

## Executive Summary

### An Integrated Assessment of the State of Ireland's Environment

The evidence from this assessment reveals that the overall quality of Ireland's environment is not what it should be, and the outlook is not optimistic unless we accelerate the implementation of solutions across all sectors and society. The environmental challenges that Ireland faces are giving rise to complex and systemic issues. They cut across different environmental topics, such as climate, air, soil, water, biodiversity and waste, and across organisations and sectors, business and all levels of society. They are taxing economically, sociologically, technically and administratively.

These challenges include the protection of health and wellbeing and ecosystems and reducing emissions and the consumption of resources. They are forcing a fundamental reconsideration of how we produce and consume, how we invest, how land use change affects the environment, and how we plan for the future. Climate change, and the disruption that will flow from it, is influencing the established economic, social and natural structures of our world. We are also witnessing the erosion of ecosystems and biodiversity on an unprecedented scale. We seem unable to stem the tide of nature's destruction and may not fully understand its full impact until it is too late. Opportunely, there are synergies between the solutions to many of the challenges we face. Biodiversity protection, land use and Ireland's transition to a climate-neutral, climate-resilient society are linked, for example, and can be worked on together.



Protection of our waters, air, soil, ecosystems and biodiversity is not to be considered as merely an ambition driven by altruism, as these systems and species provide essential supporting services for our wellbeing and our economy. There are lots of national plans and programmes that address individual environmental challenges, with many notable successes. To deliver the full intent and potential of these policies we need, however, to close gaps in implementation. These multiple plans also suffer from a coherence challenge as they are devised in the absence of a single, overarching, national environmental policy position.



The COVID-19 pandemic has had a significant impact on Ireland's economy; the degree to which this impact will impede national environmental policy ambitions – including the transition to a climate-neutral economy – remains to be seen. As we emerge from the pandemic crisis and look to stimulate economic recovery we should do so through a 'green investment' lens and so avoid technical and infrastructural spend that locks us into carbon-intensive, and otherwise unsustainable, consumption and production behaviours and technologies. A clean and safe environment provides the opportunity to deliver health and economic dividends that will assist resilience and support recovery. In this 'reset' of our economy we have an opportunity to pivot away from unsustainable practices and deliver the lasting, systemic changes needed to deliver on our environmental ambitions, as already outlined in many sector plans, programmes and strategies.

The Environmental Protection Agency (EPA) is required by statute to undertake and report – at four-year intervals – on an integrated assessment of Ireland’s natural environment. What do we mean by an ‘integrated assessment’? It means seeing the environment in its totality so that we can understand our impact, both positive and negative. In our human, ecological and physical systems everything is connected. Therefore, to allow us to understand how human activities can affect the environment, our assessments take more of a systems view, going beyond simply looking at individual parts of the environment to consider their interconnections and co-dependencies.

This, the seventh state of Ireland’s environment report, which includes input from key national agencies with core knowledge and data, is being published by the EPA at a time when Ireland is starting to sow the seeds of climate and wider environmental and sustainable development leadership. The report provides the up-to-date environmental, and wider sustainable development evidence base on which such leadership can continue to be built. The delivery of trusted and actionable knowledge on our environment is essential to allow us to plan with a degree of certainty for a better future.

## The Importance of Our Environment

Ireland’s terrestrial, freshwater, coastal and marine environments host exceptional ecosystems that support a rich and diverse population of flora and fauna. These ecosystems provide essential services to people, including, for example, food, construction and manufacturing resources, recreation, healing, pollination, flood attenuation and clean water. Ireland’s atmospheric, terrestrial including soils, freshwater and marine systems are essential to the health of its citizens and the functioning of its economy. By helping to prevent damage to our environment, we are, by association, protecting our own health.

While aspects of environmental protection can be achieved through development and implementation of good government policy, it is the active engagement and participation of everyone that is essential if real and meaningful change is to be made.



*Aerial view of part of Clew Bay, Co. Mayo*

There is an ever-growing body of research evidence continually reinforcing the fact that engagement and contact with our surrounding natural environment is associated with measurable improvements in the health and wellbeing of the population. Exposure to green (parks, trees, hedgerows, countryside) and blue (river, lakes, canals, sea) spaces has been shown to have a positive influence on a range of health outcomes. Childhood exposure to the natural environment is of particular importance given the positive physical, cognitive and social development effects it affords. An investment in well-designed, high-quality and accessible green spaces, and the protection of blue spaces, is an investment in public health. The provision of health-promoting environments in urban spatial planning should be viewed as a necessary and integral component of urban infrastructure.

Every dimension of how we live – our homes, our workplaces, how we move, eat, play, commune and create – has the potential to impact on, or be impacted by, our environment. As a nation we rely on our natural environment – our rivers, seas, air and land – to accept, assimilate, cleanse or store our public, industrial and private effluents and wastes. Our natural environment provides such essential services but its bearing capacity must be understood and regulated in environmental planning, consumption and production processes. Similar constraints exist in how we draw on its resources to feed our society and our economy, including our soils, seas, freshwaters and other natural resources (mineral and biological). Many of the issues we face which negatively impact our environment, and our health and wellbeing, are inherently linked.



### Ireland faces European-wide Challenges in Protecting the Environment that the European Green Deal Commits to Addressing

The 2020 State of Europe's Environment Report from the European Environment Agency (EEA) (published in 2019) adds to the growing evidence from international bodies advocating for more urgency in protecting the environment, safeguarding biodiversity and tackling climate change. The evidence in this recent EEA report resonates with that outlined in other significant publications including the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) report on biodiversity, the Intergovernmental Panel on Climate Change (IPCC) reports on climate and the European Green Deal from the European Commission.

According to the EEA, 'the overarching challenge of this century is how we achieve development across the world that balances societal, economic and environmental considerations'. Sustainability needs to become the guiding principle for ambitious and coherent policies and actions across society (EEA, 2019). The EEA report suggests that the focus now must be on scaling up, speeding up, streamlining and implementing the many solutions and innovations – both technological and social – which already exist, while stimulating additional research and development, catalysing behavioural shifts and, vitally, listening to and engaging with citizens. The European Green Deal offers room for optimism in dealing with these challenges as it promises a commitment to 'tackling climate and environmental-related challenges that is this generation's defining task'.

### Current Assessment of Ireland's Environment










While there are many examples of local measures and projects that are working well to make a difference, overall the evidence shows that existing national measures have not been successful in addressing several environmental issues. Ireland has not reached targets in a number of environmental directives. This includes not meeting reduction targets set for greenhouse gas emissions. Rescue plans are now needed for our remaining high status water bodies to halt their decline. The water quality in our rivers especially has deteriorated over the past four years, and estuaries now have the lowest water quality ranking overall when compared with the targets.

Biodiversity is at risk because of habitat loss and damage. Unspoilt areas are being squeezed out, our pristine waters are being lost and the habitats that provide vital spaces for biodiversity are diminishing. Not enough of our seas have been designated as marine protected areas. These are all major systemic issues requiring integrated, immediate and relentless action.


The scorecard analysis shown in Table 1 suggests that the scale of improvements now being made is insufficient to meet long-term objectives and targets, especially for more diffuse and systemic issues. For climate, nature and water quality, the objective to deliver on people's expectations to live in a healthy and protected environment will not be met in the short or medium term (2030), unless there is an acceleration and full implementation of the measures needed to address these issues. For air and waste, while we are meeting most of our current objectives, it will be challenging to achieve the more stringent measures coming on stream in the future. Radiological risks in our homes and workplaces that are associated with natural geology or our technologies need to be understood and acted upon.


**Table 1** Current summary assessment and future outlook scorecard for Ireland for selected environmental policy areas (Source: EPA, 2020, based on evidence and assessments presented in this report)

POLICY AREA	CURRENT ASSESSMENT	OUTLOOK
<p>Climate</p> 	<p></p> <p>Continuing high emissions result in a ‘very poor’ current assessment, despite progress on renewable energy, ambitious climate action and adaptation plans and strategies, and new governance structures (e.g. the Climate Action Regional Offices). 2020 emissions reductions targets will not be met without relying on purchasing credits or allowances.</p>	<p></p> <p>Major transitions and system change is needed to become a climate-neutral economy and society by 2050. The Climate Action Plan is the first step in the right direction, but accelerating implementation is needed to meet longer term (2050) targets. Latest projections suggest that, if all Climate Action Plan measures are adopted and fully implemented, 2030 targets will be met. A focus is also needed on delivering on the ambitions outlined in the climate adaptation plans and strategies.</p>
<p>Air Quality and Emissions</p> 	<p></p> <p>While overall air quality in Ireland is good, there was an exceedance of nitrogen dioxide at one Dublin monitoring site in 2019. This exceedance is a warning about not being complacent in tackling air pollution. On occasions, air quality is not meeting all World Health Organization guideline values for some air pollutants (mainly particulates) that have serious potential health impacts. Ireland is not meeting EU targets on emissions of ammonia to air under the National Emissions Ceiling Directive (2016/2284/EU); agriculture is the main source of ammonia emissions. Mixed progress in reducing the overall emissions to air from transport and energy sources.</p>	<p></p> <p>There is a risk of further exceedances of emissions targets set in the National Emissions Ceiling (NEC) Directive. Also there is a risk of local exceedances of air quality standards if reductions are not made in home heating emissions from burning solid fuels and in transport emissions from vehicles in urban areas. The exceedance of the NEC Directive for ammonia will continue unless measures are adopted at farm level. The prospect of meeting air quality targets is heavily dependent on national measures being implemented.</p>
<p>Water</p> 	<p></p> <p>Overall, current assessment is poor. Trends are mixed with serious declines in pristine river sites. Just over 50% of surface water is in a satisfactory ecological condition. This means that almost half fails to meet the legal requirements of the Water Framework Directive (2000/60/EC). There have been deteriorating water quality trends over the past 20 years, especially for rivers, where there have been major decreases in the numbers of the cleanest and best quality rivers. Progress remains slow in improving urban wastewater treatment, eliminating untreated sewage discharges and reducing nutrient loss from agriculture.</p>	<p></p> <p>Outlook is mixed, and significant challenges remain to achieving full compliance and meeting policy objectives. Extensive targeted action on water catchments, enforcement of existing legislation and implementation of best practice policies could potentially turn around the deteriorating trends. This depends on environmentally sustainable improvements in agriculture, wastewater investment and better management of nutrients and other land use drivers. A key factor is balancing nutrient emissions from the intensive agriculture sector with the need for better environmental protection.</p>


POLICY AREA	CURRENT ASSESSMENT	OUTLOOK
<p>Nature</p> 	 <p>Overall, current assessment is very poor. Deteriorating trends dominate, especially for protected habitats, with 85% of EU protected habitats having an unfavourable status. The picture for EU protected species is mixed, but 15% are in decline, with freshwater species most at risk. Agricultural practices are a key pressure. Habitat changes point towards a deteriorating trend in overall biodiversity. Some species, such as the curlew and some freshwater species, are under threat; measures are needed to halt their decline.</p>	 <p>Largely not on track to meet policy objectives. The outlook for biodiversity is challenging unless there are fundamental changes. Climate change adds to the challenge. Transformative change is needed to achieve the vision in the National Biodiversity Action Plan 2017-2021.</p>
<p>Waste and Circular Economy</p> 	 <p>While Ireland is meeting current targets, recycling rates have levelled off for municipal waste and packaging and in some cases declined. Waste generation remains high and linked to economic activity, while circular use of material remains very low. Most of the environmental complaints from the public relate to waste and litter, which means that waste enforcement work is still a key function for local authorities. There have been improvements in waste management brought about through the introduction of waste licensing and producer responsibility legislation and the amount of waste we landfill has decreased in favour of energy recovery.</p>	 <p>Work is needed to move towards a life-cycle-driven 'circular' economy, preventing waste, maximising use of resources during their life cycle and, where waste is generated, increasing the amount that is recycled. Illegal dumping, littering and the level of plastic waste in our seas are concerns that demand solutions. The publication of a new national waste policy, a Waste Action Plan for a Circular Economy, is welcome and brings a renewed impetus for change. Achieving future EU recycling targets, dealing with capacity challenges and achieving the circular economy goals will be dependent on the implementation of waste legislation, policy initiatives and related measures.</p>
<p>Radon</p> 	 <p>A modest reduction in indoor concentrations of radon has been measured since the 1990s (13%). Awareness levels nationally are high, at 75%. A government-led National Radon Control Strategy was adopted in 2014 and this has had a legal basis since 2019. Work carried out under the strategy addresses prevention in new buildings, raising awareness, providing advice, supporting radon services and addressing radon in workplaces. This work is supported by a comprehensive research programme. However, testing and remediation rates have not improved.</p>	 <p>Testing and remediation rates remain low, with approximately 6% of private homes tested. Of those homes that have been tested and are above the reference level, only 20% of householders take action to reduce radon concentrations. Financial support is needed for householders to increase testing and remediation rates. Workplace testing and remediation should become routine in high-risk areas. Radon testing should be a requirement when selling or renting a home. Building regulations should require stronger preventative measures to protect new buildings. The national retrofit programme should include measures to ensure that radon concentrations are addressed.</p>


## CURRENT ASSESSMENT: Summary assessment of current environmental performance, policy and implementation in Ireland

 Very poor/significant environmental and/or compliance challenges to address


 Poor/environmental and/or compliance challenges to address


 Moderate/on track generally/local or occasional challenges


 Good/mainly achieving objectives

 Very good/fully achieving objectives

## OUTLOOK: Current prospect of meeting policy objectives and/or targets

 Largely not on track to meet policy objectives and targets. Significant challenges remain to achieving full compliance. Systemic and transformative change needed.

 Partially on track to achieving full compliance or measures in place or planned that will improve the situation. However, the outlook is dependent on existing and planned actions, measures and plans being fully implemented and effective.

 Largely on track to achieving full compliance. Measures in place provide prospect of meeting policy objectives and targets.

In the report there are also many positive areas to highlight as well. Since the first of the series of Ireland's state of the environment reports was published in 1996, many examples of environmental improvement have been recorded. These include successes in the areas of industrial regulation and emissions, waste management and wastewater discharges. Ireland has a well-funded research programme and the findings from this research are covered in many chapters of this report. There are now many new national and community-level initiatives that are aimed at improving the environment and meeting legislative requirements. These initiatives include the new climate plans, climate dialogue, citizens' assembly, warmer home schemes, river basin management plans, work on sustainability and food waste, and nature conservation projects covered by the European Innovation Partnership for Agriculture Productivity and Sustainability.

## Key Messages for Ireland on the State of the Environment in 2020

The overall assessment from this state of the environment report, *Ireland's Environment – An Integrated Assessment 2020*, shows that not only is there a need for urgent approaches to address climate change and biodiversity decline but also there are other environmental priorities for Ireland. These include tackling water pollution, investing in water services, improving recycling rates, improving air quality and mitigating radiological risks. In addition, we must also step back from intensive agricultural and land use practices that are affecting or posing threats to the environment and human health. The assessment indicates that we need much better approaches around managing conflicting land uses and practices in order to protect the environment. For example, we need to leave space for nature, maintain setback spaces along rivers to protect water quality, consider nature-based solutions for flood mitigation, promote areas best suited to high nature value farming and areas of bog that should be left and restored as spaces for carbon storage and nature.

The overall key messages identified for Ireland's Environment are summarised in Figure 1. Further details about these messages can be found in Chapter 16.

**Figure 1** Summary of the overall key messages from the 2020 state of environment report for Ireland

## We Need Vision and Implementation to Protect Ireland's Environment and our Health and Wellbeing



### SOE 1: Environmental Policy Position

A national policy position for Ireland's environment.



### SOE 2: Full Implementation

Full implementation of existing environmental legislation and a review of the governance around the coordination on environmental protection across public bodies.



### SOE 3: Health and Wellbeing

Protecting the Environment is an Investment in Our Health and Wellbeing

## Step Up to Protect the Environment Around Us as it is Under Increasing Threat



### SOE 4: Climate

Systemic change is required for Ireland to become the climate-neutral and climate-resilient society and economy that it aspires to be.



### SOE 5: Air Quality

Adoption of measures to meet the World Health Organization air quality guideline values should be the target to aim for in the Clean Air Strategy.



### SOE 6: Nature

Safeguard nature and wild places as a national priority and to leave a legacy for future generations.



### SOE 7: Water Quality

Improve the water environment and tackle water pollution locally at a water catchment level.



### SOE 8: Marine

Reduce the human-induced pressures on the marine environment.

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## System Change – Delivery on Sectoral and Societal Outcomes Needs to be Accelerated



### SOE 9: Clean Energy

Ireland needs to move rapidly away from the extensive use of fossil fuels to the use of clean energy systems.



### SOE 10: Environmentally-sustainable Agriculture

An agriculture and food sector that demonstrates validated performance around producing food with a low environmental footprint.



### SOE 11: Water Services

Drinking water and wastewater infrastructure must meet the needs of our society.



### SOE 12: Circular Economy

Move to a less wasteful and circular economy where the priority is waste prevention, reuse, repair and recycling.



### SOE 13: Land Use

Promote integrated land-mapping approaches to support decision-making on sustainable land use.

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Sustained commitments to and progress in addressing these key SOE messages will be necessary to meet people's rightful expectations of living in a healthy environment. Progress in these areas will allow Ireland to evolve as a sustainable, climate-neutral, climate-resilient economy, which safeguards nature, prevents deterioration of local environments – important for wellbeing – and protects people's health from environmental pollutants.



*Aerial view of Wexford town*

The overarching message from this report is that system-wide change is now needed in how we look after our environment. Research has demonstrated that our health and the state of environment are intrinsically linked. System changes are needed across the energy, transport, and agriculture sectors and on the built environment, to improve sustainability and reduce emissions which are damaging our environment and health. Ireland needs to improve its performance in protecting nature and natural resources at community and national levels. Improvements are also needed in implementing environmental and radiological legalisation and policy. However, economy or society cannot make the right sustainable choices if the systems or policies around them make it difficult to implement measures to protect the environment. Collaboration and better connectivity across the different systems and policies are needed, as many are interlinked. Ireland has many plans in place with environmental commitments and for various sectors, yet our environment continues to be affected. To ensure the plans and projects are being carried out in the right way, in the right place and at the right time we need them to be implemented, monitored and accountable. A national policy position for Ireland's environment could help to achieve all of this.

Evidence-based policy decisions using assessment tools should play a central part in protecting Ireland's environment into the future. These tools include integrated environmental assessment, system-based approaches, spatial planning, the precautionary principle and ecosystem services assessment.



*Killaun Bog, Co. Offaly*

As national economic stimulus packages are being devised to help aid recovery post-coronavirus (COVID-19), now is also a time to consider the opportunities that will arise to leverage enduring environmental and public health benefits that address the challenges raised in this report.

We know that environmental protection is a local issue with global consequences. Ireland's environment is what connects us to our local places. It is part of our natural heritage and where we live. When added together, the solutions taken at home, in businesses or at a field level can result in local improvements to global problems. Such local perspectives and community engagement, linked with national policies, leadership and direction, are part of the transition needed to protect Ireland's environment into the future.

It is our health and our environment that matters. This decade will be pivotal in how we deal with the challenges around protecting both.



### Actions for a Cleaner Greener Environment

Over the next decade, the challenges facing us are to:

- Halt any further deterioration in our natural environment while supporting our economy and accommodating our growing population.
- Accelerate action to decarbonise and green our economy and society, so achieving climate neutrality by 2050.
- Protect ourselves against the inevitable consequences of climate disruption.
- Start restoring the precious habitats and water bodies that we have lost.
- Leave space for nature as part of a new approach to biodiversity protection.
- Designate more of our marine area as protected areas.
- Protect air quality by switching to cleaner fuels and energy for transport and heating homes.
- Massively reduce our annual one million tonnes of food waste.
- Foster more sustainable agricultural production and land-use systems and management.
- Invest in essential water services infrastructure that protects drinking water supplies and eliminates discharges of raw sewage.
- Achieve greater efficiency in our production and consumption activities when using raw materials.
- Secure the improvements in our natural environment that we have made through regulation and investment.
- Integrate measures to protect against radon into our built environment.
- Leverage a growing public engagement with environmental issues.
- Act on the highlights identified in this report. Covering thematic, sectoral and integrated areas, these highlights are identified at the end of each chapter and they outline the scale of the challenges to be tackled. These key highlights are also collated in a table at the end of this report.