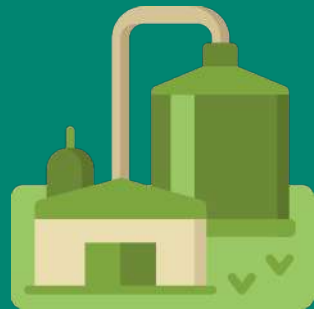


# Low Carbon Energy: Biogas

Biogas is a type of biofuel that is naturally produced from the decomposition of organic waste, a process known as anaerobic digestion. Biogas deployment could contribute to future renewable energy production and help to achieve the challenging carbon reductions in the energy sector.

## *Facts:*

- Biogas production can reduce the emissions of the greenhouse gases into atmosphere remarkably by digesting the waste in reactor.
- On-farm biogas production contributes to more sustainable livestock operations by substantially reducing other environmental impacts related to manure management.
- Biogas production is an eco-friendly strategy for energy production from biomass and the residue can be used as a soil conditioner.



# Renewable energy

Renewable energy is energy that is collected from renewable resources such as sunlight, wind, rain, tides, waves, and geothermal heat. These natural energy sources can replace themselves, making them sustainable and abundant natural resources.

## *Facts:*

- Renewable energy sources such as solar and wind don't emit carbon dioxide and other greenhouse gases that contribute to global warming.
- Clean energy makes electric grids more resilient, expands energy access in developing countries, and helps lower energy bills.
- In Ireland, almost 1/3 of electricity now comes from renewable sources.



# Join a Climate group and learn more

Climate Action groups are the local solution to a global crisis. Groups do all sorts of things, but they all have one common goal: defending our planet.

## Facts:

- Groups provide free webinars, resources and advice about solutions to environmental problems.
- It's all about showing those in power that there's huge support for urgent action to take on climate change and protect our living world.
- Campaigning in your local area to spread the word about a climate change.



# Talking about Climate

An act as simple as talking to your social circle (think friends, family, work colleagues) about the climate crisis can jumpstart a feedback loop leading to greater awareness and concern

## Facts:

- Stay informed on issues relating to climate change and air pollution and help make others aware of the problem.
- Tell your friends and family about how they can be part of the solution
- As people learn about the scientific consensus, they begin to believe the crisis is happening.



# Eating lower down on the food chain

A food chain is the sequence of who eats whom in a given environment. Eating lower down on the food chain provides a massive savings in terms of how much energy and resources you need.

## *Facts:*

- Meat-eating accounts for the largest portion of the nearly nine tons of carbon that the average American household produces annually.
- Cutting back on the amount of meat in the diet is one of the best ways people can shrink their carbon footprint.
- If everyone reduce their beef consumption, rainforest deforestation would decrease substantially as beef exporting countries would stop focusing on a less profitable beef industry.



# Better Public Transport & More Cycle lanes

Rethinking how we travel can have a real impact on harmful emissions. The transport sector is a large contributor of greenhouse gas emissions globally.

## *Facts:*

- With more cycling we get less pollution, less congestion, less carbon emissions
- By choosing to travel by public transport once a week, you can reduce both yours and the city's carbon footprint.
- The more people leave their cars at home to use public transport, the greater the reduction of greenhouse gas (GHG) emissions coming from vehicles.



# Reduce Plastic

Reduce Plastic the easiest and most direct way that you can get started to reduce ocean pollution.

## *Facts:*

- Recycling helps keep plastics out of the ocean and reduces the amount of “new” plastic in circulation.
- Plastic recycling rates are at around 30 percent in Europe, just nine percent in the U.S., and zero or close to it in much of the developing world.
- The European Union, which restricts the landfilling of organic waste, already burns almost 42 percent of its waste; the U.S. burns 12.5 percent.



# Electric Vehicle

An electric vehicle, also called an EV, uses one or more electric motors or traction motors for propulsion.

## *Facts:*

- Electric vehicles are an important part of the strategy for decarbonising the energy system as a whole.
- Promoting the use of EV's will help reduce carbon dioxide emissions and thus fight Climate Change and Air Pollution.
- Transport accounts for one third of Ireland's energy requirement and energy related CO2 emissions. Electric vehicles offer a more sustainable transport solution.





# Greenhouse gas

Without these gases, our planet would be too cold but human activities are adding too much of these gases into the atmosphere causing our Climate to Change. The main greenhouse gases are Water vapour, Carbon dioxide, Methane, Ozone, Nitrous oxide, Chlorofluorocarbons.

## *Facts:*

- Atmospheric levels of carbon dioxide—the most dangerous and prevalent greenhouse gas—are at the highest levels ever recorded.
- Greenhouse gas concentrations are now affecting our planet's weather and climate systems.
- Extreme weather, food supply disruptions, and increased wildfires are other effects of climate change caused by greenhouse gases.



# Fossil fuels Industry

When fossil fuels are burned, they release carbon dioxide and other greenhouse gases, which in turn trap heat in our atmosphere, making them the primary contributors to climate change and air pollution.

## Facts:

- Major types of fossil fuels include coal, oil, and natural gas.
- The drilling and extraction of natural gas from wells and its transportation in pipelines results in the leakage of methane.
- Fossil-fuel combustion by-products are the world's most significant threat to children's health and future and are major contributors to global inequality and environmental injustice.



# Agriculture: The beef & dairy Industry

The agricultural sector is the single biggest emitter of planet warming greenhouse gases in Ireland. In 2017, agriculture was responsible for emitting over 20 Mt CO<sub>2</sub>eq (million tonnes carbon dioxide equivalent) into the Earth's atmosphere.

## *Facts:*

- Dairy cows and their manure produce greenhouse gas emissions, which contribute to climate change.
- Poor handling of manure and fertilizers can degrade local water resources.
- Unsustainable dairy farming and feed production can lead to the loss of ecologically important areas, such as prairies, wetlands, and forests.



# Deforestation

Deforestation is one of the main contributors to climate change. It comes in many forms: wildfire, agricultural clearcutting, livestock ranching, and logging for timber, among others.

## *Facts:*

- Deforestation is the second largest anthropogenic source of carbon dioxide to the atmosphere.
- Deforestation affects the people and animals where trees are cut, as well as the wider world.
- Removing trees deprives the forest of portions of its canopy, which blocks the sun's rays during the day and retains heat at night. That disruption leads to more extreme temperature swings that can be harmful to plants and animals.



# Food Waste

The environmental costs of food waste is massive. Much of food waste still ends up in landfills or incinerated but the problem starts before the consumers dispose of our food waste.

## *Facts:*

- 1.4 billion hectares of land, which is equivalent to 28 per cent of the world's agricultural area or 200 Irelands, is used to produce food that is then lost or wasted.
- Each year three times the water that flows through Russia's Volga river is required to produce food that is ultimately wasted.
- The economic losses associated with food loss are estimated to reach €550bn a year which is getting ever bigger and putting a huge strain on the existing food supplies.



# Plastic pollution-reduce, reuse, recycle

Plastic has toxic pollutants that damage the environment and cause land, water, and air pollution. It can take hundreds or even thousands of years for plastic to break down, so the damage to the environment is long-lasting.

## *Facts:*

- Plastic contributes to greenhouse gas emissions at every stage of its lifecycle, from its production to its refining and the way it is managed as a waste product.
- Plastic don't decompose, and they release an incredible amount of toxins into the air if they're burned.
- Commercial fishing nets are big issue as when the nets are submerged in the water, they leak toxins. They can also break or get lost, adding even more pollutants to the water.



# Climate denial

Climate science denial comes in many forms, there are those who reject the overwhelming scientific consensus that climate change is real and driven by manmade activities including the burning of fossil fuels.

## *Facts:*

- The denial industry has pivoted to attacking the clean energy technologies like wind and solar.
- They oppose any policies or ballot initiatives to bring about the just transition away from fossil fuels.
- The fundamental strategy of climate change denial, has been very effective, as it has contributed to low levels of public concern and to government inaction worldwide.



# Forest/Mangrove/Seagrass/ Peatland destruction

Burning, draining, and degrading peat bogs emits carbon dioxide equivalent to more than one tenth of the global emissions released from burning fossil fuels.

## *Facts:*

- Peat is the largest and most efficient land-based store of carbon, and the world's second largest carbon store after the oceans.
- Run-off of nutrients and sediments from human activities on land has major impacts in the coastal regions where seagrasses thrive.
- Mangroves substantially reduce the vulnerability of coasts from inundation and erosion. However, sea rise level due to climate change poses a large threat to mangroves.

