Working together for a Sustainable Maynooth















Seven Main Themes in the Story

1. Home and Business Energy
2. Transport Choices
3. Food Choices
4. Protecting Nature and Biodiversity
5. Consumption and the Circular Economy
6. Collaborating for a Sustainable Maynooth
7. Our Carbon Footprint

In total we have outlined about 30 areas where you can begin to take some actions towards a more sustainable life.



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Decarbonising Zone Maynooth
Together for a sustainable tomorrow

Maynooth Sustainable Energy Community
June 2025

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Introduction

Maynooth is a thriving commuter town with a rapidly growing population. It is one of Ireland's fastest growing communities which gives it a great energy, vibrancy and diversity while bringing modern challenges of scarce resources.



As a growing modern commuter belt community our emissions are very concentrated in two sectors which make up **a massive 75,2% of the total emissions** of our town**.**

- **Residential Energy: 38.5%**
- **Transport: 36.7%**

Together these two sectors make up more than 55,000 tons of CO2 equivalent emissions. This gives us a clear focus for climate action and emissions reduction. **We must mobilise together with a particular focus on these two sectors.**

Very valuable changes need to be made in other sectors. While agriculture is a small piece of Maynooth's urban emissions, **nationally** it is the single largest contributor to overall emissions, **accounting for 37.8% of the national total.**



Positive **Food Choices** will help reduce our national emissions significantly. It is widely known that we are experiencing a Nature and Biodiversity crisis with human activity challenging our natural environment and leading to rapid extinctions. Steps taken to support **Nature and Biodiversity** are also very important.

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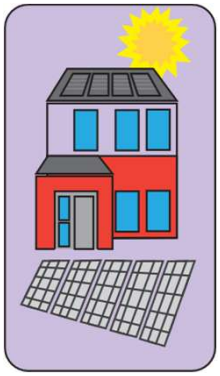
In 2023 Maynooth was identified as County Kildare's Pathfinder Decarbonising Zone. Ireland's decarbonising zones are intended to be **test beds for innovative and achievable solutions** to reduce carbon footprints in local communities.

Working towards our Climate Action targets we have built a unique four-way collaboration between our **Community, Kildare County Council, Maynooth University** and our **Businesses.**

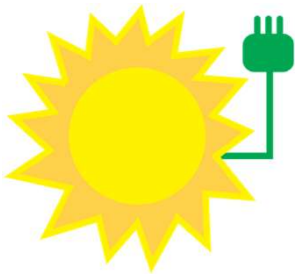


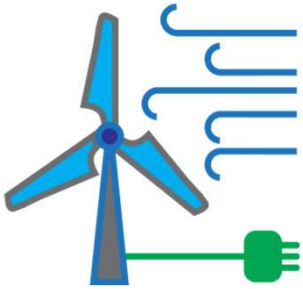
Collaboration and engagement will be key to making progress in a way we can all believe in, and to best use the resources and talents of these different organisation to fulfil the vision outlined in the DZ Plan.

1. Home and Business Energy









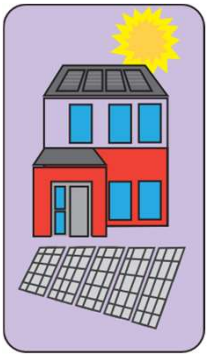




- **Home Energy Emissions represent a massive 38.5%** of all emissions in Maynooth, a total of 28.37 kilotons of emissions every year.
- **Solar PV is now the cheapest energy source** in Ireland. A Solar electric installation now makes compelling economic sense for every home or business.
- **Heating** is the biggest source of **emissions and energy** costs in your home and in most businesses.
- Any improvement to your insulation or heating will be progress, starting with attic insulation and servicing your heat pump or boiler
- **A full Energy Retrofit will future-proof your home** for the next 20 years or more and guarantee a comfortable home for your family or retirement. It will also **protect your investment** as energy and emissions continue to become more important.
- **Electrification of our energy use and transport** is the main direction forward. Our national electric grid is becoming more sustainable and efficient every year. There is still a big challenge ahead as the capacity of our national power grid needs to double and become more resilient in the face of increasing storms and energy supply disruptions.
- An **electric heat pump is the most efficient** heating for an efficient home rated B3 and above.
- With **Smart Meters we need to value every unit of electricity** and learn how to use it at the lowest cost and most efficient times.
- Many **businesses have energy plans** now to save money, meet regulatory requirements and make tax savings. More and more customers are looking for businesses to do this.
- We have to learn more about how to provide **back-up for our home or business energy supply.** Modern home energy and battery systems can be upgraded to provide power during an outage, and electric vehicles can provide several days' worth of energy in an **emergency situation.**
- **Water is a very scarce resource** all around the world, and in our growing urban communities. The energy cost to clean and pump it is a major source of emissions. We all have to learn much more about water use and conservation.

Maynooth Retrofit Demohouse

17 Meadowbrook Avenue



Kildare Climate Action Office
Inspiring change, shaping tomorrow

- Kildare County Council have carried **out a complete Energy and Accessibility Retrofit** on a 1994 build house at 17 Meadowbrook Avenue, Maynooth in support of the Maynooth Decarbonising Zone Objectives.
- A very **high quality and performance has been achieved** with inside wall insulation, high quality doors and windows, heat-pump and Solar PV generation.
- Rainwater retaining systems, a wet garden and biodiversity friendly planting have been added to demonstrate these possibilities.
- Upgrades have been included to showcase accessibility including level door entries, a stairlift and wet-room bathroom.
- The aim is to showcase '**best-in-class' Energy Retrofit** to help homeowners, local authorities, businesses and other agencies.
- The **Maynooth University RENEW** research group are using the house as a test bed for a Science Foundation Ireland funded research project. Sensors have been installed to measure energy use, energy generation and air quality in the house.

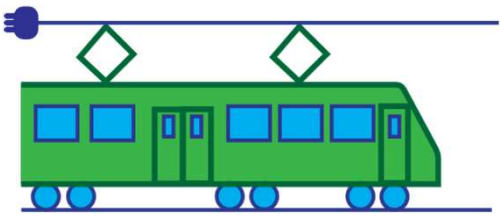


- Tours can be booked from the KCC website. **Search Kildare Demohouse**. Tours are available most Thursday mornings from 10am to 1pm.

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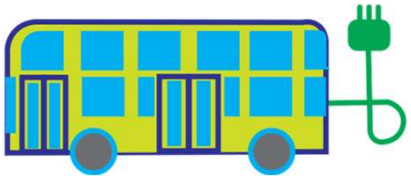
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2. Transport Choices









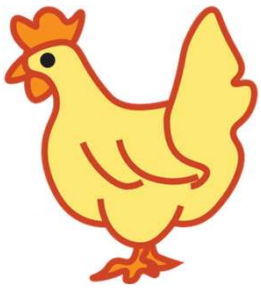




- **Our commuting lifestyle** in the greater Dublin Metropolitan Area is driving very high emissions while impacting on our communities and quality of life. **Our transport emissions** represent **a massive 36.7%** of Maynooth's total emissions.
- Several decades of poor planning have led to **some of the most sprawling and car dependent development in Europe**. New planning and settlement guidelines are starting to improve this, but we will live with the legacy of past planning for many decades.
- The **10-minute neighbourhood** is urban planning where residents can access essential amenities and services within a 10-minute walk or bike ride from their homes. This includes things like grocery stores, schools, parks, healthcare facilities, and public transport stops. This creates more walkable, vibrant, and sustainable communities, reducing reliance on cars and fostering social connections.
- Active Transport Choices provide one of the best and simplest solutions while contributing to our health and wellbeing. **Walking or cycling** to the shops, work and for exercise and cycling to school all reduce emissions and congestion.
- **Active transport improvements** are being made slowly, and we still have some bad bottlenecks gaps in our paths in Maynooth. The Mill Street upgrade being completed in summer 2025 will improve our biggest bottleneck while the Canal Greenway to Leixlip will also be completed this summer.
- Despite over-crowded trains and some late and ghost buses **Maynooth is one of the best served communities in Ireland for public transport**. Bus capacity and routes have been almost doubled in the past five years. It is hard to feel or see this progress.
- **DART+ West** planning has been completed, and the upgrade should be complete by 2030 despite delays due to the planning disputes and judicial reviews characteristic of our complex planning process. When completed it will bring new clean electric trains at an investment of over €1 billion while **doubling the capacity of our train lines.**
- Public Transport and Active Transport provide the largest emissions savings and overall benefits. However, this does not work for all people or all purposes. **A modern electric car** can have **less than a quarter the emissions** of petrol or diesel at much lower costs. As our energy grid gets more sustainable every year this is constantly improving.
- Our cycle route planning must start to prepare for new types of bikes including **cargo bikes and long-tail bikes** that are much more common in Europe. **Electric bikes** are making these practical for many more people.

3. Food Choices





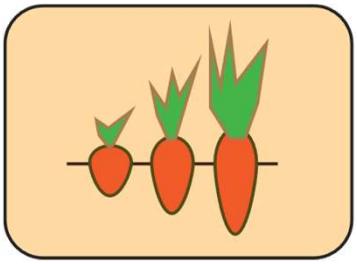
- Our food makes up a huge part of our carbon footprint. **It can be more than 25% of a household carbon footprint.** These emissions are additionally to the measured Maynooth emission footprint because **they occur elsewhere** but still form major part of our family carbon footprint.
- **More careful choices,** particularly reducing red meat and other high impact foods can make a big difference. Our high protein diet is the primary cause of our high carbon footprint diet.



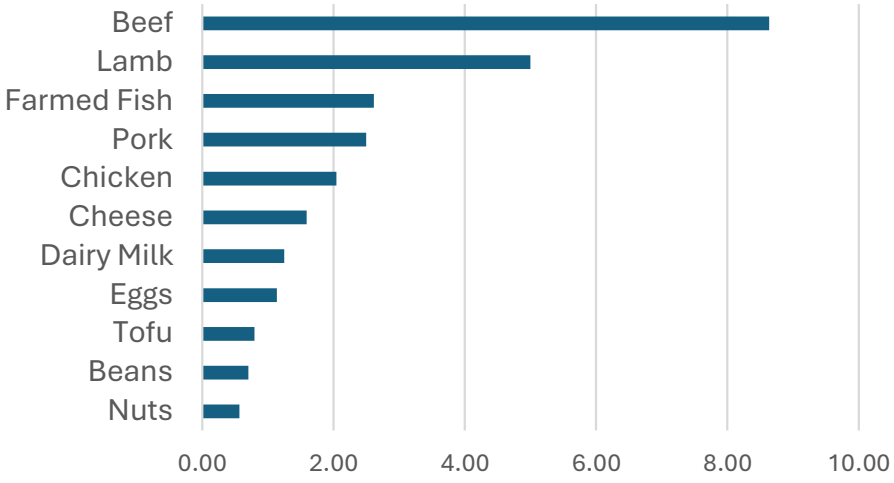
- A serving of **chicken, pork or farmed fish** will on average have less than a quarter of the carbon footprint of a serving of beef.
- **Moving to a plant-based diet** is a very big step for many of us but an increase in consumption of vegetables, nuts and grains is a big step in the right direction and very good for our family's health.



- Grow your own has very many benefits bringing good food production closer to you and showing children where good food comes from. However, the simple act of eliminating one hamburger or steak per week will have a much bigger impact on our family's Carbon footprint.



Average Carbon Footprint of a Protein Portion



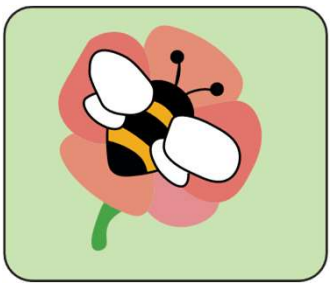
Kg CO2 Equivalent Emissions per serving size

Data adapted from Reducing food's environmental impacts through producers and consumers. J. Poore and T. Nemecek (2018) Science. Serving sizes from the British Dietetic Association

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4. Protecting Nature and Biodiversity



- The World Wildlife Fund has identified **a mass extinction driven** by human activity, primarily due to unsustainable use of land, water and energy use, and climate change. **Some biological categories are under very high threat with between 25% and 40% of species** of Fish, Mammals, Trees and Amphibians **under threat of extinction**
- Everything is connected. Our wellbeing, health , food supply and climate all depend on a fine balance of plant and animal life on earth.
- Our mature Trees are very precious. They are massive Carbon sinks. **A hectare of native broadleaf woodland** can store over 3 tonnes of carbon in a year.
- However, about 24,000 hectares (or 15% of the area of County Kildare) would be needed to absorb just Maynooth's emissions. Our challenge is enormous.
- **Our pollinators are essential** to the proper functioning of nature and agriculture.
- In Ireland one-third of the 98 bee species are threatened with extinction, with some species declining by more than 50% since 1980.
- **Gardening with nature** will protect our pollinators and other wildlife and by giving them safe islands and pathways through our communities. Organic gardening practices including composting contribute to carbon sequestration by significantly increasing the amount of carbon stored in the soil
- **Improved agriculture** with reduced fertilizer use, natural fertilizers such as clover, tree and hedgerow planting, and careful protection of waterways will be an enormous part of the solution. These practices are starting to produce some significant emission reduction in Ireland and beginning to reduce damage to our nature and wildlife
- **Health and well-being in our community** comes from living a simpler life with nature and each-other in a positive environment and clean air



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References: The International Union for Conservation of Nature's Red List of Threatened Species, All Ireland Pollinator Plan and The National Biodiversity Data Centre, Woodland Trust, Teagasc.

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5. Consumption and the Circular Economy











- There are four 'R's in waste reduction - **Refuse, Reduce, Reuse, Recycle.** We are moving our thinking beyond recycling to **upcycling, and support for the circular economy**. Do we really need that plastic packaging or T-shirt? There is not an infinite demand for our recycled waste.
- Our **high levels of consumption** are driving a lot of our Greenhouse Gas Emissions and Environmental Damage. Any simple reductions and small habit changes we can make in our lives will start to make a difference.
- We have come through several decades of a **very strong economic growth.** This rapid growth has given us a significantly improved standard of living and financial security. However, it also builds future problems, accelerating the heating of our world, impacting heavily on natural ecosystems, and contributing to scarcities seen most extremely in our housing crisis.
- We need to consider an economic model that is not simply **'growth at all cost'.**
- **Zero Waste Maynooth** have worked for over five years, building a community where we can we learn more about reducing waste, with workshops, demonstrations and guidance.
- **More Upcycling and Repair** helps minimize waste and promote sustainability. Upcycling by reusing materials or items to create something new, often of higher quality than the original, and repair, fixing or restoring an item to its original condition can be very satisfying. Many household and clothing items can be given a second or third life.
- In Ireland, **approximately 750,000 tonnes of food waste** are generated annually, according to the Environmental Protection Agency. More careful shopping, careful use of leftovers and the purchase of less processed foods can help reduce waste and the carbon footprint of our diets.
- **Water is a very scarce resource** all around the world, and in our growing urban communities. Water scarcity is becoming a source of worldwide disputes, while in wet and windy Ireland the energy to clean and pump it is a major source of emissions and cost. Meanwhile water supplies in North Kildare are under severe pressure from the rapidly growing population.
- Global warming together with development around the world has **increased flooding significantly.** We need to manage our wastewater better starting in our gardens and neighbourhoods.

6. Collaborating for a Sustainable Maynooth



Our progress is based on a **unique four-way collaboration** in the town between:

- Our Community Groups
- Kildare County Council
- Maynooth University
- Local Businesses

The Maynooth Sustainable Energy Community formed in 2018 and has worked to support several initiatives since then. We are an affiliate of **Maynooth Community Council,** connecting us with a strong community network. **Zero Waste Maynooth** have built a community where we can we learn more about reducing waste.

Kildare County Council through the **Climate Action Office** have developed a strong working partnership with Maynooth Community Groups and Maynooth University. Through the Kildare Climate Action Plan and the Maynooth Decarbonising Zone KCC are driving initiatives for a more sustainable Maynooth.

Maynooth University through the **Green Campus and Estates Office** teams are among the most widely recognised universities in Ireland based on green flag and sustainability awards won over the past years. Their pioneering work with reduced mowing, wildlife support and energy saving on campus has given a strong example to the community. The **IRESI Research team** partner with our community with research in energy systems integration, driving forward the development of sustainable energy solutions

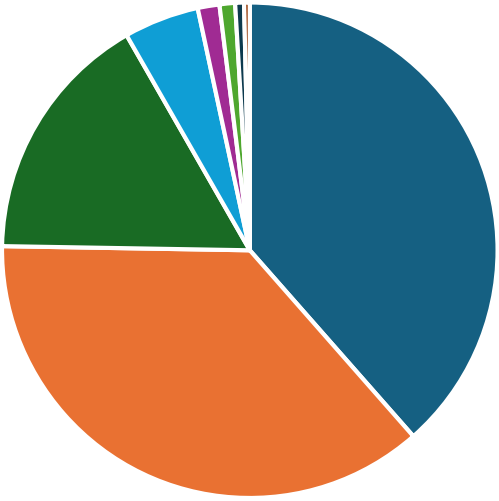
The **Sustainable Energy Authority of Ireland** provides information, advice and grants for retrofit and sustainability. They provide a local mentoring to communities

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7. Our Carbon Footprint



Maynooth Emissions

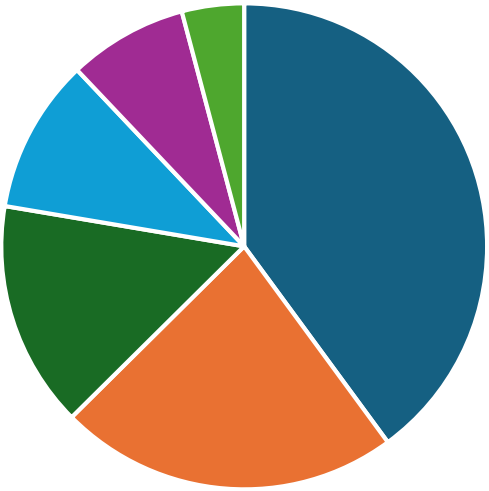


- Residential 38.5%
- Transport 36.7%
- Commercial 16.5%
- Agriculture 4.9%
- Municipal 1.4%
- Social Housing 1.0%
- Wastewater 0.6%
- Waste 0.4%

Total 73,635 tons CO2 equivalent

Maynooth DZ Baseline Emissions
Source: Kildare Climate Action Plan

National Emissions



- Agriculture 37.8%
- Transport 24.1%
- Industrial Processes 14.3%
- Residential 9.7%
- Manufacturing Combustion 7.5%
- Energy Industry 3.9%

Total 54,934,400 tons CO2 equivalent

National Greenhouse Gas Emissions 2023
Source: Environmental Protection Agency

In 2023, Ireland's total greenhouse gas (GHG) emissions, excluding Land Use were **54,934.4 kilotons CO2 equivalent**.

- **Carbon dioxide** (CO2) was the largest contributor at 61.1%,
- followed by **Methane** (CH4) at 28.9% and
- **Nitrous Oxide** (N2O) at 8.8%.

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