



Illustration by Susanna D'Ascenzi

Wexford's Environment

Produced July 2020 by
Wexford Environmental
Network

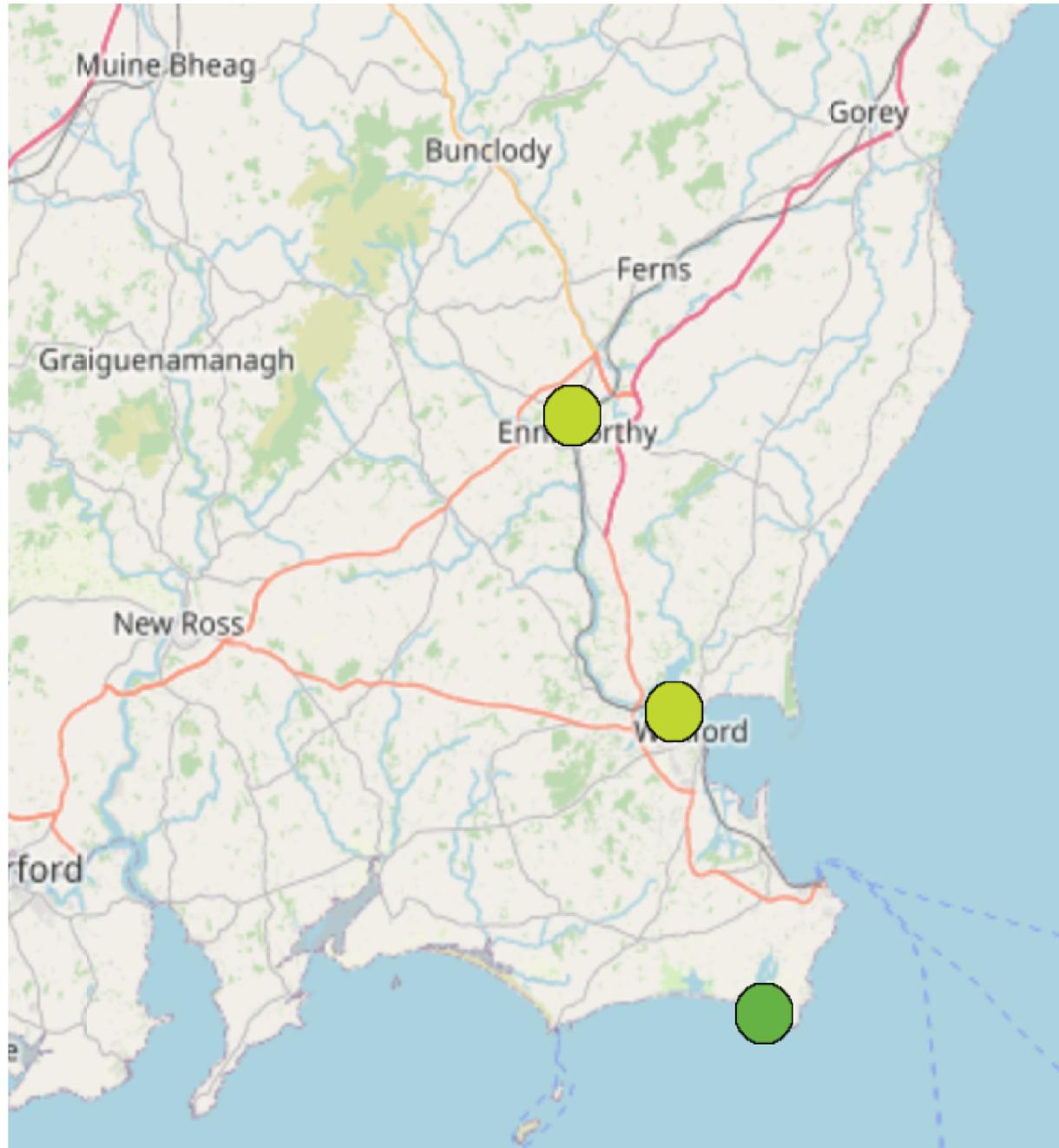


This information pack is a short synthesis of some of the data about environmental issues and how they impact on Wexford (or nationally, if there is no information specific to Wexford). It was compiled by WEN volunteers using data available from the EPA, NPWS, CSO, SEAI or other public websites.

The data is presented in good faith, based on our best available knowledge. WEN volunteers take no responsibility for any unintentional errors or omissions: we ask that if you spot an error or omission please let WEN know on wexforden@gmail.com

This report was completed on the 2nd July 2020 but is intended as a living document which we would like to keep up to date as time and new data allows.

Air Quality



The Environmental Protection Agency has air quality monitoring stations in Wexford town, Enniscorthy and Carnsore point (see map on the left).

Daily results are posted on the EPA website.

The Enniscorthy and Wexford town sites monitor Particulate Matter (PM). Particulate matter is really small pieces (particles) of solids or very small droplets of liquid that circulate in the air and can get into our airways. The small particles can penetrate the lungs and cause damage, especially for those with underlying conditions like COPD or asthma.

Particulate matter comes from solid fuel burning (coal, peat or wood) and vehicle exhausts. (Pollen is another naturally occurring form of PM).

In Ireland, most urban areas have high PM levels. Studies on Enniscorthy have shown that solid fuel burning in the winter months is causing chronic air quality problems, especially in certain weather conditions. Smoky coal is banned in Wexford and Enniscorthy.

Solutions

Major cities worldwide have implemented different kinds of car bans. Oslo plans to be car free in 2020. Paris has regular car free days and ambitious plans to be cycle & walking friendly by 2024 with the aim of having interconnected neighbourhoods where "you can find everything you need within 15 minutes from home."

The UK is phasing in a coal and "wet wood" burning ban under its Clean Air Strategy 2019. However, it has not banned solid fuel burning stoves, Banning solid fuel burning is only possible if there are other, cleaner alternatives that are affordable: retrofitting supports would be needed.

Case studies

GOREY GUARDIAN

Allianz p.l.c. is regulated by the Central Bank of Ireland. Standard acceptance criteria apply. **Allianz**

Dangerous air quality prompts asthmatics 'stay indoors' warning



There is a ban on selling smoky coal in Wexford and district, but householders are travelling outside the area to buy smoky coal and then returning home to burn it

David Looby
February 16 2019 12:00 AM

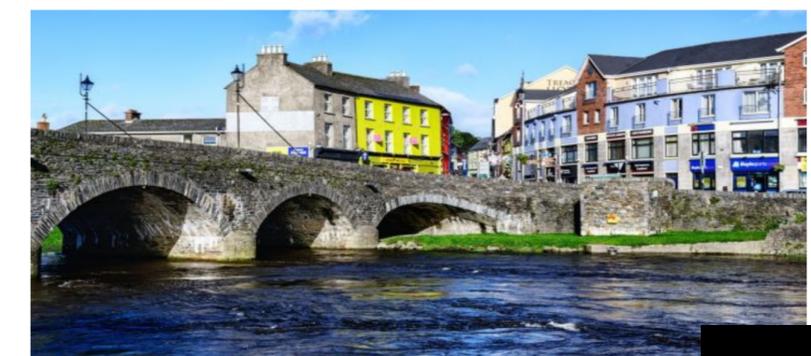
LIFE

Air pollution turning Enniscorthy into 'New Delhi' of Ireland

UCC professor says nationwide smoky coal ban must be implemented immediately

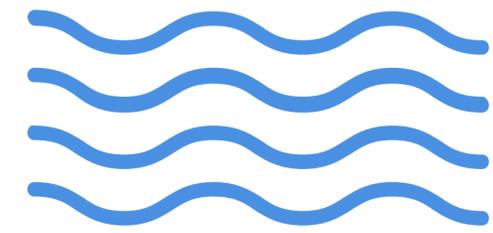
© Tue, Jun 4, 2019, 19:31 | Updated: Tue, Jun 4, 2019, 19:33

Sorcha Pollak



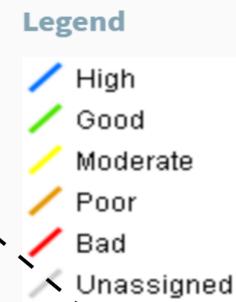
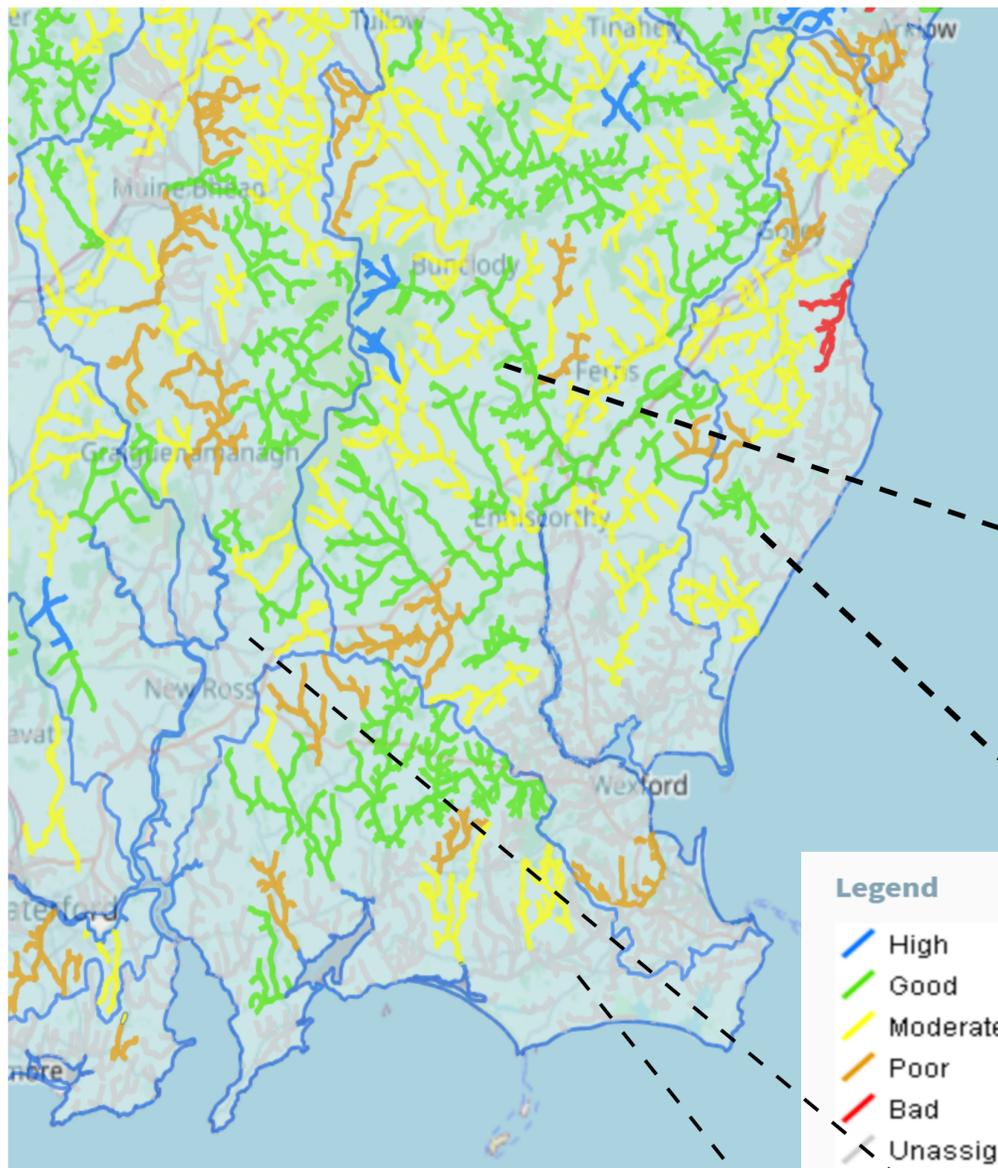
A UCC professor has warned that Enniscorthy in Co Wexford is becoming the New Delhi of Ireland due to air pollution. File photograph: Getty Images.

Water



Rivers, lakes & groundwater

The Environmental Protection Agency provides water quality assessments on a five point scale, shown on the left. The Catchments.ie website has lots of information on each catchment, the water quality of the catchment and what is putting pressure on water quality.



In the Slaney catchment the dominant pressure is current agricultural practices, followed by urban waste water and forestry.

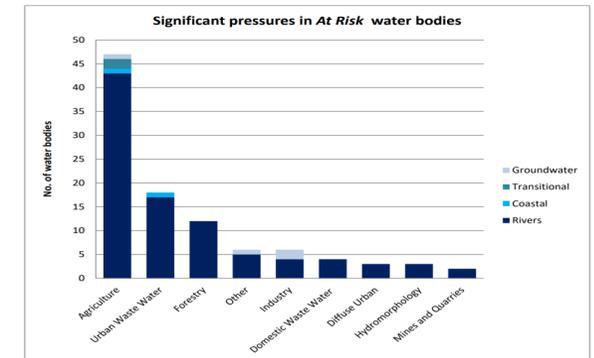


Figure 10. Significant pressures impacting on At Risk water bodies

In the Owenavorrhagh catchment, along the east coast of the county, the dominant pressure is current agricultural practices, followed by domestic waste water and urban waste water.

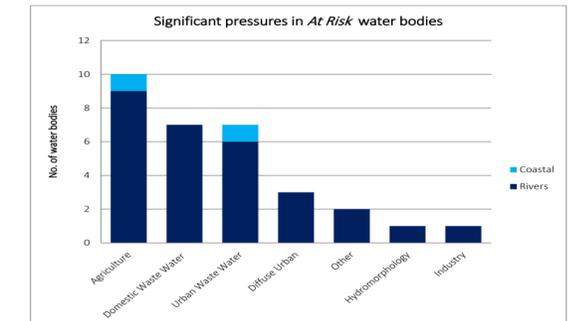


Figure 8. Significant pressures impacting on At Risk river water bodies

In the Barrow catchment, the dominant pressure is current agricultural practices, followed by hydromorphology* and urban waste water.

* Hydromorphology refers to the shape of the river which might have been altered by man made processes (dams, embankments, dredging) or natural processes (erosion).

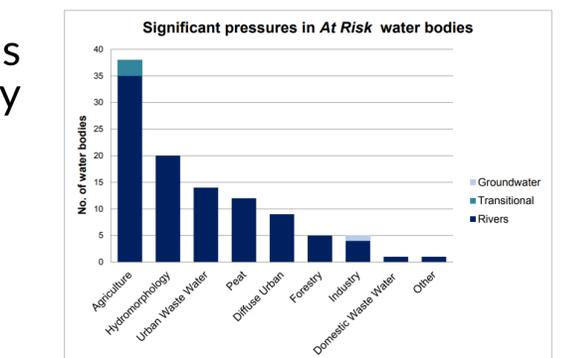


Figure 10. Significant pressures impacting on At Risk water bodies

In the Ballyteigue-Bannow catchment, along the south coast of the county, the dominant pressure is current agricultural practices, followed by domestic waste water.

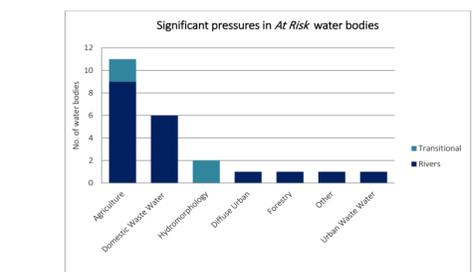


Figure 7. Significant pressures impacting on At Risk river water bodies

Solutions

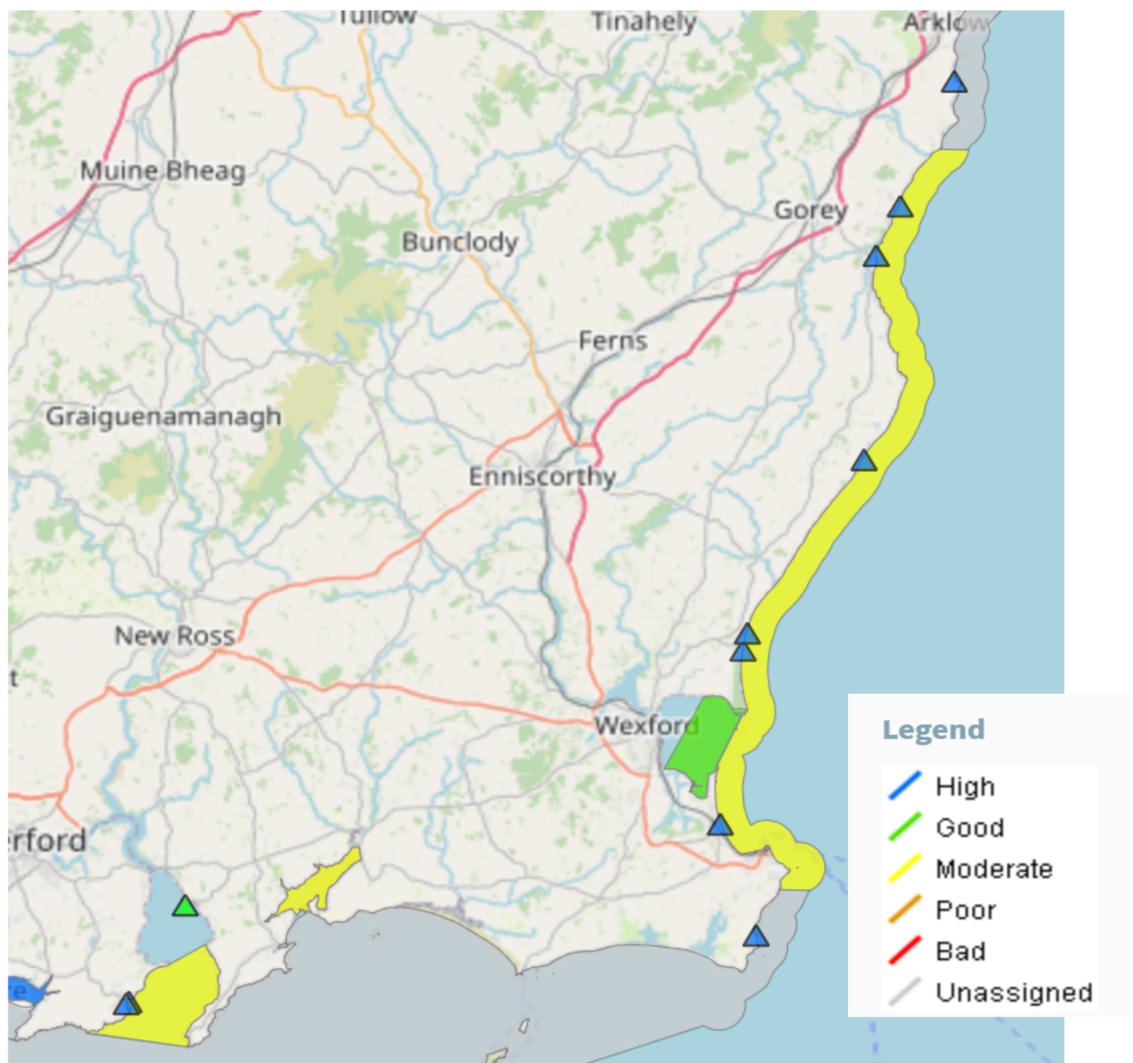
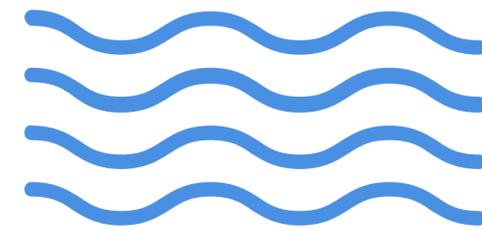


Farming For Nature is a not for profit that supports high nature value farming in Ireland. It started as a national award but is evolving into resources and results-based agri-environmental programs.

Case study

Water

Coasts & Estuaries



The Environmental Protection Agency provides water quality assessments on a five point scale, shown on the left. For 2013-2018 our eastern coastal water was assigned moderate but our southern coastal water doesn't have any status assigned. The previous page speaks about the main issues in each catchment that contribute to our water quality.

Lady's Island Lake and Ballyteigue Lagoon are both currently classified as bad ecological status. Nitrogen levels have risen in Ireland and the Corock Estuary, Upper Slaney Estuary and New Ross Port have all exceeded the environmental quality standards for Nitrogen during 2013 - 2018. New Ross Port showed a significant upward trend in nitrogen levels. High nitrogen is generally caused by fertilisers running into water courses. It is a problem because it causes certain plants (like algae) to grow excessively, which uses up oxygen in the water and blocks out light for other plants and animals in the water.



Solutions

Healthy Seas, Healthy Seals

Seal Rescue Ireland (SRI) is a charity organisation that works around the clock to rescue, rehabilitate and release native seals found sick, injured or orphaned from across the coast of Ireland. As the only seal rescue centre within the Republic of Ireland, SRI responds to reports nationwide and aim to rehabilitate the pups back to full health so that they can be returned to the wild.

SRI strives to promote ocean conservation and sustainability through proactive education, community engagement and research programmes, in order to protect our marine environment and all life within.

Case study

Wexford's beaches are of immense importance and value to the people of Wexford. They are home to many species of plants and animals. www.beaches.ie displays Wexford County Council monitoring results and notifications of beach warnings or closures. Monitoring is carried out to identify pathogens or chemicals that would make it unsafe to swim. In 2018 eight of Wexford's beaches were excellent water quality and one was good (Duncannon). Wexford has seven blue flag beaches and eight green coast award beaches.

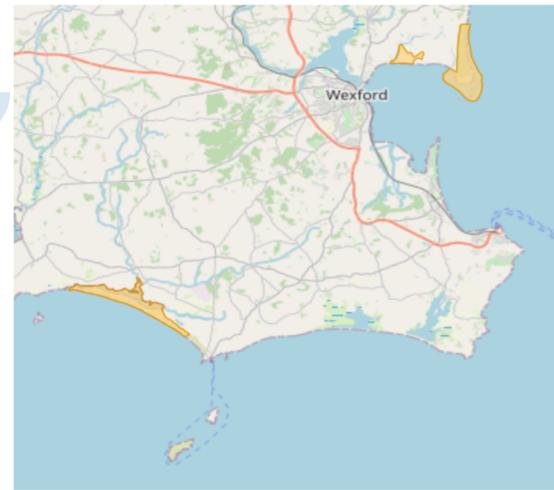
Coastal erosion is a serious threat to Wexford's beaches. Courtown has lost its sand - and blue flag - due to erosion. A 2018 report identified major investment required for Rosslare to deal with erosion. The photo on the right shows erosion at Ballymoney. As increased global temperatures drive more active weather systems, and sea level rise, the pace of erosion will quicken.



Nature



In May 2019, the Dáil declared a Climate and Biodiversity emergency to reflect how severe and dangerous the threats to nature and climate are now.



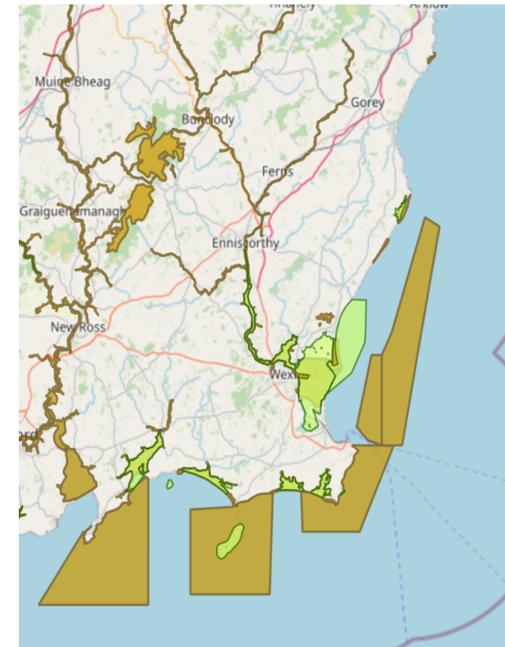
Wexford has three nature reserves - Ballyteigue Burrow, The Raven and Wexford Wildfowl reserve. all three are internationally important: Ballyteigue for its unique physical characteristics and the Raven and Wildfowl Reserve because of their importance to birds.

The National Parks and Wildlife Service (NPWS) completed a national assessment of habitats in 2007, 2013 and 2019, for the European Habitats Directive.

The 2019 report found that only 15% of Ireland's protected habitats are in a favourable, stable condition. 46% are in an inadequate condition, 39% are bad: most of the protected habitats in bad condition are declining.

The most frequently occurring pressure on protected habitats is current agricultural practices (the next most frequent is forestry and the extraction of minerals).

Sixty of the species referenced in the European Habitats Directive live in Ireland. The graphs below show how the status and trends of these species. Species are impacted by agriculture, alien species, climate change and extraction/cultivation (particularly for marine species)



The European Habitats Directive lists habitats and species that must be conserved, Wexford has 17 special areas of conservation (SAC) to protect designated habitats and species. Special Protection Areas (SPAs) are designated for the protection of birds. Wexford has nine SPAs (there is overlap between some SAC and SPA areas)

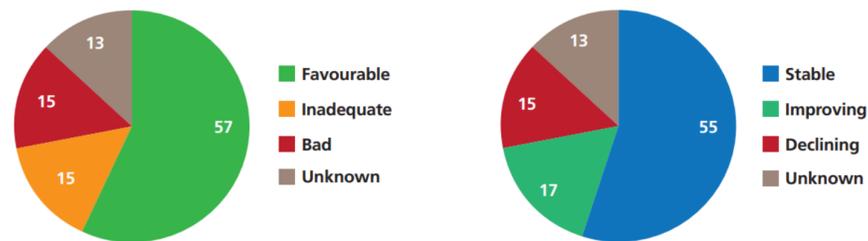


Figure 6: a) Percentage of species in Favourable, Inadequate or Bad condition. b) Percentage of species with Stable, Improving or Declining trends. n=60

There are species that are not listed in the Habitats Directive that are undergoing declining populations: pollinators such as bees and butterflies are declining intentionally and many species of birds and mammals have decreased populations. The National Biodiversity Data Centre was set up to gather data about wildlife so that trends can be tracked in Ireland.

Solutions



Wex Bee Aware is a new Wexford County Council wide initiative to raise awareness and give practical help and advice on creating a bee friendly environment in our County.

Case study

Climate



The Surging Seas project has developed risk maps for land that may be impacted by water level changes due to climate change. These are some risk maps for Co. Wexford showing the land areas at risk of being underwater or flooded more frequently.

In May 2019, the Dáil declared a Climate and Biodiversity emergency to reflect how severe and dangerous the threats to nature and climate are now.

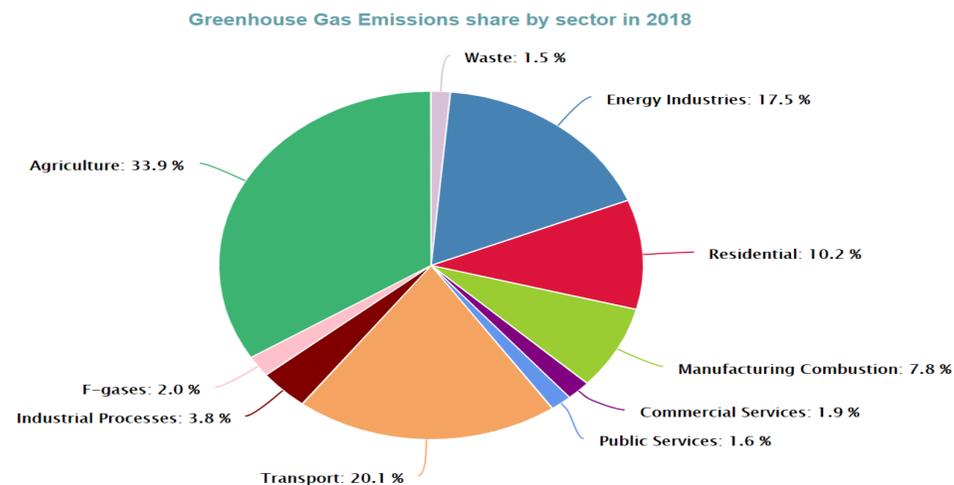
The world has already warmed by about 1 degree Celsius on average, with more warming already "locked in" by the current level of greenhouse gases in the atmosphere. To avoid the very worst effects of climate change greenhouse gas emissions need to be cut rapidly and if possible more solutions deployed (including new technology) to capture greenhouse gases from the atmosphere.

EPA funded research has identified the following likely impacts for Ireland:

- ocean acidification which may disrupt our marine ecosystems
- sea level rise
- more intense storms & rainfall events
- increased likelihood and magnitude of river & coastal flooding
- water shortage in summer (in the east)
- adverse impacts on water quality
- changes in distribution of plant and animal species
- effects on fisheries that are sensitive to changes in temperature

Wexford County Council has created a Climate Adaptation Strategy for 2019-2024. This document identifies some observed climate hazards for Wexford.

Climate change is caused by the releases of greenhouse gases. This graph shows the sources of emissions in Ireland (2018).



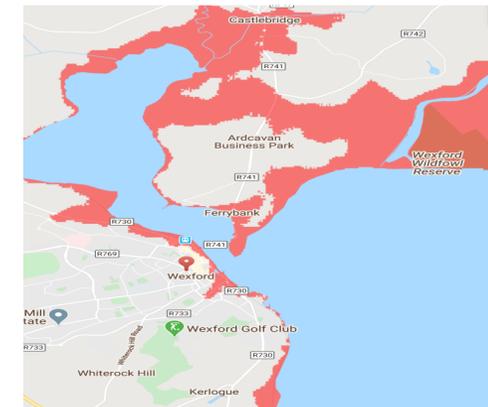
Surging Seas risk map for 2030



Surging Seas risk map for 2050



Surging Seas risk map for 2050 for New Ross (left) and Wexford (right)



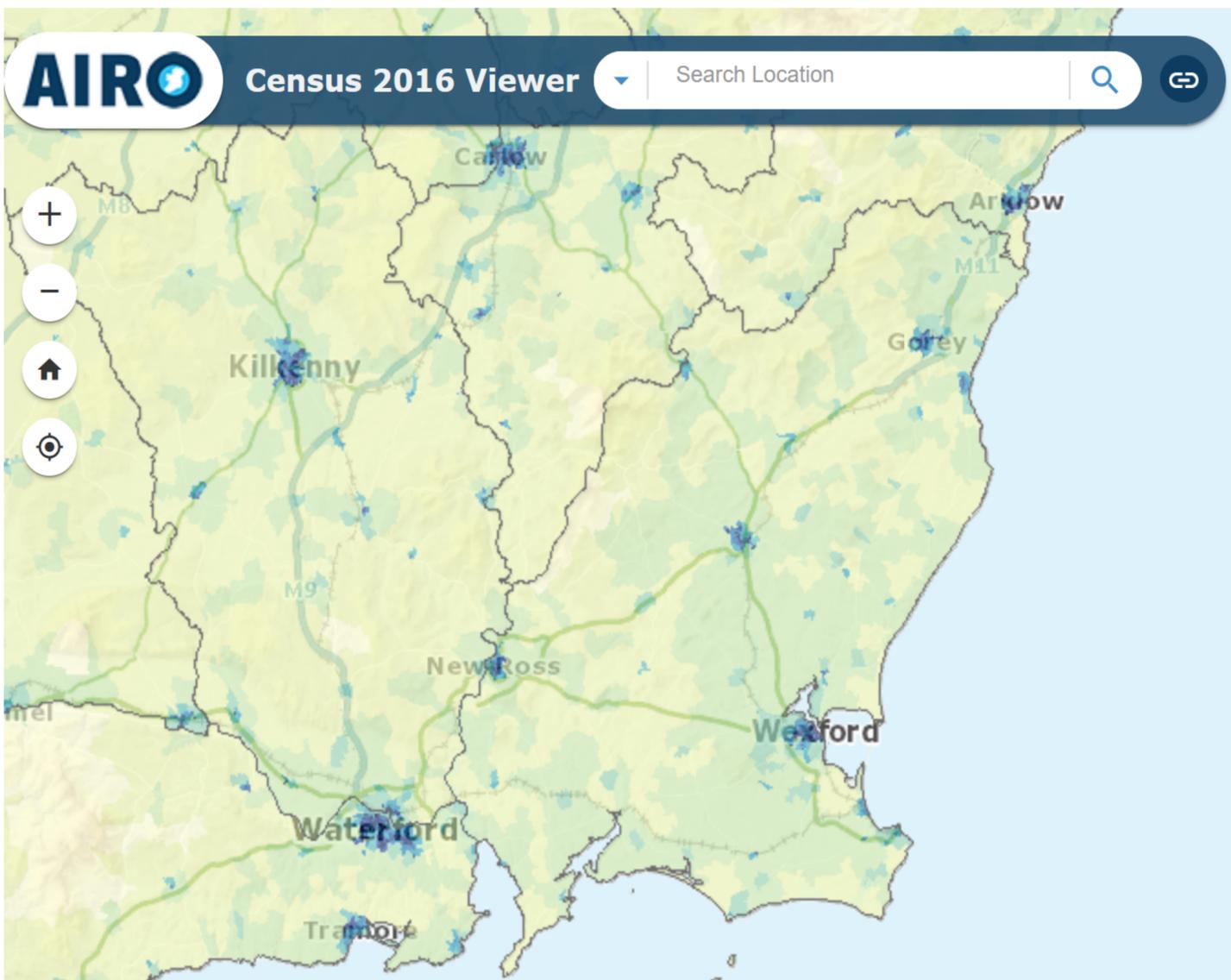
Solutions

PROJECT DRAWDOWN.

Project Drawdown was initially co-founded in 2014 to uncover the most substantive solutions to stop climate change, and to communicate them to the world.

Drawdown is the point where greenhouse gases in the atmosphere start to decline. Project Drawdown has identified, evaluated and costed more than 100 solutions that could be implemented to combat climate change. In 2020 Project Drawdown launched a Drawdown Communities framework.

Case study

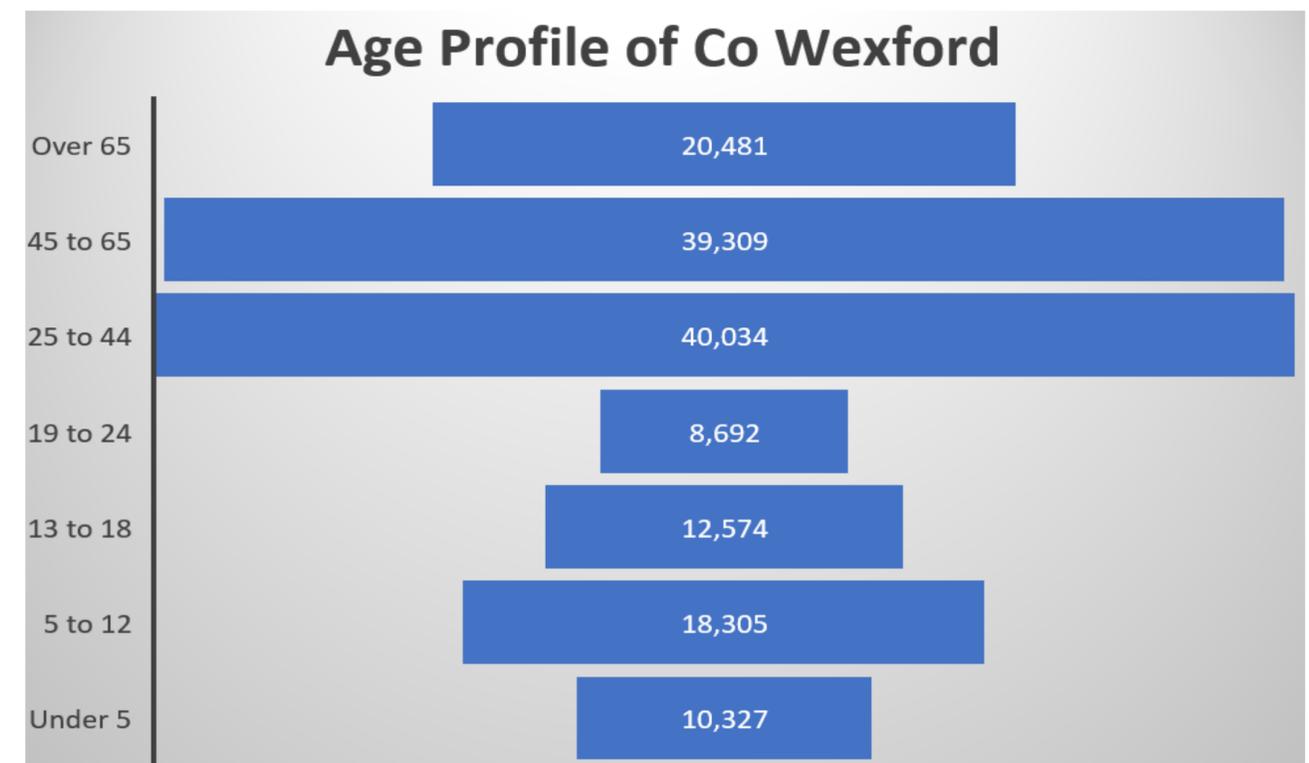


People

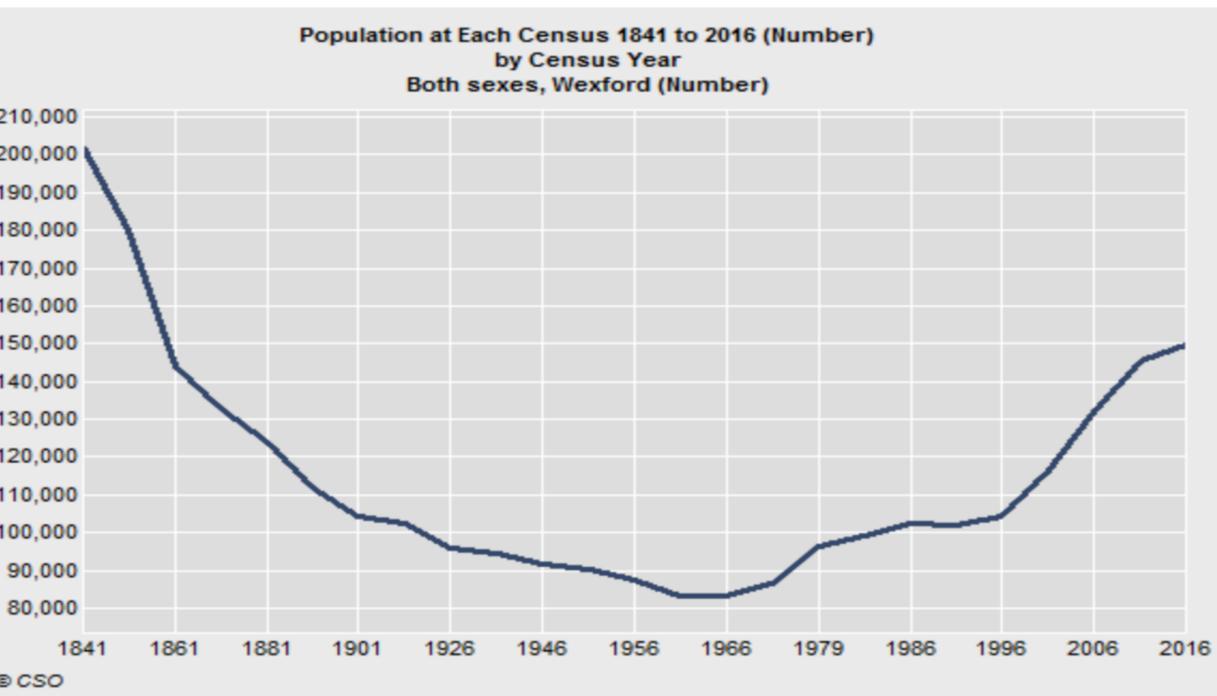


The 2016 Census counted 149,722 people in Wexford county in 2016.

This map shows the population density per kilometre squared in Wexford county. The graph below shows the county's age profile.



Wexford's population has been steadily rising since 1966



Wexford Population 20,188
988 people per sq km

Gorey Population 9,822
1,856 people per sq km

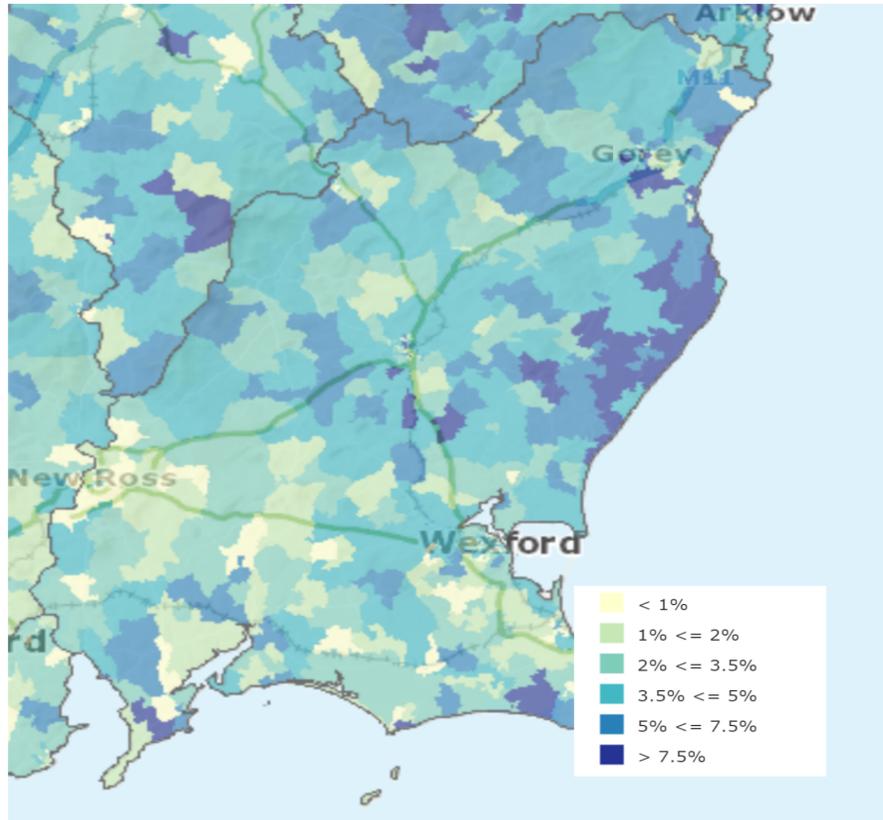
Enniscorthy Population 11,381
1,977 people per sq km

New Ross Population 8,040
1,311 people per sq km

Mobility



Transport was responsible for 20% of our GHG emissions in 2018. Vehicle exhausts contribute to poor air quality and also to environmental noise (environmental noise was the second highest impact on health in Europe in 2018). Transport is Ireland's largest energy consumer, accounting for 42% of our energy use.



Transport was responsible for 20% of our GHG emissions in 2018. Vehicle exhausts contribute to poor air quality and also to environmental noise (environmental noise was the second highest impact on health in Europe in 2018).

The environmental impact of petrol and diesel vehicles is big, but our reliance on private cars is not the most effective way to travel. The 2016 census identified there are 3,073 people in Wexford who spend more than 90 minutes travelling to work or education each day (see map on the left).

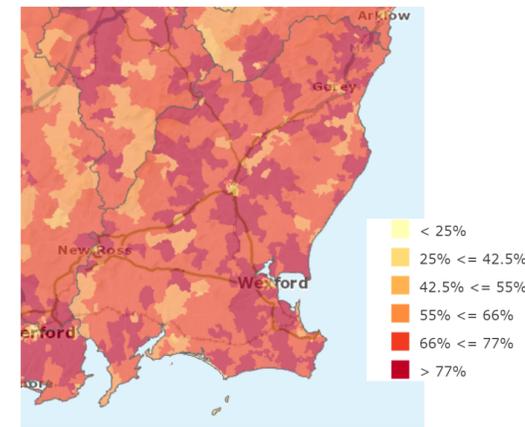
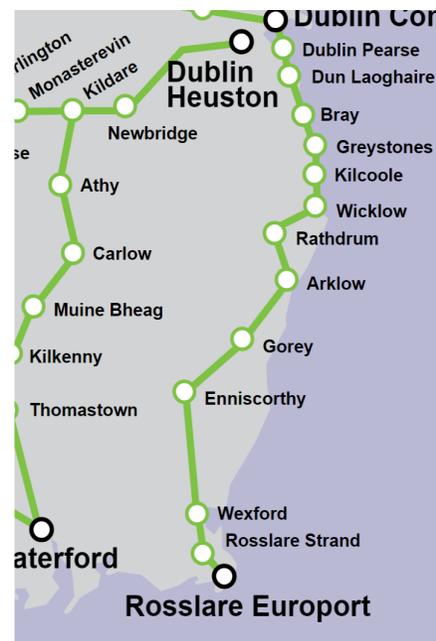


Cycling is a greener alternative to private car use for short journeys that would cut down on congestion. Cycle lanes need to be safe, connected and continuous. CSO figures for 2016 report that only 1.5% of commuting in the south east region was by bike. Wexford has access to great greenway cycle routes but daily commuting by bike remains challenging.

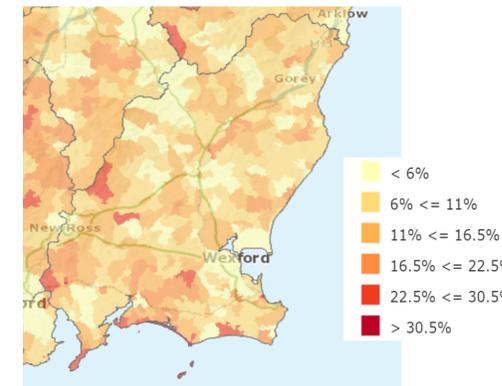


Public transport needs to present a more viable option than private car travel.

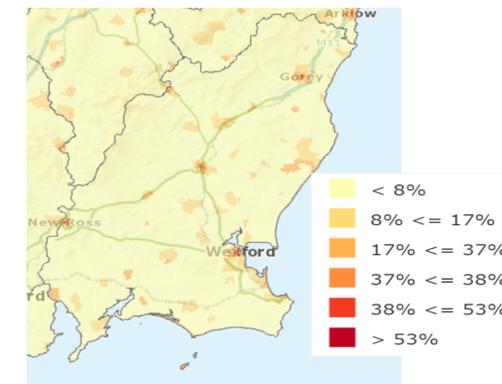
Bus Eireann and Irish Rail only operate to Dublin, there are only 3 trains a day. Wexford Bus offers more destinations and a commuter fare. Wexford Bus also runs a town service for Wexford town.



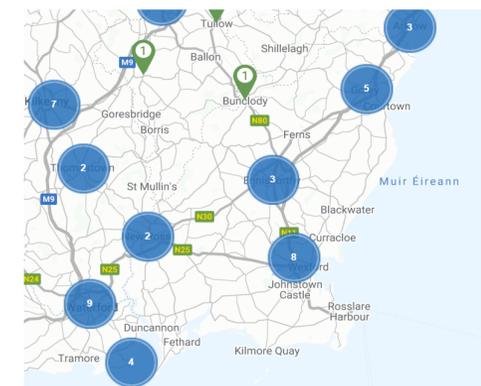
The three maps on the right show modes of transport. The top map shows the percentage of people who travel to work or education by private car.



This second map shows the percentage of people who travel to work or education using public transport.



This third map shows the percentage of people who travel using green modes of transport.



The ESB have an interactive map of electric vehicle charge points in Ireland.

Solutions

Copenhagen are implementing a green mobility plan.



THE GREEN MOBILITY PACKAGE IS BASED ON FIVE THEMES THAT BUILD UPON EACH OTHER:

- 1 URBAN DEVELOPMENT**
The city is developed and designed in a way that makes green means of transport the first choice
- 2 GREEN MEANS OF TRANSPORT**
The green transport systems are extended
- 3 TRANSPORT SYSTEM**
The road network is adapted to smooth traffic flow
- 4 INCENTIVE**
The green means of transport are made more attractive by better information and incentives for choosing them
- 5 INNOVATION**
Development of transport technology and new concepts makes green growth possible.

Case study

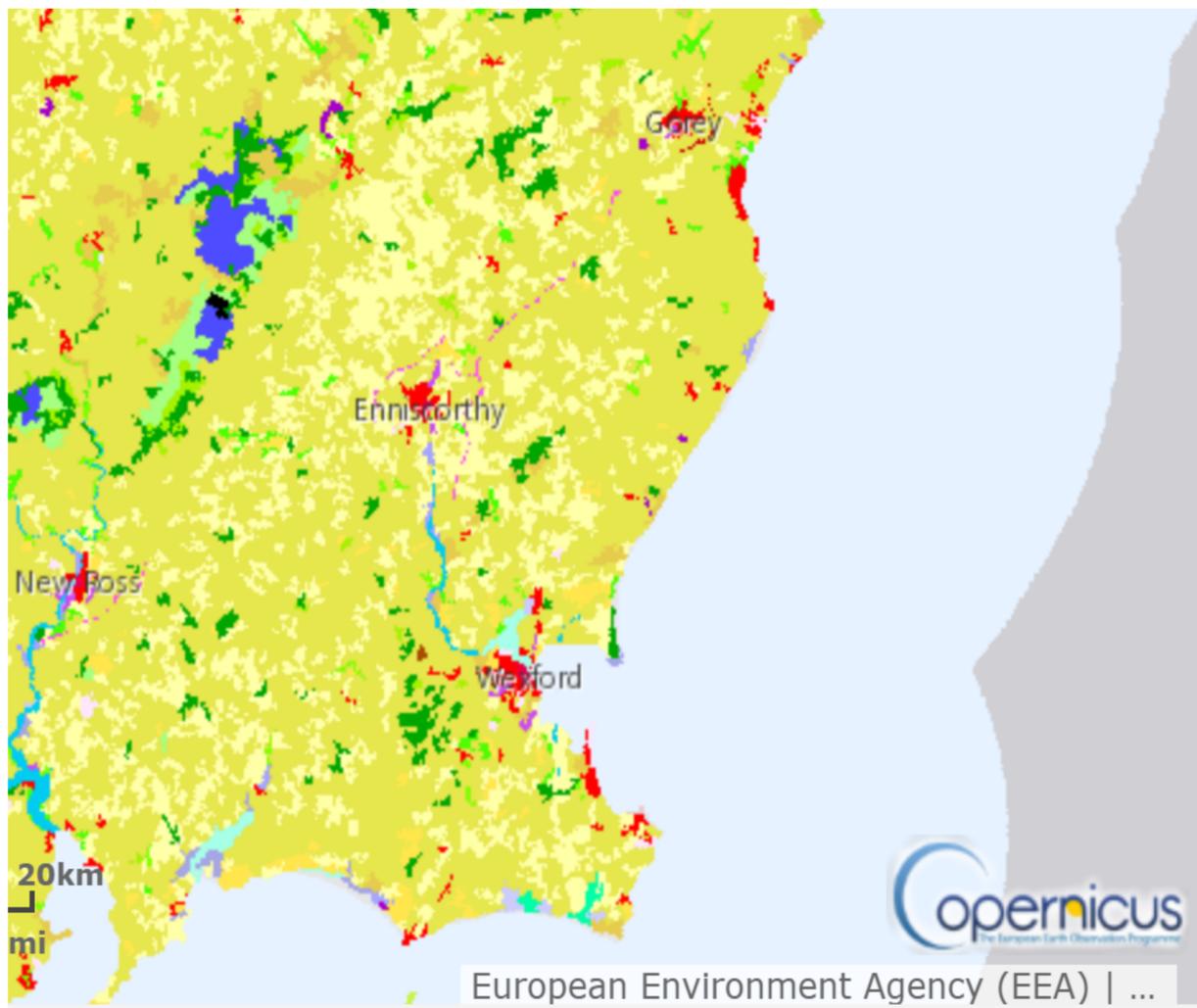
Food



'The food we eat and how we produce it determines the health of people and the planet - and we are currently getting this seriously wrong.'

Tim Lang, researcher for EAT-Lancet report

A 2018 landcover map classified most of county Wexford as agricultural land (see map on the left)



How we grow our food is impacting nature

Habitat loss, pesticide use and climate change are three of the main causes of species declines globally. As our human population grows we are using more land where plants and animals would have lived: we are using this land to create our own homes and to grow our food.

In June 2019 Irish Water reported that pesticide exceedances (levels going above the set limits) in public water supplies were on the rise in certain counties. Wexford was not on the list of counties. While Irish Water cited this wasn't a risk to human health, pesticide use is linked to global insect decline.

How we grow our food is impacting our water quality

Current agricultural practices are the main pressure in all four of Wexford's river catchments. Of the 6 exceedences for nitrates in water in 2018, 3 were in county Wexford. Nitrogen emissions to water have increased since 2013 since fertiliser use and cattle numbers have increased.

- Pastures
- Non-irrigated arable land

How we grow our food is impacting our climate

In 2018 agriculture was responsible for 34% of Ireland's greenhouse gas emissions. More than half the agriculture emissions come from dairy cows. Greenhouse gas emissions from agriculture have been rising and are projected to rise as the national herd is increased under the FoodWise 2025 plan.

27% of agricultural GHG emissions are from the soil. Soils are naturally able to store carbon (when carbon rich plant matter breaks down it naturally remains in the soil, as carbon. This is how coal was formed after years of being compressed). But when soil is tilled, planted with mono-culture or if too much fertiliser is used then the carbon in the soil gets exposed to the atmosphere and becomes carbon dioxide gas. This makes it a source of carbon rather than a sink.

Project Drawdown, who identify and rank climate change solutions, have calculated that switching to regenerative agriculture could turn soils from carbon sources (emitting carbon) to carbon sinks (storing carbon). Agriculture could become a major climate change solution.

How we consume and waste our food has environmental consequences

The UN Food and Agriculture Organisation (FAO) calculates that 1.3 billion tonnes of food is wasted each year. Globally, more than one quarter of food produced is wasted: with food loss and waste contributing 8-10% of total emissions. Project Drawdown, who identify and rank climate change solutions, have calculated that stopping food waste is the third most effective climate action we can take.

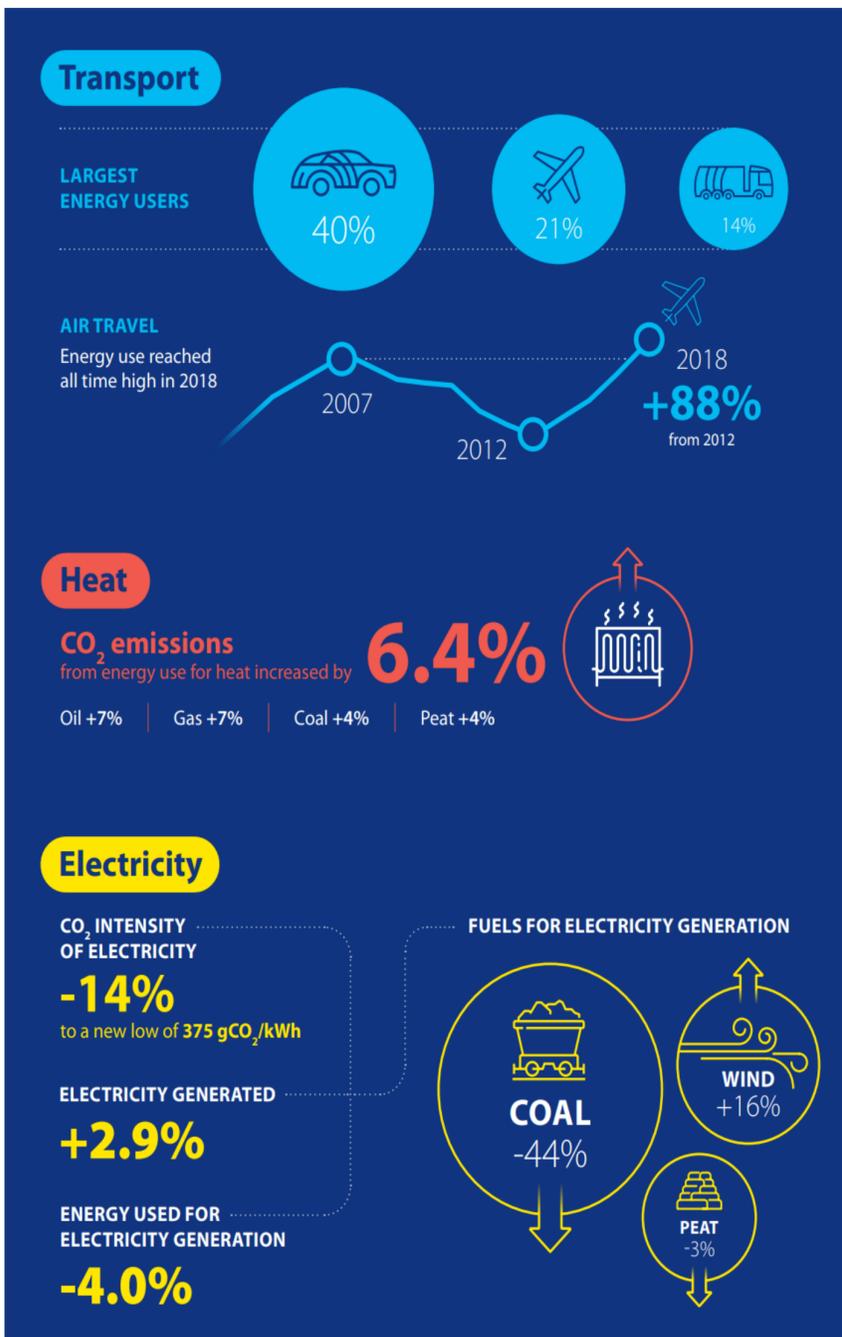
What we eat is also important: the EAT Lancet commission, Oxford University and Project Drawdown all identify a switch to more plant based diets as an important step in promoting human health, cutting greenhouse gas emission and reducing land water use.

Solutions

The EAT-Lancet report is the first full scientific review of what constitutes a healthy diet from a sustainable food system, and which actions can support and speed up food system transformation.



Case study



Fossil fuels accounted for 89% of the total energy used in Ireland in 2018. Coal use is decreasing but oil continues to be the dominant energy source.

Total renewable energy increased by 10% in 2018. Renewable energy accounts for 10% of Ireland's total energy.

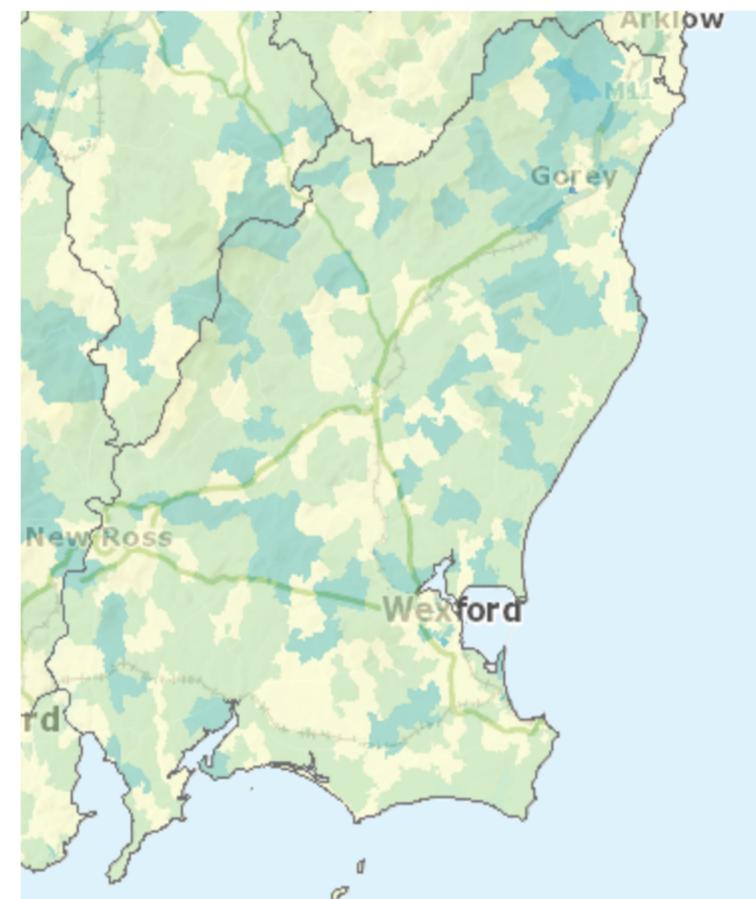
Our reliance on fossil fuels means our energy generates carbon dioxide emissions. Transport accounts for most of the energy related CO₂ emissions (40%), followed by residences (24%), industry (21%) and services (13%).

Decarbonising our energy requires us to transform our transport methods, our home energy and heating and our industrial energy use.

As long as our total energy is dominated by fossil fuels, switching to electric vehicles cannot guarantee that our greenhouse gas emissions will reduce if the electricity used to power the vehicles is not renewable. Active transport - more cycling and walking - remains important.

The table below shows Central Statistics Office data on the Building Energy Ratings of Ireland's homes. In our homes we must reduce energy use and increase energy efficiency. Switching off, choosing energy efficient appliances and retrofitting homes to achieve higher energy ratings are all part of decarbonising our energy supply. Homes built after 2010 tend to have a higher BER rating. This map shows the percentage of houses built after 2011 in Wexford, showing the extent of retrofitting that is required.

Period of construction	Energy rating						Total
	A	B	C	D	E	F-G	
1700-1977	0	4	19	24	20	32	266,833
1978-1999	0	6	41	35	12	6	249,947
2000-2004	0	10	61	21	6	2	159,337
2005-2009	1	35	51	10	3	1	148,544
2010-2014	35	56	7	1	0	0	11,201
2015-2020	97	3	0	0	0	0	48,518



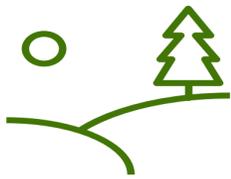
Solutions



A social enterprise, Tipperary Energy Agency has been successfully supporting Tipperary to reduce its energy demand for over 20 years. The agency has a proven ability in enabling people, communities and the public sector to become more sustainable in their energy use. Their efforts have resulted in pioneering projects such as Ireland's only community operated wind farm in Templederry, Ireland's first Ecovillage in Cloughjordan and a massive Photovoltaic project across 9 public buildings.

Case study

Land



This is a European Landcover map showing the main types of land in Co. Wexford. Landcover maps have been created since 1990 which allows us to track some changes in land over time.

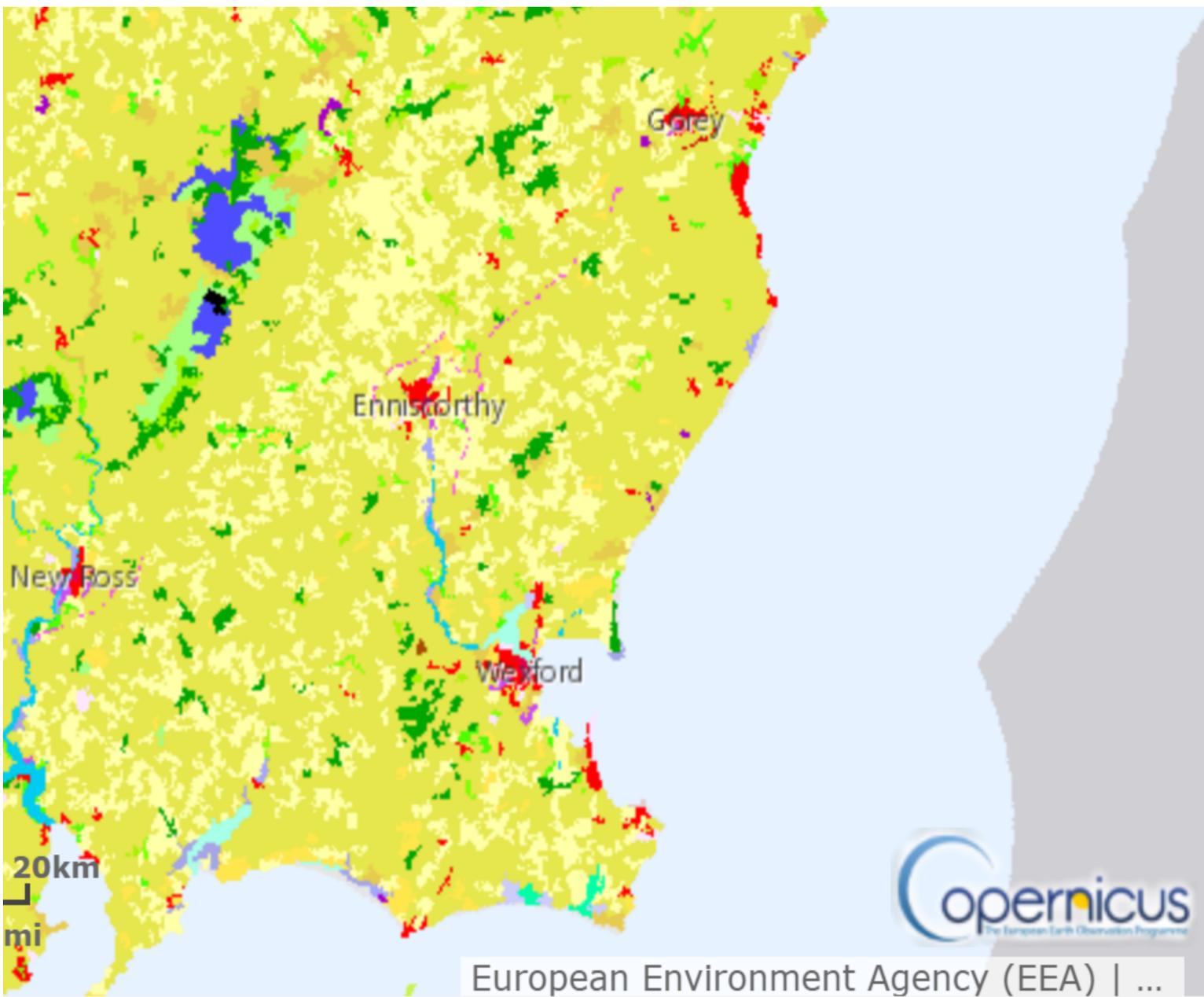
Wexford is mostly agriculture but overall the porportion of Ireland that is agricultural land has been trending down since 1990.

From 1990 to 2000 there was an increase in artificial surfaces as towns grew bigger. This growth slowed from 2000 to 2006.

Since 1990 the level of forest cover in Ireland has grown but it is not possible to discern the type of forestry from this map to confirm if the right trees have been planted in the right place.

Our land is our home and it offers humans and animals habitats and shelter. If managed properly our land can absorb and store (sequester) carbon dioxide.

Well managed native forests can store carbon in the plants and also in the soils as the plant matter dies and decays into the soil. Irish peatlands have huge carbon storage potential if they are preserved and restored. Per square metre Irish peatlands have more carbon sequestration capacity than the Amazon rainforest.



CLC2018_WM

Corine Land Cover 2018 raster

- Continuous urban fabric
- Discontinuous urban fabric
- Industrial or commercial units
- Road and rail networks and associated land
- Port areas
- Airports
- Mineral extraction sites
- Dump sites
- Construction sites
- Green urban areas
- Sport and leisure facilities
- Non-irrigated arable land
- Permanently irrigated land

- Pastures
- Annual crops associated with permanent crops
- Complex cultivation patterns
- Land principally occupied by agriculture, with significant areas of natural vegetation
- Agro-forestry areas
- Broad-leaved forest
- Coniferous forest
- Mixed forest
- Natural grasslands
- Moors and heathland
- Sclerophyllous vegetation
- Transitional woodland-shrub
- Beaches, dunes, sands
- Bare rocks

- Sparsely vegetated areas
- Burnt areas
- Glaciers and perpetual snow
- Inland marshes
- Peat bogs
- Salt marshes
- Salines
- Intertidal flats
- Water courses
- Water bodies
- Coastal lagoons
- Estuaries
- Sea and ocean
- NODATA

In Conclusion...

This information pack is not the whole story of Wexford's Environment - there will always be more that we can add.

It does show that Wexford's environment - like our national and global environment - is facing serious challenges.

Every challenge has a solution.

We'd like to invite everyone who reads this short information pack to recognise the challenges we face and choose the solutions.

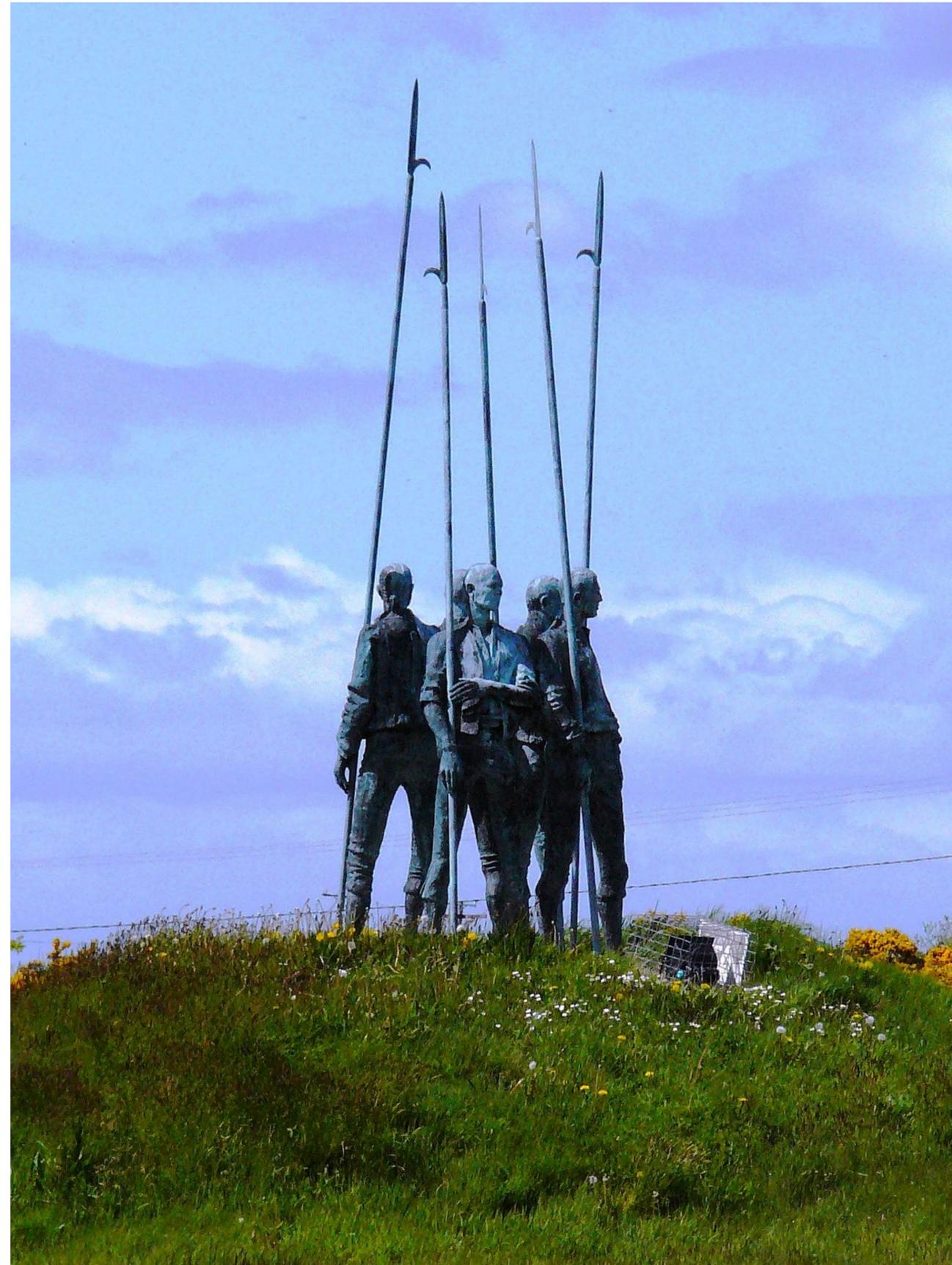
Make changes in your daily lives, in your home, school or place of work.

Be open about these changes and educate others by talking to them about what you are doing.

Advocate for solutions with anyone who can help - politicians, local leaders, business leaders.

Join others in your community - or join us here at WEN* - - to amplify your impact and find like minded allies.

Let's rise to the challenge.



* WEN Facebook group or email
wexforden@gmail.com