Identified :

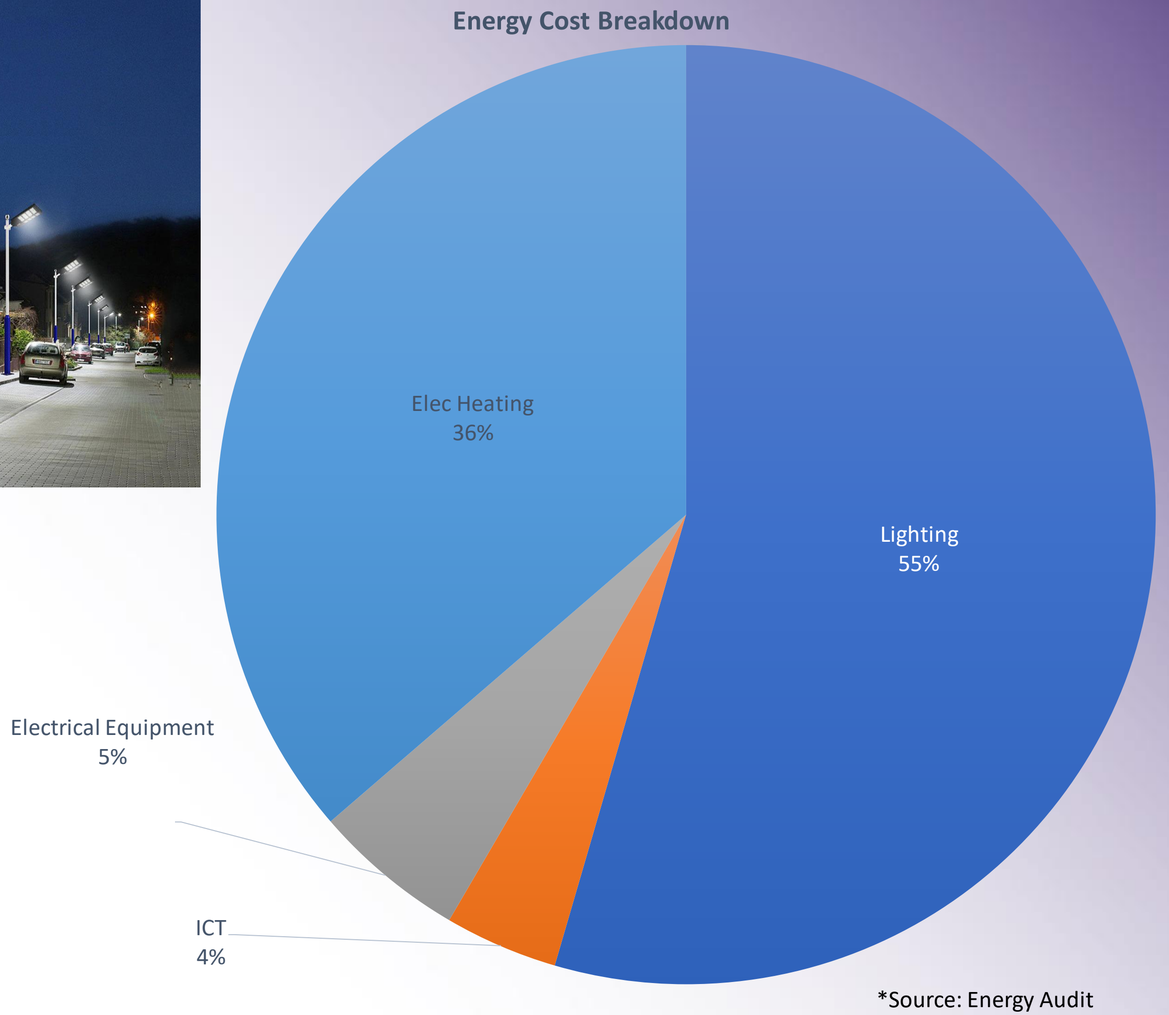


Operational Efficiency:

- Optimization of lighting systems
- HVAC system upgrades

Renewable Energy Projects:

- Installation of commercial solar arrays
- Installation of heat-pumps & biomass / biomethane



*Source: Energy Audit

- Potential for overall energy/cost/emissions reduction by 70%

Non-Residential Analysis

Grants Available For Upgrades

- BEC grants available between 30 to 50%
- €2K voucher: for €10K + energy users ‘green for micro scheme
- Energy Efficiency Grant (for micro businesses to implement actions after Green4Micro audit): 50% of eligible costs from a minimum grant of €1,000 to a maximum of €5,000

Non-Residential Analysis

Solar PV support for Business:

- Grant funding is available for systems up to a maximum 1000 kWp
- Projects between 6kW and 50kW will receive a Clean Export Premium (CEP) tariff per kWh exported, for a period of 15 years, from their electricity supplier.
- The Clean Export Premium (CEP) will be €0.135/kWh in 2022 and is capped at 80% of generation capacity-to incentivize self-consumption.

Non-Domestic Microgen Scheme

Solar PV System	Grant Value
1kWp*	€900
2kWp	€1,800
3kWp	€2,100
4kWp	€2,400
5kWp	€2,400
6kWp	€2,400
7kWp - 20kWp	€300/kWp
21kWp - 200kWp	€200/kWp
201kWp - 1000kWp (1MWp)	€150/kWp

*Source: SEAI

Non-Residential Analysis

Solar PV support for Business:

- Businesses, farms, community buildings such as schools, sports clubs, etc, generating up to 5.9kW will be eligible for a Sustainable Energy Authority of Ireland (SEAI) grant at the same levels as domestic customers. This specific grant will be available later in 2022

- Who can apply:
  Businesses, The agricultural sector, Public sector bodies, Schools, Community centres, Non-profit societies

- How to apply:
  - ❖ Find and appoint a Registered SEAI Non-Domestic Microgen (Solar PV) Company
  - ❖ Apply to SEAI for a Grant Offer
  - ❖ Your Company applies to ESB Networks
  - ❖ Install the Solar PV system
  - ❖ Your Company submits evidence of works to SEAI
  - ❖ SEAI provide the grant

Non-Residential Analysis

Energy Efficiency Grant support for Business:

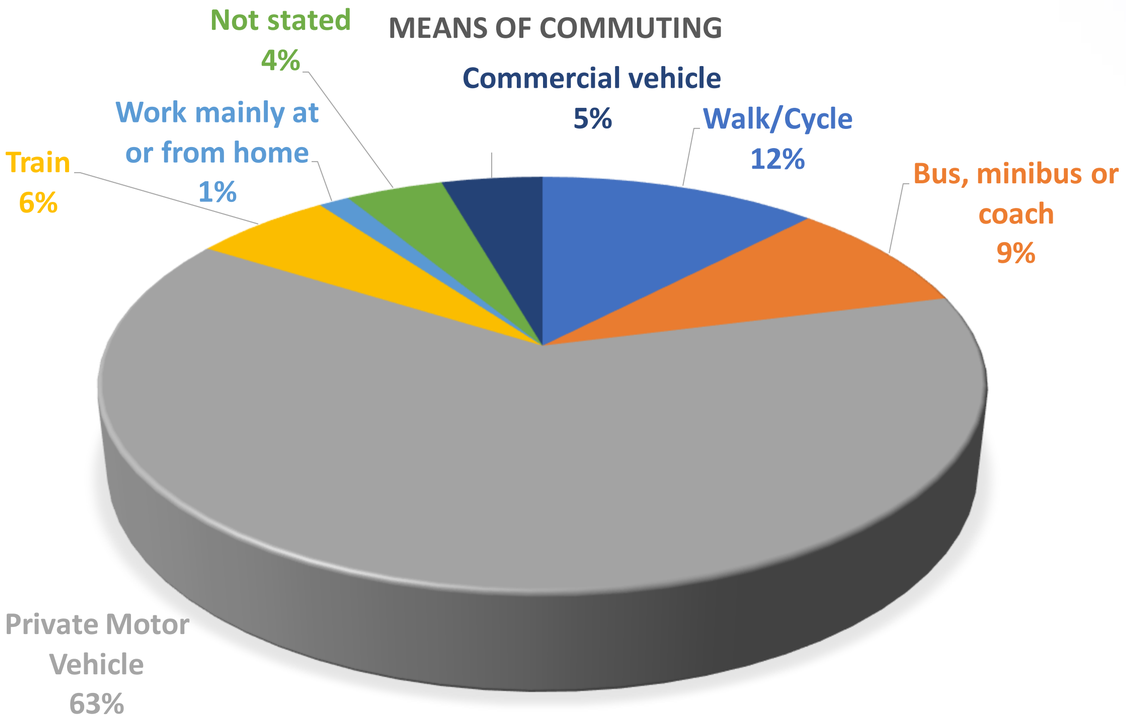
- This grant supports the investment in technologies and equipment of enterprises following on from a Green for Micro/Business Report, Green Start Report or a SEAI Energy Audit.
- Can cover 50% of eligible costs from a minimum grant of €1,000 to a maximum of €5,000.

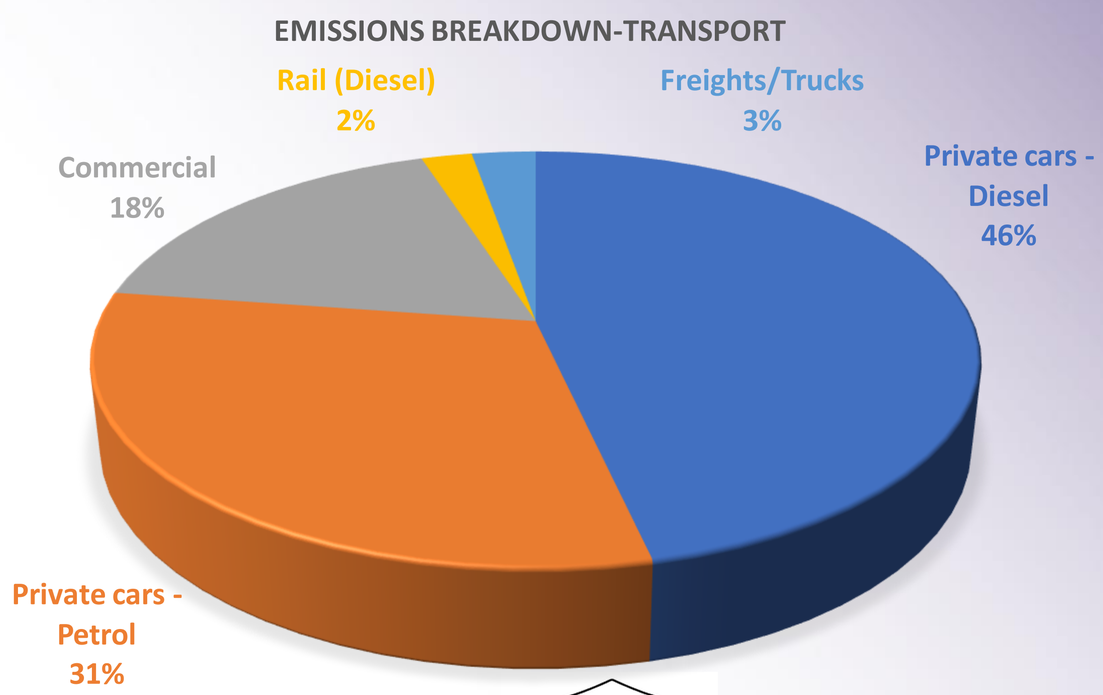
- Eligible costs:
  - ❖ Meters and Installation costs
  - ❖ Smart Energy controls
  - ❖ Lighting upgrade
  - ❖ Upgrade to Heat pumps
  - ❖ Heat recovery
  - ❖ Equipment efficiency improvement etc

Visit Local Enterprise office for further information: Local Enterprise Office

Transport Analysis

- 63% of residents use cars as their main means of travel. 84% households has access to one or more motor cars.
- The total annual energy : 32,235 MWh/yr (24% of total usage)
- The total CO_2 emission: 9,827 tons CO_2 (25% of total emissions)
- The total € cost of fuel : €7.9 M (36% of total € cost)





*Source: Central Statistical Office, Ireland

Transport Analysis

Roadmap: 50% reduction in energy by 2033

- To achieve the target
  - Replace 81% of private vehicles (fueled by petrol/diesel) by electric

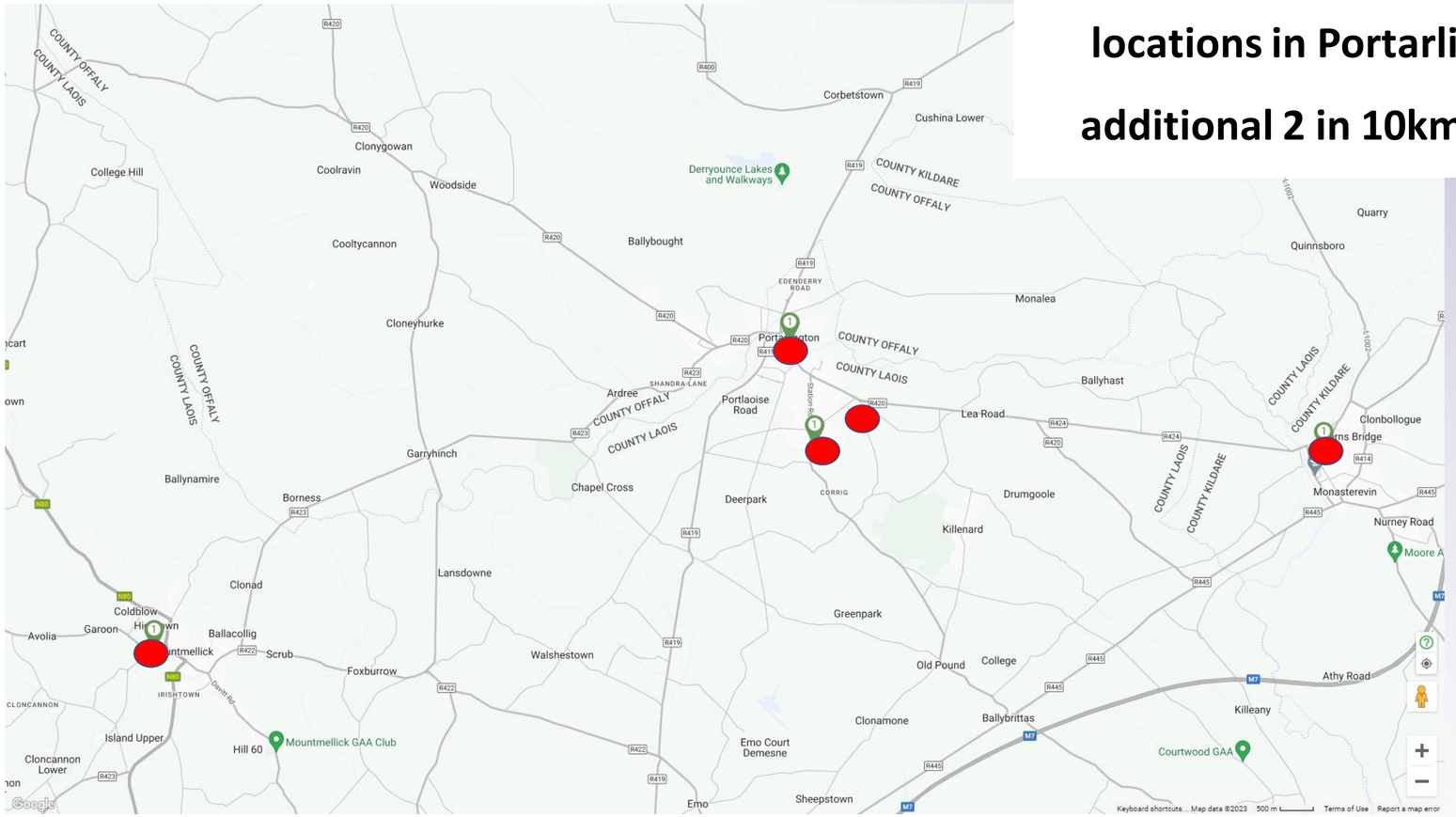
- Reduction of 74% in Transport sector emissions

Vehicle Category	by 2033			Energy (MWh)		Emissions (tCO2)		Investment
	Fossil	Electric	Total	Current	By 2033	Current	By 2033	
Private cars	684	2,962	3,645	26,589	13,294	7,598	2,127	€126,198,226
Private vans	43	186	229	5,646	2,823	2,229	452	
Total	**726**	**3,148**	**3,874**	**32,235**	**16,117**	**9,827**	**2,579**	

Transport Analysis

EV charging points

Currently 3 ESB charging locations in Portarlington, additional 2 in 10km radius

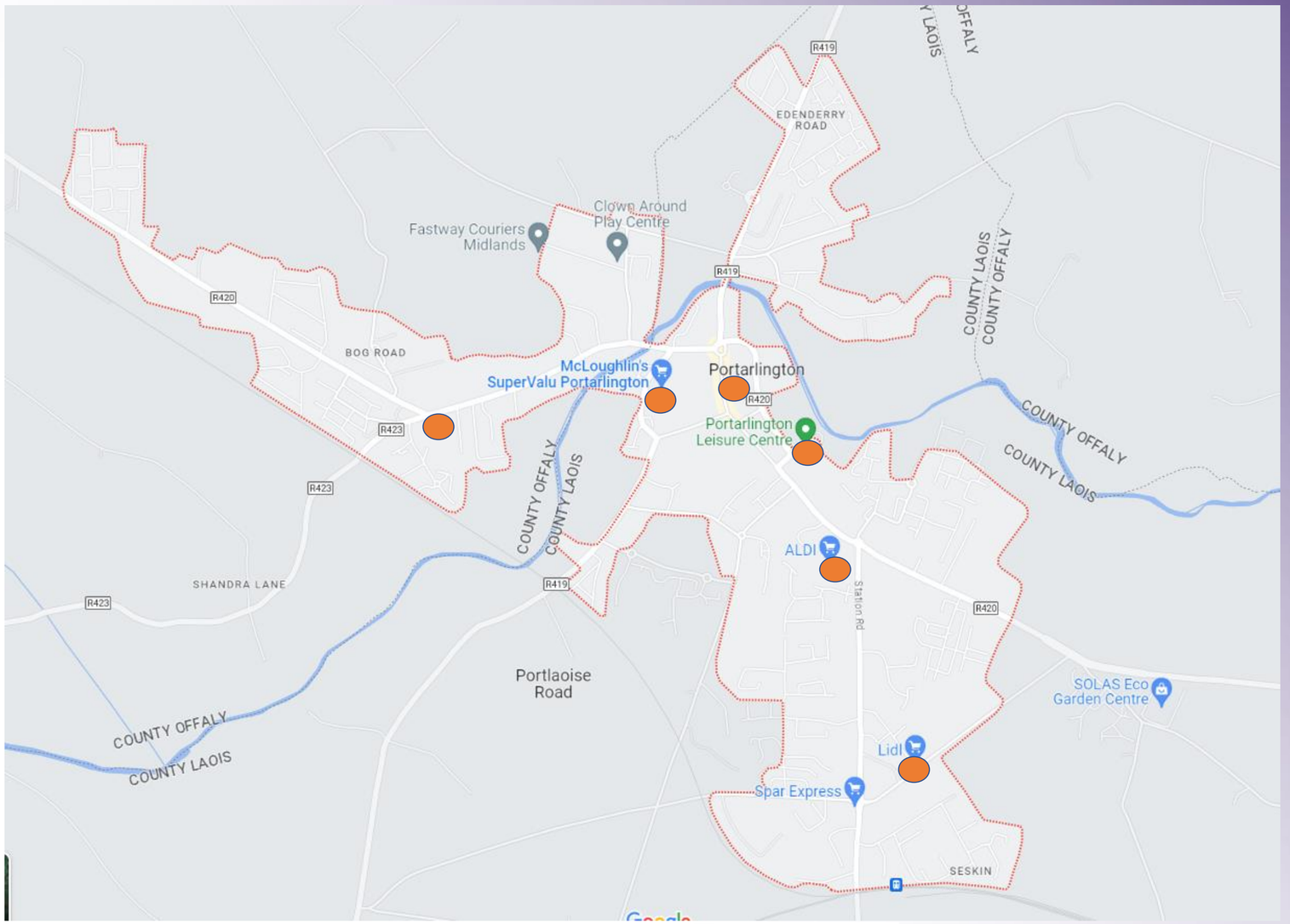


Transport Analysis

EV charging points

Future possible locations:

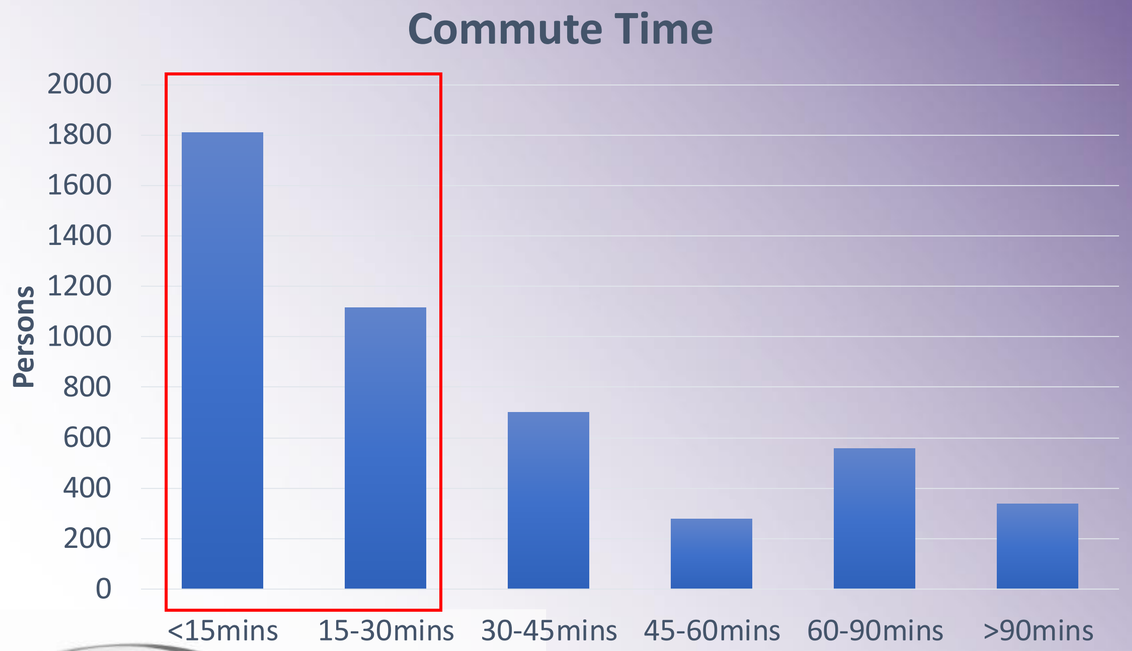
- **Main street**
- **Shopping centres (SuperValu, Aldi, Lidl)**
- **Portarlington Leisure centre**
- **Kilmalogue (Concert band parking)**



Transport Analysis

E-bus

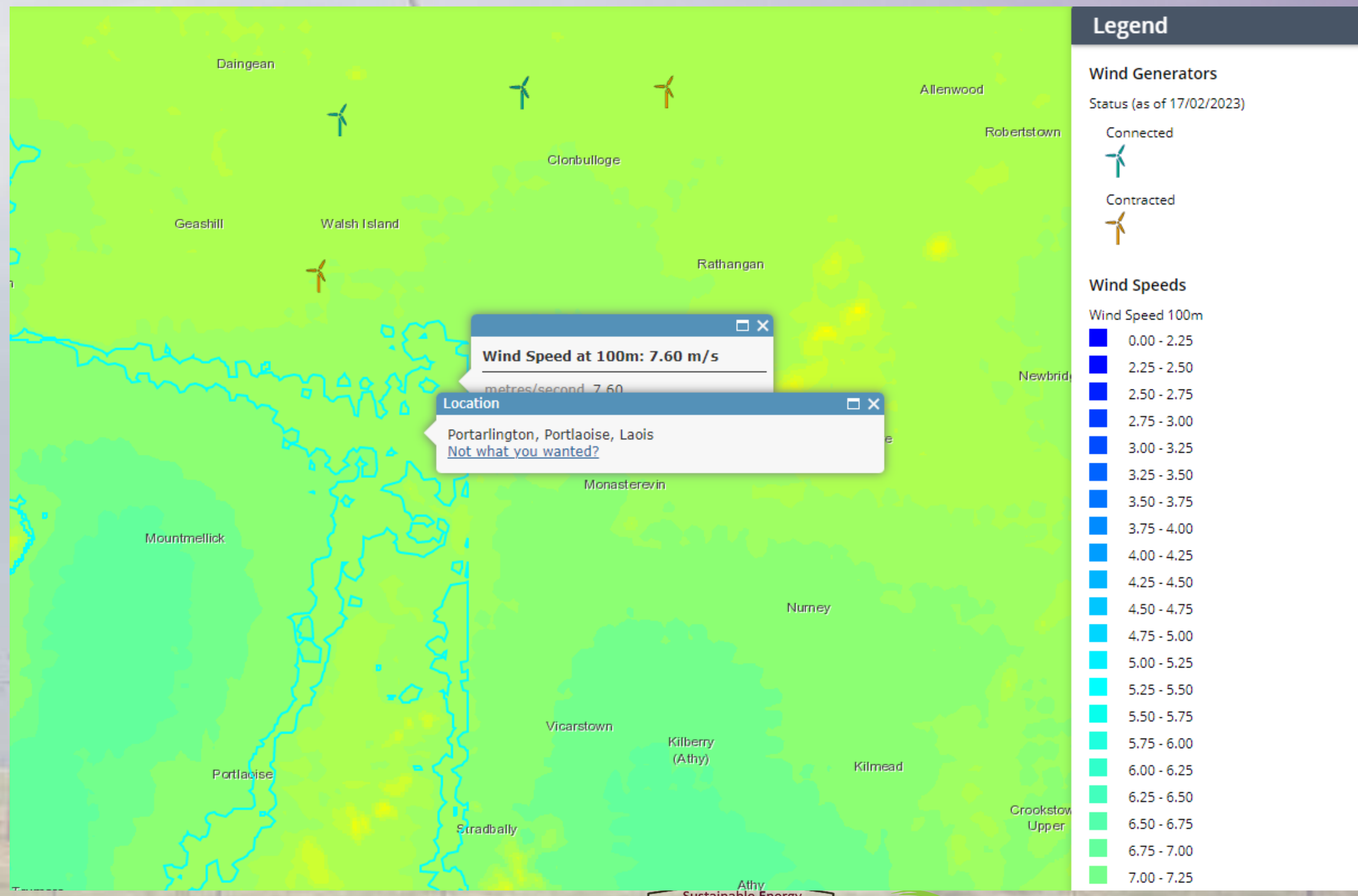
- Population commuting <1/2 hour by car currently can switch to E-bus commute, saving 7.35% of sectoral emissions
- 47% of people are travelling less than ½ hour



Changing Energy landscape 2023-2034

Penetration of Renewables: Community owned Wind energy

- We estimate 4,354 MWh can be generated per turbine (3 x 0.5 MW)
- Electricity generation of ~13 GWh/annum
- Investment: €6.8 M (estimated)
- Savings: €1.02 M
- ROI: 6.6 years



Wind potential at Portarlington:

*Source: Wind Atlas (Mapping System), SEAI

Changing Energy landscape 2023-2034

Penetration of Renewables: Community owned vs Micro generation Solar energy

	Community owned solar farm	Microgeneration
Install capacity	5 MW	9 MW
Annual Output	3,836 MWh/year	7,109 MWh/year
	Equivalent to 13% of residential, community and business electricity use	Equivalent to 23% of residential, community and business electricity use
Capital Cost (€)	€4.5M	€14M
Area required	~30 acres	4kW panels on 75% of the homes and 2kW panels on 50% of the business roofs (S/SE/SW facing)
	Approx. 18 GAA pitches	

*electricity generation of 3,126 kWh from a 4kW PV panel and 1,563 kWh from a 2kW PV panel is expected

Changing Energy landscape 2023-2034

Penetration of Renewables: Is Solar PV right for me?

- Do you have a steady electricity demand during the summer?
- Do you have available roof space?
- Is your roof South-facing or East/West facing?
- Can you use most of the generated electricity on-site
- Is you building energy efficient?

If the answer is “Yes” to the above, you may have a basis for a viable project

Changing Energy landscape 2023-2034

Penetration of Renewables: Monetary savings

Micro generation:

- Clean Energy guarantee scheme for systems up to 5.9kW.
- Payment for export may be paid by the current electricity supply company in contract with the building. (Electric Ireland@ €0.21/kWh; Energia@ €0.18/kWh)
- For non-domestic applicants with systems between 6kW to 50kW, Clean Energy Premium payment scheme with a starting tariff @€0.135/kWh fixed for 15 years and capped at 80% of generation
- Grid connection for < 6kW (single phase, usually domestic & 11kW 3-phase usually farm/commercial setting) see ESBN “inform, Fit & Forget” process, no additional cost.

Changing Energy landscape 2023-2034

Penetration of Renewables: Grant support

Micro generation:

- Domestic homes can apply for grant of up to €2,400 for a maximum of 4 kWp systems from SEAI.
- Non-domestic applicants can apply for a grant of up to €162,600 for 1,000 kWp (until the end of 2023).
- Domestic homes pre 2021 are eligible and no minimum BER required.
- Non-Domestic applicants e.g., Farms, Schools, Community Buildings, businesses can also apply for same grant amount.
- Solar capital investment scheme from Targeted Agriculture and Modernisation Scheme (TAMS 3) for supporting solar investments to farmers. Grant at the rate of 60% up to the applicable maximum investment ceiling of €90,000 per holding.

Changing Energy landscape 2023-2034

Penetration of Renewables: Electrical distribution network Portarlington

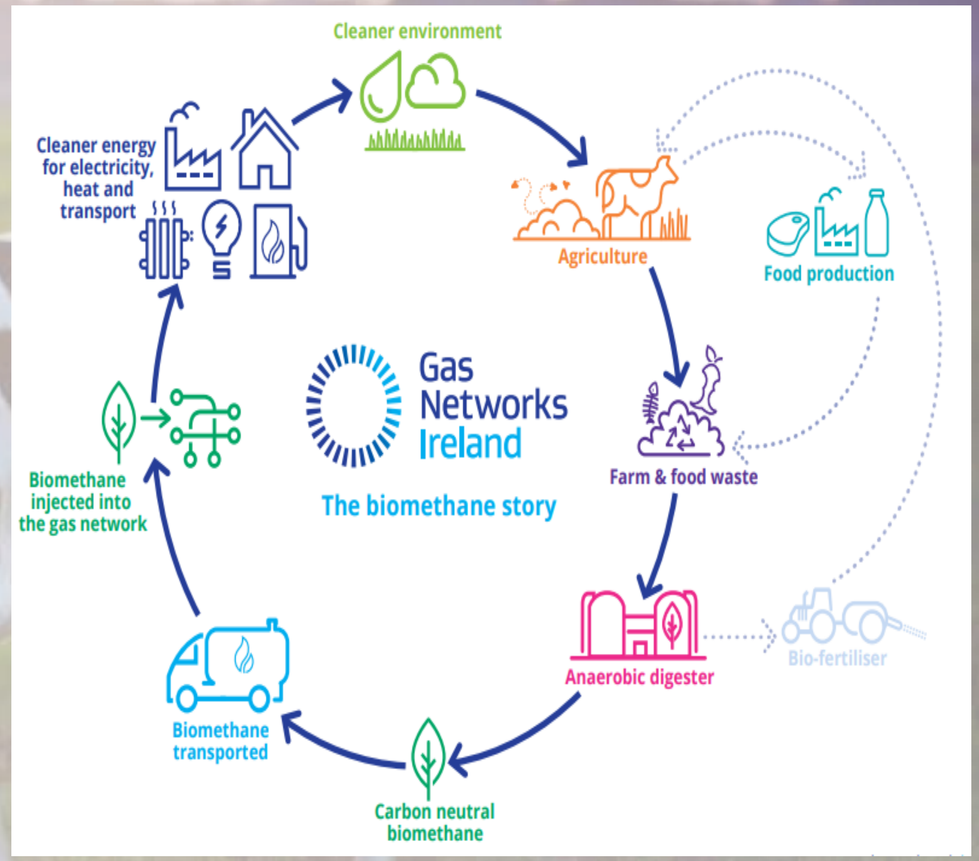
- 110 kV/38 kV substation at Bracklone
- 38 kV substation in Portarlington
- Availability of 7.9 MVA in Firm connection (~6.3MW)
- Electricity grid may require an upgrade for further renewable projects be connected to the system

*Source: Availability Capacity Map, ESB networks

Changing Energy landscape 2023-2034

Penetration of Renewables: Biomethane

- Biomethane: Fundamentally identical to natural gas, biomethane is a carbon neutral renewable gas that can be made from farm and food waste through a process known as Anaerobic Digestion (AD).
- Biogas generated through AD has to be refined first to biomethane and meet the quality standards before injecting it to the Gas network.
- Additional information on Gas Networks Ireland website.



Changing Energy landscape 2023-2034

Penetration of Renewables: Biomethane

- Central Grid Injection facility - Cush, County Kildare:

19kms away from Portarlington is Central Grid injection facility, Cush where locally produced biomethane is injected to the gas network.

- Renewable Gas certification

Changing Energy landscape 2023-2034

Penetration of Renewables: Biomethane

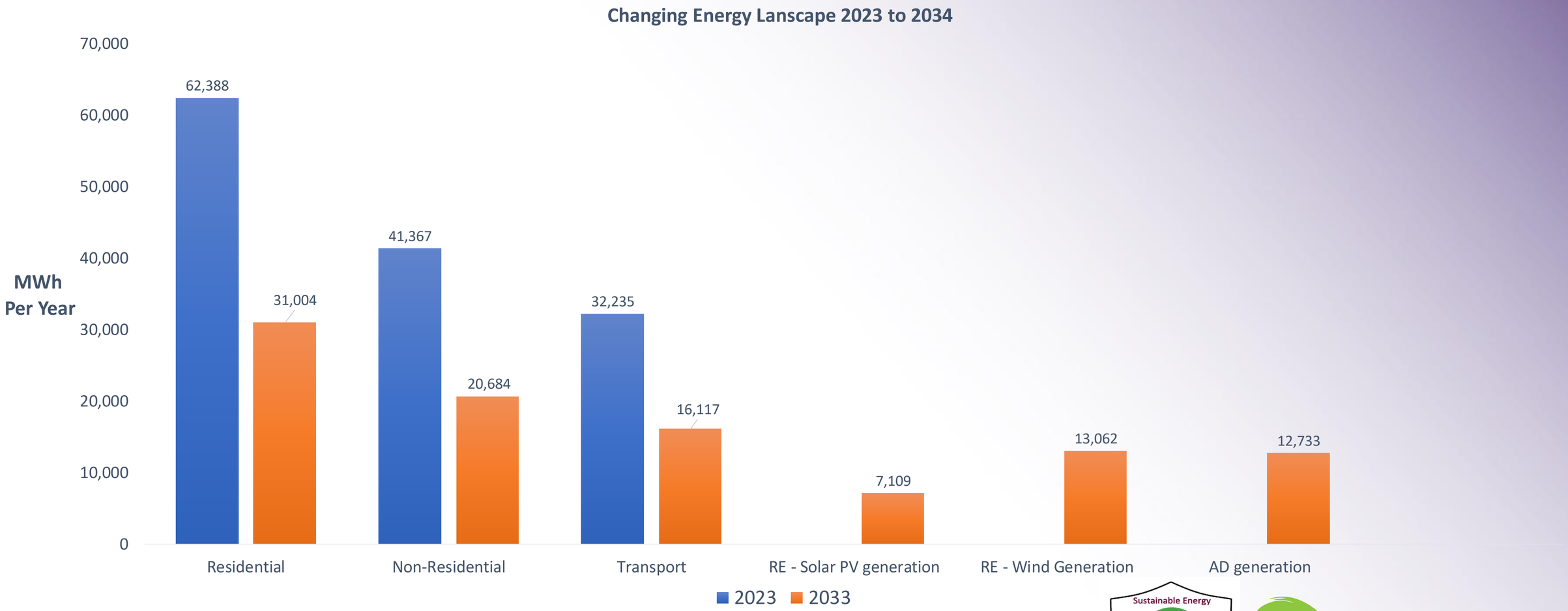
- Potential in Portarlington: ~19 kt of grass silage from grasslands and ~16.8 kt of cow slurry from agriculture
- 80% of slurry and 20% of grass silage expected to be used in Anaerobic digestion
- Biomethane potential: 106 kWh/tonne of slurry and 2,930 kWh/tonne of dry matter
- Potential to generate ~12,733 MWh of biomethane per annum, which is equivalent to heating 781 homes in Portarlington.
- Capital cost: €12.4M
- Possible SEAI grants available:
  - Building Energy Community grant scheme
  - Support Scheme for Renewable Heat

Portarlington Roadmap to 2034

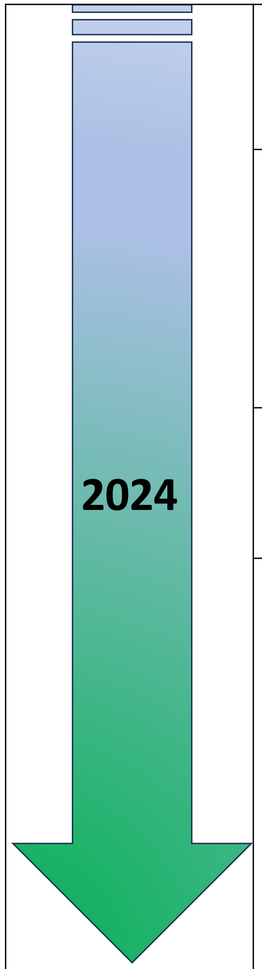
Sector	Measure	Target Achieved to 2033	% of total energy saved per year by 2033	Financial Savings per year (in Million euros)	Total Investment required (in Million euros)
Residential	Deep Retrofitting of 75 houses and shallow retrofitting of 150 houses per year	50% reduction in sector	22.9%	€5.2M	€89.1M
Transport	Private EV adaptation: 2,962 EV and 186 commercial EV's	50% reduction in sector	11.8%	€4.8M	€126M
Non-Residential	Building/services Energy Upgrades	50% reduction in sector	15.1%	€4.1M	€82.3M
Renewables: Rooftop Solar PV	4 kW Roof-top Solar PV on 75% Residential buildings and 2 kW for 50% of Non-residential buildings	-	5%	€2.8M	€13.9M
Renewables: Community Wind Farm	3*1.5 MW wind turbines	-	10%	€1.02M	€6.8M
Renewables: Renewable Heat	AD plant for Biomethane	-	9%	€1.3M	€12.4M

Portarlington Roadmap to 2034

Expected Energy landscape by 2034:



Next steps for Portarlington SEC:



Q1	Public launch of Energy Master Plan to motivate and advertise among the public	
Q2	Suggest to carry out a detailed survey among Residential and Non-residential building owners to identify interested parties for conducting energy upgrades in the coming years ➢ Possibility to receive SEAI grants may be used to motivate the owners	
Q3	Prepare a Plan for Portarlington buildings on rolling out the upgrades (Aim for the target mentioned in EMP roadmap)	
Q4	Amalgamate and initiate with residential upgrades through direct homeowner control or availing One-stop-shop services.	• Amalgamate and initiate with non-residential upgrades • Avail Green4Micro assessment and possible grant options from Local Enterprise office
	Feasibility study for renewable options identified in this EMP	

Financing and Funding

Homeowners, Businesses, and Community Groups

Funding

SEAI Renewable Energy Support Scheme

Overview:

Grant funding of up to 80% of a renewable energy project (up to €180,000)

Who can apply:

SEC looking to develop and own a renewable energy project between 0.5 and 5MW

How to apply:

- Apply at SEAI Website
- Financing Renewable Energy Community Generation Projects

Overview	
Community-led renewable energy projects	To qualify for specific community targetted support schemes your project must meet the definition of a Renewable Energy Community. Under RESS the main eligibility requirements for an REC were: • Application must be made with a Sustainable Energy Community (SEC) • Project size must be between 0.5 MW and 5 MW • Fully (100%) owned by an REC • Community group must be based on open and voluntary participation • Participation based on local domicile You must apply for a community-led project with a SEC. The SEC must be identified in the Declaration of a community-led project, together with a description of the relationship between the applicant and the SEC.
Overview of Community Renewable Electricity Grant	Primary purpose is to support community groups interested in developing a renewable energy project during the design and permitting stage.
Grant available	80% of eligible costs up to a maximum of €180,000
Grant Framework	• Early-stage support (entity formation, land control, project design and planning costs, meteorological mast (wind)) up to €75,000. • Mid-stage support (portion of grid costs and development costs) up to €130,000 minus any drawdown from early stage. • Late-stage support (remaining grid costs, costs related to developing project financing) up to €180,000 minus any drawdown from early and mid-stage.
Feasibility stage	Entry to the grant framework is predicated on successful completion of feasibility stage conducted by an SEAI appointed Trusted Advisor (TA) service provider.
Milestones	You can draw down grant funding in €25,000 tranches on completion of key milestones.
Public engagement event	A public engagement event must take place before drawing down the second tranche to ensure the project is suitability socialised within the local community.

Funding

LEADER Funding

Overview

- Funding of 5.7m available for the county
- Theme 1: Economic Development & Job Creation
- Theme 2: Rural Infrastructure & Social Inclusion
- Theme 3: Environment & Climate Change Dev. of renewable energy

Who can apply:

- **Community** Leaders

How to apply:

- Contact Laois Partnership Company – 057 8661900

Funding

Laois County Council Community Climate Action Fund

Overview

- Up to 100% funding for small to large projects up to €100,000.
- Broader criteria – can cover transport etc.

Who can apply:

- Not-for-profit **community** organizations
- Located in County Laois
- Registered with PPN or similar

Laois County Council
Áras an Chontae, Portlaoise, Co. Laois

How to apply:

- Application forms available online on Laois CoCo

Financing

An Post Green Hub

Overview:

- Loan for **Home** Energy Improvements.
- €5000 to €75000 for up to ten years.
- APR from 4.9% to 11.5%*

Who can apply:

Any homeowner carrying out energy retrofits under the SEAI Home Energy Grant

How to apply:

- ❖ Agree scope of works
- ❖ Apply for SEAI Grant
- ❖ Apply for loan on An Post
- ❖ Complete work within eight months

1. Find a building contractor

Find an SEAI registered contractor and agree scope of works. For a heat pump consult an advisor first.

2. Apply for a grant

Apply for an SEAI home energy grant and complete Part 1-2a of the SEAI declaration of works document.

3. Apply for a loan

Apply online for your An Post Money Green Loan for €5,000 - €75,000. Approval is valid for 12 months*.

4. Complete work and draw down

Complete work within 8 months. Obtain fully completed SEAI declaration of works document to draw down loan.

5. Conduct BER assessment

Have an SEAI registered Building Energy Rating (BER) assessor certify your improved home energy performance.

6. Receive your grant payment

Submit new BER certificate and declaration of works.

Complete submissions receive SEAI payment within four weeks.

*Indicative figures based on company website

Financing

Credit Union Green Home Improvement Loan

Overview:

- Flexible loans for **Home** Energy Improvements.
- Home improvement loan 7.2% APR*
- Special rates for projects resulting in high BER
- A Rating – 4.9%. B2 Rating – 5.96%*

Who Can Apply:

- Current CU Members
- New Members can join and avail of the loan.

How to Apply:

- Once you have joined and registered for online access:
- Submit a loan enquiry online.

*Indicative figures based on company website

Financing

SCBI Growth and Sustainability Loan Scheme

Overview:

- Discounted variable-rate loan for **business**
- APR of >6% plus ~2% margin*
- Amounts from €25,000 to €3,000,000
- Terms from 7-10 years

Who can apply:

- Small and medium enterprises looking to invest in climate action

How to Apply

- Register with SCBI Hub to assess eligibility
- Use eligibility code to apply with partnered on-lenders (AIB, BOI, Finance Ireland, PTSB, etc)

SBCI
Anseo chun gnó a fhorbairt
Corparáid Baincéireachta
Straitéiseach na hÉireann
Here to build business
Strategic Banking
Corporation of Ireland

Bank of Ireland

AIB

ptsb

FINANCE IRELAND

*Indicative figures based on company website(s)

Sustainable Energy Portarlington

TIPPERARY energy AGENCY

Financing

Clann Credo - Community Loan Finance

Overview

- Social Financing Enterprise, experienced with handling Better Energy Community Grant projects.
- Loans from €10,000 to €500,000
- APR between 5% and 7%*
- Can Provide short-term ‘Bridging Loans’ where up-front investment is required before grant payments.

Who can apply:

- **Community** Leaders

How to apply:

- Minimal Paperwork, initial enquiry by phone.
- Community Climate Action Loan

Community Climate Action Loan			
	Loan Amount	Typical Annual Interest Rates	Typical Arrangement Fee
Community Climate Action Term/Matching Loan: 5 to 15 years	€30,000 to €500,000	4.95% (Variable)	None
Community Climate Action Term/Matching Loan 2-5 years	€30,000 to €500,000	6%	None
Community Climate Action Bridging Loan: up to 2 years	€10,000 to €500,000	6%	1% *(Minimum fee €300)*
Community Climate Action Term/Matching Loan	€10,000 to €30,000	6.75%	None

*Indicative figures based on company website

Financing

Housing Finance Agency

Overview:

- Self-Funded, State-Controlled, lending agency predominantly for **social housing**
- ‘Retrofitting Home Loan’ projected at €50M per year*
- 15-Year Loan 2.85% APR*

Who can apply:

- Approved Housing Bodies
- Higher Education Institutions
- Local Authorities

How to Apply

- Eligible applicants can apply on HFA

*Indicative figure. Source: HFA Corporate Plan

Appendix


ENERGY AUDIT
year of construction:
type of heating:
heating service certi
plans of the build

Residential Audit-House 1

House specifications:

- 3 storeyed mid-terrace house with a floor area of 260 m^2
- Constructed in 1850, front of the house is Protected structure
- A small rear extension in 1970
- Windows: Single-glazed windows front and back
- Ventilation: Natural ventilation
- Heating: Central heating system (natural gas) combined with stove heater(turf)
- DHW: 300l indirect cylinder for hot water storage
- Lighting: LED/Fluorescent/Incandescent

A sample house, not the actual house audited

Upgrade works (2015):

- Drylined-GF back side of the house
- Floor upgrade with extra insulation
- 5.74 kWp Solar PV on the roof

Residential Audit-House 1

House specifications:

- 3 storeyed mid-terrace house with a floor area of 260 m^2
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- Heating: Central heating system (natural gas) combined with stove heater(turf)
- DHW: 300l indirect cylinder for hot water storage
- Lighting: LED/Fluorescent/Incandescent

BER D1

A sample house, not the actual house audited

Upgrade works (2015):

- Drylining of both side of the house
- Floor upgrade with extra insulation
- 5.74 kWp Solar PV on the roof

BER C2

Residential Audit-House 1

Step	Upgrade measure	Energy Performance [kWh/m²/year]	HLI [W/K/m²]	Total Cost [€]	Individual Grant [€]	Net cost [€]
Existing House		235.57	3.928			
1	Roof insulation upgrade (Roof board for sloping roof and roll insulation for attic roofs)	187.02	3.049	€2,643	€1,200	€1,443
2	Door and Windows upgrade with draught stripping (not for the Protected structure)	172.93	2.773	€13,744	-	€13,744
3	Insulate primary pipework, time and temp zone control heating	165.26	2.773	€3,600	€700	€2,900
4	Wall upgrade (Internal insulation for main house and cavity wall insulation for extension)	117.62	1.97	€22,379	€2,800	€19,579
5	Installation of Heat pumps for thermal demand	108.56	1.97	€26,785	€6,500	€20,285
TOTAL COST				€69,152		€57,952

BER D1

BER B2

Residential Audit-House 2

A sample house, not the actual house audited

House specifications:

- 2 storeyed detached house with a floor area of 123 m^2
- Constructed in 2004, no extensions
- Windows: Double-glazed windows
- Ventilation: Natural ventilation
- Heating: Solid fuel boiler – Stove with back boiler (turf)
- DHW: 92l indirect cylinder for hot water storage
- Lighting: 90% LED//10% Incandescent

Residential Audit-House 2

A sample house, not the actual house audited

House specifications:

- 2 storeyed detached house with a floor area of 123 m^2
- Constructed in 2004, no extensions
- Windows: Double-glazed windows
- Ventilation: Natural ventilation
- Heating: Solid fuel boiler - Stove with back boiler (turf)
- DHW: 92l indirect cylinder for hot water storage
- Lighting: 90% LED//10% Incandescent

BER D1

Residential Audit-House 2

Step	Upgrade measure	Energy Performance [kWh/m²/year]	HLI [W/K/m²]	Total Cost [€]	Individual Grant [€]	Net Cost [€]
Existing House		251.42	2.693			
1	Roof insulation upgrade (Roll insulation for attic roofs)	227.54	2.421	€1,524	€1,500	€24
2	Door and Windows upgrade with draught stripping	209.34	2.179	€17,296	-	€17,296
3	Wall insulation upgrade (50 mm cavity wall insulation)	179.55	1.853	€4,186	€1,700	€2,486
4	Insulate primary pipework and install new factory insulated cylinder with thermostat and zonal controls for hot water	164.93	1.853	€3,600	€700	€2,900
5	Draught strip the attic hatch	164.02	1.844	-	-	-
6	Upgrade the heating system to Air to Water heat pumps with Time and Temperature zone control	110.42	1.844	€17,600	€6,500	€11,100
TOTAL COST				€44,206		€33,806

BER D1

BER B2

Residential Audit-House 3

A sample house, not the actual house audited

House specifications:

- 3 storeyed semi-detached house with a floor area of 127 m^2
- Constructed in 2005, extension to the rear and attic conversion (Room in roof)
- Windows: Double-glazed windows
- Ventilation: Natural ventilation
- Heating: Central heating system (natural gas) combined with stove heater(turf)
- DHW: 123l indirect cylinder for hot water storage
- Lighting: LED/Fluorescent/Halogen/Incandescent

Residential Audit-House 3

A sample house, not the actual house audited

House specifications:

- 3 storeyed semi-detached house with a floor area of 127 m^2
- Constructed in 2005, extension to the rear and attic conversion (Room in roof)
- Windows: Double-glazed windows
- Ventilation: Natural ventilation
- Heating: Central heating system (natural gas) combined with stove heater(turf)
- DHW: 123l indirect cylinder for hot water storage
- Lighting: LED/Fluorescent/Halogen/Incandescent

BER B3

Residential Audit-House 3

Step	Upgrade measure	Energy Performance [kWh/m²/year]	HLI [W/K/m²]	Total Cost [€]	Individual Grant [€]	Net Cost [€]
Existing House		141.73	2.0			
1	Roof insulation upgrade (Roll insulation for attic roofs)	139.74	1.97	€757	€1,300	-
2	Wall insulation upgrade (50 mm cavity wall insulation)	133.53	1.879	€2,249	€1,200	€1,049
3	Door and Windows upgrade with draught stripping	119.49	1.626	€19,392	-	€19,392
4	Insulate primary pipework and install new factory insulated cylinder with thermostat and zonal controls for hot water	111.41	1.626	€3,600	€700	€2,900
5	Upgrade the heating system to Air to Water heat pumps with Time and Temperature zone control	89.82	1.626	€17,600	€6,500	€11,100
TOTAL COST				**€43,598**		**€34,441**

BER B3

BER B1

Residential Audit-House 4

A sample house, not the actual house audited

House specifications:

- 1 storeyed detached house with a floor area of 189 m^2 (2 separate buildings - Main house and Office)
- Constructed in 1982, extension to the rear in 1999
- Windows: 95% Double-glazed// 5% Single glazed windows
- Ventilation: Natural ventilation
- Heating: Central heating system (natural gas) combined with stove heater(turf)
- DHW: 140l indirect cylinder for hot water storage
- Lighting: LED/Fluorescent/Incandescent
- Upgrade works: Windows and Doors/Cavity walls pumped/Boiler upgrade/Attic reinsulated for Main house

Residential Audit-House 4

A sample house, not the actual house audited

House specifications:

- 1 storeyed detached house with a floor area of 189 m^2
- Constructed in 1982, extension to the rear in 1999
- Windows: 95% Double-glazed// 5% Single glazed windows
- Ventilation: Natural ventilation
- Heating: Central heating system (natural gas) combined with stove heater(turf)
- DHW: 140l indirect cylinder for hot water storage
- Lighting: LED/Fluorescent/Incandescent
- Upgrade works: Windows and Doors/Cavity walls pumped/Boiler upgrade/Attic reinsulated

BER C2

Residential Audit-House 4

Step	Upgrade measure	Energy Performance [kWh/m²/year]	HLI [W/K/m²]	Total Cost [€]	Individual Grant[€]	Net Cost [€]
Existing House		181.09	3.079			
1	Roof insulation upgrade for office (Roll insulation for attic roofs)	175.27	2.986	€1,204	€1,500	-
2	Wall insulation upgrade (50 mm cavity wall insulation for office)	166.39	2.846	€1,386	€1,700	-
3	Wall insulation upgrade (Drylining and insulation upgrade for house)	154.46	2.659	€19,759	€4,500	€15,259
3	Door and Windows upgrade with draught stripping	132.66	2.232	€33,904	-	€33,904
4	Upgrade the heating system to Air to Water heat pumps with Time and Temperature zone control	121.3	2.232	€26,180	€7,200 (€700 for control upgrade)	€18,980
5	Installation of Solar PV (5.74 kW)	71.07	2.232	€8,610	€2,400	€6,210
TOTAL COST				**€91,043**		**€74,353**

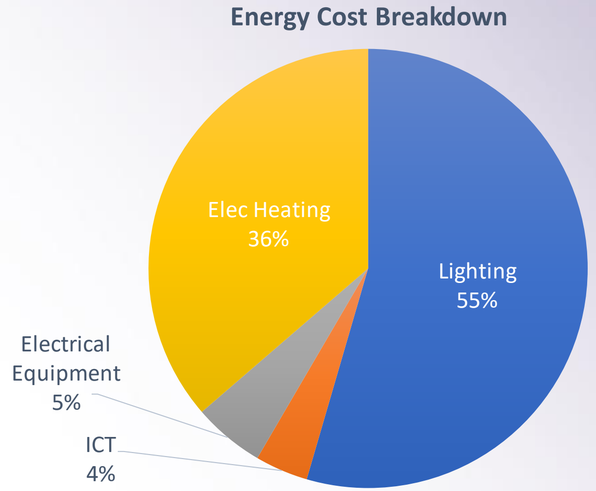
BER C2

BER A3

Non-Residential Audit- Shop 1

Building specifications:

- Family-owned business based in Portarlington
- Trading commenced in 1980s
- Walls being shared with neighbouring businesses on both sides
- Lighting: Fluorescent lights, LEDs
- Heating: Electric storage heating
- Significant Energy users: Lighting and Electric heating
- Annual electricity bills worth €9k (including heating)
- Audit availed through Green 4 Scheme voucher worth €2,000 from Local Enterprise Office, Laois

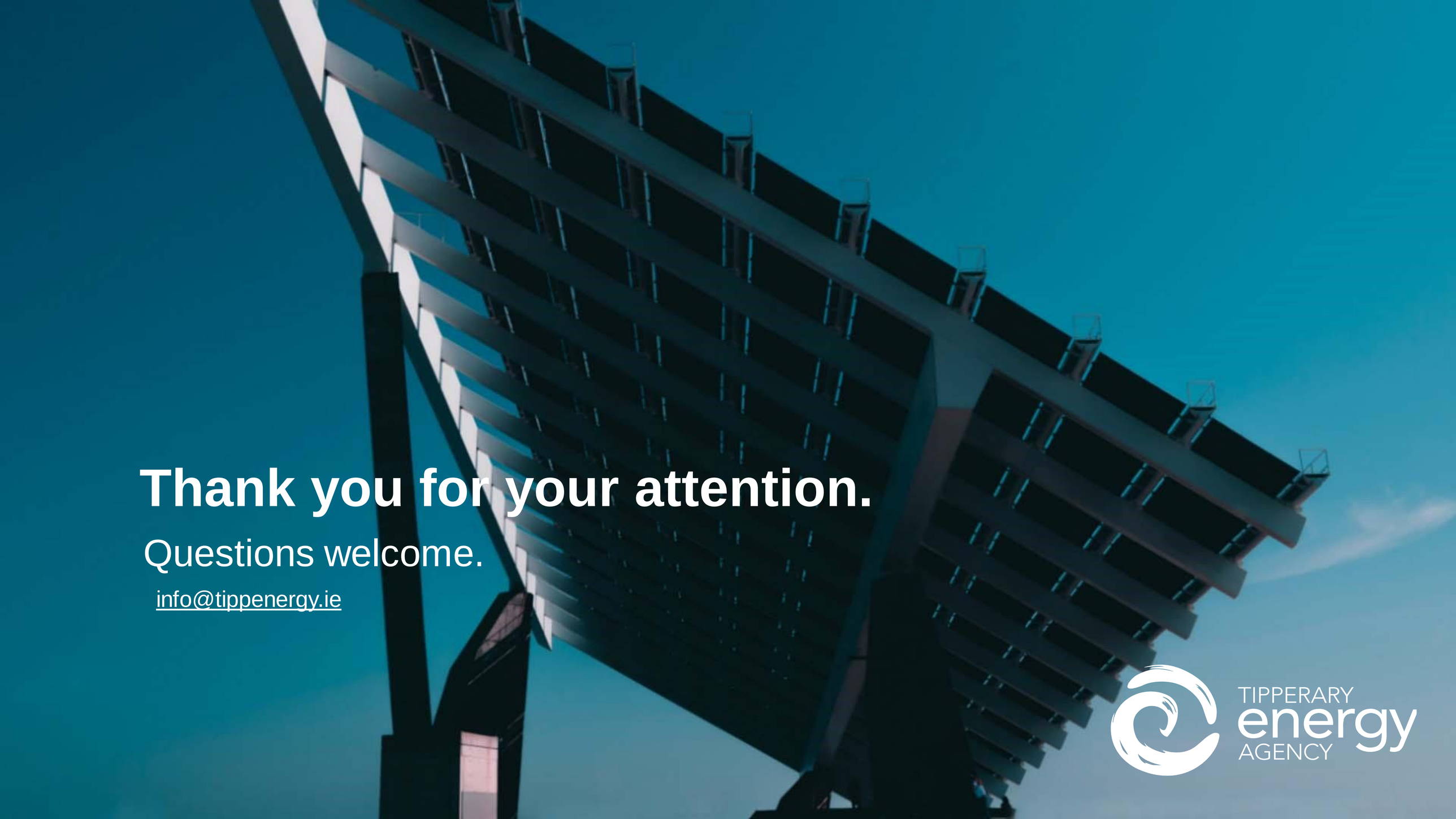


Non-Residential Audit- Shop 1

Step	Upgrade measure	Savings			Capital Costs (€)	Payback
		CO_2 (tCO_2)	kWh	€		
1	Lighting upgrade for no.61 fixtures	2.5	7,287	€3,395	€15,250	4.5
2	Upgrade External walls with additional insulation	1.0	2,811	€1,310	€5,386	4.1
3	Windows and Doors upgrade	0.6	1,642	€765	€12,452	16.3
4	Upgrade existing roof with additional insulation	0.7	2,121	€988	€7,387	7.5
5	Installation of HRV to capture waste heat	0.2	615	€286	€8,000	27.9
6	New Air to Air heat pump, 1 no. 10kW capacity	1.2	3,612	€1,683	€10,080	6.0
7	Installation of a 3.6 kW Solar PV array on the roof	0.9	2,640	€1,230	€5,400	4.4
TOTAL		4.9	14,154	€6,594	€63,956	9.7

Non-Residential Audit- Shop 1

Step	Upgrade measure	Savings			Capital Costs	Costs Net (30% Grant)	Payback Gross	Payback After Grants
		CO_2 (tCO_2)	kWh	€				
1	Lighting upgrade for no.61 fixtures	2.5	7,287	€3,395	€15,250	€10,675	4.5	3.1
2	Upgrade External walls with additional insulation	1.0	2,811	€1,310	€5,386	€3,770	4.1	2.9
3	Windows and Doors upgrade	0.6	1,642	€765	€12,452	€12,452	16.3	16.3
4	Upgrade existing roof with additional insulation	0.7	2,121	€988	€7,387	€5,171	7.5	5.2
5	Installation of HRV to capture waste heat	0.2	615	€286	€8,000	€5,600	27.9	19.6
6	New Air to Air heat pump, 1 no. 10kW capacity	1.2	3,612	€1,683	€10,080	€7,056	6.0	4.2
7	Installation of a 3.6 kW Solar PV array on the roof	0.9	2,640	€1,230	€5,400	€3,300	4.4	2.7
TOTAL		4.9	14,154	€6,594	€63,956	€48,025	9.7	7.3



Thank you for your attention.

Questions welcome.

info@tippenergy.ie

TIPPERARY energy AGENCY