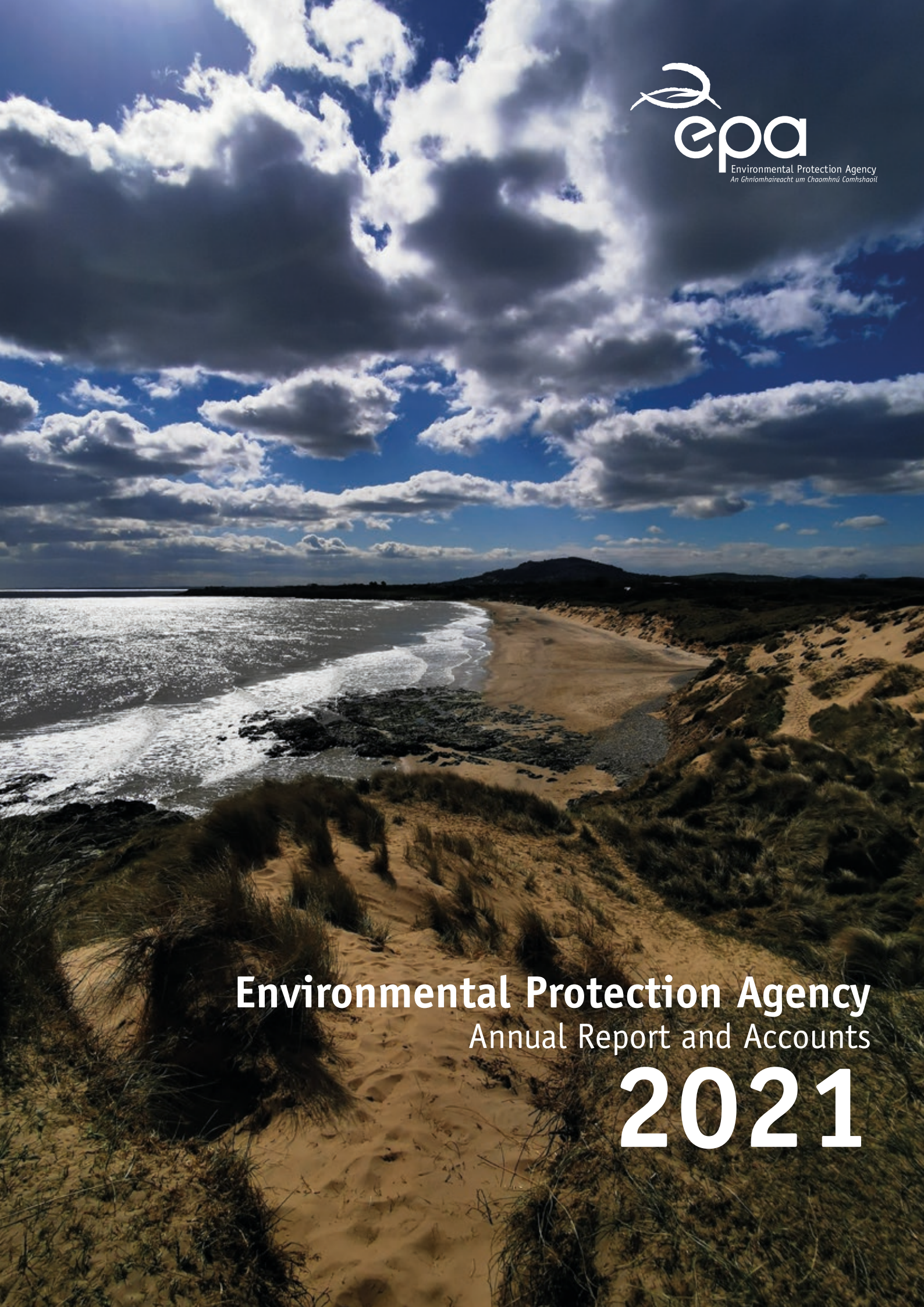


Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

# Environmental Protection Agency
## Annual Report and Accounts
# 2021

# ENVIRONMENTAL PROTECTION AGENCY

The EPA is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

## The work of the EPA can be divided into three main areas:

**Regulation:** *Implementing regulation and environmental compliance systems to deliver good environmental outcomes and target those who don't comply.*

**Knowledge:** *Providing high quality, targeted and timely environmental data, information and assessment to inform decision making.*

**Advocacy:** *Working with others to advocate for a clean, productive and well protected environment and for sustainable environmental practices.*

## Our responsibilities include:

### Licensing

- Large-scale industrial, waste and petrol storage activities;
- Urban waste water discharges;
- The contained use and controlled release of Genetically Modified Organisms;
- Sources of ionising radiation;
- Greenhouse gas emissions from industry and aviation through the EU Emissions Trading Scheme.

### National Environmental Enforcement

- Audit and inspection of EPA licensed facilities;
- Drive the implementation of best practice in regulated activities and facilities;
- Oversee local authority responsibilities for environmental protection;
- Regulate the quality of public drinking water and enforce urban waste water discharge authorisations;
- Assess and report on public and private drinking water quality;
- Coordinate a network of public service organisations to support action against environmental crime;
- Prosecute those who flout environmental law and damage the environment.

### Waste Management and Chemicals in the Environment

- Implement and enforce waste regulations including national enforcement issues;
- Prepare and publish national waste statistics and the National Hazardous Waste Management Plan;
- Develop and implement the National Waste Prevention Programme;
- Implement and report on legislation on the control of chemicals in the environment.

### Water Management

- Engage with national and regional governance and operational structures to implement the Water Framework Directive;
- Monitor, assess and report on the quality of rivers, lakes, transitional and coastal waters, bathing waters and groundwaters, and measurement of water levels and river flows.

### Climate Science & Climate Change

- Publish Ireland's greenhouse gas emission inventories and projections;
- Provide the Secretariat to the Climate Change Advisory Council and support to the National Dialogue on Climate Action;
- Support National, EU and UN Climate Science and Policy development activities.

### Environmental Monitoring & Assessment

- Design and implement national environmental monitoring systems: technology, data management, analysis and forecasting;
- Produce the State of Ireland's Environment and Indicator Reports;
- Monitor air quality and implement the EU Clean Air for Europe Directive, the Convention on Long Range Transboundary Air Pollution, and the National Emissions Ceiling Directive;
- Oversee the implementation of the Environmental Noise Directive;
- Assess the impact of proposed plans and programmes on the Irish environment.
- Environmental Research and Development
- Coordinate and fund national environmental research activity to identify pressures, inform policy and provide solutions;
- Collaborate with national and EU environmental research activity.

### Radiological Protection

- Monitoring radiation levels and assess public exposure to ionising radiation and electromagnetic fields;
- Assist in developing national plans for emergencies arising from nuclear accidents;
- Monitor developments abroad relating to nuclear installations and radiological safety;
- Provide, or oversee the provision of, specialist radiation protection services.

### Guidance, Awareness Raising, and Accessible Information

- Provide independent evidence-based reporting, advice and guidance to Government, industry and the public on environmental and radiological protection topics;
- Promote the link between health and wellbeing, the economy and a clean environment;
- Promote environmental awareness including supporting behaviours for resource efficiency and climate transition;
- Promote radon testing in homes and workplaces and encourage remediation where necessary.

### Partnership and networking

- Work with international and national agencies, regional and local authorities, non-governmental organisations, representative bodies and government departments to deliver environmental and radiological protection, research coordination and science-based decision making.

### Management and structure of the EPA

The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiation Protection and Environmental Monitoring
- Office of Communications and Corporate Services

The EPA is assisted by advisory committees who meet regularly to discuss issues of concern and provide advice to the Board.

ENVIRONMENTAL PROTECTION AGENCY

Annual Report and Accounts, 2021



Published by the Environmental Protection Agency, Ireland

Designed by Clever Cat Design

Environmental Protection Agency,
PO Box 3000,
Johnstown Castle Estate,
Co. Wexford,
Ireland

Images courtesy of EPA staff

Cover image: Wicklow Storm Brewing
Photograph by Aimie Cranch

ISBN: 978-1-80009-043-9

The layout of this report has been structured and aligned to reflect the EPA Strategic Plan 2016–2020: *Our Environment, Our Wellbeing.*

# Key Statistics – 2021 in Numbers

## AUTHORISATIONS

**118** environmental authorisations issued

**569** authorisation amendments completed

**3** decisions on end-of-waste criteria issued

**275** by-product notifications processed

**132** radiation authorisations and 529 technical amendments issued

## ENFORCEMENT

**212** urban wastewater and 79 drinking water site visits

**1,295** visits to industrial, waste, dumping at sea and VOC facilities

**13** prosecutions concluded

**9** drinking water Directions issued to Irish Water

**75** inspections of Radiological Licensees

**11** sites on the National Priority Sites for Enforcement

## CIRCULAR ECONOMY

**€710k** awarded to eight enterprises under the 2021 Green Enterprise: Innovation for a Circular Economy funding call

**7.5m** reach in national Stop Food Waste 'Stretch Out and Save' campaign

## MONITORING

**1,539** water bodies monitored for biological and chemical analysis

**97** air quality monitoring stations

**844** samples analysed for radioactivity

## RESEARCH

**41** Research Reports:
9 Climate, 7 Green & Circular Economy,
13 Healthy Environment and 12 Natural Environment

## INFORMATION

**722,297** visits to **www.epa.ie**

**112** information requests (52 AIE and 60 FOI)

**9,900+** environmental complaints reported

**2,900+** environmental queries from the public

**409** EPA datasets uploaded to data.gov.ie with 76,054 total views

## EMERGENCY PREPAREDNESS

**1** in-house emergency exercise involving a range of teams across the EPA

**7** international emergency exercises participated in

## RADON

**136,890** pageviews of radon related content on the website

## 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.

## 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.

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

## VISION

A clean, healthy and well protected environment supporting a sustainable society and economy.

## MISSION

To protect and improve the environment as a valuable asset for the people of Ireland.

To protect our people and the environment from the harmful effects of radiation and pollution.

## VALUES

### Our Stewardship

We are a trusted, independent and authoritative advocate for the environment.

We make objective decisions based on the best available scientific evidence and information.

We manage our resources effectively and efficiently to deliver value to the public.

### Our Work

We regulate in a fair, proportionate and transparent manner and target those who don't comply.

We make a difference by working with others to foster trust and build networks and partnerships to deliver effective outcomes.

We strive continuously for improvement and excellence through learning and development.

### Our Service

We are innovative, adaptive and open to new and flexible ways of working.

We design and deliver services from the citizen's point of view.

We provide our services in a manner that is competent, courteous and responsive.

### Our Colleagues

We work together to deliver effective outcomes.

We support, trust and value our colleagues and empower each other to make decisions.

We are open and honest with each other.

We constructively challenge and encourage each other to do better.

## WHAT WE DO

### Knowledge

Provide high quality, targeted and timely environmental data, assessments and evidence to inform decision making by citizens, businesses and Government.

### Regulation

Implement effective regulation and environmental compliance systems to deliver good outcomes for people and the environment and target those who don't comply.

### Advocacy

Work with others to advocate for a clean, healthy and well protected environment and sustainable environmental behaviour.

## HOW WE DO IT

- Monitoring & Assessment
- Research & Expertise
- Timely & Accessible Information
- Licensing
- Enforcement
- Guidance
- Partnering & Networking
- Awareness Raising
- Promoting Sustainable Behaviour

# Strategic Goals
## for the period 2016-2020

| Goals | Objectives | Outcomes<br>What we will have achieved by 2020 |
|---|---|---|
| **Trusted Environmental Regulator** | **Ensure** the ongoing development of a proportionate and effective regulatory approach.<br>**Align** EPA resources to target interventions and reduce environmental risk. | ◢ A risk-based, responsive regulatory approach that engages stakeholders and protects the environment and people.<br>◢ Reduced environmental risks at EPA-regulated facilities through tailored interventions and by ensuring appropriate financial provisions are in place.<br>◢ Driven the improved delivery and management of water and waste infrastructure. |
| **Leader in Environmental Evidence & Knowledge** | **Realise** the full potential of the EPA's knowledge, skill, expertise and regional presence as key national resources in the protection of the environment and human health.<br>**Accelerate** the provision of timely and tailored information to meet the specific needs of stakeholder groups. | ◢ More timely evidence-based environmental assessments to inform policy and decision making at national, regional and local levels.<br>◢ Better provision of online, up-to-date and accessible information on the environment to stakeholders.<br>◢ A research programme that addresses knowledge gaps and helps identify solutions to emerging and complex environmental problems. |
| **Effective Advocate and Partner** | **Strengthen** the EPA's capability and capacity to influence, advocate and partner to help achieve a clean, healthy and well protected environment.<br>**Engage** the public in the protection and improvement of the environment.<br>**Promote** a greater awareness of the impact of environment quality on human health. | ◢ Targeted opportunities to integrate environmental priorities and sustainability into sectoral, economic and social policies.<br>◢ Developed public participation programmes to increase awareness of environmental issues and support the engagement of the public in environmental protection.<br>◢ Collaborated with health agencies and other bodies to realise the benefits of a good environment for health and wellbeing. |
| **Responding to Key Environmental Challenges** | **Tackle** the challenges to deliver improved water quality in Ireland.<br>**Engage** with other strategic partners to promote the development of a holistic national response to climate change.<br>**Enhance** air and radiation protection in Ireland. | ◢ Effective and resilient structures in place to deliver better outcomes for water quality.<br>◢ Established a climate change secretariat in the EPA as a centre of excellence that supports the national transition to a low carbon economy.<br>◢ Strengthened the air quality and radiation protection frameworks to further protect people and the environment. |
| **Organisationally Excellent** | **Develop** our staff and align our organisation to deliver best environmental outcomes.<br>**Focus** on the development and promotion of organisational health, wellbeing and safety at work.<br>**Promote** a culture of leadership, reform and innovation. | ◢ Our functions and resources aligned to be responsive and adaptable to meet emerging challenges.<br>◢ Engaged all staff to foster a supportive workplace environment.<br>◢ Enhanced capacity in the area of organisational change and in the use of ICT to support reform and innovation. |

# LIST OF ABBREVIATIONS

| | |
|---|---|
| **AIE** | Access to Information on the Environment |
| **AMR** | Antimicrobial Resistance |
| **API** | Application Programming Interfaces |
| **ARC** | Audit & Risk Committee |
| **AQIH** | Air Quality Index for Health |
| **BAT** | Best Available Techniques |
| **B2C** | Business to Consumer |
| **CAFÉ** | Clean Air for Europe Directive |
| **CAP** | Common Agricultural Policy |
| **CCMA** | County & City Managers Association |
| **CLRTAP** | Convention on Long-Range Transboundary Air Pollution |
| **CNS** | Convention on Nuclear Safety |
| **DAFM** | Department of Agriculture, Food and the Marine |
| **DECC** | Department of the Environment, Climate and Communications |
| **DHLGH** | Department of Housing, Local Government and Heritage |
| **EEA** | European Environment Agency |
| **EIONET** | European Environmental Information and Observation Network |
| **EMA** | European Medicines Agency |
| **ERC** | Executive Risk Committee |
| **ESD** | EU Effort Sharing Decision |
| **ESRI** | Economic and Social Research Institute |
| **EU ETS** | European Union Emissions Trading System |
| **F-gas** | Fluorinated gas |
| **FOI** | Freedom of Information |
| **GMOs** | genetically modified organism |
| **HRB** | Health Research Board |
| **HSA** | Health & Safety Authority |
| **HSE** | Health Service Executive |
| **ICT** | Information & Communications Technology |
| **IED** | Industrial Emissions Directive |
| **IEN** | Irish Environmental Network |
| **INAB** | Irish National Accreditation Board |
| **IPC** | Integrated Pollution Control |
| **IPCC** | Intergovernmental Panel on Climate Change |
| **JAI** | Junior Achievement Ireland |
| **JPI** | Joint Programming Initiatives |
| **LAPN** | Local Authority Prevention Network |
| **MI** | Marine Institute |
| **MoU** | Memorandum of Understanding |
| **mSv** | millisievert |
| **MCP** | Medium Combustion Plant |
| **NDCA** | National Dialogue on Climate Action |
| **NEC** | National Emission Ceiling Directive |
| **NIEA** | Northern Ireland Environment Agency |
| **NHEPA** | Network of the Heads of Environment Protection Agencies |
| **NIECE** | Network for Ireland's Environmental Compliance and Enforcement |
| **NRCS** | National Radon Control Strategy |
| **NWPP** | National Waste Prevention Programme |
| **ODS** | Ozone depleting substances |
| **OECD** | Organisation for Economic Cooperation and Development |
| **OPW** | Office of Public Works |
| **POP** | persistent organic pollutant |
| **PCB** | polychlorinated biphenyls |
| **PRI** | Producer Responsibility Initiative |
| **PRTR** | Pollutant Release and Transfer Register |
| **RAL** | Remedial Action List |
| **RBMP** | River Basin Management Plan |
| **REACH** | Registration, Evaluation, Authorisation and Restriction of Chemicals regulations |
| **RoHS** | Restriction of Hazardous Substances |
| **RMO** | Roads Management Office |
| **SEA** | Strategic Environmental Assessment |
| **SEAI** | Sustainable Energy Authority of Ireland |
| **SLA** | Service Level Agreement |
| **UNECE** | United Nations Economic Commission for Europe |
| **UNFCCC** | UN Framework Convention on Climate Change |
| **WEEE** | Waste Electrical and Electronic Equipment |
| **WFD** | Water Framework Directive |
| **WWTP** | Waste Water Treatment Plant |

# CONTENTS

# 1 DIRECTOR GENERAL'S STATEMENT

It is my pleasure to present to you the EPA Annual Report and Accounts which provides an overview of progress made during 2021. This was again a year in which many sectors of society were severely affected by the Covid-19 pandemic. One lesson from the past two years is that well-communicated science can successfully inform policy, perception, and behaviour, even when the challenges are daunting.

There is an opportunity now to build the foundation for a green recovery to protect and restore Ireland's environment. The EPA is a trusted source of science and evidence, supporting actions at every level – government, business, and individual – in progressing our transition from current unsustainable consumption and production patterns.

Throughout the pandemic the essential work of the EPA continued to ensure that the protection of human health and the environment was not diminished. As an environmental regulator the EPA has adapted to circumstances, responding to complaints, incidents and emergencies, carrying out site inspections and engaging with licensees in a risk-based and proportionate manner. We have also adapted our outreach and engagement with the public, expanding our audience through a new website and switching to online webinars for our annual conferences.

## Climate change

The first report from 'Climate Change in the Irish Mind' project was published in December 2021. The findings showed the public's overwhelming recognition of the threat from climate change – they feel personally affected by it and want to see real change. As a baseline study, it aims to develop a better understanding of the Irish public's beliefs, risk perceptions, policy preferences and behaviours regarding climate change.

In August 2021, the EPA, Met Éireann and the Marine Institute published a report on 'The Status of Ireland's Climate'. This comprehensive analysis of climate data collected in Ireland details how global changes are being reflected in Ireland's atmosphere, oceans and landscape.

Greenhouse gas inventory data for 2020 published in October 2021 showed a reduction in emissions of 3.6% between 2019 and 2020. The overall emission reduction was driven by two main factors: the decreased transport emissions due to Covid-19 restrictions and reduced emissions intensity in electricity generation. The small reduction in emissions, at a time of profound change in economic and social activity due to the pandemic, highlights the scale of action needed across all parts of our economy and society to meet the 51% emissions reduction target by 2030 set within the 2021 Climate Act.

## Waste and the Circular Economy

National statistics on waste generation and management, published in December 2021, highlighted the continued rise in waste generation which is linked to economic activity while circular use of material remains very low. Recycling rates for municipal waste and packaging waste have declined, with more waste being sent for energy recovery.

In December, the EPA launched the Circular Economy Programme which will be the driving force for Ireland's transition to a circular economy, where businesses, citizens and the public sector reduce resource use, prevent waste and achieve sustainable economic growth. The programme will also support the whole-of-government Circular Economy Strategy and promote circularity as an economic model, enhancing coherence and alignment among national, regional and local activities.

In September, the EPA revised and published Green Public Procurement guidance and accompanying criteria for the Public Sector seeking to source goods, services or works with a reduced environmental impact.

## Air

The EPA's National Ambient Air Quality Monitoring Programme provides real-time localised air quality information linked to public health advice. With the addition of nine stations in 2021, real-time air quality monitoring has more than trebled in Ireland since implementation of the new programme began at the end of 2017.

The EPA 'LIFE Emerald' project commenced in 2021 and over the next three years will deliver a national forecast, a "nowcast" (to provide ambient air quality for all areas between monitoring stations) and historic national air quality maps.

Particulate matter from solid fuel combustion and nitrogen dioxide from traffic emissions were identified in the 'Air Quality in Ireland report 2020', published in November, as the two key air quality issues.

## Water and Waste Water

While the quality of drinking water in public supplies remains high, delays in delivering public water improvements continues to put water quality and the public's health at risk. During August and September 2021, the EPA responded to two very significant incidents at drinking water treatment plants in Gorey and Ballymore Eustace that highlighted an abject failure of managerial oversight, operational control and responsiveness by Irish Water and the Local Authorities in terms of their respective roles to deliver safe and secure drinking water.

The EPA published 'Water Quality in 2020: An Indicators Report' in July 2021 which highlighted that surface waters and groundwaters continue to be under pressure from human activities, particularly from nitrogen and phosphorous from agriculture and urban waste water discharges. There are some improvements in the biological quality of our rivers, however many are not as ecologically healthy as they should be. Focussed action is needed to see sustained improvements in water quality.

Bathing water quality continues to improve with 96% of identified bathing waters meeting or exceeding the minimum required standard.

Improvements in waste water treatment are evident, with the number of priority areas reducing by one-third over the past four years. However, the pace of delivery of essential improvements is too slow to bring all deficient treatment systems up to standard. Irish Water must deliver the essential infrastructure in as timely a manner as possible and resolve the underlying causes for the delays in upgrading treatment systems.

Waste water discharge licences have been updated to improve the enforceability of the specific conditions which will in turn assist EPA enforcement of the licences, provide consistency and help to protect the environment.

## Radiation

During 2021, work began on upgrading and expanding the EPA's National Radiation Monitoring Network.

Research on a new radon risk map was completed in 2021. Online user testing, optimising features such as colour, language and search functionality, identified an opportunity to greatly increase people's willingness to test their homes.

The EPA reported to the National Radon Control Strategy co-ordination group on the results of a field trial whereby passive sumps and static cowls were installed in a sample of newly built unoccupied Irish dwellings. The trial showed significant reductions in radon levels.

## Assessment

Following the publication of the four-yearly State of Environment report in late 2020, the EPA continued to promote its findings, publishing a booklet presenting summary information, key messages, chapter highlights, actions, current assessment and outlook.

The EPA was tasked by Government in 2020 to lead a national land use evidence review. The evidence review is to support the ambition that 'optimal land use options inform all relevant government decisions' and that future national land-use policy will maximise carbon uptake whilst ensuring sustainable and resilient outcomes for society, the economy, and the environment. The evidence review is expected to be completed in the second half of 2022.

## Licensing and Enforcement

Licensing and permitting decisions undertaken in 2021 included high-profile facility expansions and greenfield investment activities in the pharmachem, cement, food and drink, waste, ICT and power sectors. The EPA also engaged with the Commission for Regulation of Utilities, Eirgrid, Department of Environment, Climate and Communications and the power sector on security of energy supply issues.

The EPA enforces over 800 industrial and waste licences and its enforcement teams used a risk-based approach to on-site inspections incorporating Remote Compliance Assessments to adapt to Covid-19 restrictions. Inspectors responded to significant on-site environmental incidents, emergencies and complaints throughout 2021.

Following several fires at licensed and permitted waste facilities in early 2021, the EPA carried out a targeted campaign of inspections of waste facilities focusing on the risk of fire. Over 40 licensed sites were visited, resulting in improvements in waste management and reduced fire risks.

The EPA also regulates the use of ionising radiation in hospitals, education and industry through a system of licensing and inspection. Licensing applies to higher risk or more complex applications, while registration is applicable to lower risk applications. At the end of 2021, 259 licences and 1,453 registrations were in place.

The EPA enforces water regulations and licences as well as certificates of authorisation in relation to Irish Water. Throughout 2021, the EPA continued to respond to significant on-site incidents, emergencies, and complaints.

## Research

The EPA delivers an environmental research programme to provide essential scientific support for environmental policy development, implementation and broader decision making. In total, 58 new awards were made in 2021 (€9.91m) including 30 new awards from the 2021 EPA research call (€7.49m).

A new ten-year high-level framework for the EPA's research programming was launched in March 2021 with four thematic priorities – climate change, circular economy, delivering a healthy environment and protecting and restoring our natural environment.

The EPA launched a new 'Fast-track to Policy' research funding scheme in 2021 to strengthen the research-policy interface and provide evidence synthesis, review of policies and best practices to answer urgent emerging policy questions.

## Engagement

During 2021, the EPA redeveloped its website to provide users with a relevant and user-friendly service, with access to the information they need in a modern dynamic format. The EPA's growing social media presence has helped cultivate new audiences and engage with younger audiences as well.

Nine public events were hosted online by the EPA to adapt to Covid-19 restrictions.

Public interest in EPA citizen science initiatives exceeded all expectations. The 'Clean Air Together' project in conjunction with An Taisce's Environmental Education Unit saw over 1,000 participants in Dublin take samples for nitrogen dioxide levels in their local area in October.

The fifth 'The Story of Your Stuff' competition for second level schools was won by a student from Presentation College Athenry, Co. Galway with his topical video: 'The story of disposable face masks'. In a record year for participation, over 330 entries were submitted from 76 schools across the country.

Working in partnership with ECO-UNESCO and Junior Achievement Ireland, the EPA sponsored an environmental award at the 'virtual' BT Young Scientist competition and sponsored the Environmental Journalism Award for the National Student Media awards.

## Greening the EPA

During 2021, the EPA maintained accreditation to its Environmental Management System which is certified to the international standard ISO 14001:2015. Improvements continued to be delivered in energy performance, waste reduction, hazardous waste management, biodiversity and green public procurement. Energy efficiency reviews were conducted to inform energy reduction actions required to achieve the 2030 Climate Action targets.

## In conclusion

In my role as Director General, I wish to acknowledge the hard work and commitment of the staff of the EPA throughout 2021 and to thank my fellow Directors for their dedication and support in delivering on our strategic goals. We remember our friend and colleague Dr Ciara McMahon whose untimely passing came as a shock to us all in January 2021.

I would like to extend my best wishes to the following EPA colleagues who retired during 2021, after many years of dedicated service: Ciara Maxwell, Frank Clinton, Bernadette Cuddihy, Stephen Somerville and Marie Kelly. Finally, I would like to thank the Department of Environment, Climate and Communications and the Department of Housing, Local Government and Heritage for their continuing support.

**Laura Burke**
*Director General, EPA*

# 2

Implement effective regulation and environmental compliance systems to deliver good outcomes for people and the environment and target those who don't comply.

# 2 REGULATION

The EPA grants authorisations which ensure that emissions from activities do not endanger human health or harm the environment.

## 2.1 LICENSING

The EPA's environmental licensing programme has a wide remit and is responsible for a range of tasks relating to the authorisation of activities that could have an impact on the environment or on human health (Tables 1 and 2). This work includes implementing Ireland's obligations under various EU Directives by carrying out environmental assessments prior to granting or refusing authorisations. It incorporates Environmental Impact Assessment and Appropriate Assessment.

### Authorisation of Activities

The Industrial Emissions Directive (IED) brought new and substantial changes to how industrial activities are regulated in Ireland. These changes will further ensure that licences include all measures necessary to achieve a high level of protection for the environment.

The IED requires the EPA to reconsider and, if necessary, update the conditions of our industrial licences within four years of new Best Available Techniques (BAT) conclusions being published.

By the end of 2020, 17 Commission Implementing Decisions (CIDs) on BAT conclusions had been published, the most recent being the Surface Treatment using Organic Solvents, and the Food and Drink sectors. This means that licences in those sectors will need to be reconsidered and re-assessed by December 2024. Work on implementing the requirements of all 17 CIDs is underway.

Environmental licensing and permitting decisions in 2021 are summarised in Table 1 below and included high profile facility expansions, some long-standing historical applications and greenfield investment activities in the waste, pharmachem and power sectors. In addition, almost half of the new applications for IE/IPC or Waste licences received in 2021 were applications in the intensive agriculture sector. In May 2021, the EPA issued a new approach for the assessment of cumulative impacts of ammonia emissions from the intensive agriculture sector which will ensure protection of Natura sites (important ecological sites) throughout the country. This has had a significant impact on the sector, especially in the border region of Cavan and Monaghan.

The Medium Combustion Plant (MCP) regulations were signed into law in December 2017 and are being implemented based on an EPA-led risk-based approach. Their purpose is to limit emissions to atmosphere from boilers and other stationary combustion plants in the 1–50 MWth (thermal input capacity) range. At the end of 2021, a total of 238 MCPs were registered – the majority of which were emergency generators at data centres.

The EPA continues to regulate for a circular economy through End-of-Waste applications and By-Product notifications. Development of an improved online by-product notification system commenced in 2021, including an interactive By-product Register with full public access to all documentation. In addition, progress continued in 2021 in the areas of Historic Landfills and the issuing of Certificates of Authorisation for the remediation of old landfills operated by local authorities in the past.

Consents issued in respect of GMO activities related predominantly to research facilities and presented low or negligible risk. In addition, Section 5(12) of the Dumping at Sea Act 1996, as amended, came into operation in respect of offshore installations on 1 April 2021 with the signing of the Dumping at Sea Act (Section 5(12)) (Commencement) Order 2021 (S.I. 92 of 2021). This enables the EPA to grant, or refuse to grant, a permit authorising the dumping of an offshore installation in accordance with the provisions of the Act. The EPA has received two applications for the leaving in place of offshore installations. The EPA has also completed the examination of 513 licences in accordance with the Waste Water Discharge (Authorisation) Regulations 2007, as amended, and issued 122 no further action reports and initiated 25 licence reviews. The EPA is actively participating in the Water Environment (Abstractions and Certain Impoundments) Bill – Revised General Scheme.

In line with strategic commitments, the EPA continued to support its web service to include electronic submission of licence applications and electronic processing and communication with all stakeholders. This facilitated a more efficient service for our customers and will enable more efficient and accurate reporting of data to the European Commission.

## Emissions trading

The EPA is the enforcement and implementation authority for the European Union Emissions Trading System (EU ETS) in Ireland and as part of this system implements the EU rules for harmonised free allocation of carbon emission allowances.

In 2021, 105 stationary installations (industries, power stations and other high-energy users) were obliged to report their $CO_2$ emissions for the previous calendar year. All installations complied with reporting and surrender deadlines. The results from the installations covered by the ETS for 2020 showed that greenhouse gas emissions from Irish companies decreased by 6.1% (0.9 million tonnes). This was largely due to the 8% decrease in emissions from the power generation sector, due to the strong presence of renewable energy on the grid. Industrial sectors, on the other hand, showed only a drop of 3.5% in emissions.

Greenhouse gas emissions from aviation reported to EPA decreased by 63% compared to 2019, which reflects the significant impact of Covid-19 restrictions. These emissions arise from flights anywhere within the European Economic Area, where the aircraft operator has been assigned to Ireland for administration within the EU ETS. Seven aircraft operators were above the threshold for reporting to Ireland in 2020, according to Eurocontrol data. One aircraft operator which went into examinership in late 2020 reported emissions but failed to surrender allowances and an excess emissions penalty was issued.

The EPA acts (along with Department of Transport and the Irish Aviation Authority) as Competent Authority for the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). The CORSIA reporting deadline was the 31 August 2021 where each Member State was required to submit total annual $CO_2$ emissions per State pair aggregated for all attributed Aircraft Operators. The EPA performed the necessary checks and collated the aggregated report before passing to the Department of Transport for submission to the International Civil Aviation Organisation (ICAO) via the CORSIA Central Registry.

The list of installations entitled to some free allocation of carbon allowances in the current allocation period (the National Allocation Table 2021-2025) was approved by the Commission on 29 June 2021. Since production levels, and therefore $CO_2$ emission levels, can vary from year to year the rules for Phase IV (2021-2030) are designed to reduce over-allocation in the event of changes to the activity levels as calculated in the baseline and to increase allocation where there are significant increases in the activity level. Operators are required to submit annually a verified activity level changes report to the EPA. For each year, starting with 2021, the EPA needs to assess all verified activity level changes reports for the 66 incumbent operators listed in the National Allocation Table and consider if an adjustment should be made to that year's allocation. All adjustments are notified to the Commission for approval, nine such reports were forwarded in 2021. Work on the assessment of 2021 activity level reports will continue into the first quarter of 2022.

The auctioning of ETS allowances takes place on a common platform (European Energy Exchange – EEX) shared among 25 Member States of the EU. The EPA tracks auctioning of Ireland's quota of allowances each week and checks that the correct revenue is received by the Central Bank. Revenues due to Ireland in 2021 from Auctions of EU ETS stationary (EUAs) and aviation allowances (EUAAs) totalled €149.2m (€149,240,630). The price of carbon rose sharply in 2021 with the highest auction clearing price of €85.00 achieved on 13 December 2021. In comparison, the highest price at auction in 2020 was €30.92.

The Union Registry is used as the compliance tool for regulated installations and operators under the EU ETS. These operators, both Stationary and Aviation, are legally obliged to open an account on the Union Registry to fulfil their compliance obligations in relation to carbon emissions. The Irish domain of the Union Registry, managed by the EPA, had 546 users at the end of 2021.

The Union Registry also contains the registry for the EU's Effort Sharing Decision (ESD). The ESD regulates binding emission targets for all Member States for emissions not included in the EU ETS in 2013-2020, such as transport, building heating, agriculture and waste management. The EPA, as National Administrator, balanced Ireland's emissions for 2018 against our target for that year in March 2021 as instructed by the Department of the Environment, Climate and Communications (DECC). The allocation for 2018 was used and part of the surplus allocation from previous years, with lower emissions, which had been carried forward. This is one of the flexibilities available to EU Member States under the ESD. Further information is available on the EU Commission website.

**Table 1.** Environmental Licensing Programme (licensing activities 2021)

| Licence Type | Total Applications Received 2021 | Total Objections Received 2021 | Total Proposed Decisions Issued 2021 | Total Final Decisions Issued 2021 | Total Decisions Issued 2021 |
|---|---|---|---|---|---|
| IED/IPC Licences (includes IE Waste) | 49 | 17 | 37 | 40 | 77 |
| Waste Licences | 3 | 2 | 3 | 2 | 5 |
| Waste Water Licences | 11 | N/A | N/A | 4 | 4 |
| Waste Water Certificates of Authorisation | 2 | N/A | N/A | 0 | 0 |
| GMO Permits (Contained use) | 32 | N/A | N/A | 33 | 33 |
| GMO Permits (Deliberate release) | 2 | N/A | N/A | 0 | 0 |
| Historic Landfill Certificates | 23 | 4 | 5 | 4 | 9 |
| Dumping at Sea Permits | 6 | N/A | N/A | 1 | 1 |
| Certificates of Registration (Waste) | 15 | N/A | N/A | 13 | 13 |
| Volatile Organic Compound (VOC) Permits | 0 | N/A | 0 | 0 | 0 |
| Greenhouse gas permits | 22 | N/A | N/A | 21 | 21 |
| **Total** | **165** | **23** | **45** | **118** | **163** |

N/A, not applicable.

**Table 2.** Environmental Licensing **Pro**gramme (other regulatory activities 2021)

| Tasks | Total tasks assessed 2021 |
|---|---|
| Article 11 requests | 75 |
| IE/IPC Amendments | 48 |
| IE/IPC Amendments (EPA initiated) | 0 |
| Waste Amendments | 4 |
| Waste Water Treatment Plant (WWTP) Amendments | 504 |
| Dumping at Sea Amendments | 3 |
| GMO Amendments | 10 |
| Article 27 notifications (by-product) | 123 |
| Article 28 Applications (end of waste) | 5 |
| European Medicine Agency (GMO) | 6 |
| Directive 2001/18/EC (GMO) | 0 |
| Transfers | 9 |
| Air Pollution Appeals | 0 |
| Planning correspondences examined | 99 |
| Medium Combustion Plants registered | 45 |
| **Total** | **931** |

## Radiation protection authorisations

The system in place for radiation protection authorisations allows for two forms of authorisation: registration and licensing. Registration is a simpler and less administratively onerous form of authorisation, appropriate for practices that are less complex in nature and have been demonstrated to be relatively safe. Licensing applies to higher risk practices. Authorisation fees are reflective of the level of risk associated with the types of practices being carried out and therefore the level of regulatory oversight required.

**Table 3.** New radiation protection authorisations, 2021

| | |
|---|---|
| Licences | 21 |
| Registrations | 111 |
| Technical Amendments | 529 |
| Closed Licences | 106 |

The EPA implements and enforces environmental and radiological protection legislation in Ireland.

## 2.2 ENFORCEMENT

### Industrial and Waste Licence enforcement

The EPA licensed and regulated 844 industrial and waste facilities during 2021. The EPA's objective is to ensure that operators carry on their activities in accordance with their licences. These objectives are advanced through a combination of promoting compliance, guidance and assistance, monitoring compliance, inspections and sampling, and taking enforcement actions where necessary. The EPA's enforcement approach is underpinned by the principles published in its 'Compliance and Enforcement Policy' and set out in Figure 1 below. Table 4 includes the number of inspections carried out on industrial and waste licensed activities.

**Figure 1.** EPA enforcement principles


The EPA prioritises enforcement effort on sites which present the highest risk to the environment based on the type of activity that is licensed, the location of the activity (i.e. proximity to people or protected areas) and the enforcement history of the site (i.e. whether the site has a history of non-compliance). During 2021, the EPA focused on key priority issues of fire risk at waste management facilities, unauthorised extraction of peat and where licensed activities were having an impact on water quality. The EPA also focused enforcement activities on waste capacity issues arising as a result of the Covid-19 pandemic, including closely monitored waste facilities that were subject to increases in the volume of waste presented for treatment of infectious healthcare waste, waste transfer stations, landfills and the incinerators. Remote Compliance Assessments of licensed sites were introduced as an enforcement tool during the pandemic to continue EPA inspections and enforcement activities.

The National Priority Sites List is used to target EPA's enforcement effort at the poorest performing sites to drive improvements in environmental compliance. The list ranks industrial and waste sites in order of priority for enforcement, based on factors such as: complaints (Table 5), incidents, compliance investigations and non-compliances with the licence. This list was published quarterly with 11 licensed sites included on the list at least once during 2021. The EPA's enforcement activities are summarised in the infographic in Figure 2.

**Figure 2.** Summary of EPA enforcement activities

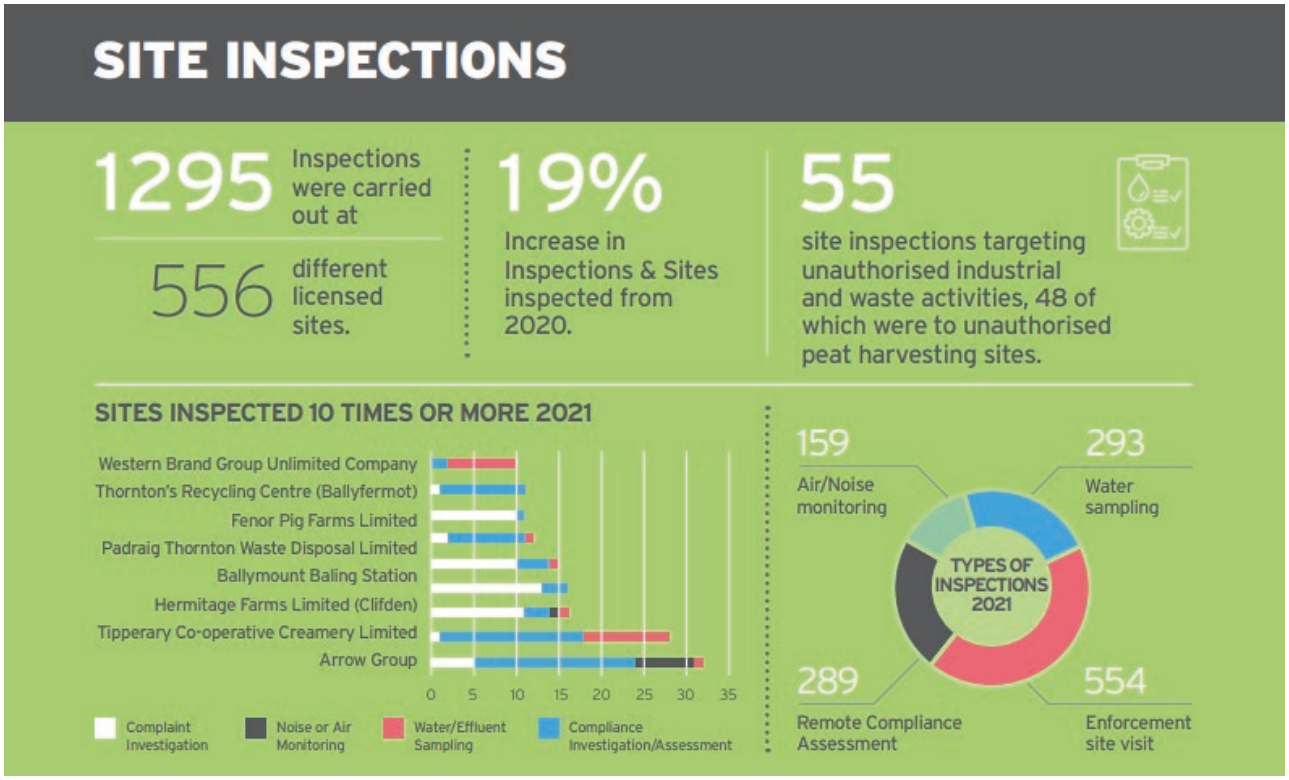



**Table 4.** Number of inspections by sector undertaken in 2021

| Activity | Number of inspections |
|---|---|
| Industrial and Waste Licences | 1,295 |
| Urban Waste Water Discharge Licences | 212 |
| Drinking water treatment plants | 79 |
| Dumping at Sea Permits | 8 |
| Volatile Organic Compound Permits | 12 |
| Market surveillance – chemicals | 150 |
| ODS and F-gas | 33 |

**Table 5.** Number of complaints received in 2021 and number of facilities the subject of those complaints by sector

| Activity | Number of complaints | Number of facilities the subject of those complaints |
|---|---|---|
| Industrial and Waste Licences | 1,490 | 125 |
| Urban Waste water | 169 | 47 |
| Drinking water | 39 | 10 |
| ODS and F-gas | 1 | N/A |
| **Total complaints** | **1,699** | |

## Water and waste water

As environmental regulator for public water services, the EPA focused on Irish Water's delivery of priority infrastructure improvements in drinking water and urban waste water during 2021.

## Drinking water

The number of public water supplies on the EPA's Remedial Action List (RAL) increased by 6 to 52 in 2021, however the population served reduced from 1,006,104 people to 374,633. The most significant changes were the removal of Leixlip Water Treatment Plant (WTP), following plant upgrade works and the construction of a new WTP at Vartry which was brought online during the fourth quarter of 2021.

During 2021, 79 drinking water audits were completed. In December 2021, the EPA published the 'Public Supplies Drinking Water Report for 2020'. Nine Directions were issued to Irish Water in 2021, compared to five Directions in 2020.

There was a significant increase in the population affected by Boil Water Notice (BWN) during 2021 (Table 6) with 70 notices in place compared to 43 boil water notices in 2020. The increase in notices appears to be linked to increased awareness of incidents and incident reporting by Irish Water on foot of increased EPA enforcement activities following two significant incidents which occurred at Gorey and Ballymore Eustace WTPs. While the EPA does not want to see the number of BWNs increasing, they are essential to protect public health when the operations of drinking water plants are compromised.

The EPA is concerned about the lack of progress by Irish Water in the removal of lead connections in the public network in 2021. Only 5,863 lead connections were replaced, bringing the total number of replacements to 41,566 out of approximately 180,000 lead connections. At this rate, Irish Water is highly unlikely to meet its previous commitment to remove all public-side lead pipework by 2026.

**Table 6.** Boil Water Notices and Water Restrictions

| Advisory Notices issued by Irish Water | 2020 | 2021 |
|---|---|---|
| Boil Water Notices | 43 notices affecting 74,995 people | 70 notices affecting 265,898 people |
| Water Restrictions | 17 notices affecting 4,118 people | 26 Notices affecting 17,954 people. |

Irish Water's progress to install and operate orthophosphate dosing to reduce the solubility of lead from pipework is slow. Orthophosphate (OP) dosing is in place at three supplies (Limerick, Hacketstown and Lough Talt) serving an estimated 59,592 properties. There are 15 additional plants at which OP dosing facilities are installed but not operating due to budget constraints, which is unsatisfactory. Operational budgets approved during 2021 should allow OP dosing to be introduced at these plants during 2022 on a phased basis.

The number of water supplies affected by pesticide exceedances was 31, slightly down from 33 in 2020. The herbicide MCPA (2-methyl-4-chlorophenoxyacetic acid) continues to dominate which is indicative of its common usage as a spray to control rushes on agricultural land. At the end of the year, there were six supplies on the EPA Remedial Action List for pesticides.

The European Commission escalated its infringement proceedings against Ireland on Trihalomethanes (THM) in drinking water to a Reasoned Opinion. The Reasoned Opinion states that Ireland failed to take the measures necessary to ensure THM compliance in 31 public water supplies and 13 private group water schemes. Ireland responded to the Commission in June 2021, providing details and timeframes by which Irish Water will complete works to address persistent THM exceedances in these public water supplies. In November 2021, the Commission decided to refer Ireland to the Court of Justice of the European Union for failure to comply with the requirements of the Drinking Water Directive (98/83/EC).

## Municipal waste water discharges

During 2021, the EPA completed 212 waste water site inspections focusing on plant performance, compliance monitoring of discharges and responding to complaints and incidents.

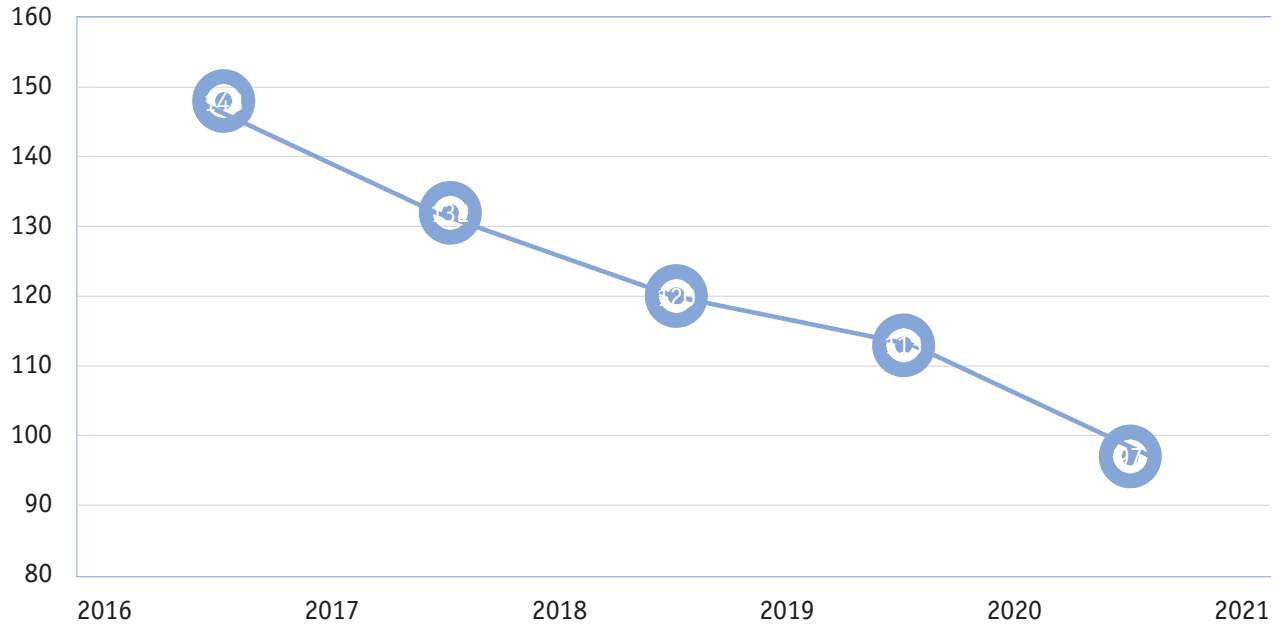
The EPA published the '2020 Urban Waste Water Report' in 2021 identifying the priority issues that must be addressed to protect our environment from the harmful effects of waste water discharges.

The Report highlighted the following improvements:

- A reduction in the number of priority areas from 148 in 2017 to 97 in 2021 (see Figure 3).
- The number of large towns and cities which failed to comply with the European Waste Water Treatment Directive improved from 28 in 2017 to 12 in 2020.
- One area (Cobh) with raw sewage discharges and eight water bodies which were not meeting their environmental objectives due to waste water pressures were resolved in 2020.

Despite these improvements, the EPA remains concerned about repeated delays and uncertainty in Irish Water's delivery of critical improvements, for example Irish Water has no clear action plan and timeframe to improve discharges from 29 of the 42 priority areas where waste water is a significant pressure on water bodies.

**Figure 3.** Reduction in the number of priority areas since 2017




## Domestic waste water treatment systems (septic tanks)

The EPA published the '2020 Domestic Waste Water Treatment Systems (DWWTS) inspection report' in 2021. The report highlights the following:

- 54% of systems failed inspection.
- three-quarters of systems failing inspection since 2013 have been fixed but failure to resolve older cases remains a concern.

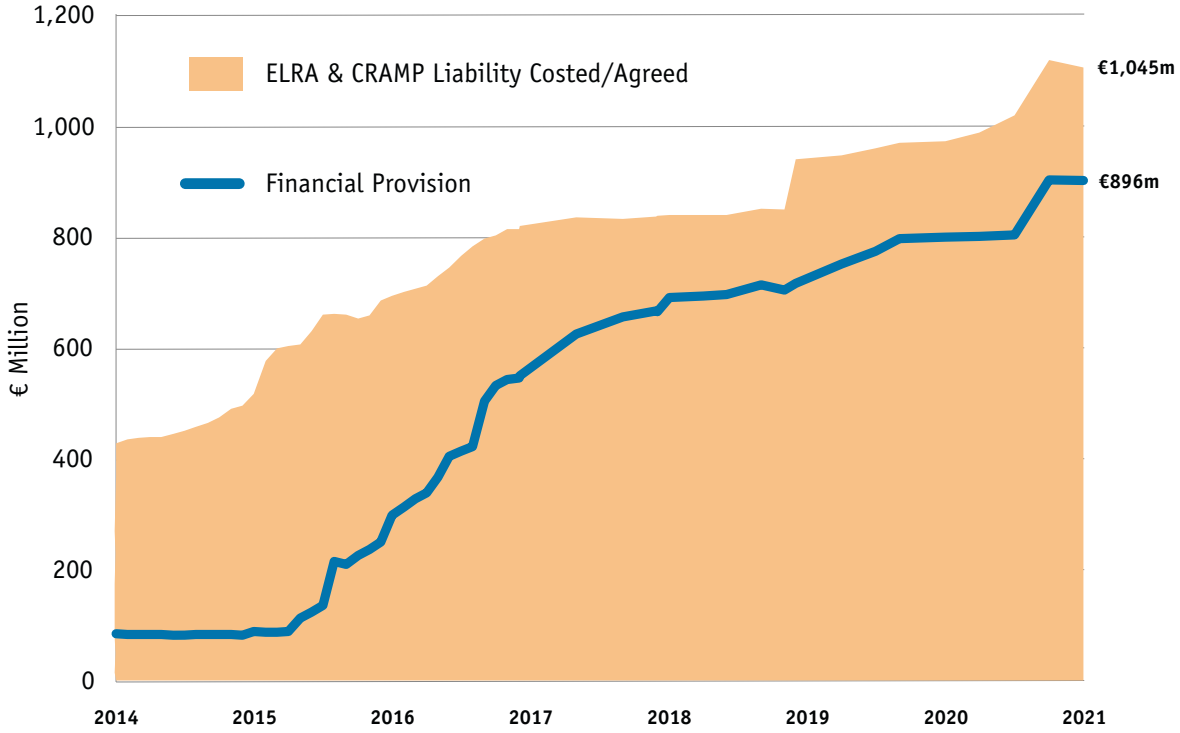
The EPA published the '2022-2026 National Inspection Plan for DWWTS' in 2021. Inspection numbers remain at the current level of a minimum of 1,000 for year one of the plan and then increase by 20% for the remainder of the plan.

## Preventing environmental damage

### Financial provision for environmental liabilities

Ensuring that licensees make adequate financial provision to cover the environmental liabilities associated with potential incidents or with the closure and aftercare of sites remains an ongoing EPA priority. Combined liability costings for closure and restoration/aftercare (CRAMP) and potential incidents (ELRA) agreed with EPA now stands at €1,089m. In 2021, the total Financial Provision (FP) secured for addressing the environmental liabilities at priority facilities reached €896m (Figure 4). This represents a significant reduction in the risk to the environment and to the State.

**Figure 4.** Financial provision secured for environmental liabilities




## Market Surveillance and Chemicals in the Environment

### Market Surveillance (including solid fuel regulations)

Consumers need to be confident products they purchase, when used properly, do not endanger themselves, others and their environment. Therefore, the primary aim of market surveillance is the promotion of the European internal market by ensuring a high level of protection for EU consumers and their interests. The EPA is responsible for surveillance activities encompassing a wide range of market legislation. Surveillance activities entail development and execution of programmes involving compliance checks on a range of consumer goods for restricted substances and following up any uncovered non-compliance. Also, where required, the EPA assists other EU market surveillance authorities and participates in joint surveillance projects. The EPA reports regularly on its market surveillance activities to the European Commission. Furthermore, the EPA works with industry to promote compliance and provides guidance where required.

During 2021, the EPA undertook a campaign to monitor compliance with the Restriction of Hazardous Substances (RoHS) Directive. Checks were carried out on 100 samples of haircare products for levels of hazardous substances prohibited under the Directive. Test results indicate seven products were non-compliant, the compliance status of 11 products is, as yet, undetermined with the remaining 82 products compliant. Follow-up investigations are scheduled during 2022.

A market surveillance campaign in 2021 focussed on compliance investigations of exercise accessories and equipment such as exercise mats, resistance bands, foam rollers and dumbbells with regard to Persistent Organic Pollutants (POPs) and Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulations. The EPA contracted the procurement and testing of 50 such items for levels of restricted substances under the regulations. Test results indicate four potential non-compliances due to excessive $C_9$-$C_{13}$ Chloroalkanes (POP). Follow-up investigations are ongoing.

The EPA is also charged with the establishment and maintenance of the Fuel Register under the Solid Fuel Regulations (S.I. 326 of 2012), as amended. There were 18 coal bagging facilities on the Fuel Register at the end of 2021.

## Chemicals in the Environment

The EPA designs and has carried out programmes which target suspected and/or newly confirmed hazardous substances in the environment. Such chemicals include Persistent Organic Pollutants (POPs) and some substances evaluated under the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regime. The aims of these programmes are to better understand the potential risks posed by these substances both to the environment and human health. Additionally, results from these studies can inform future, related investigations.

During 2021, EPA completed a project to examine the historic uses of Polychlorinated Biphenyls (PCB) in construction materials in the State and a second study regarding Poly- and Perfluoro alkylated Substances (PFAS) in landfill leachate. The EPA developed and published guidance regarding the use of PFAS-containing firefighting foams for Fire Services. The EPA also commenced a study into the use of heat insulation materials containing a persistent organic pollutant Hexabromocyclododecane within the State and implications for its management. Monitoring was also commenced for a variety of hazardous substances including PFAS in 2021. This involves sampling on the Shannon and Brosna rivers four times with the final sampling to take place in early 2022.

The EPA prepared and submitted reports to the Global UN Minamata Convention on Mercury and EU Mercury Regulation. These reports incorporate information with a range of parties including FSAI, Marine Institute, Customs, HSE, HSA and Commissioner for Irish Lights. The EPA, following discussions with the Department of Environment, Climate and Communications (DECC), also prepared guidance on the Transportation and Temporary Storage of Metallic Mercury Waste aimed at Waste Transfer Facilities and Hazardous Waste Collection Permit Holders.

## Producer responsibility

The EPA has enforcement responsibilities under the Waste Electrical and Electronic Equipment (WEEE), Batteries, and Tyres Regulations. Enforcement efforts are focussed on non-compliant producers. Producers are companies that either manufacture or import electronic products, batteries or tyres and make them available for sale for the first time in Ireland.

Audits of Business to Business (B2B) producers focussed on producers who had reported zero take back of WEEE in 2019 and 2020. Business to Customer (B2C) enforcement focussed on distance seller websites, retail sectors with low WEEE take-back and potential free-riders in the window blinds sector. Fifty-six fixed payment notices were issued to non-compliant EEE producers.

The EPA focussed enforcement on the management of WEEE at EPA licensed facilities. Letters were issued to 196 licensed waste management facilities highlighting the need to effectively manage WEEE at their facilities. As imported cars include their tyres and batteries, the EPA engaged with 43 car importers to enforce their obligations under the tyres and batteries regulations.

**Table 7.** Summary statistics on the 2020 producer responsibility enforcement campaigns

| Task | Total number of activities |
|---|---|
| Business to Business Producer WEEE Waste Management Plans reviewed | 225 |
| Business to Business Producer WEEE Waste Management Reports reviewed | 615 |
| Business to Business Electrical and Electronic Equipment (EEE) Producer Audits | 117 |
| Business to Consumer EEE/Battery Distance-seller website inspections | 60 |
| Advisory letters issued to potential producers in the window blinds sector | 40 |
| Advisory letters issued to companies with historical low take back of WEEE | 62 |
| Retail inspections in sectors with historical low take back of WEEE | 40 |
| Circular letter issued to EPA-licensed waste facilities advising on WEEE management | 196 |
| Fixed Payment Notices issued | 56 |
| Tyre Producer Inspections | 43 |
| Non-compliances under tyres regulations issued to car importers | 140 |
| Non-compliances under batteries regulations issued to car importers | 176 |

## Ozone-depleting substances and fluorinated greenhouse gases

As part of the work to significantly reduce the use of Ozone-Depleting Substances (ODS) and fluorinated gases (F-gas) with high global warming potential, the EPA produces guidance and carries out both desktop and on-site inspections of equipment end-users, engineering contractors servicing the relevant equipment and gas distributors. The EPA also prepares the National Halon Critical Use Report and the ODS Illegal Trade Report for submission to the European Commission.

### New Certification Process for F-gas contractors

Regulation of the F-gas sector requires persons and companies undertaking certain activities to be certified. Such certificates/attestations must be issued by a recognised awarding authority within the EU. Following the transition period after the UK's withdrawal from the EU (Brexit), certificates issued by organisations within the UK are no longer recognised within the EU. Prior to this, contractors within Ireland relied heavily on certification by UK organisations.

To avoid unnecessary re-training of contractors, the Department of the Environment, Climate and Communications (DECC) and the European Commission authorised the EPA to issue certificates to contractors holding valid UK certificates and an online application system was launched in 2019. In 2021, 644 Irish F-gas certificates/attestations were issued to service providers who held UK-based F-gas certificates so that they could continue to operate legally within the EU post-Brexit. A total of 3,733 Irish F-gas certificates have been issued by the EPA in 2021.

The EPA completed an assessment of F-gas and ODS use at Industrial Emissions (IE), Industrial Pollution Control (IPC) and Waste licensed sites with 289 sites having confirmed the use of these gases and detailed inventories. The study has raised awareness across the industrial and water sectors of F-Gas and ODS regulatory requirements, leading to better leak checking and reporting.

### Radiation protection inspections

The EPA carries out an annual programme of radiation protection inspections to assess compliance with legislation and authorisation conditions. These inspections allow the EPA to assess the standard of radiation protection at the sites inspected, to identify common or emerging issues across sites and to promote a strong radiation protection culture.

The inspection programme is set out annually based on several objective criteria including the radiological risk associated with the authorised practices, the time elapsed since the last inspection, and the compliance history of the facility. Reported incidents within the sector of operation are also considered along with any relevant information that has become available concerning either the authorised practices or the sectors in general.

During 2021, radiation protection inspections were undertaken in several sectors (Table 8) including five security surveys carried out with the assistance of An Garda Síochána National Crime Prevention Unit.

The focus of inspections for 2021 included radiation protection governance arrangements, implementation of the new Ionising Radiation Regulations (particularly the requirements on training, risk assessments, and worker categorisation), sites with disused radioactive sources, universities and satellite hospitals.

Inspection findings show that there is room for improvement in the areas of risk assessment (particularly in the industrial sector), radiation safety procedures and training. It was also identified that licensees need to strengthen their governance arrangements (including agreements with Radiation Protection Adviser's, designation of Radiation Protection Officers, and contractual arrangements with external service providers).

During 2021, eight reportable incidents and five reportable doses were notified to the EPA. Each of these matters were followed up as appropriate.

**Table 8.** Radiation protection licensee categories and inspections undertaken during 2021

| Licensee sector | Number of completed inspections. |
|---|---|
| Hospital and medical facilities | 37 |
| Industrial and commercial (including source distributors and transport companies) | 30 |
| Education and research | 6 |
| Other licensees (low- and medium-risk vets, dentists, cabinet X-ray and X-ray distributors) | 2 |
| **Total** | **75** |

## Local Authority Statutory Performance

A report on local authority environmental enforcement activities outlines the inspection and enforcement activities that local authorities carried out for 2020 focussing on national enforcement priorities. Waste enforcement activities largely remained resilient in 2020 with many good examples of multi-agency work and the improved coordination and strengthening of enforcement through the WERLA shared services. There was a reduction in enforcement activities in the area of Water and Air/Noise which needs to be addressed considering the decline in water quality and the significant health impacts associated with air and noise pollution.

The local authority performance framework was updated to evaluate the performance of local authorities in progressing national enforcement priorities designed to achieve environmental outcomes. The national enforcement priorities for 2022-2024 were developed under four themes: governance, waste, water and air/noise. This work involved significant engagement with DECC, local authorities, shared services, the National Waste Enforcement Steering Committee (NWESC) and relevant EPA offices. The updated framework will provide greater transparency in relation to the performance of local authorities in their environmental protection functions where significant challenges remain in relation water quality, air pollution and waste crime.

## Prosecutions

There were 24 court appearances out of which thirteen prosecutions were heard and concluded in the District Court, resulting in 10 convictions and two other licensees received the benefit of the Probation Act while one case was dismissed (Table 9).

The Courts imposed fines of €131,250 and awarded legal costs of €187,034 and charitable donations of €5,000. Seventy-one per cent of fines were collected during 2021 with the balance expected to be collected in 2022.

**Table 9.** Legal Enforcement Activities Undertaken in 2021

| Legal enforcement activity | Output |
|---|---|
| District Court prosecutions heard | 13 |
| Fines awarded in District Court | €131,250 |
| Costs awarded in District Court | €187,034 |
| **Total fines and costs** | **€318,284** |
| Charitable donations | €5,000 |

## 2.3 GUIDANCE

The EPA produces advice and guidance to industry, public bodies, and citizens covering a wide range of environmental activities to ensure compliance with best practice.

### Industrial and waste licensed sites

The EPA supports licensees by providing guidance to assist them comply with their statutory requirements. During the year, the EPA published three new air guidance notes and revised and updated four existing air guidance notes.

### Circular Economy

The National Waste Prevention Programme published guidance on management of hazardous waste, waste management plans for construction and demolition projects and updated guidance and training on Green Public Procurement. A public consultation was also carried out on the EPA's Circular Economy Programme.

### Waste water

The EPA published the new Code of Practice for Domestic Waste Water Treatment Systems (Population Equivalent ≤ 10) in 2021. The new Code provides details on how domestic waste water treatment systems should be constructed and maintained so they do not contaminate groundwater/surface water or endanger people's health

### Strategic Environmental Assessment

The EPA continued to update its guidance for plan-making authorities in carrying out strategic environmental assessments (SEA) of relevant plans, programmes and strategies. A Good Practice Guidance for Strategic Environmental Assessment (SEA) Screening was published, providing specific stand-alone guidance to assist plan/programme makers and SEA practitioners. A sectoral guidance document was also published to assist plan makers undertaking SEA in the energy sector.

### Noise mapping

In 2021, the EPA worked closely with local authorities and other noise mapping bodies to develop a more consistent national approach to strategic noise mapping of major roads and of agglomerations. Collection of data to underpin the fourth-round of strategic noise maps commenced in late 2021. In addition, EPA provided advice to the Department of Environment, Climate and Communications (DECC) on the re-delineation of the agglomerations of Dublin and Cork to take account of changes in the extent of these areas since the original delineation in 2006. It also provided advice on the extent of the new Limerick noise agglomeration.

# 3

Provide high quality, targeted and timely environmental data, assessments and evidence to inform decision making by citizens, businesses and government.

# 3 KNOWLEDGE

The EPA provides evidence-based assessment and timely information to all stakeholders, to support action to protect and manage the environment.

## 3.1 MONITORING AND ASSESSMENT

### Air quality

In collaboration with local authorities and other bodies, the EPA manages and operates the National Ambient Air Quality Monitoring Network (Figure 5). During 2021, data from the network was made available to the public through the new EPA website with improved functionality and reported in compliance with the requirements of the EU Clean Air for Europe Directive (CAFE) and 4th Daughter Directive. Data is assessed against European legal limit values and World Health Organization (WHO) guideline values.

The network was further expanded during 2021 with the addition of nine new monitoring stations. The network has now more than tripled in size since 2017 – 97 monitoring stations compared to 29 in 2017.

In November 2021, the EPA published its annual report on air quality in Ireland for 2020. The report concluded that while there was a large decrease in air pollution from traffic in 2020 due to Covid-19 restrictions and Ireland's air quality was generally good during 2020, there are concerning localised issues.

Air quality impacts people's health and there are an estimated 1,300 premature deaths in Ireland due to air pollution. Research carried out by the Health Service Executive (HSE) in conjunction with the EPA has shown the clear link between increased admissions to Dublin hospitals and poor or very poor status of the Air Quality Index for Health. Levels of particulate matter (fine particles) in air is of growing concern. Levels of this pollutant are particularly high during the winter months when people's use of solid fuels such as coal, peat and wet wood negatively impacts air quality – especially in small towns and villages. Any movement along the spectrum of home heating choices and solid fuel choices towards cleaner modes (Figure 6) will have a subsequent improvement on air quality. Similarly, the health impact from transport emissions can be mitigated by making the right transport choices (Figure 7).

**Figure 5.** National Ambient Air Quality Monitoring Network

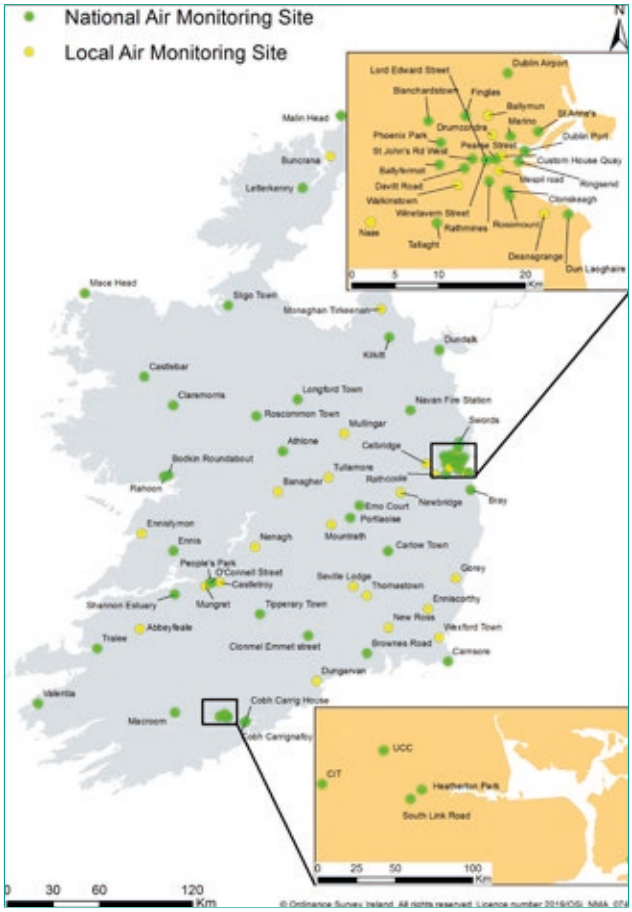


**Figure 6.** Infographic on the air quality and health aspects of home heating choices

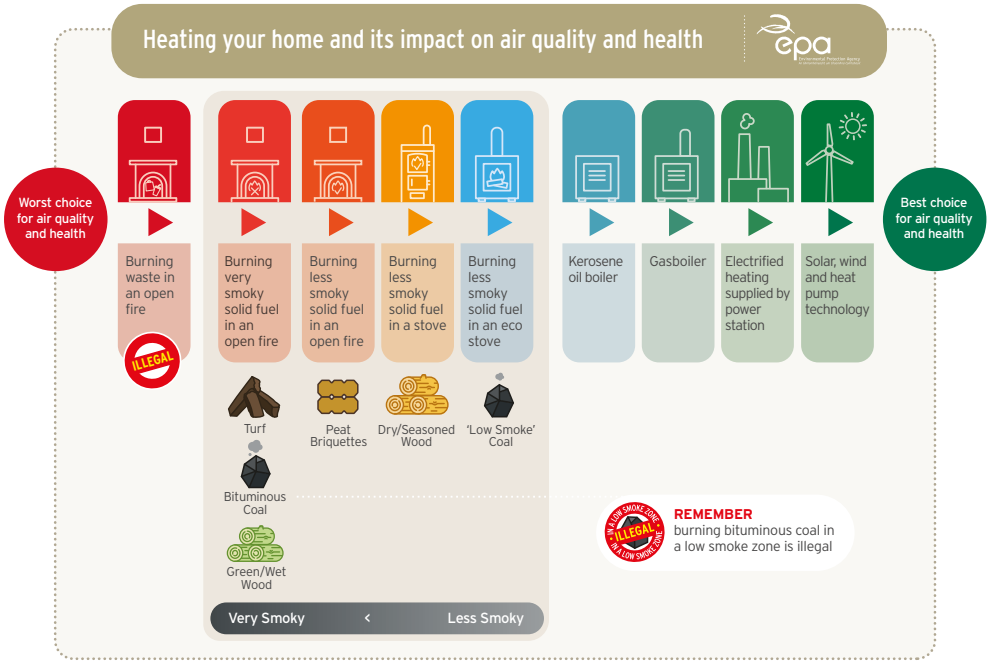
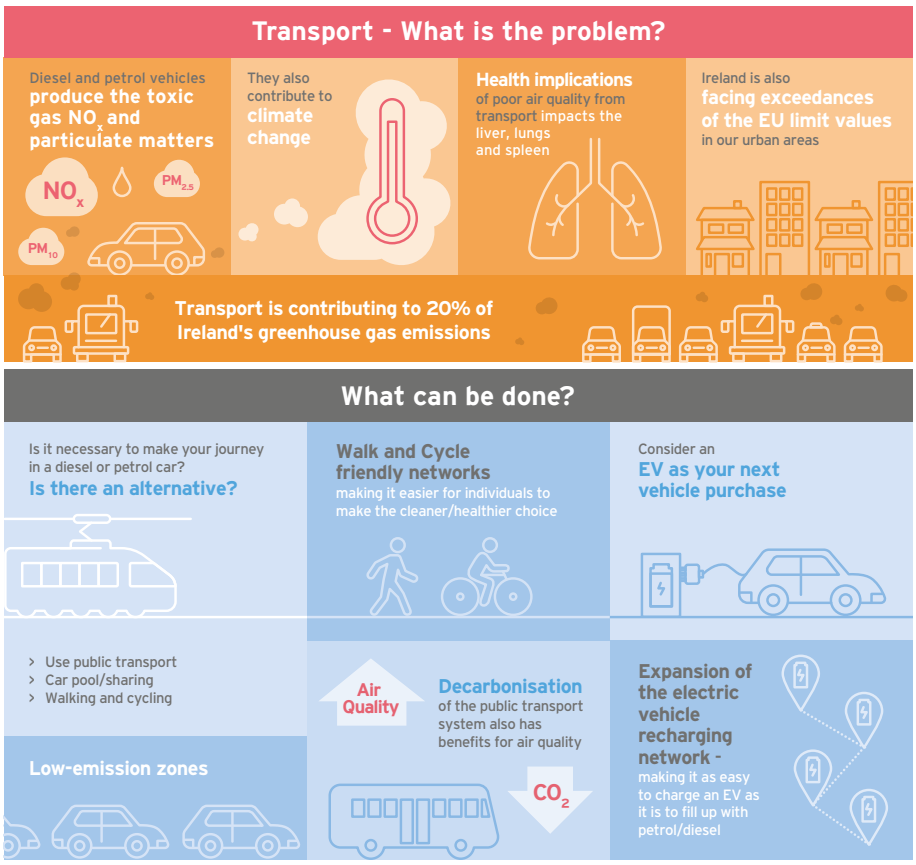



**Figure 7.** Infographic on the air quality and health aspects of transport choices



## Air pollutant emission inventories and projections

The EPA submitted air pollutant emissions inventory data for 2019 and emissions projections to 2040 to the United Nations Economic Commission for Europe (UNECE), under the Convention on Long-range Transboundary Air Pollution (CLRTAP), and the EU, under the National Emission Ceiling (NEC) Directive.

This latest report shows that, despite decreasing in 2019, ammonia emissions are still non-compliant with the EU ceiling and have now been non-compliant for seven out of the last nine years. Agriculture dominates emissions of ammonia (99%), which arise from animal manures and nitrogen fertiliser. However, there are some encouraging signs of abatement measures being adopted at farm level, with approximately 16% of cattle slurries applied using low emission spreading techniques, avoiding over 3,000 tonnes of ammonia emissions. There was also a four-fold increase, albeit from a low base, in the use of inhibited urea fertiliser products in 2019.

Emissions of nitrogen oxides – primarily from transport and diesel fuelled vehicles in particular – decreased by 9.2% in 2019 as vehicle NOx abatement technologies continue to improve. Emissions of non-methane volatile organic compounds also decreased slightly (1.1%) in 2019. These mostly arise from spirit production in the food and beverage industry, animal manures and fertilisers.

There was a 13.1% decrease in emissions of fine particulate matter due to lower heating requirements in 2019, while emissions of sulphur dioxide continued a downward trend.

Ireland is compliant for 2019 with the emissions ceilings under the NEC Directive for nitrogen oxides, non-methane volatile organic compounds and sulphur dioxide, whilst a ceiling for fine particulate matter doesn't come into force until 2020.

Emissions of all air pollutants need to reduce further to protect air quality and health and achieve compliance with EU emissions limits.

## Water Quality

The EPA is responsible for co-ordinating and implementing the national water quality monitoring programme, undertaking technical and scientific assessments to understand the pressures impacting on the water environment, and helping to inform the measures which need to be taken to protect and improve water quality. This information is also required for reporting to the EU on the Water Framework Directive (WFD) and other water related activities.

Despite some impacts from Covid-19 restrictions, the national surface water and groundwater monitoring programme was substantially completed during 2021. Teams operating within public health guidelines undertook the following:

- Ecological surveys and chemical sampling from 1,539 waterbodies including rivers, lakes, transitional and coastal water bodies and groundwater.
- Collection and assessment of 2,073 biological samples from rivers, lakes, estuaries and coastal waters.
- Chemical analysis of 15,391 water samples from rivers, lakes, estuaries and coastal waters.
- Sampling and analysis of 768 groundwater samples over three rounds from approximately 270 wells and springs.

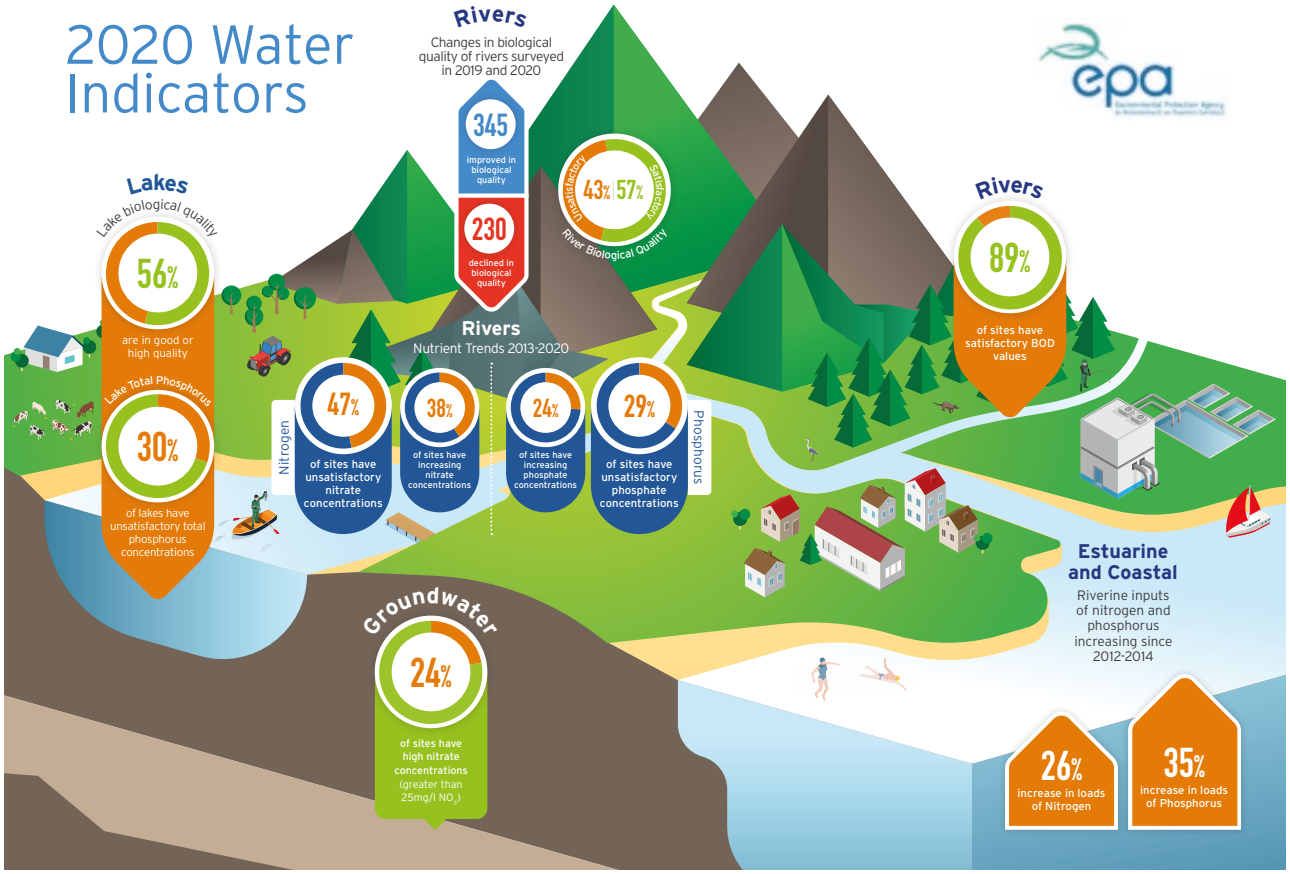
In July 2021, the EPA published the 'Water Quality in 2020 indicator report'. It provides an update on the quality of water in Ireland's rivers, lakes, transitional and coastal waters and groundwater using information collected in 2020. Figure 8 summarises the findings of the report.

The report highlighted that surface and groundwater continue to be under pressure from human activities: particularly from nitrogen and phosphorus from agriculture and waste water. There are some improvements in the biological quality of our rivers, however many are not as ecologically healthy as they should be. Focussed action is needed to see sustained improvements in water quality which is essential to our health and wellbeing. Just over half of our rivers and lakes are in good or high biological quality, meaning there is still a substantial amount of work to be done to bring the remaining waters back to a satisfactory standard. Also, of concern is the finding that nitrate concentrations in our rivers, estuaries and groundwaters are showing an upward trend, particularly in the south and southeast of the country.

There are however positive signs, particularly in Priority Areas for Action (PAAs) where some rivers are showing evidence of improvement. This is encouraging and indicates that targeting of measures in these areas which were selected as part of Ireland's national river basin management is leading to improvements in water quality.

The EPA also coordinated and published the annual report on emissions of nitrogen and phosphorus to water for 2020. This work supports the assessment of the impact of Ireland's Nitrates Derogation on water quality.

**Figure 8.** Water Quality Indicators 2020




In 2021, the EPA contributed to the draft third-cycle River Basin Management Plan 2022-2027 (RBMP), published by the Department of Housing, Local Government and Heritage (DHLGH), which set out the actions that Ireland will take to protect and improve water quality in water bodies. Assessments have been carried out on the distance to target for some of the pressures and stressors which is informing the objectives and the level of ambition of the plan. Further scenario analyses will be carried out in early 2022 on what the plan might achieve in terms of outcomes.

During 2021, the EPA continued the development of tools for assessing the risks of sediment impacts on water quality which helps characterise the pressures and provide the evidence base to target measures. A framework for providing guidance on 'the right measure in the right place' for river restoration and nature-based catchment management solutions is nearing completion. The framework will include an approach for targeting measures to address activities impacting on the physical habitat conditions of surface waters, and their natural form and function. These hydromorphological pressures are the second most important stressor causing water quality impacts, after nutrients.

In September 2021, a new biological assessment method used to assess the impact of acidification on river ecology known as the Acid Waters Indicator Community Score (AWICS) was submitted to the European Commission's evaluation committee as part of the EU-wide intercalibration exercise. The purpose of the intercalibration exercise is to ensure the assessment of water status across Europe is done in a consistent and comparable way. To date, Ireland has formally intercalibrated 15 out of the 17 methods used in the national monitoring programme.

The EPA in conjunction with researchers from National University of Ireland Galway, used information from the national monitoring programme on the coverage of green seaweed blooms to successfully demonstrate the use of Copernicus remote sensing data and machine learning to monitor water quality in estuarine waters. The outputs from this work have been published as a peer reviewed scientific publication (https://doi.org/10.3389/fmars.2021.633128#). Satellite information was subsequently collected to assess the condition of green seaweed blooms in Irish estuaries in the summer of 2021 as part of the national WFD monitoring programme.

## Hydrometric programme

The EPA continues to provide hydrometric data to support national and international reporting obligations, water resource planning and management, flood risk management, infrastructure design and a variety of other activities.

During 2021, the EPA carried out 2,203 assessments of groundwater levels and surface water levels and/or flow at sites throughout the country. These assessments primarily focused on the EPA/local authority network of sites, but also included targeted flow measurements where data was needed for specific purposes. The frequency of site visits was tailored to the site requirements and natural variability in the river channel. The data are available for download via the EPA's HydroNet web portal.

The groundwater monitoring programme for 2021 consisted of three sampling rounds with a total of 768 groundwater samples taken from wells and springs across the country. Groundwater chemistry data is available to download via the EPA Geoportal. Every year annual quality and water level data are reported to the European Environment Agency's Water Framework Directive (WFD) WISE database to support implementation of the WFD.

The EPA completed a technical assessment of the network of surface water hydrometric stations and national hydrometric requirements in 2021. This included consultation with relevant stakeholders e.g. Office of Public Works (OPW), Marine Institute and the Geological Survey of Ireland (GSI), for the publication of the National Hydrometric Programme 2022-27. An updated register of all active and inactive surface water hydrometric stations in Ireland was updated and published on the EPA website.

In September 2021, the EPA carried out a water balance assessment on the Grand Canal for Waterways Ireland. The assessment identified which section of the canal had significant leakage and allows for better management of the canal. This assessment will also be beneficial for the forthcoming abstraction licensing regime. The Barrow Line section of the Grand Canal is scheduled for assessment in 2022.

The EPA continues to maintain the National Abstraction Registration portal under the abstraction registration regulations. At the end of 2021, there were 2,818 individual abstraction points registered with the EPA. The abstraction data is integrated into the WFD risk characterisation process.

Under the EU WFD Working Group on Groundwater, Ireland is leading a task to develop tools for assessing the impacts of climate change on groundwater. In 2021, a review of data and analysis of Member State practices was completed, and its findings and guidance recommendations are to be published by the Working Group in early 2022.

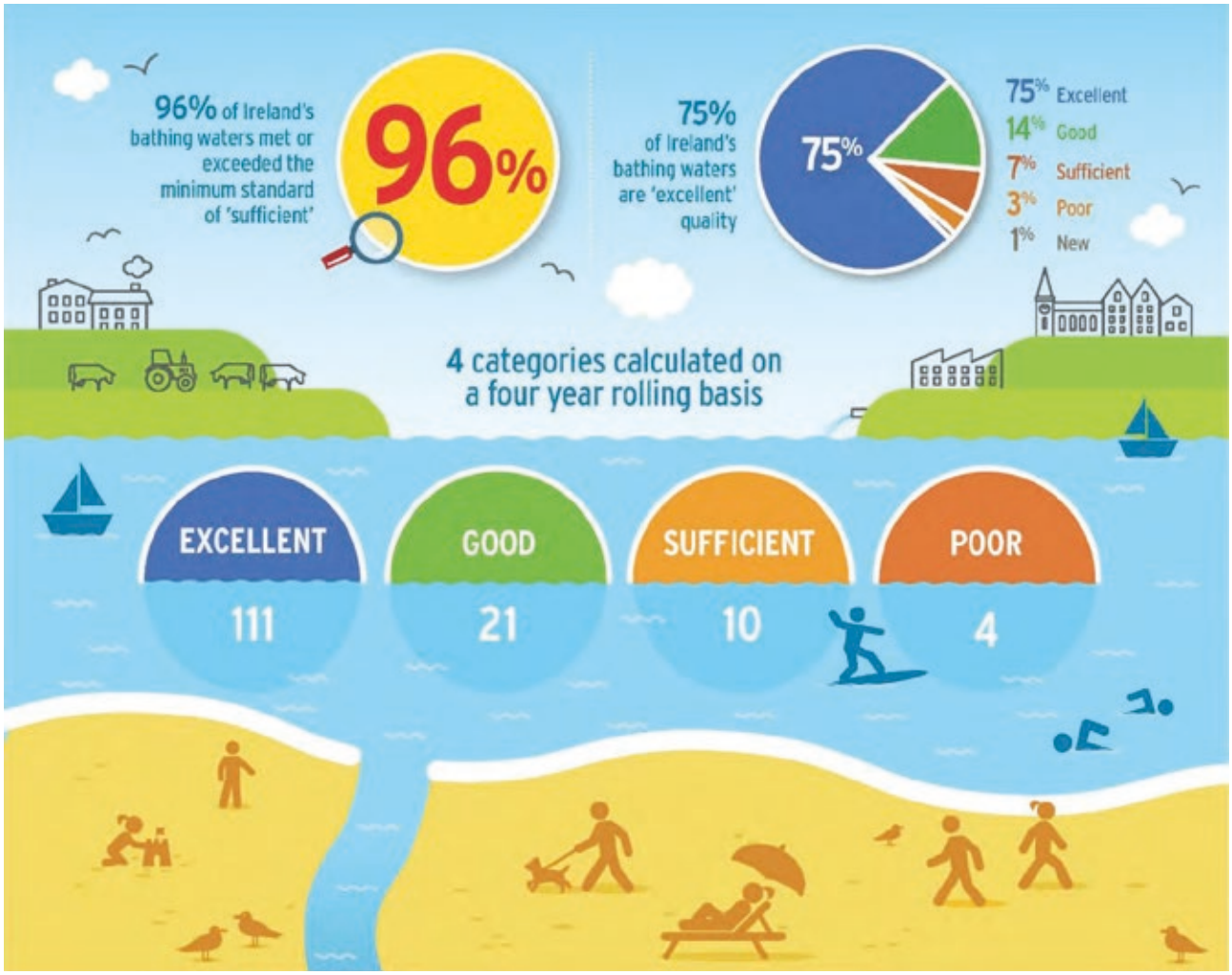
## Bathing water quality

During 2021, the EPA published the annual bathing water report that assessed results for the 2020 bathing season. Details of the 2020 bathing water quality assessments are summarised in Figure 9. The report found that 96% of bathing waters (142 of 148) in 2020 met or exceeded the minimum required standard. This is up from 95% in 2019.

The EPA worked with local authorities to ensure that the 2021 bathing water season was successfully managed despite the restrictions due to Covid-19.

In 2021, Beaches.ie was upgraded to capture and publish out of season monitoring data which are collected by some of the Dublin local authorities. The EPA has been working together with the Bathing Water Expert Group, which is led by the DHLGH, to develop an approach to protecting bathers' health outside the bathing water season.

**Figure 9.** Bathing water quality in 2020




## Climate change

### Emission inventories

In October 2021, the EPA published provisional Greenhouse gas (GHG) emissions data for 2020. The figures show a reduction in emissions of 3.6% compared to 2019, which although significant, is 0.4% less than the reduction seen in 2019.

Significant emission reductions were recorded for the Energy Industries sector due mainly to a 51% decrease in peat used in electricity generation and increases in wind used in electricity generation. This reduction was despite a similar level of electricity demand to 2019 and resulted in an 8.1% decrease in the emissions intensity of power generation in 2020. The lockdown measures put in place in response to the Covid-19 pandemic led to significant emissions reductions in the Transport sector but increases in the Residential sector.

The figures indicate that Ireland exceeded its 2020 annual EU emissions allocation by 6.7Mt and cumulatively exceeded its allocation over the lifetime of the 2013–2020 Effort Sharing Decision (ESD) by over 12 Mt. Emissions covered under the ESD in 2020 had only decreased by 7% on the 2005 level compared to the overall target of a 20% reduction.

### Emissions projections

In June 2021, the EPA published greenhouse gas emission projections out to 2040. Ireland can meet our current EU commitments over the 2021 to 2030 period if all current plans and policies are fully implemented.

Projections indicate that under the best-case scenario, with all the measures set out in the 2019 Climate Action Plan fully implemented, Ireland's 2030 emissions will be 24% lower than 2018 levels.

However, for Ireland to meet the more ambitious targets as presented in the European Climate Law and Ireland's Climate Bill, and to transform to a climate resilient, biodiversity rich and climate neutral economy by 2050, there needs to be a significant and immediate increase in the scale and pace of greenhouse gas emission reductions.

## Climate change impacts

In August the EPA joined with Met Éireann and the Marine Institute to publish a report on 'The Status of Ireland's Climate'. The report prepared by MaREI, University College Cork provides a comprehensive analysis of climate data collected in Ireland. It details how global changes are being reflected in Ireland's atmosphere, oceans and landscape. Global warming has resulted in Ireland's climate becoming warmer and wetter. Sea level rise, increased ocean acidity, and higher ocean temperatures are also observed in our oceans and coastal areas. Ireland's ocean and terrestrial ecosystems are responding to these changes, resulting in changes in ocean species and a longer growing season on land.

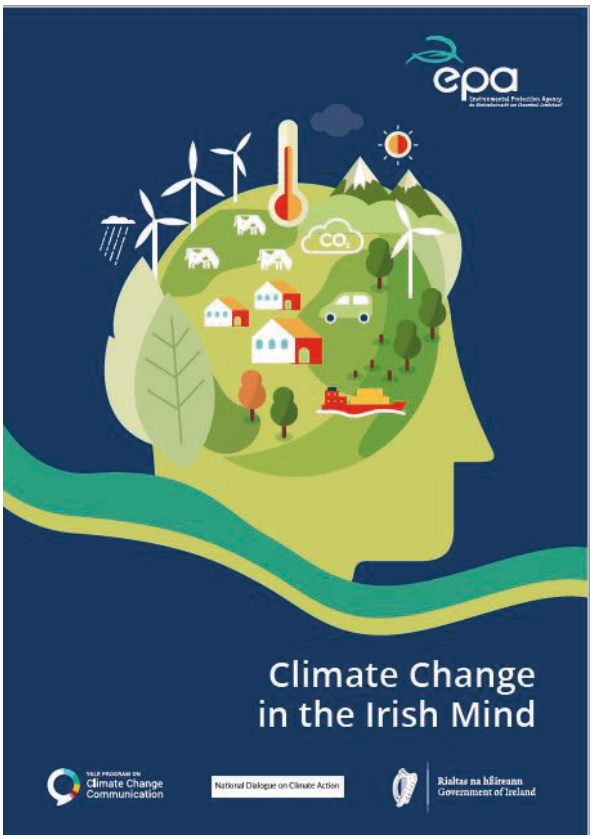
## Climate change in the Irish Mind

In December the EPA published the first report from 'Climate Change in the Irish Mind' project. This work was undertaken by EPA and the Yale University Program on Climate Change Communication (its academic partner) in support of the National Dialogue on Climate Action. The project aims to develop a better understanding of the Irish population by conducting a baseline study of public climate change beliefs, risk perceptions, policy preferences, and behaviour of the Irish public to climate change. The project will deliver three key outputs: 1) A Climate Change in the Irish Mind report; 2) A segmentation report and 3) an online interactive map.

The report 'Climate Change in the Irish Mind' is based on a nationally representative survey of more than 4,000 people during the summer of 2021.

The results are emphatic:

- Irish people are in almost full agreement that climate change is happening and 85% are worried about it.
- 91% of people say climate change is important to them personally and (79%) say climate change should be either a "very high" or "high" priority for the Government of Ireland.
- Irish people strongly support a range of policies to address climate change. People also think that climate action will increase jobs, economic growth and quality of life (78%).
- Scientists, experts and the EPA are very highly trusted sources of information about climate change.




## Five-Year Assessment Report

Work on an assessment of understanding of key aspects of climate change under a 'Five-Year Assessment Report' was commenced in 2021. The report will build on and localise information provided by the Intergovernmental Panel on Climate Change (IPCC) and is designed to inform climate policy and actions. A team of nine lead authors from Ireland's research community are preparing the report which is primarily supported by the EPA with co-funding from Science Foundation Ireland, Sustainable Energy Authority of Ireland and Department of Transport.

## European Pollutant Release and Transfer Register

If an operator carrying out a PRTR activity has emissions or waste transfers above specified thresholds, information is provided by the operator to the EPA concerning the amount of pollutant releases to air, water, and waste water as well as off-site transfers of waste.

The 2019 PRTR data was submitted to the European Commission in March 2020 and is published on the national PRTR website (https://gis.epa.ie/EPAMaps/PRTR). During 2021, the 2020 data was collected and validated, and was reported to the European Commission in November 2021.

Analysis of the 2020 data shows that there was a small increase in the number of operators reporting under PRTR. Overall, there was a decrease in releases to air by these operators for pollutants such as carbon dioxide, carbon monoxide, chlorofluorocarbons, dioxins/furans, hydrochlorofluorocarbons, mercury, methane, nitrogen oxides, nitrous oxide, non-methane volatile organic compounds, sulphur oxides, sulphur hexafluoride; while releases of ammonia, chlorine, hydro-fluorocarbons, nickel, perfluorocarbons, PM10 increased. There were increases in total nitrogen, total phosphorus, fluorides, mercury and pesticides releases to water – particularly from large urban waste water treatment plants. There was a decrease in hazardous waste transfers, both for hazardous waste sent abroad and transferred within Ireland. The quantity of non-hazardous waste transferred also increased in 2020.

## Waste

The EPA's National Waste Statistics web resource (www.epa.ie/nationalwastestatistics/) continues to provide the most recent available waste data for Ireland to view and download. During 2021, online data releases were published for a range of waste stream including municipal, household, packaging, hazardous, composting, waste electrical and electronic equipment (WEEE), end-of-life vehicles, tyres and construction & demolition waste.

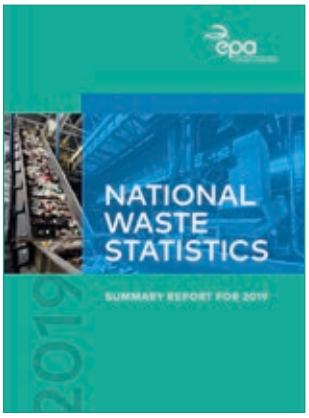
The latest EPA data show that waste generation in Ireland continued to rise in 2019 while recycling rates fell as efforts to improve recycling were outstripped by the growth in waste being generated and more waste being sent for energy recovery. Ireland continues to have some significant waste infrastructure deficits and relies heavily on exporting waste abroad for treatment. The data show that Ireland faces a widening gap to meet ambitious new EU recycling targets and to transition to a circular economy.

The 'National Waste Statistics Summary Report for 2019' was published in December 2021, summarising the latest waste data, key trends and Ireland's progress towards meeting EU targets.

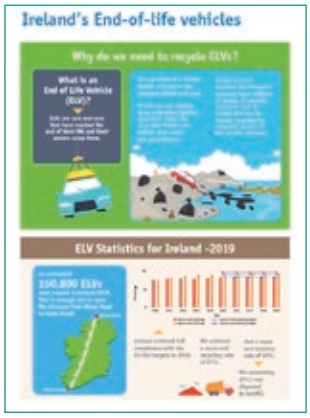
## Chemicals in the environment

The EPA is the responsible body in Ireland for the implementation of a range of legislation related to chemicals in the environment and their potential effects. This includes the Persistent Organic Pollutant (POPs) Regulation (EU Regulation 2019/1021) and the Stockholm Convention on POPs, the Mercury Regulation (EU Regulation 2017/852), the Paints Directive (EU Directive 2004/42/EC), the EU Directive on the Restriction of Hazardous Substances (RoHS, Directive 2011/65-/EU) and the EU End-of-Life Vehicles Regulations (EU Directive 2000/53/EC).

The EPA continues to monitor developments regarding the restrictions on Perfluorooctanoic Acid (PFOA) and related substances (POPs). During 2021, the EPA had many commonly used firefighting foams checked for Poly- and Perfluoro alkylated Substances (PFAS). Also, the EPA carried out checks on a variety of items ranging from haircare products to exercise accessories for not only currently restricted hazardous substances under relevant legislation but also, where appropriate, other chemicals of emerging concern. A number of potential non compliances were identified and EPA is progressing investigations to determine if these products were placed on the market after the date when the restrictions came into force.





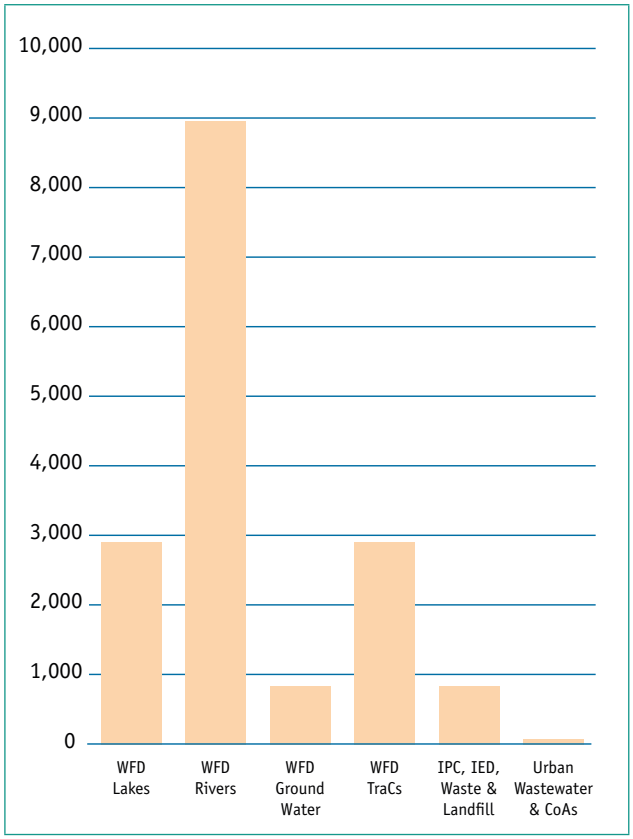



## Environment laboratory services

The EPA laboratories in Castlebar, Dublin, Kilkenny and Monaghan undertake analysis to support the implementation of monitoring programmes, licensing, enforcement, and the Water Framework Directive.

These laboratories, together with the sampling team in Cork, carry out monitoring, analysis and reporting of samples taken for enforcement at licensed facilities, as well as auditing at poultry and waste water treatment sites. The laboratories also analyse samples from rivers, lakes, groundwaters and transitional and coastal waters under the National WFD Monitoring Programmes. During 2021, the laboratories carried out a range of analyses on 15,391 samples. This is an increase on the 13,866 samples analysed in 2020 and close to the number of samples analysed prior to Covid-19 restrictions in 2019. A breakdown of the sample numbers analysed in 2021 is provided in Figure 10. Due to Covid-19 restrictions, sampling was prioritised for WFD and the EPA's enforcement programme. However, the auditing programme of local authority sampling was not undertaken in 2021.

**Figure 10.** Number of samples, by type, analysed by EPA water laboratories in 2021




In July 2021, the air, radiation, and water laboratories were re-assessed against the requirements of the ISO 17025:2017 standard by the Irish National Accreditation Board (INAB). The successful audit recognised the work of the EPA in continuous development, maintenance and support of the quality system across several sites.

The Lean Change Programme continued to deliver benefits for the EPA's laboratories in 2021. Lean projects completed included Radiation Instrument Calibration and Product Certification process, procurement of laboratory consumables, gas and chemicals, and implementation of a Kanban system for inventory management. The Lean turnaround times project for water laboratory reports continued and was extended to include WFD samples.

## Radiation monitoring

### Instrument calibration service

The EPA's Instrument Calibration Service provides an accredited calibration service for a range of radiation protection instruments, including survey meters, contamination meters and electronic personal dosimeters. This supports monitoring of radiation levels and radiation safety in the workplace for licensees and stakeholders in industry, medicine, defence, research, regulation, and emergency response.

The service continued to provide high quality calibrations for radiation monitors used to protect workers and the public from external exposures with 310 calibrations undertaken in 2021.

### Radioanalytical services

The EPA measures radioactivity in a wide range of foodstuffs and environmental samples. This work is undertaken both in support of the EPA's environmental radioactivity monitoring programmes and on a contract basis for external clients.

The contract radioanalytical services provided during 2021 included:

- Testing of Irish produce for compliance with the requirements of importing countries as well as imported animal-feed grains from third- countries.
- Testing of drinking water for compliance with the requirements of the European Communities Regulations.
- Testing of wipe-tests undertaken on radioactive sources to identify leakages.
- Testing of dredged samples for compliance with the requirements of the Dumping at Sea Act 1996, as amended.

In total, 487 contract samples were tested during 2021.

The 2021 radiation monitoring programme involved sampling and testing for radioactivity in air, drinking water, soil, seawater, seaweed, sediments, fish, shellfish, mixed diet and other foodstuffs as well as the continuous measurement of the ambient gamma dose rate at fixed monitoring stations around the country.

The 2017-2022 national surveillance programme for radioactivity in drinking water continued in 2021, though the programme was impacted by Covid-19 restrictions. In addition, a survey of radioactivity in Irish bottled water was completed in 2021.

A total of 537 environmental samples were analysed for various monitoring programmes during the year. The findings of this monitoring showed that, although the levels of artificial radioactivity in the Irish environment remain detectable, they are low and do not pose a significant risk to human health.

The EPA also supports the Irish food and agriculture industry through the assessment of the radioactivity status of Irish foodstuffs. This assessment provides the basis for certifying radioactivity in produce for export following the 1986 Chernobyl accident. The number of product certificates issued in 2021 was 3,237.

## National Radiation Monitoring Network

The National Radiation Monitoring Network (NRMN) is maintained as part of the EPA's responsibilities under the National Plan for Nuclear and Radiological Emergency Exposure. The Network currently includes fifteen dose-rate monitors that send live data to the EPA website as well as to the European Commission and International Atomic Energy Agency. Five field instruments measure radioactivity on aerosol filters and send live data to the EPA. This data would be used in the event of an overseas nuclear or radiological accident. An additional seven aerosol and ten rainwater samplers continuously gather samples for off-line analysis in EPA laboratories.

The redevelopment of the NRMN continued in 2021. Significant civil works were undertaken at agreed sites in co-operation with site owners. Deployment of instruments and testing onsite began in 2021.

NRMN site at Athlone Barracks showing progression of work

Onsite deployment of gamma dose rate monitor

## European Commission Article 35 Verification Visit

Article 35 of the Euratom Treaty requires Member States to establish the facilities necessary to carry out continuous monitoring of the levels of radioactivity in the air, water and soil and to ensure compliance with the Basic Safety Standards. In accordance with Article 35, the Commission carries out a programme of Verification visits in Member States. The principal purpose of such visits is to provide an independent assessment of the adequacy of monitoring facilities for environmental radioactivity. The EPA hosted the Commission visit in November and visited Defence Forces and Civil Defence sites to inspect the National Radiation Monitoring Network. The preliminary feedback was positive overall and noted the commitment and engagement of EPA staff. Their full report is due in 2022.

Article 35 Verification Visit

## National Radon Control Strategy

The National Radon Control Strategy (NRCS) is a cross-government strategy that aims to reduce the incidence of radon-related lung cancer cases in Ireland. The EPA, with other stakeholders, implemented the actions for 2021, as set out in the strategy.

Field trials on the effectiveness of 'passive sumps' as a radon preventive measure were undertaken and built on previous EPA funded research on the optimal radon preventive measures for the construction of homes in Ireland. This work was carried out in collaboration with a radon contractor, Wexford County Council, the DHLGH and University College Dublin. The trials found that passive systems (passive sump and static cowl) offer a sustainable and low-cost preventive measure to reduce radon in newly built dwellings.

In collaboration with researchers in Trinity College Dublin and the Geological Survey of Ireland, the EPA completed the development of a refined radon risk map during 2021. The Economic and Social Research Institute (ESRI), in conjunction with EPA, undertook user testing of the new map with over a thousand members of the public. The study found that improved messaging and a better search function for the map will dramatically improve its effectiveness. The EPA will publish the map in 2022 at a national radon forum event.

European Radon Day 2021 was marked on the 7th of November with a week-long radon awareness campaign that highlighted the importance of testing and remediation through a series of radio advertisements and a social media campaign.

## Non-ionising radiation

During 2021, EPA implemented a national monitoring programme for Non-Ionising Radiation (NIR) within the frequency range 0 Hz to 300 GHz. This frequency range is commonly referred to as Electromagnetic Fields (EMF). The monitoring programme supports the EPA's advisory role in relation to public exposure to EMF and will assess the population exposure to EMF by determining the typical levels of exposure found in everyday environments in Ireland, particularly in those areas with a high population and/or footfall. The objective of the programme is to establish a baseline for EMF levels in Ireland and over time use this baseline to assess the effect that the deployment of new telecommunication technologies or new electricity infrastructure may have. Measurements recommenced in March 2021 following delays due to Covid-19 restrictions with measurements completed at 30 of the 56 sites on the programme by December. The results from monitoring will be available in 2022

No adverse health effects have been proven at EMF exposure levels below international guidelines as set out by the International Commission on Non-Ionising Radiation Protection (ICNIRP). The ICNIRP guidelines are endorsed by the World Health Organization (WHO) and the European Commission. The EPA continued to provide advice to the public during 2021 on EMF and added content to its website on Wi-Fi devices and smart meters. http://www.epa.ie/radiation/emf/health/.

During 2020, ICNIRP published updated recommendations on Radio-Frequency EMF (RF-EMF) which covers the frequency range envisaged for 5G. The deployment of 5G technologies across Ireland is not expected to increase the public EMF exposure to levels close to the ICNIRP values.

Mobile phone handsets are the most significant source of public exposure to RF-EMF as their exposure is typically much higher than that from other radiofrequency sources such as mobile phone base stations or masts. These ICNIRP recommendations are now being evaluated by an expert EU committee. This evaluation is due to be finalised by end of 2022. EPA is monitoring this evaluation in the context of its statutory advice role.

## Ecosystems Monitoring and Reporting

The revised National Emissions Ceiling (NEC) Directive (2016/2284) requires Member States to monitor negative impacts of air pollution on ecosystems based on a network of sites that is representative of their freshwater, natural and semi-natural habitats and forest ecosystem types, taking a cost-effective and risk-based approach. A scoping study was undertaken to identify the necessary extent and elements of a monitoring network for Ireland which could provide robust data on the impact of air pollution on sensitive habitats such as raised and blanket bogs, grasslands and heathlands. The recommended network was based on achieving synergy with existing biological and ecosystems monitoring activities carried out by the EPA and by other organisations such as the National Parks and Wildlife Service, the Department of Food, Agriculture and Marine and academia. In 2021 EPA established the network with monitoring completed of a small number of sites covering bogs and heathlands. Some additional atmospheric ammonia monitoring sites were also established. When complete the network will focus on monitoring the impacts of nitrogen deposition (mostly from agriculture) on sensitive national habitats.

## Noise

The Environmental Noise Directive (END) is implemented through S.I. No. 549 of the European Communities (Environmental Noise) Regulations 2018. The aim of these regulations is to avoid, prevent or reduce the harmful effects of environmental noise through the preparation of strategic noise maps and the development and implementation of noise action plans. These regulations assign the EPA supervisory, advisory and coordination functions in relation to noise mapping and noise action planning.

Work on coordinating the Round-4 environmental noise mapping project for the Environmental Noise Directive continued in 2021. The EPA held bilateral meetings and technical discussions with the Department of Environment, Climate and Communications (DECC) and the bodies responsible for strategic noise maps; and other organisation that can provide data for the project. These bodies include Transport Infrastructure Ireland (TII), Irish Rail, Roads Management Office (RMO), National Transport Agency (NTA), Local Authorities, Dublin Airport Authority (DAA) & Local Government Management Agency (LGMA). The EPA progressed aspects around the extent of the three cities (Dublin, Limerick and Cork) that need to be modelled and mapped and worked on developing advice and technical guidance for road noise for Round-4 mapping.

Work on data collection outside of the agglomerations was progressed with good cooperation between Transport Infrastructure Ireland, the RMO, the LGMA and local authorities. Work within the three agglomerations was delayed in 2021 but the appointment a project manager in Dublin City Council to manage the mapping project for all three agglomerations was a positive development. The noise mapping and modelling work will continue during 2022.

Sixty per cent of annual progress reports on Noise Action Plans due from the local authorities for 2020, were received by the EPA. This is an area that will be focussed on by the EPA in 2022. Implementation of Noise Action Plans (noise mitigation) is a complex issue involving many organisations including: local authorities, TII and DECC.

## Land use

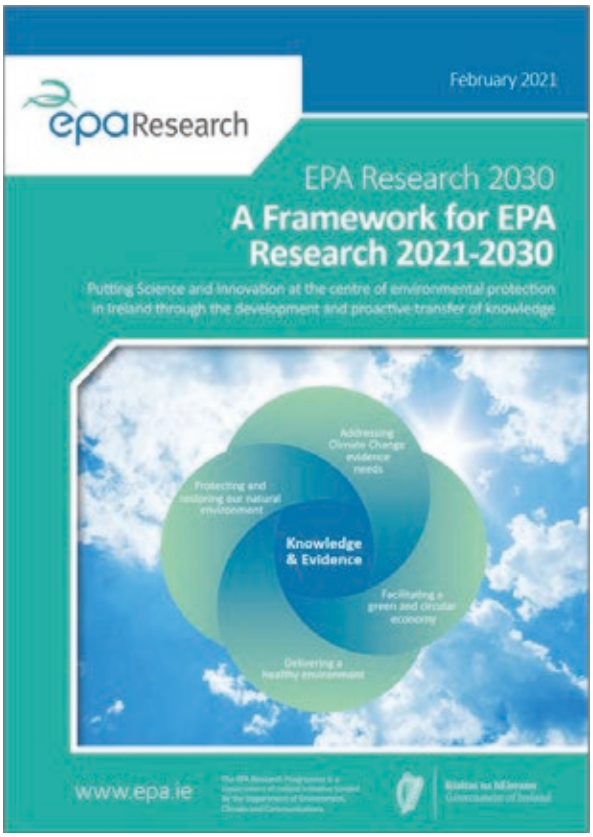
Ireland's land is a precious resource and fundamental to our economy, our environment, and our wellbeing. As such, a holistic systems approach is required to use and manage land to balance the many demands that are placed on it in terms of the complex challenges of climate change, water quality and biodiversity loss. Action 393 of the 2021 Climate Action Plan tasked the EPA with leading Phase 1 of a national Land Use Evidential Review. This work is assisted by several state agencies and government departments through a national steering group chaired by the Department of Agriculture, Food and the Marine (DAFM) and DECC. Phase-1 of the evidence review which commenced in mid-2021 is expected to be completed in the second half of 2022. The output is expected to support Government decision making in relation to identifying appropriate land use policies, measures and actions in the context of the it's wider economic, social and climate objectives.

## 3.2 RESEARCH

Effective management of the environment is increasingly science driven. Through its research programme, the EPA is generating the knowledge and expertise to identify pressures, inform policy and develop solutions to environmental challenges.

The EPA has a statutory responsibility for the coordination of environmental research in Ireland. This research has greatly assisted Ireland in meeting and addressing national challenges as well as international obligations at EU and United Nations levels in the areas of climate change, water quality, air quality, sustainability, health and the environment, and biodiversity.

The EPA's new ten-year high-level framework for research programming 'EPA Research 2030', was launched in March 2021. The framework is designed to be agile, responsive and flexible and aims to deliver essential scientific support for environmental policy development, implementation and broader decision making. Alongside the Framework, an action plan – providing a guide for the planned activities of the EPA Research Programme – as well as an assessment of the thematic areas – giving an overview of the priority research areas of focus for the period 2021-2023 – were also launched and will support and act as a resource for implementation of the Framework.





EPA Research 2030 thematic structure comprises four interconnected hubs:

- Addressing climate change evidence needs
- Facilitating a green and circular economy
- Delivering a healthy environment
- Protecting and restoring our natural environment

The scope of EPA-funded research is informed by its relevance to policy and its alignment with the key activities of the EPA. Consideration of the interactions between social, behavioural and economic factors as an integral component of environmental research will lead to enhanced governance and more effective implementation of environmental policies and strategies.

### Research Management

As of December 2021, the EPA managed 238 EPA Research and Collaborative (i.e. transnational) projects, as well as administering another 107 awards from strategic partnerships and event support scheme. The EPA's Grant Management and Application System was rebuilt and rolled out in May 2021.

## New Awards in 2021

In 2021, a total of 62 awards were made, including strategic partnerships at national and international level:

- 30 awards were made (€7.49m commitment) under the 2021 EPA Research Call.
- Eight projects were awarded with a total funding of €710k under the 2021 'EPA Green Enterprise Call'.
- 'The EPA Research Event Support scheme' opened in July 2021. Nine projects with a value of over €26k were awarded.
- 'The EPA new Fast-track to Policy Funding Scheme' opened as a pilot scheme in August 2021 – Two projects have been awarded.

### EPA national Strategic Partnerships:

- Three awards were made as part of the 2021/2022 'Fulbright-EPA awards'.
- Seven scholarships have been awarded under the 2020/2021 'EPA-Irish Research Council Postgraduate Scheme'.
- The EPA also committed to providing co-funding of:
  - €400k over the period 2022-2027 for two projects awarded under the 2021 'Marine Institute Blue Economy Call'.
  - €500k over the period 2022-2027 for two projects awarded under the 2021 'Department of Agriculture, Food and the Marine (DAFM) Call'.
- Phase III of the 'EPA-ESRI Environment Research Programme' continued in 2021.
- The 'EPA-IPA Research Framework' has published two EPA Research Reports in 2021:
  - EPA Research Report 372: Using the OECD Water Governance Indicator Framework to Review the Implementation of the River Basin Management Plan for Ireland 2018–2021.
  - EPA Research Report 373: Using an Experimental Governance Lens to Examine Governance of the River Basin Management Plan for Ireland 2018–2021.

### EPA international Strategic Partnerships:

- The configuration for the Programme Committees under 'Horizon Europe' has been finalised. The EPA is involved as national expert/contact point for Cluster-5: Climate, Energy & Mobility and Cluster-6: Food, Bioeconomy, Natural Resources, Agriculture and Environment. The Work programmes 2021-2022 were published in June 2021.
- Three projects with Irish researchers were successful in EPA supported European funding competitions.

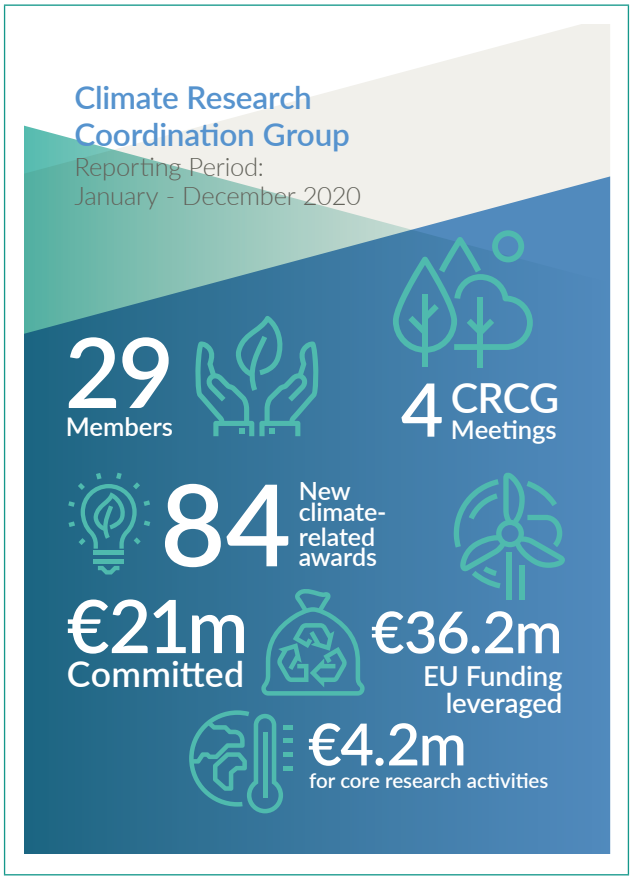
## Research Linkages

The EPA actively participated in the 'Innovation 2020 Implementation Group' and continued its participation in the 'Research Integrity National Forum', 'National Open Research Forum', as well as 'Gender-related' and 'Engaged' research fora.

### Research coordination

The governance and structure of the EPA national research coordination activities were reviewed in 2021 and the three Research Coordination Groups (Sustainability, Water and Climate) were combined into the National Environmental Research Coordination Group (NERCG). The NERCG currently consists of 44 organisations. Additions to the NERCG membership in 2021 include the Department of an Taoiseach and the Department of Foreign Affairs. The Climate Research Coordination Group (CRCG) remains as a sub-group, as part of its obligation under the Climate Action Plan to produce an annual report on Climate research.

The third 'Annual Report of Activities (2020)' for the CRCG was published in July 2021 and provides a summary of CRCG activities from January to December 2020.




## Research Communication

The EPA published 41 new research reports, three small-scale studies, and 28 Projects Highlights Videos. These are available for download from the EPA website: https://www.epa.ie/our-services/research/epa-funded-research/epa-research-publications/.

A new Knowledge Transfer project commenced which is supported by ERINN Innovation. The contract aims to support better knowledge transfer from EPA-funded research projects to policy-makers and policy implementation actors. The project commenced in October 2021 and will run for two years.

Provide timely and tailored information to meet the specific needs of stakeholder groups.

## 3.3 TIMELY AND ACCESSIBLE INFORMATION

The EPA monitors and reports on Ireland's environment and regulated entities. The data gathered, managed and analysed not only provides efficiencies for both the EPA and those it regulates, it also provides independent, evidence-based information, in an open and transparent manner to inform decision making by a broad range of stakeholders including government, non-governmental organisations, state agencies, industry and the public. Information is provided in a timely and accessible manner, principally through online resources.

### State of the Environment Report

Following the publication of the four-yearly State of Environment report in late 2020, the EPA continued to promote its findings, publishing a booklet presenting summary information, key messages, chapter highlights, actions, current assessment and outlook.


### Online resources

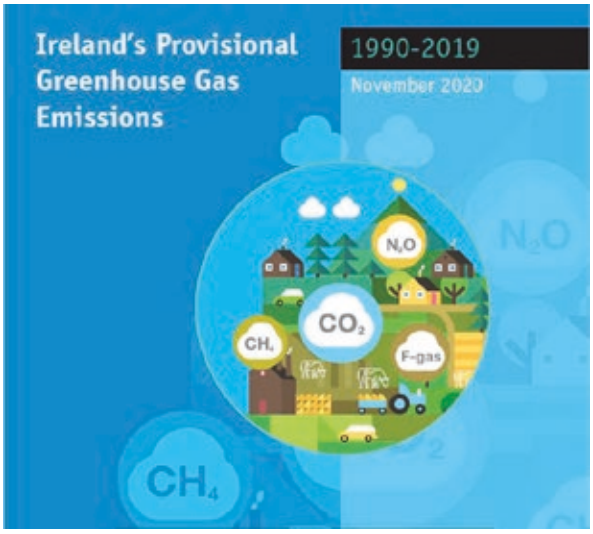
#### Ireland's Environment

The Ireland's Environment web resource (www.epa.ie/irelands-environment) provides environmental data on an easy-to-navigate platform. The web resource was updated regularly during 2021, with new data from EPA reports being provided under eight environmental themes: climate, air, water, waste, nature, land and soil, environment and wellbeing, sustainable economy. Information on the pages is available in accessible formats including videos, charts, infographics, environmental indicators and factsheets. The portal also provides access to State of Environment reports and products published by the EPA, including the most recent report, 'Ireland's Environment – An Integrated Assessment 2020.'

#### Air quality

In 2021, the EPA's air quality webpages (www.epa.ie/air/quality) were further upgraded to a newer display system as part of a wider website upgrade, with improved functionality allowing easier access to real-time air quality information from the substantially expanded national monitoring network. This web resource provides a station-based Air Quality Index for Health (AQIH) that translates measured data into a scale indicating how good or poor the air quality is. The scale is linked to health advice for the public and those vulnerable to poor air quality. As well as the website, the twitter feed, @EPAAirQuality, also kept the public up to date with air quality in their AQIH region.

Real-time data for selected air pollutants continued to be provided hourly to the European Environment Agency (EEA) for display on European air quality maps.



## Emissions inventories and projections

Greenhouse gas and air pollutant emissions data is made available at the EPA's web resource (https://www.epa.ie/ghg). Significant work has been undertaken in recent years to improve the accessibility and readability of the online resource and summary reports. Short animations providing key highlights and messages and narrated by the subject matter experts together with infographics aim to communicate clear messages about the country's performance on climate action.

## National Waste Statistics

The 'National Waste Statistics Summary Report for 2019' was published in December 2021, summarising the latest waste data, key trends and Ireland's progress towards EU targets.

The EPA's National Waste Statistics web resource (www.epa.ie/nationalwastestatistics/) continues to provide the most recent available waste data for Ireland to view and download. During 2021, online data releases were published for a range of waste streams including municipal, household, packaging, hazardous, composting, waste electrical and electronic equipment (WEEE), end-of-life vehicles, tyres and construction & demolition waste.

To enhance the provision of timely and accessible waste data, the 'First Look' section publishes quarterly figures on municipal waste accepted at Irish landfills and thermal treatment facilities.

## Radon

The EPA is the main provider of information and guidance to stakeholders in relation to radon gas. During 2021, the radon web resource (www.epa.ie/radon) continued the provision of helpful and practical advice on radon testing and remediation for householders, businesses and building professionals. In total, radon-related pages were viewed more than 135,000 times during 2021. In addition, a freephone radon advice number is provided by the EPA 24 hours a day, seven days a week.

## Water quality

The shared public facing website for the Water Framework Directive (WFD) (www.catchments.ie) continues to provide a single source of water quality data and catchment management information in Ireland. Maps, dashboards, trends and charts are publicly available for almost 5,000 water bodies, as well as reports, assessments and stories of actions carried out by local community groups. The EPA continues to provide the most recent available water quality data, including groundwater quality for Ireland. The data can be download via the EPA Geoportal: https://gis.epa.ie/GetData/Download.

In 2021, the EPA also published 46 individual catchment assessment reports available on www.catchments.ie, which regionalise the national evidence base. These are supporting the consultation process of the draft 'River Basin Management Plan (RBMP) 2022–2027' and will form the basis of 46 catchment management plans which is being led by the Local Authority Waters Programme.

The EPA also distributes the Catchments Newsletter to over 3,000 email subscribers and to local groups and individuals. Articles from the Newsletter are also promoted through our social media channels.

In 2021, the EPA published further factsheets which explain in simple terms the biological survey work undertaken by the EPA's Ecological Monitoring and Assessment Unit and the importance of this work in assessing the ecological health of Ireland's surface waters. The factsheets are in relation to: phytobenthos in rivers and lakes, phytoplankton in lakes and benthic invertebrates in rivers, and are available to download at https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/.

## Water Levels and Flow

The EPA provides hydrometric data on river flows and lake and groundwater levels to support water resource and flood risk management and a variety of other activities. Data are available to view and download via the EPA's HydroNet web pages: https://epawebapp.epa.ie/hydronet/.

The EPA continues the publication of monthly National Hydrometric Bulletins. The bulletin provides a factual summary of river flows, lake levels and groundwater levels for a sample of surface water and groundwater hydrometric stations across Ireland. The bulletin also contains maps which show how flows and levels at stations across the country compare to the average for the month: https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/hydrology-bulletin/.

## Drinking water

The EPA's Remedial Action List (RAL) is a list of the public water supplies with the most serious problems. Action must be taken at these supplies to reduce the risk to the water quality. The RAL is updated quarterly (https://www.epa.ie/our-services/compliance--enforcement/drinking-water/remedial-action-list/) and gives the location of each supply, the reason the supply is on the RAL and the planned completion date for the remedial works.

## Waste water

The EPA's Priority Urban Area List is a list of areas where action is needed to protect the environment and public health from the harmful effects of waste water discharges. Information on the EPA's Priority Urban Area List is available on the EPA Sewage Treatment Maps: https://gis.epa.ie/EPAMaps/SewageTreatment.

## Beaches

The Beaches web resource (www.beaches.ie) provides information about bathing water quality at Ireland's beaches and lakes. The site provides a range of bathing information, including the recent water quality at each beach, any swim restrictions that are in place, weather and tide information. There is also a bathing water profile available for every beach that sets out the facilities, the known pressures and any management plans that are in place. The website was upgraded in 2021 to capture and publish out-of-season monitoring data which are collected by some of the Dublin local authorities. The site is regularly updated during the summer as results of monitoring become available from local authorities. Details of pollution incidents and remedial actions are also made available on a dedicated twitter feed (@EPABeaches).

## National Radiation Monitoring Network

The EPA operates a National Radiation Monitoring Network consisting of equipment, located throughout the country, designed to detect radioactivity in Ireland, if any, following a major incident at an overseas nuclear facility. Live data (Figure 11 on opposite page) is publicly available on the EPA and European websites.

## Non-ionising radiation

In 2021, the EPA maintained its EMF web content in response to public enquiries on 5G technology and mobile phone handsets. https://www.epa.ie/environment-and-you/radiation/emf/ and on the EPA's National EMF Monitoring Programme: https://www.epa.ie/environment-and-you/radiation/emf/emf-monitoring-programme/. The EPA continued to respond to queries from the public in relation to EMF during 2021. (See opposite page).

## Open Data

The Open Data Directive is a new EU Directive that encourages EU member states to make as much public sector information available for re-use as possible in an Open Data format. Open data format is data that can be freely used, re-used and redistributed by anyone – subject only, at most, to the requirement to attribute and share alike. The Directive introduces the concept of high-value datasets, defined as documents the re-use of which is associated with essential benefits for society and the economy.

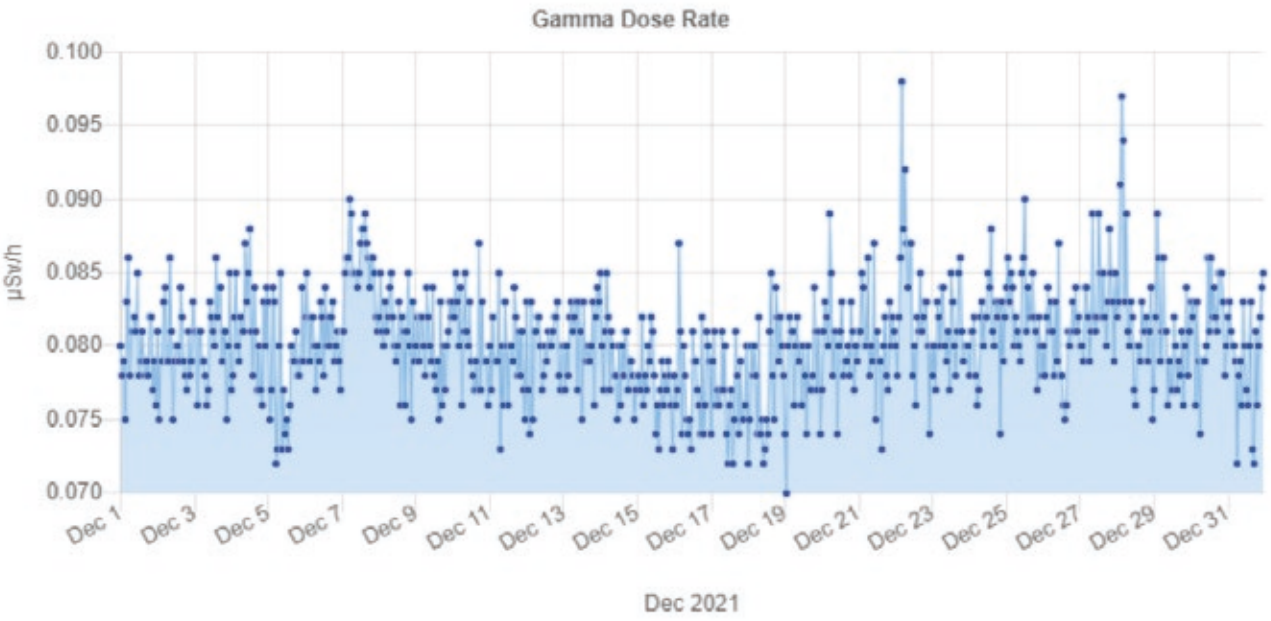
High-value datasets are subject to a separate set of rules ensuring their availability, in machine-readable formats, provided via Application Programming Interfaces (APIs) and, where relevant, as a bulk download.

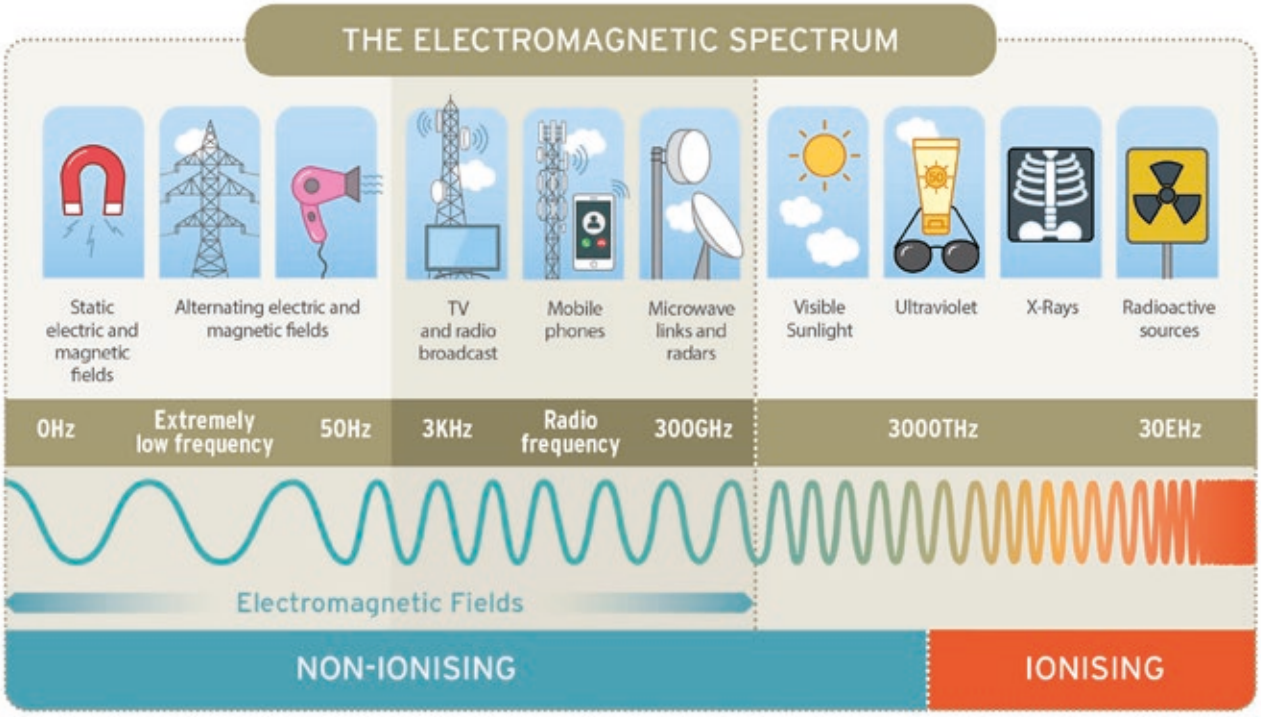
## EPA Open Data Portal

The EPA continue to report several datasets under geospatial and environmental thematic categories. Under this new directive data can be requested in an Open Data format. The EPA publishes as much information as possible on a routine basis to its Geographical Information System portal (https://gis.epa.ie/) which is then made available on the EPA's Environmental Open Data Portal (https://data.epa.ie/) and Ireland's Open Data Portal, (https://data.gov.ie/) – having regard to the principles of openness, transparency, interoperability, free and re-usable formats.

The EPA's Open Data Portal is designed to make environmental data easier to find, use, browse and understand. The portal is primarily intended as a resource for software developers wishing to write applications using EPA's Open Data REST APIs. Currently, there are five API's available on the portal ranging from Bathing Water to Radiation Monitoring.

**Figure 11.** Ambient Gamma Dose Rate Monitoring at Shannon Airport, Co. Clare



The EPA Open Data programme continued during 2021 with 291 EPA datasets published on Ireland's Open Data Portal, (https://data.gov.ie/) to-date and over 84,321 views, representing an increase of over 73,000 views since 2018. The concept of Open Data is about making data held by public bodies available and easily accessible online for re-use and redistribution.

## Public Service Data Catalogue

A key action outlined in the Public Service Data Strategy 2019-2023 is the implementation of a Public Service Data Catalogue (https://datacatalogue.gov.ie/) which was published in February 2021. It aims to improve the governance, management and reuse of data in a secure, efficient, and transparent way. The development of a data Catalogue for internal and public use, which will catalogue key personal data and data critical to business decisions across all public service bodies.

In October 2021, the EPA populated the Office of the Government Chief Information Officer (OGCIO) catalogue and continued engagement regarding the catalogue.

## Pollutant Release and Transfer Register

Ireland's Pollutant Release and Transfer Register (PRTR) (https://gis.epa.ie/EPAMaps/PRTR) provides a publicly accessible and searchable database which the public can use to search for facilities where specified industrial activities are carried out and are releasing pollutants or transferring waste in excess of specific thresholds. The register also fulfils the requirements of the Aarhus Convention as a simple means of affording access to information about environmental emissions and transfers.

## Licensing and Permitting

As part of the EPA's policy of openness and transparency and in accordance with the Access to Information on the Environmental Regulations and various licensing/permit regulations, licensing files are available for public inspection. To provide greater access to all stakeholders, the EPA displays application files and related documents for public viewing purposes.

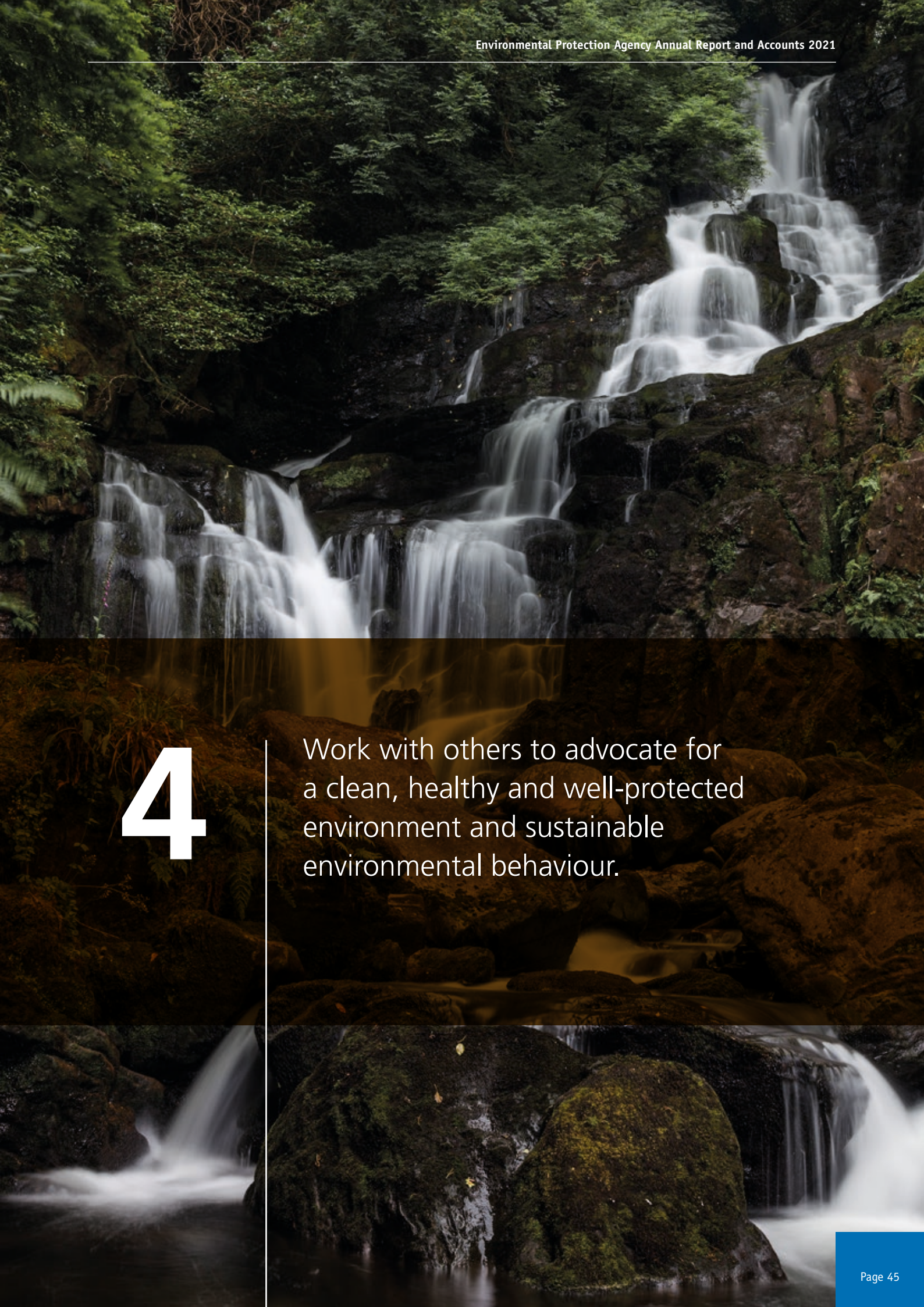
Information on Industrial Emissions (IE) and Integrated Pollution Control (IPC) applications, received since December 2004, and all Inspectors' reports and licences issued to-date are available on the EPA website: www.epa.ie/terminalfour/ippc/index.jsp. Since December 2017, all applications are received online and most interactions with the applicants and the public are electronic and published on the EPA website, including the receipt of submissions and objections.

During 2021, there was over 336,000 unique page views of the IE/IPC licence search web pages. By the end of 2021 there were over 5,300 submissions received from the public using the user-interface.

## Enforcement information

In 2021, the EPA continued to provide public access to enforcement information by publishing a summary of key enforcement data for industrial and waste licensed sites on the EPA website as well as updating the list of National Priority Sites (NPS) for enforcement. This information is updated quarterly. The NPS identifies the industrial and waste licensed sites with the poorest compliance records over the previous six-month period. The enforcement data provides a summary of site visits, complaints, compliance investigations, financial provisions, non-compliances and incidents.

The online publication of key enforcement documents such as inspection and monitoring reports for licensed sites continued.



# 4

## Work with others to advocate for a clean, healthy and well-protected environment and sustainable environmental behaviour.

# 4 ADVOCACY

To deliver on our strategic objectives, we will continue to work with and through others to effect positive outcomes for the environment.

## 4.1 PARTNERING AND NETWORKING

### Oireachtas committees

The EPA welcomes the opportunity to engage with and inform Joint and Select Committees of the Oireachtas in their legislative and administrative oversight functions. During 2021, the EPA attended: the Joint Oireachtas Committee on Housing, Local Government and Heritage on water supply issues; and the Joint Oireachtas Committee on Agriculture, Food and the Marine on the Nitrates Directive and water quality monitoring.

### Oversight Agreement

In line with requirements of the Code of Practice for the Governance of State Bodies, a written Oversight Agreement that clearly defines the relationship between the parent Department and the EPA is in place with the Department of Environment, Climate and Communications (DECC). The Oversight Agreement recognises that the Department of Housing, Local Government and Heritage (DHLGH) has responsibility for several areas of direct relevance to the EPA's remit and defines the EPA's relationship with DHLGH.

A Performance Delivery Agreement forms part of the Oversight Agreement and focuses on the key priorities and objectives of the EPA. The agreement defines clear service ownership and accountability in relation to the roles and responsibilities of each party with a view to ensuring that the statutory functions of the EPA are discharged in an efficient and effective manner.

### Memoranda of Understanding/Service Level Agreements

The EPA has adopted Memoranda of Understanding (MoU) and Service Level Agreements (SLA) with various organisations that involve or contribute to matters relating to the environment. Memoranda of Understanding are published on the EPA website when agreed with the other party.

### European Environment Agency

The European Environment Agency (EEA) provides timely, targeted, relevant and reliable information to policy-making agents and the public across a wide range of topics related to the environment. Its country network is called the European Environment Information and Observation Network (EIONET), The EEA Management Board, representing all EEA member countries, the European Commission and the European Parliament, adopted a new EEA-Eionet Strategy for 2021-2030. Laura Burke, Director General of the EPA, continues to serve as the Chairperson of the EEA Management Board.

In line with its strategic aims, the EEA has gone through a transformation process for the EIONET network to strengthen and better connect countries' expertise to European environmental policies such as the European Green Deal and 8th Environmental Action Programme. EIONET is expected to become the leading network for policy-relevant environment and climate knowledge at European Union and Country levels. During 2021, the EPA actively contributed to the EEA-Eionet modernisation process in its role as National Focal Point as well as participating in on-going EEA-Eionet activities.

The EPA actively participated in the European Network of the Heads of Environment Protection Agencies (NHEPA). This informal network of the heads and directors of environment protection agencies and similar bodies across Europe works to exchange views and experiences on issues of common interest in the practical day-to-day implementation of environmental policy.

### Climate change

The EPA worked on several international climate issues during 2021. The EPA led Ireland's engagement on the finalisation and publication the Intergovernmental Panel on Climate Change (IPCC) Working Group I contribution to it 6th Assessment Report (AR6) in August.

The EPA participated in the UN Framework Convention on Climate Change (UNFCCC) "subsidiary bodies" meetings took place virtually in the period from 31st May and 17th June and in the in-person UNFCCC 26th Conference of Parties (COP) in Glasgow.

The EPA holds the position of chair of the Joint Programming Initiatives – Climate which acts to align and coordinate climate change research in the European Research area. Key events during 2021 included the Climate European Climate Change Adaptation Conference (ECCA) in June and the 1st Climate Neutrality Forum in September. These brought together the latest research from Europe on climate change adaptation/resilience and climate neutrality

The EPA provides Secretariat support to DECC on the roll out and delivery of the National Dialogue on Climate Action (NDCA).

During 2020, the EPA repositioned its role within the NDCA structure to develop and set up a 'knowledge hub' around climate activation. The aim being to develop a deep understanding of the attitudes and behaviours of the Irish public to climate change at the national, sectoral and local level. Yale University's Climate Change Communications Programme have been commissioned to undertake research in this area using their unique methodology to produce a report on 'Climate Change in the Irish Mind.' The outputs from this work should form a key national resource for the development of engagement and activation campaigns conducted at various levels. Research on deliberative methods for community engagement is ongoing through the IMAGINING 2020 project and the C-Change project in UCC.

## Citizen science

The EPA continued to work with partner organisations on several citizen science projects. The GLOBE Programme, implemented in partnership with the Environmental Education Unit of An Taisce involved the measurement of nitrogen dioxide ($NO_2$) at several locations around schools. In 2021, 112 schools participated in the April campaign (24 counties) and 152 schools registered for the October 2021 campaign, with all 26 counties represented. To date, nearly 300 schools have fully participated in this project.

Building on the success of GLOBE, the EPA and the Environmental Education Unit of An Taisce organised a large-scale citizen-based nitrogen dioxide monitoring project to increase public awareness of and engagement with the topic of air quality: "Clean Air Together". Recruitment for the project commenced in August 2021 and was heavily oversubscribed. Over 1000 citizen scientists were selected and they undertook sampling for $NO_2$ (traffic related air pollutant) during October and November 2021. The results from the samples will be published in early 2022. A subsequent phase of the project in Cork is planned for 2022.

The EPA worked with Wexford County Council Library Service to extend the availability of digital radon monitors loan scheme to library members across all Wexford libraries. In parallel with the Wexford libraries loan scheme, a sub-task of an EU project RadoNorm will explore the use of citizen science to encourage radon remediation by householders. The first step is to develop a Do-It-Yourself remediation toolkit for householders. The toolkit will be co-designed by the EPA and Wexford householders that have measured radon levels above the reference level but have not carried out work to reduce their exposure. The toolkit will include an instructional video and the equipment required to remediate.

The EPA continued to work with the National Biodiversity Data Centre (NBDC) on the 'Dragonfly Ireland' survey, with the objective of producing an updated dragonfly and damselfly atlas for Ireland. There was a decline of 20% in the number of dragonfly and damselfly records submitted in 2021, though a 78% increase in the number of site surveys completed by volunteers was achieved. Dragonfly and damselfly records have now been received from three-quarters of Ireland's land area and 27 dragonfly and damselfly species were recorded in 2021.

The EPA also worked with the NBDC on the 'Explore Your Shore' survey, with the objective of empowering and supporting volunteer citizen scientists to survey and record intertidal and coastal marine species. The records collected will help improve the knowledge of marine species distribution and explore their use as bio-indicators of water quality and climate change. The project continues to progress well with a 52% increase in marine species records submitted compared to 2020. The Data Centre received 5,625 records of marine species in 2021, with 406 marine species validated.


Explore Your Shore workshop, Bull Island, Co Dublin

## Strategic Environmental Assessment

The EPA promotes sectoral engagement in Strategic Environmental Assessment (SEA) and the application of good SEA practice across all public authorities. The EPA reviewed and made 107 responses to SEA-related notifications in 2021. This included submissions on key national and regional plans/programmes/strategies and associated SEAs such as the Agri Food Strategy 2030, the Climate Action and Low Carbon Development (Amendment) Bill 2021 and the CAP Strategic Plan 2023-2027.

The National SEA Forum met twice in 2021 to facilitate better information sharing and collaboration between SEA authorities.

## Environmental Policy Assessment Consultations

The EPA is invited regularly to contribute to strategy consultations as well as to other policy developments across a broad range of local, regional, national and international public service bodies. In 2021, the EPA established an Environmental Policy Assessment and Coordination work area to draw together the necessary topic-specific capabilities across the agency for preparing EPA submissions. This initiative is in line with a recommendation in the 2020 OECD Review of EPA relating to "opportunities for the EPA to engage more proactively in policy development and evaluation". It leverages EPA data, knowledge and assessment capabilities to provide integrated consultation responses that maximise environmental and wellbeing co-benefits. Eleven submissions were published on the EPA website: www.epa.ie/publications/corporate/submissions--position-papers/.

## NIECE

The Network for Ireland's Environmental Compliance and Enforcement (NIECE) provides a forum which encourages and supports organisations and individuals to work together to deliver improvements in priority environmental areas. Network membership, for the most part, includes local authorities, state agencies and government departments involved in the enforcement of environmental legislation, engagement and promotion.

The NIECE network remained very active throughout the pandemic with many of the activities moving on-line. There were 15 Networks and five Working Groups operating under the NIECE umbrella in 2021. Communications and networking continued through virtual meetings, workshops, training events, guidance preparation and the NIECE online portal. Local authority staff also participated in the National Air, the Circular Economy and the National Water conferences. Agricultural inspections and air enforcement emerged as key areas of concern and new working groups in these areas are under consideration.

The NIECE network supported the development of the new three-year National Environmental Priorities (NEPs) for Local Authorities in Waste, Air/Noise and Water. This involved significant engagement with DECC, local authorities, shared services and the National Waste Enforcement Steering Committee. An enforcement planning workshop was held with local authorities covering the NEPs and the revised 'Local Authority Performance Framework'.

## Environmental Pillar

The Environmental Pillar comprises 26 national environmental non-governmental organisations, working together to represent the views of the Irish environmental sector. The EPA meets with the Irish Environmental Network (IEN) at least annually. In 2021, the IEN undertook a midterm evaluation of their current Strategic Plan 2018-2023 and invited the EPA to participate in the process and to provide feedback, and EPA's perspective, on the network. In addition, the EPA met with the IEN in March 2021 as part of stakeholder consultation on the review of the 'National Inspection Plan for Domestic Waste Water Treatment Systems' (septic tanks).

## Ireland's National Action Plan (iNAP2) for Antimicrobial Resistance 2021-2025

EPA continued its participation in the National Implementation Committee for the Antimicrobial resistance (AMR) action plan group through attending inter-departmental and inter-agency meetings related to progressing and closing the actions under the first national action plan (iNAP1) and establishing the action plan for the second national action plan (iNAP2). The EPA participated in a European Union convened antimicrobial resistance high-level conference in October which was led by the Directorate-General for Health and Food Safety to share national experiences and European priorities for this subject area. At this conference EPA co-presented with the Department of Health and the Department of Agriculture, Food and the Marine on national progress.

## Water quality

The EPA is actively engaged in several expert working groups being led by DHLGH. These include developing the programme of measures for the third-cycle River Basin Management Plan, assessing the feasibility of improving fish passage in the River Shannon, protecting drinking water at source, and developing guidelines for incorporating the WFD into the planning framework.

The EPA participates in DAFM's Common Agricultural Policy (CAP) Consultative Committee and the DAFM Nitrates expert group and continues to engage constructively with DAFM through these and other mechanisms. EPA's key message is that emissions to water from agriculture needs to reduce and that measures need to be integrated in a whole-farm planning approach, to meet water quality, biodiversity, climate, air and other environmental goals. The EPA's evidence base is being used to inform the actions under the Nitrates

Action Programme, and the new Agri-Environment and Climate Scheme measures under CAP. In 2021, the EPA in conjunction with the Irish Farmers' Association produced a short video clip to show farmers how to use EPA produced Pollution Impact Potential (PIP) Maps (https://www.catchments.ie/ifa-smart-farming-sources-and-solutions-the-link-between-our-soils-water-quality-and-how-to-use-the-pip-maps-on-catchments-ie/).

The EPA meets with the Northern Ireland Environment Agency (NIEA) to discuss and share information on WFD monitoring, classification and reporting, including the status of cross-border water bodies and the use of rapid-assessment methods.

## Air quality

During 2021, the Air Quality Health Information working group, chaired and facilitated by the EPA, provided a forum to support: enhanced communication of accessible real-time information on air quality and health – linked to expansion of the monitoring network – modelling; and citizen science activities. This group includes stakeholders in environment and health, including the Health Service Executive (HSE) and enables discussion on air quality-related health topics.

## Nuclear safety

To allow the EPA to fulfil its responsibility in monitoring developments abroad in relation to nuclear installations and radiological safety and to advise the Government on the implications of such developments for Ireland, the EPA takes an active role in national and international committees on nuclear safety. In 2021, this included preparing a submission to the transboundary Environmental Impact Assessment public consultation on the proposed 10-year lifetime extension until 2025 of the Doel-1 and 2 Nuclear Power Plants in Belgium. The EPA also participated in the Euratom Article 37 Group of Experts on Radioactive Waste which examined submissions from the UK and Hungary on the proposed Sizewell C and Paks II nuclear power plants, respectively.

## Heads of the European Radiological Protection Competent Authorities

The Heads of the European Radiological Protection Competent Authorities (HERCA) is an association of the radiation safety authorities in Europe and aims to facilitate practical and harmonised solutions on important regulatory issues in radiation protection. HERCA provides an important forum for national authorities to share information and experience on the implementation of European legislation and international standards.

The EPA plays an active role in this work with representatives on the HERCA Board of Heads as well as the Working Groups on natural radioactivity, emergencies, medical applications, non-medical sources & practices, and education & training. The EPA is a vice-chair for the Working Group on Emergencies.

## European Nuclear Safety Regulators Group

The EPA represents Ireland on European and international fora on issues relating to nuclear safety. The EPA is actively involved in the European Nuclear Safety Regulators Group (ENSREG) and its working groups on Nuclear Safety & International Cooperation and Transparency & Communications. During 2021, this included preparations for the second Topical Peer Review (TPR) which will focus on fire protection at nuclear installations and the holding of an online stakeholder engagement meeting to present information on the TPR objectives.

## Bilateral meetings with the UK and France on radiological and nuclear matters

The EPA meets regularly with the Environment Agency and the Office for Nuclear Regulation (ONR) in the UK, to discuss radiological and nuclear issues. In 2021, these discussions centred on the UK's nuclear safety arrangements following their departure from the EU and the Euratom Treaty, activities at Sellafield, Generic Design Assessment for the safety and security assessment of new nuclear build including Small Modular Reactors, the development of a Geological Disposal Facility and international developments in nuclear and radiation safety and nuclear emergency planning. In 2021, the EPA and the ONR signed a new Information Exchange Agreement to facilitate the exchange of information on the regulation of the safety of nuclear installations and nuclear materials.

In addition, the EPA supports DECC in the twice-yearly meetings of the UK–Ireland Contact Group on Radiological Matters. In 2021, discussions included UK energy policy, updates on new nuclear build at Hinkley point C and Sizewell C, nuclear decommissioning of UK nuclear facilities and geological disposal of nuclear waste.

In 2021, the EPA and the French Nuclear Regulator, ASN, met to discuss the regulation of ionising radiation in both countries and the impact of Covid-19, radon national action plans, emergency preparedness and opportunities for future exchange between the two organisations.

## International Obligations on Nuclear Safety and Radioactive Waste Management

The Joint Convention on the Safety of Spent Nuclear Fuel and on the Safety of Radioactive Waste Management is an international convention that addresses the issue of spent fuel and radioactive waste management safety on a global scale. It does so by establishing fundamental safety principles and creating a review process. Every three years, all contracting parties to the Convention, including Ireland, must demonstrate compliance with the Convention and undergo a peer review by the other contracting parties. The seventh review meeting of this Convention was postponed in 2021 by consensus of the contracting parties. To ensure an effective and rigorous peer review process, with the widest possible participation, a physical review meeting is planned for 2022. In 2021, the EPA reviewed several national reports on compliance with the obligations of the Convention including those from the UK, France and Japan.

## Emergency planning

In 2021, the EPA participated in seven international emergency exercises organised by the European Commission and the IAEA. In addition, the EPA participated in an exercise organised by the UK's Department of Business, Energy and Industrial Strategy to test practical arrangements to support the UK–Ireland bilateral agreement on early notification of a nuclear accident or incident of radiological significance. An emergency response exercise was held in the EPA in October 2021 which involved multiple teams activating their emergency response procedures in response to several emergencies arising from a severe storm. Based on lessons learned in the exercise, the EPA-wide action plan has been further developed.

The EPA continued to be active participants in the Government Task Force on Emergency Planning and its subgroups. The EPA continued to support the Nuclear Energy Agency and the IAEA by participating in technical working groups and contributing to conferences.

## 4.2 AWARENESS RAISING

Providing timely and easily accessible information to all our stakeholders contributes to public participation in environmental decision–making and gives people the information they need to make environmentally informed choices.

### Communicating key messages

The EPA's website is the principal communication channel for disseminating information to the public with over 722,000 visits during 2021. Peaks in activity during the year corresponded with publication of reports and media coverage of environmental issues. High volumes of traffic to the website related to the retrieval of information on EPA–licensed sites; downloading publications; accessing information on licensing and enforcement; careers in the EPA and accessing information on thematic environmental areas including: climate change, air, water, waste, and radon.

During 2021, the EPA launched a new website marking a major upgrade in usability, accessibility and technology. The new information architecture of the website focuses on public website users and their needs.

The EPA has continued to build its social media presence with the aim of delivering engaging content through targeted messaging across various platforms. As a result, the EPA's social media accounts (@EPAIreland) on Twitter, Linked-In, Instagram and You Tube continued to grow throughout 2021.

### Media relations

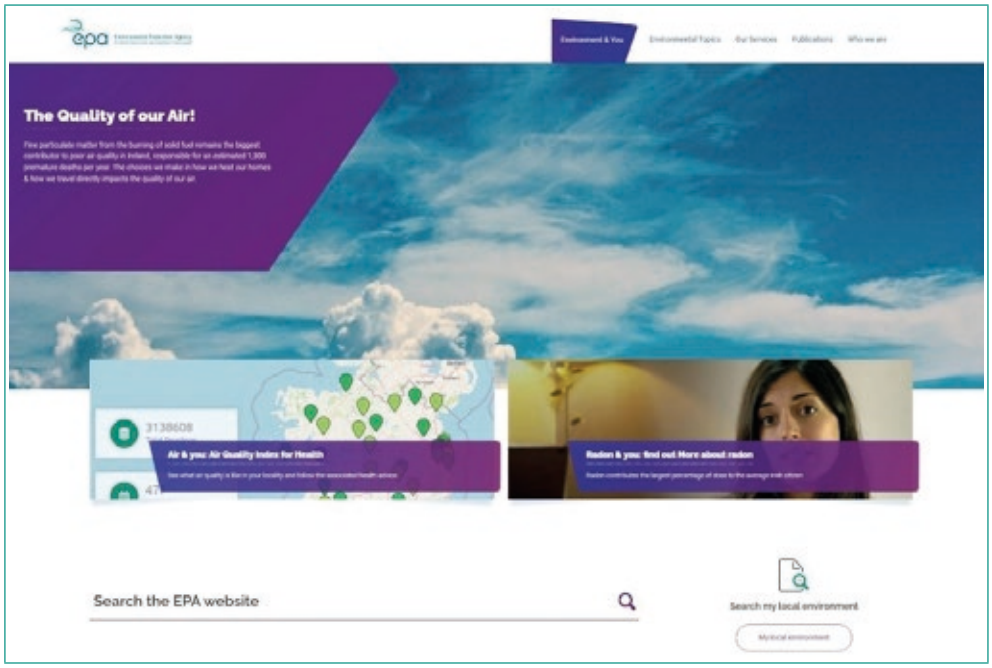
The EPA provides a 24-hour service to the media and during 2021 handled 671 media queries and issued 37 press releases. Environmental news stories featured in over 32,000 newspaper articles throughout the year.

### Outreach activities

The EPA has continued to play an important role in raising levels of awareness and supporting initiatives that increase public engagement with environmental issues and those that particularly target younger audiences.

Science week encourages people of all ages and from all walks of life to be informed, inspired and involved in STEM events and the EPA participated in a variety of events in 2021 including delivery of the EPA's climate change lesson as part of our partnership with Junior Achievement Ireland.

In 2021, the EPA again supported the "10 Things to Know About…" TV Series that aired on RTE. The seventh season was a six-part series highlighting some of the outstanding work being undertaken by Irish scientific researchers across a range of disciplines including Outdoor Living, Blood, Seaweed, Geohazards, Healthy Homes and Gut Health.



As part of the EPA's corporate sponsorship commitments, local initiatives were supported that raise awareness about environmental issues or the work of the EPA. In 2021, the EPA again partnered with ECO UNESCO, supporting the Young Environmentalist Awards and other initiatives. The EPA also promoted environmental messaging during the Wexford Opera Festival and in 2021 introduced a social media competition to find the 'greenest opera attire'. The EPA sponsored the Upcycle Challenge, a competition led by the Waste Management Planning Regions, to encourage circular economy activities of reuse, repair and upcycling activities by the public. There were 262 entries and winners for the nine categories were announced in November 2021.

### Story of Your Stuff

The fifth 'Story of Your Stuff' competition for secondary schools completed with a virtual online finale event in April 2021. Despite Covid-19 restrictions, the competition received 330 entries, from 76 schools, the highest number since the competition was launched in 2017. Entries highlighted the environmental impact of everyday items or activities and students creatively told their stories through visual media. The competition promotes environmental information available on the Ireland's Environment portal of the EPA website. Robert Urquhart from Presentation College Athenry, Galway won first prize with his video telling the story of disposable face masks. Information on all of the winning entries including the climate topic prize and the Irish language prize can be found on the Story of Your Stuff website (https://www.thestoryofyourstuff.ie/).


Robert Urquhart (Presentation College Athenry, Galway) – Winner of the 2021 Story of Your Stuff Competition

### Junior Achievement Ireland programme

The EPA continued its partnership with Junior Achievement Ireland (JAI) in 2021 with 16 staff delivering a selection of JAI programmes to 520 students in 14 schools. For the second year, the EPA climate change lesson was delivered during Science Week in November. Twenty-three EPA volunteers delivered the workshop to 610 students from 23 schools across 12 counties. For the first year, the EPA's climate change lesson was delivered by volunteers from other organisations also, with eight business volunteers, from six different organisations, delivering to 282 students. The EPA directly engaged with over 1,400 students across Ireland as part of this partnership, giving us the opportunity to deliver key environmental messages and knowledge along with reminding these students of the importance of education.

## Environmental queries

The EPA provides an Environmental Queries Service to our stakeholders including the public, students, local authorities and government departments. The service operates in accordance with the commitments set out in the EPA Customer Charter. The service handled 2940 queries during 2021. The main areas of concern to the public were: waste (disposal of small amounts of hazardous waste); air quality (impact of the use of certain types of fuels on air quality); climate change (calculation of $CO_2$ emissions, greening businesses); and waste water (remediation of existing septic tanks and the grants scheme).

## Conferences and exhibitions

Most EPA events were held online during 2021. These events provide an opportunity to raise awareness of, and engage the public's support in, environmental issues including the BT Young Scientist & Technology Exhibition where the EPA sponsored the Special Environmental Award.

### EPA National Climate Conference

Due to Covid-19 restrictions, the EPA National Climate Conference was held online in 2021 consisting of two half-days on 23 and 24 June. The conference was entitled "Climate Solutions for a Better Tomorrow". The EPA's data on Greenhouse Gas Emissions Projections was delivered as part of the event.

### Climate Change Lecture Series

Due to Covid-19 restrictions, the Climate Lecture Series was held online in 2021. Two lectures were held: the first, on 24 February and was delivered by Kirsten Dunlop, CEO of Climate-KIC. The lecture focused on the relationship between finance and climate change. The event was moderated by Dr John Bowman. A recording of the lecture can be viewed on the EPA's YouTube channel at: https://www.youtube.com/watch?v=QZv2MOpBcas

The second lecture was also an online event, held on 15 November and delivered by Professor Michael Mann, Distinguished Professor of Atmospheric Science and Director, Earth System Science Center. Prof Mann spoke about the outcomes of COP26, the Intergovernmental Panel on Climate Change Annual Report 6, his book "The New Climate War" and implications globally and for Ireland. The event was moderated by Dr John Bowman. A recording of the lecture can be viewed on the EPA's YouTube channel at: https://www.youtube.com/watch?v=M6VTnnpUFx8

## Circular Economy Conference

The National Waste Prevention Programme hosted the EPA Circular Economy Conference. The event was opened by Minister Ossian Smyth and saw the launch of updated Green Public Procurement guidance. The first day included presentations from the OECD and the Ellen MacArthur Foundation and focussed on policy and opportunities for the public sector. The second day focussed on opportunities that the circular economy provides to business and circularity on the high street.

## Food Waste Forum

The theme of the 2021 biennial Food Waste Forum was 'Building knowledge to waste less'. The Forum heard about food waste prevention at the global and European level as well as in Ireland, and featured presentations from a diverse range of speakers including Bord Bia, Munster Technical University and industry. Presentations shared practical experiences in relation to measuring and reducing food waste across the supply chain.

## EPA Water Conference

The EPA held its annual Water Conference online in June. The theme of the conference was "Water: Integrating Policy and Practice" and featured a wide range of speakers from the water sector sharing their expertise in dealing with the pressures and challenges of restoring Ireland's waters. Topics included opportunities for multiple benefits; pressures and solutions; and working with communities. Presentations are available on the EPA's YouTube channel: https://www.youtube.com/watch?v=ZjOgDqSTBV4

## National Air Event

The EPA held its annual National Air Event "Something in the air", in 2021 online, with an in-studio panel and streamed live on the mornings of 10 and 11 November. The event was a forum for providing and sharing of practical information on air quality and enforcement. It was attended by representatives from the EPA, Health Service Executive (HSE), local authorities, industry, consultants, third-level research groups, NGO's, and members of the public. Presentations are available on the EPA's YouTube channel: https://youtube.com/playlist?list=PLFesobjWT1Fj8qaL4Z4-qxxSiGFLDZfTp

## Environment Health and Wellbeing Conference

In November, the EPA co-hosted the annual conference about environment health and wellbeing with the HSE and the Economic and Social Research Institute (ESRI) looking at learning from the pandemic. Delegates were drawn from the HSE, ESRI and EPA and others working in the health, wellbeing and citizen engagement area, along with representatives of non-governmental organisations and academics. Presentations are available on the EPA's YouTube channel: https://www.youtube.com/playlist?list=PLFesobjWT1FhV74QBHfMJvL8_aBkG_CRa

## Environment and Law Conference

Convened by the Irish Centre for Environmental Law and the EPA, the joint conference was held online on 17 and 18 November 2021. Ms. Laura Burke, Director General EPA and the Honourable Mr Justice Donal O'Donnell, Chief Justice, provided opening remarks which set the scene. Legal experts considered several contemporary themes relating to environmental law enforcement including: whistleblowing and environmental crime; remedial environmental impact assessment in the substitute consent process; the principle of sincere cooperation and the EU nature directives; emerging environmental law research; the obligation on public bodies under section 15 of the Climate Action and Low Carbon Development Acts 2015 to 2021; and the environmental liability directive.

## Noise Workshop

An EPA 'Noise Workshop for Local Authorities' was held in December 2021. This online Workshop was used to update the local authorities on the Round-4 noise mapping process and their roles, responsibilities and reporting requirements.

## EPA/IIEA Lecture Series

For the second year, the EPA partnered with the Institute of International and European Affairs (IIEA) on the 'Environmental Resilience' lecture series. This series saw international experts address the most critical environmental issues of our time including: circularity, zero waste design, sustainable finance and the future of water. Virginijus Sinkevičius, European Commissioner for the Environment, Oceans and Fisheries, also discussed the EU strategy for environmental recovery.

Our Vision: An Ireland where the Circular Economy ensures that everyone uses less resources and prevents waste to achieve sustainable economic growth

## 4.3 PROMOTING SUSTAINABLE BEHAVIOUR

### National Waste Prevention Programme

2021 saw the launch of the Circular Economy Programme (2021-2027) following a period of public consultation. This Programme, which will be led by the EPA, incorporates, and develops the EPA's National Waste Prevention Programme to support national-level, strategic programmes to prevent waste. It builds on fifteen years of leadership by the EPA on waste prevention. The Circular Economy Programme will be the driving force for Ireland's move to a circular economy, where businesses, citizens and the public sector reduce resource use, prevent waste and achieve sustainable economic growth. The Programme will support the Whole of Government Circular Economy Strategy.

Collaboration with national organisations is a key part of the delivery of the Circular Economy Programme. This includes partnerships with:

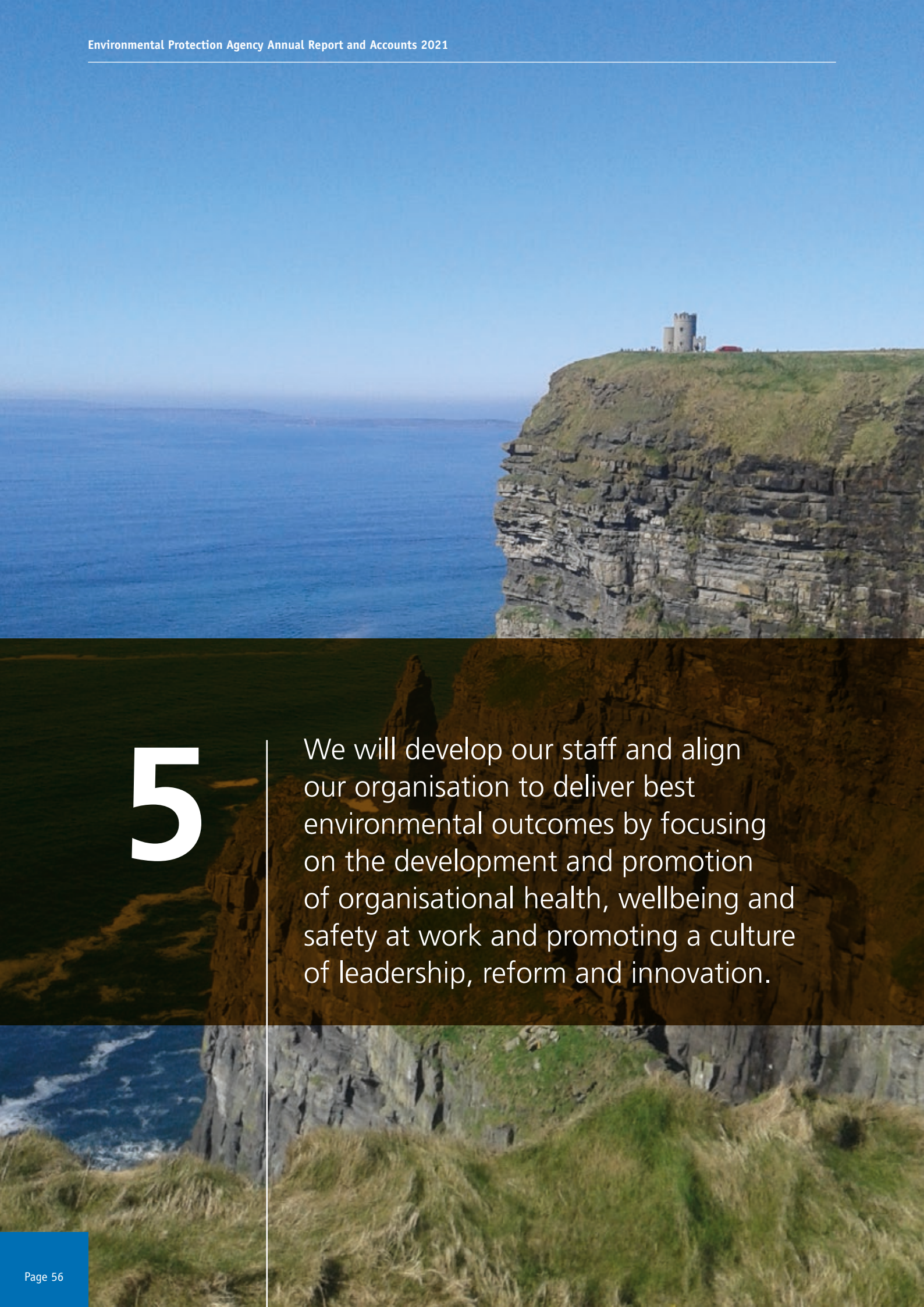
- The Rediscovery Centre – Ireland's National Centre for the Circular Economy. The centre brings together the skills and expertise of artists, scientists, designers, and craftspeople in a common purpose of sustainability.
- CIRCULÉIRE – The National Platform for Circular Manufacturing is an industry-led public-private partnership that works with leading Irish manufacturers to develop their business models from linear to circular through benchmarking, auditing and innovation projects. In 2021 five projects were awarded funding.
- The Local Authority Prevention Network provides technical assistance and funding for the promotion of resource efficiency and waste prevention at county-level. In 2021, projects across 16 local authorities were funded to carry out projects supporting reuse and fostering repair, reducing the consumption of single use items.
- SOLAS is the State agency tasked with building Ireland's Further Education and Training (FET) sector. The EPA is working with SOLAS and other organisations to develop Green Skills training offerings. In 2021, work focused on the development of a training programme on Environmental Sustainability in the Workplace and Environmental Sustainability Awareness for FET Learners.

## Stop Food Waste

Food Waste is a major issue nationally and across the EU – both in terms of waste prevention and climate change. The EPA leads Ireland's food waste prevention effort which is focussed on Ireland's commitment to halve food waste by 2030. This involves a transformation of public attitudes and behaviours on food; and also requires a strong response along every step of the food supply chain.

The EPA's Stop Food Waste campaign continues to engage with audiences through the implementation of evidence-based communications. 2021 saw significant engagement on this topic through social media. An update to the 2020 national food waste behaviour and attitudes survey was carried out in 2021. Learnings will be used to identify target audiences, key messages and evaluate the effectiveness of the programme activities. A project to develop a methodology to measure the composition of household food waste was also carried out and projects to support food waste prevention in the hospitality and food services sector continued. Initial actions are focused on rolling out a standardised measurement methodology and developing tools and resources for upskilling for action on food waste prevention in the sector.



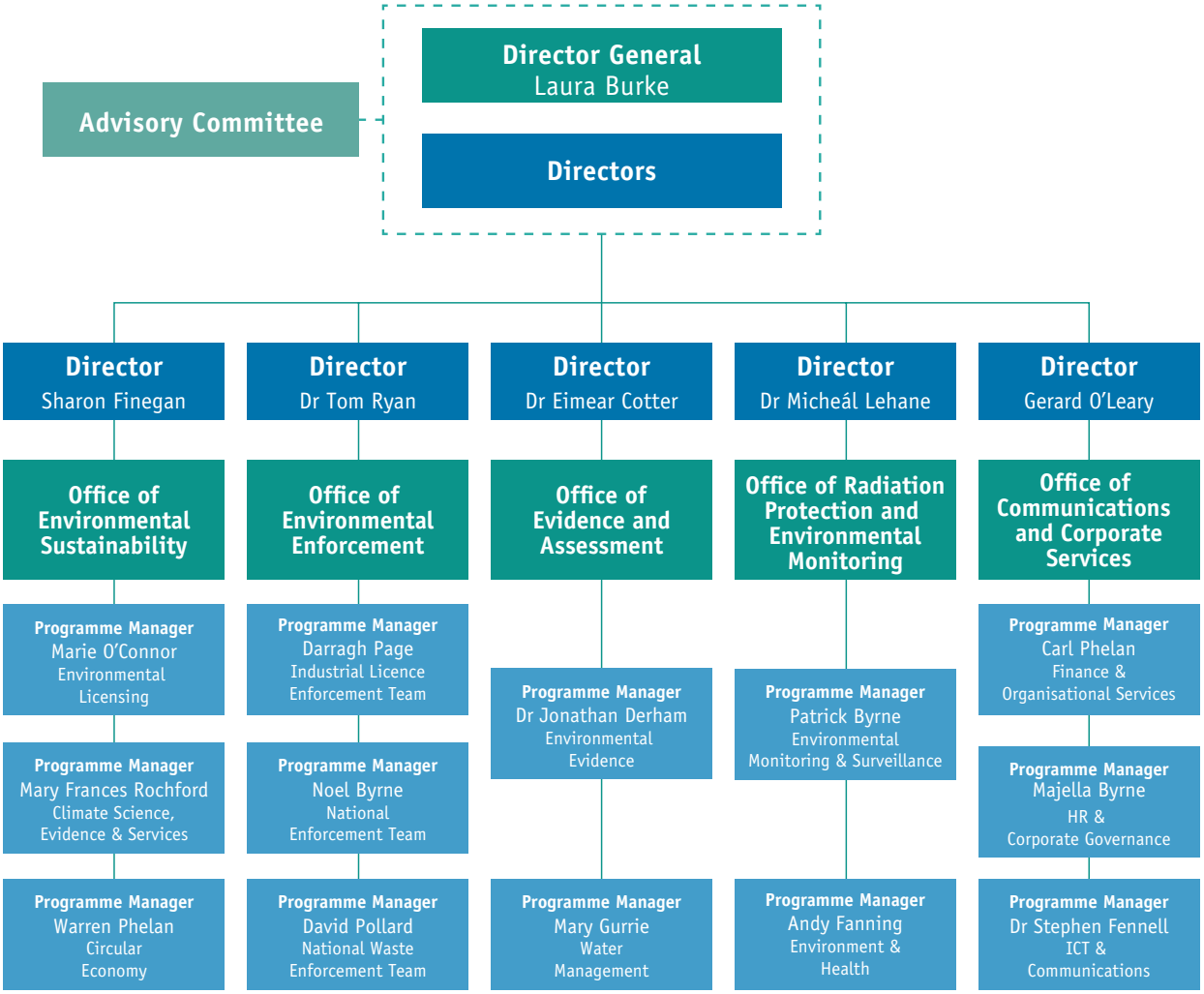



# 5

We will develop our staff and align our organisation to deliver best environmental outcomes by focusing on the development and promotion of organisational health, wellbeing and safety at work and promoting a culture of leadership, reform and innovation.

# 5 ORGANISATIONALLY EXCELLENT

## 5.1 ORGANISATION STRUCTURE



## 5.2 BOARD AND ADVISORY COMMITTEES

### EPA Board of Directors

Pictured (left to right): Dr Micheál Lehane (Director, Office of Radiation Protection and Environmental Monitoring), Mr Gerard O'Leary (Director, Office of Communications and Corporate Services), Ms Laura Burke (Director General), Dr Tom Ryan (Director, Office of Environmental Enforcement), Dr Eimear Cotter (Director, Office of Evidence and Assessment) and Ms Sharon Finegan (Director, Office of Environmental Sustainability).

Dr Ciara McMahon passed away in service on 15 January 2021 and was replaced on the Board by Ms Sharon Finegan.

### Board meetings

The EPA Board comprises six full-time Executive Directors. A total of 51 Board meetings were held in 2021: 12 general meetings, at which corporate policy, governance, strategy, finance and planning issues were dealt with, and 39 technical meetings, at which licence applications, prosecutions and operational issues were dealt with.

### EPA Advisory Committee

The EPA is assisted by an Advisory Committee with a term of office of three years. The 12 members are nominated by prescribed organisations and appointed by the Minister for Environment, Climate and Communications. The Director General of the EPA is, ex officio, a member and Chairperson of the Committee. Nine new members were appointed to the Committee on 18 February 2021, joining the two members appointed to the Committee on 1 July 2019. The Advisory Committee has a wide range of advisory functions including making recommendations to the EPA and or the Minister.

### Appointees from prescribed bodies

Professor John Wenger
(nominated by Institute of Chemistry of Ireland)

Professor Frances Lucy
(nominated by Environmental Sciences Association of Ireland)

Ms Sadhbh O'Neil
(nominated by Irish Environmental Network)

Mr Thomas Cooney
(nominated by Irish Farmers Association)

Dr Brendan Dunford
(nominated by Heritage Ireland)

Ms Elaine Mahon
(nominated by The Wheel)

Dr Laure Marignol
(nominated by Irish Radiation Research Society)
appointed on 1 July 2019

### Ministerial appointees

Ms Yvonne Mullooly

Ms Elaine Nevin

Dr Aoife Foley

Ms Aebhín Cawley appointed on 1 July 2019

### Chairperson

Ms Laura Burke, Director General, EPA

## Other Advisory Committees

### Dumping at Sea Advisory Committee

One meeting of the Dumping at Sea Advisory Committee (2020-2023) was held in 2021 and Committee members were introduced to and discussed the new Dumping at Sea Act (Section 5(12)) (Commencement) Order 2021 (S.I. 92 of 2021) with respect to offshore installations, which came into operation on 1 April 2021. This enables the EPA to grant, or refuse to grant, a permit authorising the deliberate disposal in the maritime area of an offshore installation, in accordance with the provisions of the Act. Committee members were invited to share information in relation to the decommissioning of offshore installations and the regulation of same in other jurisdictions. Members were also invited to submit comments or observations on permit applications and amendment requests on hand.

### Genetically Modified Organisms Advisory Committee

The EPA consulted with the 9th Genetically Modified Organisms (GMO) Advisory Committee (2020-2023) in relation to the following during 2021:

- Three marketing authorisation notifications received from the European Medicines Agency (EMA) in respect of human medicinal products containing or consisting of GMOs,
- Risk assessments received in respect of a notification for the contained use of a Class 3 GMM, and
- A GM clinical trial notification.

A GMO AC meeting was convened in December 2021 during which the findings of an external review of the GMO licensing process were presented to and discussed by the AC. The existing standing orders were updated and presented to and agreed by AC members at this meeting.

### Health Advisory Committee

The Health Advisory Committee was established in 2011 to assist and advise the EPA in relation to the public health implications of matters pertaining to environmental protection. The committee comprises representatives from public bodies working on environment and health issues, including the Health Service Executive (HSE), the Health and Safety Authority (HSA), the Health Research Board (HRB), the Department of the Environment, Climate and Communications (DECC), the Department of Agriculture Food and the Marine (DAFM), the Department of Health, An Bord Pleanála, the Food Safety Authority of Ireland, the Health Products Regulatory Authority, Department of Housing, Local Government and Heritage (DHLGH) and the County & City Managers Association (CCMA). The committee met once during 2021 and topics examined included the updated radon map, research on effectiveness of passive sumps and EPA's work on chemicals in the environment.

### Radiological Protection Advisory Committee

The second Radiological Protection Advisory Committee commenced in 2019 for a three-year term of office. The Committee is made up of sixteen members nominated by organisations with expertise relevant to the radiological protection functions of the EPA. Due to Covid-19 restrictions, the committee was only able to meet once in 2021 where they considered field trials on the effectiveness of passive sumps in Irish homes; results of the online survey on public attitudes to radiation in Ireland; and the Artemis Mission to Ireland.

## 5.3 HUMAN RESOURCES

The EPA delivered on Human Resources strategic priorities and Work Programme activities during 2021. The EPA continued to provide support and implement public health advice and guidance a to protect the safety, health and welfare of staff during the Covid-19 pandemic. A key focus was the wellbeing of staff with the EPA named in the IBEC and Business & Finance newly created index: 'Leading in Wellbeing – Top 100 Companies' 2021.

### Recruitment

The EPA attracted a high level of interest in the 31 posts advertised during 2021. There were significant challenges to the recruitment process due to the Covid-19 restrictions with online interviews and remote induction of new staff.

The EPA had an approved staff complement of 448 at the end of the year (includes 28 new posts sanctioned in 2021) with 173 staff based in Headquarters, Wexford and 125 based in the Regional Inspectorate, Dublin and the remainder located in four other Regional Inspectorates and two Hydrometric Offices throughout the country.

### Internships & Placements

The EPA continued to engage with a wide range of third-level educational institutions under an internship programme so that students have an opportunity to work in the EPA and gain experience and expertise. Fifteen paid internships and eleven student placements were completed during 2021.

### Strong leadership

The Senior Management Network (SMN) comprising Directors and Programme Managers has been in place since 2014 and meets at least six times each year. In 2021, the SMN met eight times. The SMN provides an oversight role in relation to the delivery of the EPA Strategic Goals and leads by example by actively demonstrating how it lives the EPA's cultural characteristics: "Collaborative", "Supportive" and "With Purpose" in all its actions and interactions with staff. During 2021, the focus of the SMN's work was the development of a new five-year Corporate Strategic Plan. In addition, the SMN also participated in a review of the EPA's performance management and development system, emergency preparedness arrangements as well as continuing to develop and support senior management leadership across the EPA.

### Partnership

During 2021 the EPA's Partnership Committee, Meitheal, continued to ensure there was a collaborative approach to building a more productive and innovative workplace. This culture of collaboration is key to delivering on EPA's goals, a workplace that is customer focused, responsive to employee needs, and proactively diverse. Meitheal once again continued to support EPA involvement in Junior Achievement Ireland and other outreach initiatives and staff participation events.

### Safety, health and welfare at work

The EPA recognizes that safety, health and welfare are essential requirements of its operations. In this regard, it is EPA policy to conduct its business in a manner that protects the safety, health and welfare of staff, visitors, contractors, and members of the public who may be involved in or with EPA activities. The EPA provides, in so far as is reasonably practicable, a safe place of work and a safe system of work for its staff in accordance with the Safety, Health and Welfare at Work Act, 2005 and associated regulations.

## 5.4 INFORMATION AND COMMUNICATIONS TECHNOLOGY

The EPA's corporate strategy sets out the ambition to enhance capacity and use of Information and Communications Technology (ICT) to support reform and innovation. A Board subcommittee oversees the governance and strategic direction of ICT-enabled change. The key priorities for ICT investment are in areas such as information provision, data management, online and shared services, security, leading-edge technologies and building internal ICT capabilities.

### Information security

Information is a key asset of the EPA. The protection of the EPA's information, technologies and applications is critical to ensuring the EPA can continue to carry out its functions. Within the EPA, information security practices encompass three main elements: confidentiality, integrity and availability. Accordingly, the EPA has introduced policies and technologies in the last few years to assist in the protection of its assets, and to meet the growing demands in the information security space. These are periodically reviewed.

In 2021, the EPA successfully closed out all actions arising from an audit of its ICT Information Security that was carried out against the rigorous international standard ISO 27001 in 2020. The measures put in place to address these actions further strengthen the EPA's resilience against potential cyberattacks.

2021 saw significant successful cyberattacks both within Ireland and worldwide. The EPA worked closely with the National Cyber Security Centre (NCSC) throughout the year to strengthen its defences and successfully implemented NCSC guidance in relation to major cyber incidents and alerts during the year, including the HSE cyberattack in May and the world-wide 'Apache Log4j' vulnerability in December.

### New ICT systems and technologies

Information and communications technologies are constantly changing and improving. The EPA endeavours to keep up to date with best practice in ICT; to ensure that the best technical options are selected, to maximise use of new technology, and to ensure value for money in ICT investments.

Significant work continued in 2021 to replace outdated communication technologies and improve ICT services used by EPA staff and contractors. The success of these initiatives enabled the staff and contractors to continue working from home, as necessitated by the Covid-19 restrictions.

During the year the EPA also focused on preparatory work to develop in-house applications in the 'Cloud' which will offer improved, more secure and resilient services to teams across the EPA.

## 5.5 ENVIRONMENTAL MANAGEMENT SYSTEM

The EPA is committed to leading by example and incorporating good environmental management and practice in everyday activities. The EPA implements an Environmental Management System (EMS), certified to the international standard ISO 14001:2015. Using this standard, the EPA aims to minimise the environmental impact of activities to achieve continual environmental improvement, to prevent pollution, to measure and reduce greenhouse gas emissions, adapt to climate change and encourage environmental awareness within the organisation.

### Energy overview

The EPA has achieved significant success in relation to achieving the public sector energy efficiency savings as set out in the National Energy Efficiency Action Plan, reducing energy demand by over 50% since 2006. The EPA continues to build on this success with an ambitious programme to further reduce energy demand and use more efficient ways to manage energy across all EPA sites. Monitoring energy consumption remains key to achieving success to date. The EPA undertook rigorous energy audits of all EPA sites in 2021 and the results of these audits will form the basis of an ambitious energy plan to further improve energy delivery and sustainability in line with the Climate Action Plan. The EPA continues to improve the energy efficiency of its buildings by investing in renewable heating solutions, efficient building systems such as LED lighting and self-generation of electricity using Solar PV. The EPA has also improved its transport fleet by the transition to hybrid and fully electric vehicles with EV charging points installed at all EPA office locations.

The EPA use a variety of energy sources to power and heat its buildings. Sources include biomass, natural gas, thermal solar, Photovoltaic (PV), Bio-petroleum gas (Bio-LPG), kerosene and electricity (air-to-water heat pumps). Electricity is now purchased from 100% renewable sources. Diesel is used to power standby generators.

Ireland's Climate Action Plan includes ambitious reductions and changes in energy use by way of a decarbonisation pathway and as such the EPA is well placed to continue its energy and carbon reduction with further building improvements planned for lighting upgrades with energy efficient LED, expansion of Solar PV and a continued focus on its carbon emissions.

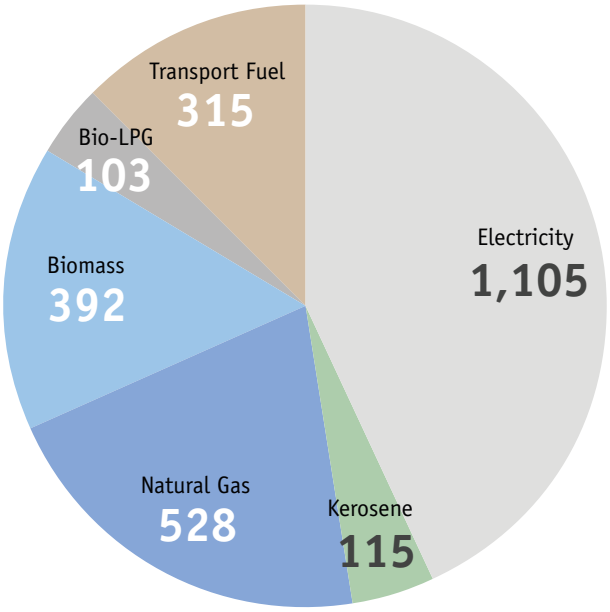
### Energy usage

Most of the energy demand in the EPA is for space heating, lighting, electrical power, hot water and transport. In 2021, the EPA's total energy consumption (Figure 12) amounted to 2595 megawatt hours (MWh) showing an overall decrease of 2.4% during the period 2020 to 2021.

Our largest energy source, electricity, reduced by 7% during this period with reductions following building improvements such as LED lighting upgrades. Reduced office occupancy due to Covid-19 restrictions in 2021 has also had an impact. The EPA's thermal energy demand reduced by 16%, due to reduced occupancy in buildings. The reduction in Fleet Transport of 23% is mainly due to reduced activity because of continuing Covid-19 restrictions during 2021.

In comparison to 2019 (Pre-Covid), the EPA's total energy demand, including heating, was reduced by 12% in 2021.

**Figure 12.** EPA energy usage (MW h) 2021



## 5.6 GOVERNANCE

### Corporate governance

Corporate governance is vitally important for the EPA in effectively discharging its statutory remit. It ensures a framework of structures and processes is in place to allow Board members to assess management and corporate performance while ensuring members also meet their own governance responsibilities objectively and effectively. It is the policy of the EPA to comply fully with governance and accountability obligations and to follow best practice in so doing.

The Code of Practice for the Governance of State Bodies 2016 (the Code) is mandatory for all State Bodies and came into effect on 1 September 2016. During 2021, the EPA continued to implement governance requirements and maintained compliance with the Code. A Corporate Governance Unit is in place with responsibility for overseeing and reporting on the implementation of and compliance with the Code.

Requirements arising from the Annex to the Code, on Gender Balance, Diversity and Inclusion recommends that State Boards achieve 40% representation of women and of men on State Boards. On 31 December 2021, the EPA Board included a gender balance of 50% female and 50% male.

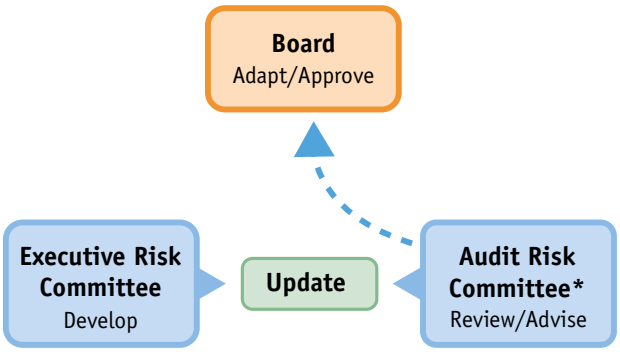
### Risk management

The EPA is committed to managing its risks and has a risk management framework in place which complies with the provisions of the Code of Practice for the Governance of State Bodies.

The EPA's Risk Management Policy was approved by the Board in 2018. An Executive Risk Committee (ERC) (chaired by the Chief Risk Officer) is in place and is made up of two Directors and five Programme Managers. In addition, an Audit & Risk Committee (ARC) is also in place with the membership comprising six external members and one EPA senior manager. The ERC and the ARC together have a responsibility for providing assurance to the EPA Board and advising on risk management (see Figure 13). The ERC meets on a regular basis and met four times in 2021. The ARC meets on a regular basis and met five times in 2021. Risk Management is a standing item at the ARC meetings.

The Corporate Risk Register identifies the key risks facing the EPA and details the controls and actions needed to mitigate risks while responsibility for the operation of such controls is assigned to specific staff. The Corporate Risk Register is monitored, maintained and reported on by the ERC, reviewed by the ARC and presented to the EPA Board for approval.

**Figure 13.** Relationship between the Executive Risk Committee, the Audit & Risk Committee and the EPA Board




*External independent advisory role constituted in accordance with the Audit and Risk Committee Charter

The EPA carried out an assessment of the EPA's risks using the processes outlined in its Risk Management Policy. The key risks managed by EPA in 2021 are summarised in Table 10:

**Table 10.** Summary of Risks

| No. | Risk | Controls |
|---|---|---|
| 1 | The risk to the Health, Safety and Welfare of our staff and the ability of the EPA to discharge its functions. | The EPA's Pandemic Response Team (PRT) remained in place to co-ordinate the Agency's response to Covid-19. Public health advice and safety measures resulted in remote and virtual working for most EPA staff. Proactive safety reviews were undertaken in areas of potential risk with follow-up actions identified. Protocols to protect the safety, health and welfare of EPA staff, contractors, licensees, customers and stakeholders have been developed to limit the disruption of Covid-19 on the EPA's work. |
| 2 | The risk of a successful cyber security attack on our ICT systems | The EPA continues to liaise with the National Cyber Security Centre in the Department of the Environment, Climate and Communications (DECC) on matters relating to cyber security. The EPA has a Cyber Security Officer in place and also has access to information security advice and services via an external vendor. The Agency also has Information & Communication Technology (ICT) Security Policy and Procedures in place and maintains ongoing investment in training and updating security defences. |

## Internal audit

During 2021, the internal audit programme was actively progressed and recommendations from previous audits were implemented. In accordance with the Code, a review of the effectiveness of the Audit & Risk Committee was carried out in 2021.

The following audits were completed in 2021:

- Internal Audit of Compliance Management (Corporate Legislation) 2021
- Review of Management and Compliance with EPA Sponsorship Policy
- Review of Environmental Licensing Programme Procedures
- Review of Internal Financial Controls 2021.

## Strategic Plan

The EPA's five-year Strategic Plan 2016-2020 *(Our Environment – Our Wellbeing)* concluded at the end of 2020. While work started on the development of a new Plan in 2020, Covid-19 restrictions resulted in significant delays to the project. Because of this delay, the 2016-2020 plan was extended for an additional year. The five strategic goals set out in that Plan were still relevant and guided the work of the EPA during 2021:

- A Trusted Environmental Regulator
- A Leader in Environmental Evidence & Knowledge
- An effective Advocate and Partner
- Able to Respond to Key Environmental Challenges
- Organisationally Excellent

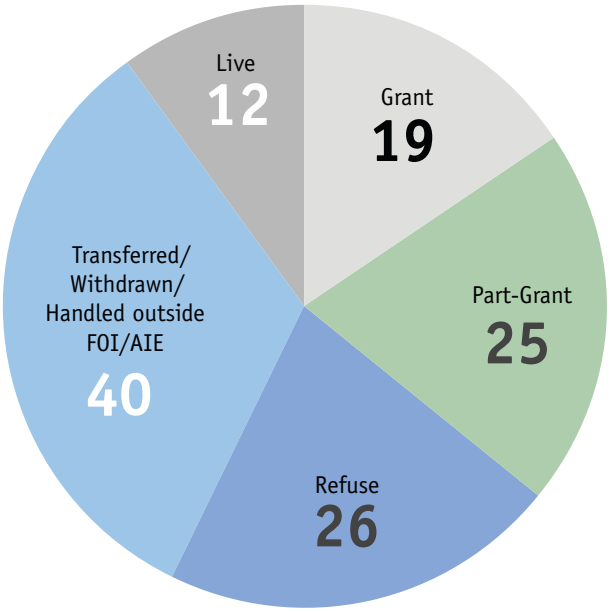
Work on the development of the new five-year Plan recommenced in 2021, led by the Senior Management Network, with a draft plan approved by the EPA Board for public consultation in early 2022.

## Access to information

The EPA is committed to be an open and accessible organisation. The Freedom of Information (FOI) Act, 2014, as amended, and the Access to Information on the Environment (AIE) Regulations are two methods of accessing information for those members of the public who have not been able to access the information they require under alternative routes. The EPA publishes as much information as possible in an open and accessible manner on a routine basis outside FOI, having regard to the principles of openness, transparency and accountability. This allows for the publication or giving of records outside of FOI, provided that such publication or giving of access is not prohibited by law.

During 2021, the EPA received 60 FOI requests and a further eight were carried over from 2020. Under the AIE Regulations, the EPA received 52 requests and one was carried over from 2020. Figure 14 illustrates the Decisions issued on the requests processed during 2021. Where requests were refused, the information refused was either: personal; not environmental information (AIE); was formulated in too general a manner; was not held by the EPA; could prejudice a prosecution; did not exist; or the requests were voluminous or manifestly unreasonable.

**Figure 14.** FOI & AIE Decisions January to December 2021




## Protected disclosures

Section 22 of the Protected Disclosures Act 2014 requires the publication of an annual report relating to the number of protected disclosures made in the preceding year and any actions taken in response to such disclosures.

The EPA confirms that one disclosure was made to the EPA as an employer, under Section 6 of the Act, in 2021.

The Director General of the EPA, in the context of her role as a Prescribed Person in relation to disclosures of relevant wrongdoings of all matters relating to the protection of the environment in the State, received eight disclosures from parties external to the EPA during the year.

# 6 Appendices

# 6 APPENDICES

## 6.1 PROMPT PAYMENT OF ACCOUNTS ACT, 1997

The Environmental Protection Agency comes under the remit of the Prompt Payment of Accounts Act, 1997, as amended by the European Communities (Late Payment in Commercial Transactions) Regulations 2002.

It is the policy of the EPA to ensure that all invoices are paid promptly. Specific systems and procedures have been put in place to enable invoices to be tracked and to ensure that payments are made before their due date. Purchase invoices are logged on a daily basis in Accounts Section, and are followed up systematically to ensure that they are certified for payment without delay. Payments are issued as required to ensure prompt payment.

These controls are designed to provide reasonable, but not absolute, assurance against material non-compliance with the Act.

There was one late payment with a value in excess of €317 during 2021 and this exceeded the due payment date by 118 days. The value of this late payment was €3,536.99.

Overall, late payments represented 0.009 % of the total value of payments covered by the Act, with total associated penalty interest of €91.48.

**Laura Burke**
*Director General, EPA*

24 May 2022

## 6.2 CONSULTANTS AND ADVISERS ENGAGED

| | |
|---|---|
| Apem Ltd. | ERINN Innovation Ltd |
| Behaviour & Attitudes | Fieldfisher Ireland |
| ByrneWallace | Fintan Valentine |
| CAAS Environmental Services Ltd | Gartner Ireland Ltd. |
| Camp Dresser & McKee (Ireland) Ltd | Geosyntec Consultants Ltd |
| Carr Communications Ltd | Halloran HR Resolutions Ltd |
| CDM Smith | Ipsos MRBI |
| CBEC Eco-engineering Ltd | Integrated Risk Solutions |
| Compass Informatics | Levett-Therivel Sustainability Consultants |
| Complete Laboratory Solutions Ltd. | Mason Hayes & Curran |
| Centre for Ecology and Hydrology, UK | RPS Consulting Engineers Ltd |
| CERC (GBP) | Smith & Williamson |
| Certification Europe Ltd. | Synergy Environmental Ltd t/a Enviroguide Consulting |
| Cpl Occupational Healthcare | Think HR |
| Dr Robbie Meehan | VITO (Flemish Institute for Technological Research) |
| eir evo | |

## 6.3 EPA PUBLICATIONS 2021

EPA publications are available to download from the EPA website at: https://www.epa.ie/publications/

### Air

The following air report can be found on the EPA website at: https://www.epa.ie/publications/monitoring--assessment/

- Air Quality in Ireland 2020

### Corporate

The following corporate reports can be found on the EPA website at: https://www.epa.ie/publications/corporate/

- EPA Annual Report & Accounts 2020
- Tuarascáil Bhliantúil agus Cuntais 2020
- EPA Evidence Framework
- EPA Year in Review 2020
- Infographic on public attitudes to environmental issues
- Athbhreithniú ar 2020

### Radiation

The following radiation report can be found on the EPA website at: https://www.epa.ie/publications/monitoring--assessment/radiation/

- Survey on attitudes to radiation in Ireland 2020

### Public Authority

The following Public Authority reports can be found on the EPA website at: https://www.epa.ie/publications/compliance--enforcement/public-authorities/

- Focus on Local Authority Environmental Enforcement Activity report 2020
- How to join the NIECE Network
- Focus on Local Authority Environmental Enforcement Activity report 2019

### Waste

The following waste report can be found on the EPA website at: https://www.epa.ie/publications/monitoring--assessment/waste/

- National Waste Statistics Summary Report for 2019

### Circular Economy

The following circular economy reports can be found on the EPA website at: https://www.epa.ie/publications/circular-economy/

- The National Hazardous Waste Management Plan 2021-2027
- The Circular Economy Programme 2021-2027
- Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects
- NWPP Annual Report 2020
- Nature and Extent of Post-Consumer Textiles in Ireland
- Green Public Procurement, Guidance for the Public Sector
- Nature and Extent of Food Waste in Ireland

### Water

The following freshwater and marine reports can be found on the EPA website at: https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/

- National Hydrometric Monitoring Programme 2022-2027
- Hydrology Summary Bulletin – December 2021
- Register of Hydrometric Stations in Ireland 2021
- Hydrology Summary Bulletin – November 2021
- Hydrology Summary Bulletin – October 2021
- Water Quality Monitoring Report on Nitrogen and Phosphorus Concentrations in Irish Waters in 2020.
- Hydrology Summary Bulletin – September 2021
- Hydrology Summary Bulletin – August 2021
- Hydrology Summary Bulletin – July 2021
- Water Quality in 2020 – an Indicators Report
- Hydrology Summary Bulletin – June 2021
- Hydrology Summary Bulletin – May 2021
- Bathing Water Quality Map 2020
- Bathing Water Quality Infographic 2020
- Bathing Water Quality in Ireland Report 2020
- Hydrology Summary Bulletin – April 2021
- Hydrology Summary Bulletin – March 2021
- River Monitoring – Aquatic Invertebrates Fact Sheet
- River and Lake Monitoring – Phytobenthos Fact Sheet
- Lake Monitoring Phytoplankton fact sheet
- Hydrology Summary Bulletin – February 2021
- Ireland's National Water Framework Directive Monitoring Programme, 2019-2021
- Hydrology Summary Bulletin – January 2021
- Assessment of the Catchments that need Reductions in Nitrogen Concentrations to Achieve Water Quality Objectives.

## Drinking Water

The following drinking water reports can be found on the EPA website at: https://www.epa.ie/publications/compliance--enforcement/drinking-water/

- Drinking Water Quality in Public Supplies 2020
- Focus on Private Water Supplies 2019

## Waste Water

The following waste water reports can be found on the EPA website at: https://www.epa.ie/publications/compliance--enforcement/waste-water/

- National Inspection Plan for Domestic Waste Water Treatment Systems 2022-2026
- Domestic Waste Water Treatment Systems Inspections 2020
- 2021 Code of Practice for Domestic Waste Water Treatment Systems

The following waste water report can be found on the EPA website at: https://www.epa.ie/publications/monitoring--assessment/waste-water/

- Urban Waste Water Treatment in 2020

## Assessment

The following reports can be found on the EPA website at: https://www.epa.ie/publications/monitoring--assessment/assessment/

- SEA Screening Good Practice 2021
- Ireland's Environment: An Integrated Assessment 2021- Key messages booklet
- Good Practice Note on SEA for the Energy Sector
- SEA Action Plan 2021-2025
- SEA Action Plan 2018-2020- Progress Update 2021

## Environmental research reports

EPA Research publications are available to download from the website at: https://www.epa.ie/our-services/research/epa-funded-research/epa-research-publications/

## Addressing climate change evidence needs

- Research 360: Methodologies for Financing and Costing of Climate Impacts and Future Adaptation Actions: Transport Networks in Ireland
- Research 362: Evaluating Ireland's Climate Policy Performance
- Research 369: CIViC: Critical Infrastructure Vulnerability to Climate Change
- Research 371: Climate Change and Land Use in Ireland
- Research 376: From Source to Sink: Responses of a Coastal Catchment to Large-scale Changes (Golden Strand Catchment, Achill Island, County Mayo)
- Research 379: Policy Coherence in Adaptation Studies: Selecting and Using Indicators of Climate Resilience
- Research 384: ClimAtt: Tools for Climate Change Attribution of Extreme Weather Events
- Research 385: Air Pollution Sources in Ireland
- Research 386: The Status of Ireland's Climate, 2020
- Research 397: Framework for Achieving the Environmental Sustainable Development Goals

## Delivering a healthy environment

- Research 361: The State of the Art on the Potential Human Health Impacts of Microplastics and Nanoplastics
- Research 365: Developing Ireland's Greenhouse Gas and Transboundary Air Pollution Monitoring Network
- Research 367: Particulate Matter from Diesel Vehicles: Emissions and Exposure
- Research 370: Potential Health Impact of Phthalates: An Irish Perspective
- Research 377: Impacts of Microplastics in the Irish Freshwater Environment
- Research 380: Innovative Water Monitoring
- Research 382: Transitioning to Strategic Noise Mapping under CNOSSOS-EU (Noise-Adapt)
- Research 383: Towards a Good Practice Guide for Implementing CNOSSOS-EU in Ireland

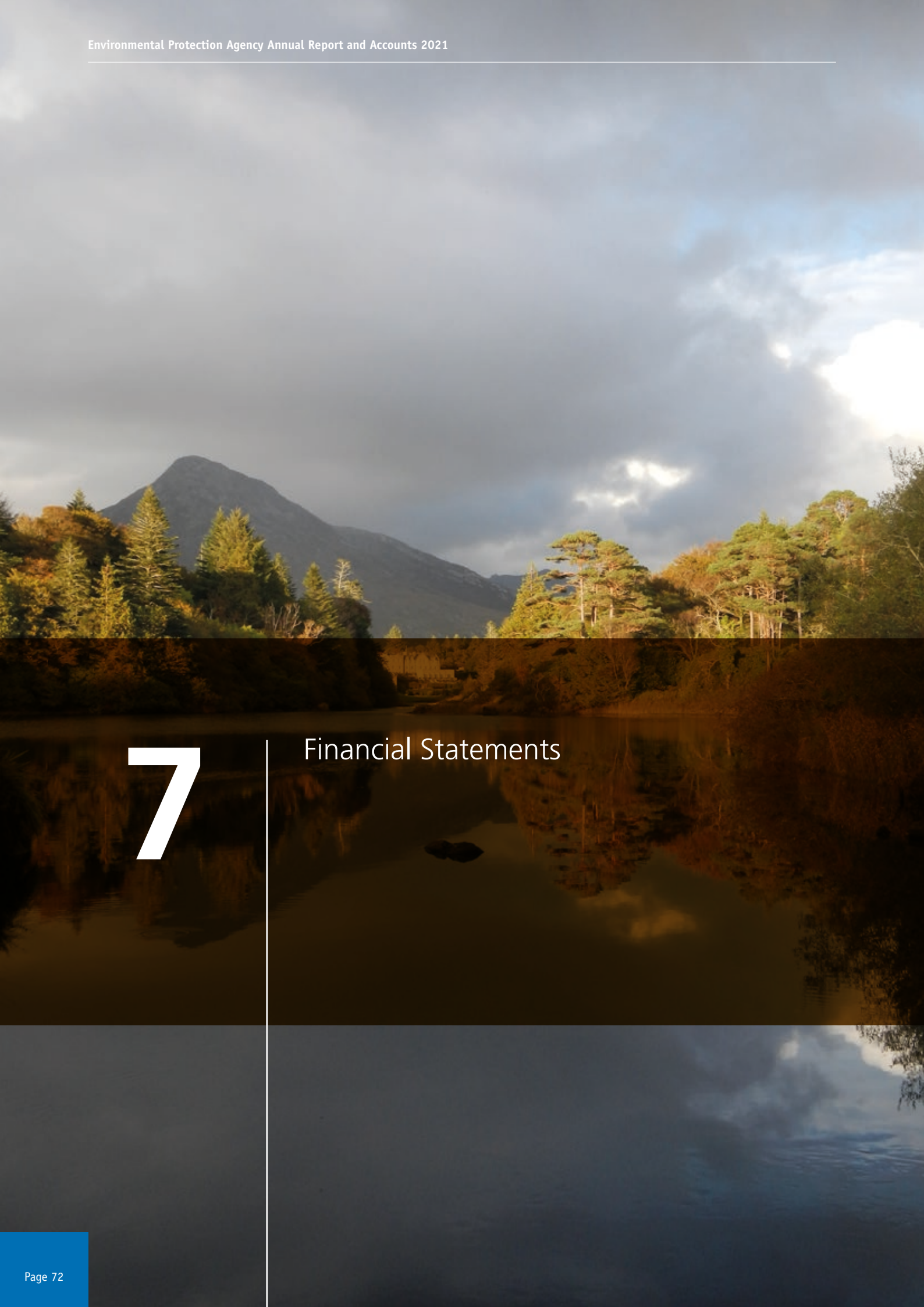
- Research 387: GRACE Monitoring of Groundwater over Ireland – A Feasibility Study
- Research 395: Cumulative Health Effects of Metal(loids) through Aggregate Environmental Pathways
- Research 398: Eco-driving: Trends and Potential Impacts for Irish Heavy-duty Vehicles
- Research SHEER: Our Environment, Our Health, Our Wellbeing: Access to Blue/Green Spaces in Ireland

## Facilitating a green and circular economy

- Research 363: No Home for Plastic
- Research 366: An Investigation into WEEE Arising and Not Arising in Ireland (EEE2WEEE)
- Research 374: Piloting Innovative Approaches in Sustainable Communities towards Achieving the United Nations Sustainable Development Goals in Ireland
- Research 375: Development of Quality Standards for Compost and Digestate in Ireland
- Research 381: An Irish Nutrient Platform to Underpin Sustainable Development
- Research 388: Circular Economy Opportunities – Raw Materials Ireland Project
- Research 393: Estimating the Quantity of Electrical and Electronic Equipment (EEE) Exported from Ireland As Used EEE
- Research 394: Identifying Interactions for Sustainable Development Goal Implementation in Ireland

## Protecting and restoring our natural environment

- Research 364: Learning from Group Water Schemes: Community Infrastructures for Sustainable Development
- Research 368: Prevention, Control and Eradication of Invasive Alien Species
- Research 372: Using the OECD Water Governance Indicator Framework to Review the Implementation of the River Basin Management Plan for Ireland 2018–2021
- Research 373: Using an Experimental Governance Lens to Examine Governance of the River Basin Management Plan for Ireland 2018–2021
- Research 378: Towards the Quantification of Blanket Bog Ecosystem Services to Water
- Research 389: Evaluating the Multiple Values of Nature – ESDecide: from an Ecosystem Services Framework to Application for Integrated Freshwater Resources Management
- Research 390: Nitrogen–Sulfur Critical Loads: Assessment of the Impacts of Air Pollution on Habitats
- Research 391: Tiering of Environmental Assessment – The Influence of Strategic Environmental Assessment on Project-level Environmental Impact Assessment
- Research 392: Guidance on Strategic Environmental Assessment–Environmental Impact Assessment Tiering
- Research 396: Catchment Models and Management Tools for Diffuse Contaminants (Sediment, Phosphorus and Pesticides): DiffuseTools Project
- Research 399: Mapping Green Dublin: Strategic Pathways to Community-led Greening
- Research 400: Use of Constructed Wetlands for Treating Mine Waste Leachates: Assessment of Longevity and Management Implications



# 7 Financial Statements

# 7 FINANCIAL STATEMENTS

## 7.1 GOVERNANCE STATEMENT AND DIRECTORS' REPORT 2021

### Governance

The Environmental Protection Agency (Agency/EPA) was established under the Environmental Protection Agency Act, 1992, as amended (the Act). In accordance with Section 19 of the Act the Agency consists of a Director General and five Directors.

The Director General and other Directors are appointed by the Government in accordance with Sections 21 and 24 of the Act. The functions of the EPA are set out in Part III of the Act. The Director General and the Directors are accountable to the Minister for the Environment, Climate and Communications and the Minister for Housing, Local Government and Heritage. The Director General and Directors are responsible for ensuring good governance and perform this task by setting strategic objectives and targets and taking strategic decisions on all key business issues. The regular day-to-day management, control and direction of the EPA are the responsibility of the Director General and the Directors.

The Act does not use the term 'Board' to designate the organisation's governing body; instead, the Act refers to 'the Agency' and designated 'Directors of the Agency'. The Director General serves as Chair of the Executive Board (the Board) and operational chief executive of the EPA, fulfilling both governance and management roles and is responsible for running the Agency. The Director General is accountable to the Oireachtas through the Public Accounts Committee.

The Directors of the Agency are referred to as 'Board Members', and the Agency's governing body is known as the Board. The Board fulfils both governance and management roles and its activities are organised into five Offices, with each Director having operational responsibility for an Office.

### Board Responsibilities

The EPA has been granted a wide range of powers and duties under the Environmental Protection Agency Act, 1992, as amended and other relevant environmental and radiation protection legislation.

The role of the Board of any public body is to provide strategic leadership, direction, support and guidance for the body and promote commitment to its core values, policies and objectives. In addition to the special Board responsibilities set out in the Code of Practice for the Governance of State Bodies (the Code) and in the Act, the EPA's Board holds specific governance and management responsibilities as the Board of a State body which include:

- to ensure that the body carries out its responsibilities as set out by statute or by ministerial order
- to provide leadership, vision and direction for the body
- to define the mission of the body, decide its strategic goals and develop the policies required to achieve those goals
- to ensure good management, to monitor the achievements of management and to ensure that a proper balance is achieved between the respective roles of board and management
- to set performance targets, including key financial targets and, in particular, to agree and closely monitor the budget
- to ensure that the body behaves ethically and in a manner that accords with the core values of the body
- to define and promote the body's role in the community by developing mechanisms for gathering the views of customers and stakeholders and by keeping people informed in an open, accountable and responsible way.

Legislatively, the Board has responsibility for the management of the EPA, but for practical purposes it is empowered to delegate responsibility to other staff for operational purposes. Section 25(6) of the Act provides that the Agency may perform or exercise any of its functions through or by any director or other person or body who has been duly authorised by the Agency in that behalf.

Since the establishment of the EPA, the Board has delegated discretionary powers to various levels in the EPA. The delegation of powers continues to grow as the Agency acquires further legislative functions over time.

The EPA's Strategic Plan sets out the priority actions that the EPA will take to deliver on our mission of protecting and improving our environment. Work on the next EPA Strategic Plan is at an advanced stage and the EPA is on track to publish our next Strategic Plan in early 2022.

The work and responsibilities of the EPA are set out in: the EPA Strategic Plan; the EPA Work Programme; and the Oversight Agreement with the Department of Environment, Climate and Communications and the Department of Housing, Local Government and Heritage.

Each month, the Board has a dedicated meeting on governance and management issues which include but not limited to:

- Declaration of interests
- Progress reports on operational issues from individual Offices
- Financial management
- Strategic planning

- Communications management
- Corporate Governance issues (including internal audit)
- HR and staffing issues
- Risk Management

Section 50 of the Environmental Protection Agency Act, 1992, as amended requires the EPA to keep, in such form as may be approved by the Minister for the Environment, Climate and Communications with consent of the Minister for Public Expenditure and Reform, all proper and usual accounts of money received and expended by it.

In preparing these financial statements, the EPA is required to:

- select suitable accounting policies and apply them consistently
- make judgements and estimates that are reasonable and prudent
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that it will continue in operation
- state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements.

The EPA is responsible for keeping adequate accounting records which disclose, with reasonable accuracy at any time, its financial position and enables it to ensure that the financial statements comply with Section 50 of the Act. The maintenance and integrity of the corporate and financial information is the responsibility of the Director General and Directors.

The Board is responsible for approving the annual plan and budget. The performance of the EPA is monitored on a monthly basis through the submission to the Board of progress reports on the EPA's Key Performance Indicators. A year-end evaluation of the 2021 EPA Work Programme Activities was completed and the 2021 year-end Financial Management Report was submitted to the Board in February 2022.

The EPA is also responsible for safeguarding its assets and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Board considers that the financial statements of the EPA give a true and fair view of the financial performance and the financial position of the EPA at 31 December 2021.

## Board Structure

The Board consists of a Director General and five other Directors, one of whom acts as Deputy Director General, all of whom are appointed by the Government. The Director General is appointed for a period of seven years and the other Directors are appointed for a period of five years. The Director General and Directors respectively may be reappointed by the Government for a second or subsequent term of office.

Requirements arising from the Annex to the Code of Practice for the Governance of State Bodies 2016, on Gender Balance, Diversity and Inclusion recommends that State Boards achieve 40% representation of women and of men on State Boards. The procedures for the appointment of the Director General and Directors of the EPA are laid down in Sections 21 and 24 of the EPA Act respectively. The EPA Director General and the Directors are selected by a committee as prescribed in the EPA Act and appointed by the Government via an open recruitment process. In selecting candidates, the committee has regard to knowledge and experience, including relevant experience in environmental and radiological matters. At 31 December 2021 the EPA Board included a gender balance of 50% female and 50% male.

The Board met for General Board meetings on twelve occasions in 2021. The table below details the appointment date for Board members who served during 2021.

| Board Member | Role | Date Appointed |
|---|---|---|
| Laura Burke | Director General | 8 November 2011* |
| Gerard O'Leary | Deputy Director General | 8 May 2012* |
| Micheál Lehane | Director | 1 May 2016* |
| Eimear Cotter | Director | 1 September 2017 |
| Tom Ryan | Director | 25 August 2018 |
| Ciara McMahon | Director | 15 September 2020** |
| Sharon Finegan | Director | 19 April 2021 |

* second term

** Ciara McMahon passed away in service on 15 January 2021

## Audit & Risk Committee

The EPA has established an Audit & Risk Committee (ARC) that comprises six external members and one member from EPA Senior Management. The role of the ARC is to support the Board in relation to its responsibilities for issues of risk, control and governance and associated assurance. The ARC is independent from the financial management of the organisation. In particular, the ARC ensures that the internal control systems including audit activities are monitored actively and independently. The Chairperson of the ARC meets regularly with the Director General and reports at least annually to the Board on the performance of the ARC.

There were five meetings of the Audit & Risk Committee in 2021. The ARC was re-established on 23 November 2021 for a further three years to 11 February 2025. The current members of the ARC are:

| ARC Member | Change to Term During 2021 |
|---|---|
| Tom Barry (Chairperson) | Unchanged |
| Allan Reid | Unchanged |
| Caroline Bocquel | Unchanged |
| Nuala Bannon | Unchanged |
| John Maher | Unchanged |
| Áine Ryall | Unchanged |
| Raymond Smith | Unchanged |
| Philomena Poole | Appointed November 2021* |

* Philomena Poole was appointed to the ARC in November 2021 with a view to attending ARC meetings commencing in 2022.

## Board Sub Committees

The Board has established two Board Sub Committees.

1. **ICT Board Sub-Committee:** comprises three Board members and is supported by senior Programme Managers, the senior ICT team and a senior Analytics team representative. The Board members of this committee are: Dr Micheál Lehane (Chairperson), Dr Eimear Cotter and Mr Gerard O'Leary. There were seven meetings of the ICT Board Sub-Committee in 2021.
2. **Safety, Health and Welfare (SHW) Board Sub-Committee:** comprises three Board members at the end of 2021. The members of this committee are: Mr Gerard O'Leary (Chairperson), Dr Micheál Lehane and Dr Tom Ryan. There were six meetings of the SHW Board Sub-Committee in 2021.

## External Advisory /Consultative Committees

The Board is also advised by the following key external committees, each of which was established under legislation:

- EPA Advisory Committee*
- Dumping at Sea Advisory Committee*
- Genetically Modified Organisms (GMO) Advisory Committee
- Health Advisory Committee*
- Radiological Protection Advisory Committee*

* established under Section 41 of the Environmental Protection Agency Act, 1992, as amended.

## Schedule of Attendance, Fees and Expenses

There were 12 General Board meetings in 2021. A schedule of attendance at the General Board meetings for 2021 is set out below. Eleven of the 12 General Board Meetings were held in EPA headquarters and one General Board Meeting was held in EPA Inspectorate, Dublin.

| Number of meetings | Board Attended/ Out of Possible | Fees € | Expenses 2021 € |
|---|---|---|---|
| Laura Burke | 12/12 | 0 | 289 |
| Gerard O'Leary | 12/12 | 0 | 0 |
| Micheál Lehane | 12/12 | 0 | 0 |
| Eimear Cotter | 12/12 | 0 | 0 |
| Tom Ryan | 11/12 | 0 | 0 |
| Sharon Finegan* | 8/9 | 0 | 0 |
| **Total** | | **0** | **289** |

* Appointed April 2021

A schedule of attendance at the ARC meetings for 2021 is set out below including the fees and expenses received by each member:

| Number of meetings | Audit & Risk Committee Attended/ Out of Possible | Fees 2021 € | Expenses 2021 € |
|---|---|---|---|
| Tom Barry (Chairperson) | 5/5 | 6,626 | 135 |
| Nuala Bannon | 5/5 | 0 | 0 |
| Caroline Bocquel | 5/5 | 0 | 0 |
| John Maher | 5/5 | 0 | 0 |
| Áine Ryall | 5/5 | 0 | 0 |
| Raymond Smith | 5/5 | 0 | 0 |
| Allan Reid* | 4/5 | 0 | 0 |
| **Total** | | **6,626** | **135** |

* All expenses paid directly to the Scottish Environment Protection Agency.

## COVID-19

The onset of the Covid-19 pandemic in early 2020 significantly changed the way the EPA operated. The EPA adapted quickly to the changed working environment with remote working becoming the norm for most EPA staff. The EPA Pandemic Response Team (PRT) continued to respond to the Covid-19 pandemic throughout 2021. The PRT is chaired by the Deputy Director General with representatives from all EPA Offices. The PRT has overseen a significant number of activities to protect the safety, health and welfare of EPA staff, contractors and visitors. Throughout 2021, the EPA continued to refine work practices including the use of ICT technologies, which has made remote working more efficient and effective.

The inbuilt controls within the EPA's Financial Systems have continued to operate as normal during the Covid-19 pandemic with no procedures or Key Controls being overridden in order to maintain business-as-usual. The EPA's Internal Auditors noted in their review of Internal Financial Controls 2021 that "Our audit results indicate that substantial assurance can be placed on the adequacy and operating effectiveness of controls to mitigate and/or manage financial risks to which the EPA may be exposed. There is a sound framework of system of financial control in place and the controls are being consistently applied to ensure risks are managed effectively which should ensure that objectives are fully achieved."

## Disclosures Required by Code of Practice for the Governance of State Bodies (2016)

The Board is responsible for ensuring that the EPA has complied with the requirements of the Code, as published by the Department of Public Expenditure and Reform in August 2016. The following disclosures are required by the Code:

### Employee Short-Term Benefits Breakdown

Employees' short-term benefits in excess of €60,000 are set out in Note 8 (c) of the financial statements.

### Consultancy Costs

Consultancy costs include the cost of external advice to management and exclude outsourced 'business-as-usual' functions and staff training and development providers.

| | 2021 € | 2020 € |
|---|---|---|
| Legal Advice, including Financial Provision of Licensed Activities. | 1,049,287 | 1,040,088 |
| Pension Scheme Actuarial Valuation | 5,843 | 4,797 |
| HR Consultancies | 50,411 | 29,066 |
| Public Relations | 79,412 | 76,413 |
| Internal Audit & Corporate Governance | 78,845 | 73,463 |
| Procurement Consultancy and Advice | 56,208 | 24,295 |
| Strategy Development and Implementation | 69,264 | 45,802 |
| **Total Consultancy Costs** | **1,389,270** | **1,293,924** |

## Legal Costs and Settlements

The table below provides a breakdown of amounts recognised as expenditure in the reporting period in relation to legal costs, settlements and conciliation and arbitration proceedings relating to contracts with third parties. This does not include expenditure incurred in relation to general legal advice received by the EPA which is disclosed in Consultancy costs above.

| | 2021<br>€ | 2020<br>€ |
|---|---|---|
| Legal fees – legal proceedings | 369,606 | 282,917 |
| Conciliation and arbitration payments | 0 | 0 |
| Settlements | 0 | 0 |
| **Total** | **369,606** | **282,917** |

## Travel and Subsistence Expenditure

Travel and subsistence expenditure is categorised as follows:

| | 2021<br>€ | 2020<br>€ |
|---|---|---|
| Domestic | | |
| – Board | 23,091 | 22,792 |
| – Employees | 330,005 | 382,185 |
| International | | |
| – Board | 0 | 2,301 |
| – Employees | 12,758 | 36,698 |
| **Total** | **365,854** | **443,976** |

## Hospitality Expenditure

The Income and Expenditure Account includes the following hospitality expenditure:

| | 2021<br>€ | 2020<br>€ |
|---|---|---|
| Staff hospitality* | 17,429 | 13,547 |
| Other hospitality | 0 | 0 |
| **Total** | **17,429** | **13,547** |

* Includes contributions to staff Sports & Social clubs and Employee Assistance Programme.

## Statement of Compliance

The Board has adopted, and has put procedures in place to ensure compliance with, the Code of Practice for the Governance of State Bodies (2016). The EPA was in compliance with the Code of Practice for the Governance of State Bodies for 2021.

Signed on behalf of the Board.

**Laura Burke**
*Director General*

Date: 24 May 2022

## 7.2 STATEMENT OF INTERNAL CONTROL 2021

### 1. Scope of Responsibility

On behalf of the Environmental Protection Agency (EPA) I acknowledge the Directors' collective responsibility for ensuring that an effective system of internal control is maintained and operated, for preparing the accounts of the EPA and for complying with all statutory obligations applicable to the EPA. This responsibility takes account of the requirements of the Code of Practice for the Governance of State Bodies (2016).

### 2. Purpose of the System of Internal Control

The system of internal control is designed to manage risk to a tolerable level rather than to eliminate it. The system can therefore only provide reasonable and not absolute assurance that assets are safeguarded, transactions authorised and properly recorded, and that material errors or irregularities are either prevented or detected in a timely way. While the effectiveness of an internal control system can change over time, the EPA reviews and updates such systems as required.

The system of internal control, which accords with guidance issued by the Department of Public Expenditure and Reform has been in place in the EPA for the year ended 31 December 2021 and up to the date of approval of the financial statements.

### 3. Key Control Procedures to Provide Effective Internal Control

#### i) Annual Review of the Effectiveness of Control

The Executive Board (the Board) conducted an annual review of the effectiveness of the internal controls which concluded in February 2022. In undertaking this review the Directors considered the following:

- Details of the system of internal controls in 2021 including Risk Management, Financial Management, Internal Audit, Ethics, Information Systems, Business Planning & Reporting
- Report on the Review of the Effectiveness of Internal Financial Controls 2021
- Compliance Officer's Report 2021
- IT Compliance Report 2021
- Health, Safety & Welfare Assurance Statement 2021
- Risk Management Assurance Statements 2021

Annual Assurance Statements in relation to Budgetary Responsibilities 2021 have been signed and presented to the Director General, in line with the provisions of the EPA Finance Manual. The onset of the Covid-19 pandemic in early 2020 significantly changed the way the EPA operated. The EPA adapted quickly to the changed working environment with remote working becoming the norm for most EPA staff. The EPA Pandemic Response Team (PRT) continued to respond to the Covid-19 pandemic throughout 2021. The PRT is chaired by the Deputy Director General with representatives from all EPA Offices. The PRT has overseen a significant number of activities to protect the safety, health and welfare of EPA staff, contractors and visitors. Throughout 2021, the EPA continued to refine work practices including the use of ICT technologies, which has made remote working more efficient and effective.

#### ii) Breaches in Control

There were no reported instances of breaches in control in 2021.

#### iii) Material Losses or Frauds

There were no reported material losses or frauds in 2021.

#### iv) Review of Statement of Internal Control

This Statement of Internal Control 2021 was reviewed by the EPA Internal Auditors, EPA Audit & Risk Committee (ARC) and the Directors in February 2022 to ensure that it accurately reflects the control system in place during 2021.

#### v) Steps taken to ensure an appropriate control environment

The Directors of the EPA have taken steps to ensure an appropriate control environment within the EPA by:

- Implementing the EPA Strategic Plan 2016–2020 – Our Environment, Our Wellbeing. This Strategy sets out the EPA's Vision, Mission, Values, Goals and thirteen Strategic Objectives. Implementation of the Strategy is monitored by the Senior Management Network, comprising Directors and Programme Managers, and reported to the Board of the EPA on a periodic basis. The EPA is developing its next strategy, which is due to be published in early 2022.

- Implementing the recommendations of the OECD review of EPA's institutional and organisational set-up. The review examined our structures, accountability, business processes, reporting and performance management as well as role clarity, relationships, distribution of powers and responsibilities with other government and non-government bodies. The overall finding of the review was that *"the EPA has established itself as a trusted and respected body for environmental and radiological protection that is recognised for its scientific integrity."*
- Agreeing a detailed work programme each year and monitoring and evaluating progress against that work programme on a monthly basis.
- Holding regular Board meetings, including monthly management meetings where the Agenda includes strategic issues such as Corporate Governance, Financial Management, Corporate Strategy and staffing matters.
- Adopting an EPA Finance Manual and a set of financial policies and procedures to control the significant financial elements of the EPA's business.
- Adopting a Corporate Governance Manual to provide a clear and comprehensive summary of the principal aspects of corporate governance for the Directors and senior managers.
- Maintaining a comprehensive schedule of insurances to protect the EPA's interests.
- Establishing and maintaining an Audit & Risk Committee. (See Section 3(ix) Monitoring Effectiveness of System of Internal Control)
- Establishing and operating a Risk Management Policy and Framework, appointing an Executive Risk Committee (ERC) and a Chief Risk Officer. (See Section 3(vi) Risk and Control Framework)
- Monitoring and assessing compliance with corporate legislation in accordance with EPA Policy.
- Defining management responsibilities, delegating appropriate functions, and reviewing and approving all EPA policies and procedures.
- Adopting a Code of Business Conduct for Directors and Staff in accordance with the requirements of the Code of Practice for the Governance of State Bodies.
- Ensuring compliance with the Ethics in Public Office Acts requirements and Sections 37 & 38 of the EPA Act 1992, relating to the Declaration and Disclosure of Interests.
- Establishing mechanisms for ensuring the adequacy of the security of its information and communication technology (ICT) systems which include;
  - the establishment of appropriate policies and control procedures,
  - effective organisational structures including segregation of duties and
  - the delegation to the internal audit unit of the responsibility for specific reviews and evaluations of ICT systems through the process of Annual Internal Audit Plans.
- Establishing a Pandemic Response Team to coordinate the EPA's response to Covid-19.

Legislatively, the Board has responsibility for the management of the EPA, but it is empowered to delegate responsibility to other staff for operational purposes. Section 25(6) of the EPA Act provides that the EPA may perform or exercise any of its functions through or by any Director or other person or body who has been duly authorised by the EPA in that behalf. The Programme Managers in charge of various functions are delegated operational responsibility for carrying out the work of the EPA.

Since the establishment of the EPA, the Board of the Agency has delegated discretionary powers to various levels in the EPA. The delegation of powers continues to grow as the EPA is assigned further statutory responsibilities over time. The EPA maintains a comprehensive register of relevant environmental legislation, a register of powers delegated by the Board and Board Reserved Functions. These registers are reviewed and approved by the Board as required.

## vi) Risk and Control Framework

The EPA has implemented a risk management system which identifies and reports key risks and the management actions being taken to address and, to the extent possible, to mitigate those risks.

The EPA has also developed a Risk Management Policy which sets out its risk appetite, the risk management processes in place and details the roles and responsibilities of staff in relation to risk. The EPA's Risk Management Policy and Structures are in compliance with the Code of Practice for the Governance of State Bodies (2016).

During 2021, the EPA undertook a review of its Risk Management Processes. As part of this review, all Office Level Risk Registers and the Corporate Risk Register were reviewed. This project has resulted in a Corporate Risk Register which is more dynamic and better meets the needs of the organisation.

The Corporate Risk Register identifies the key risks facing the EPA and details the controls and actions needed to mitigate risks and the responsibility for the operation of controls assigned to specific staff. The Corporate Risk Register is developed and managed by the ERC, reviewed by the ARC and presented to the EPA Board for approval. Additionally, risk assessments of critical services have been carried out as part of a Business Continuity Project.

Each Director provides bi-annual assurance statements to the Board acknowledging responsibility for the on-going update, monitoring and review of the Risk Register for their Office and for ensuring the implementation of the Risk Management Policy.

I can therefore confirm that a control environment containing the following elements is in place:

- procedures for key business processes have been documented
- financial responsibilities have been assigned at management level with corresponding accountability
- there is an appropriate budgeting system with an annual budget which is kept under review by senior management
- there are systems aimed at ensuring the security of the information and communication technology systems
- there are systems in place to safeguard the assets
- a system for the control of programme expenditure, including procedures for the approval and payment of grants and processes to monitor the progress towards achieving the objectives.

## vii) Financial & Budgetary Information

The system of internal controls is based on a framework of regular management information, a system of delegation and accountability, a set of financial and administrative procedures including segregation of duties. In particular it includes:

- A comprehensive budgeting system with an annual budget, which is reviewed and approved by the Board. The budgeting system also includes the preparation of two formal revised budgets in June and September, both of which are submitted to the Board for approval.
- The assignment of budgets and budgetary authority and responsibility for specific functions to selected managers.
- Arrangements for all purchasing to be conducted and controlled through the EPA's financial management system and procedures.
- Monthly reviews by the Board of financial management reports.
- Adoption of an annual Corporate Procurement Plan and the appointment of a Procurement Officer.

The inbuilt controls in the Financial Systems have continued to operate as normal during 2021 with no procedures or Key Controls being overridden in order to maintain business-as-usual.

## viii) Procedures for addressing financial implications of major business risks

The financial implications of business risks have been considered through the formal business risk assessment process and in the preparation of the EPA Internal Audit Plans. These are further assessed and evaluated through the phased implementation of the EPA's Internal Audit Plan.

## ix) Monitoring effectiveness of System of Internal Control

The EPA has established and maintained an Audit & Risk Committee, comprising six external members, one of whom is the Chairperson, and one EPA senior manager, as part of the on-going systematic review of the control environment and governance procedures within the EPA, to oversee the internal audit function and advise the Board in relation to the operation and development of that function.

The EPA has established an internal audit function which is adequately resourced and conducts a programme of work agreed with the ARC. The EPA engages external expertise to conduct internal audits.

The EPA Internal Audit Plan 2021–2022 was implemented during the year with progress on the implementation of the actions required arising from each audit reviewed regularly and reported to the Audit & Risk Committee at each ARC meeting and to the Board.

The Internal Audit Plan 2022-2023 was developed during 2021 and reflects the corporate risks identified for the EPA by the Executive Risk Committee, audits identified by EPA Management and the Audit & Risk Committee and developments and issues in relation to Corporate Governance that have arisen in the Public Sector in general. This Internal Audit Plan was reviewed by the Audit & Risk Committee and approved by the EPA Board in October 2021.

## 4. Procurement

I confirm that the EPA has procedures in place to ensure compliance with current procurement rules and guidelines. There were no instances of non-compliant procurement in 2021.

## 5. Research Funding

The Department of Public Expenditure and Reform (DPER) Circular 13/2014 Management of and Accountability of Grants from Exchequer Sources outlines the public financial management principles, procedures and additional reporting requirements to be followed in the management of grant funding provided from public money.

The EPA has procedures for the approval and payment of grants and processes to monitor the progress towards achieving the research objectives.

In January 2021, the Department of the Environment, Climate and Communications informed the EPA that it could continue to operate the existing pre-funding arrangements under the EPA's Research Programme pending receipt of formal DPER approval for 2021.

## 6. Review of Effectiveness

I confirm that the EPA has procedures to monitor the effectiveness of its risk management and control procedures. The EPA's monitoring and review of the effectiveness of the system of internal control is informed by the work of the internal and external auditors, the Audit & Risk Committee, and the senior management within the EPA responsible for the development and maintenance of the internal control framework.

I confirm that the Directors conducted an annual review of the effectiveness of the internal controls for 2021 in both January and February 2022 and are satisfied that the system of internal control is sound.

An Internal Audit of the Review of the Effectiveness of Internal Financial Controls was undertaken in November and December 2021 and January 2022 in accordance with the Internal Audit Plan 2021/2022. Results from the Internal Audit indicate that substantial assurance can be placed on the adequacy and operating effectiveness of controls to mitigate and/or manage financial risks.

## 7. Internal Control Issues

No breaches to internal controls were identified in relation to 2021 that require disclosure in the financial statements.

Signed on behalf of the Board.

**Laura Burke**
*Director General*

Date: 24 May 2022

## 7.3 COMPTROLLER AND AUDITOR GENERAL REPORT FOR PRESENTATION TO THE HOUSES OF THE OIREACHTAS

### Opinion on the financial statements

I have audited the financial statements of the Environmental Protection Agency for the year ended 31 December 2021 as required under the provisions of section 50 of the Environmental Protection Agency Act 1992. The financial statements comprise

- the statement of income and expenditure and retained revenue reserves
- the statement of comprehensive income
- the statement of financial position
- the statement of cash flows, and
- the related notes, including a summary of significant accounting policies.

In my opinion, the financial statements give a true and fair view of the assets, liabilities and financial position of the Environmental Protection Agency at 31 December 2021 and of its income and expenditure for 2021 in accordance with Financial Reporting Standard (FRS) 102 – *The Financial Reporting Standard applicable in the UK and the Republic of Ireland*.

### Basis of opinion

I conducted my audit of the financial statements in accordance with the International Standards on Auditing (ISAs) as promulgated by the International Organisation of Supreme Audit Institutions. My responsibilities under those standards are described in the appendix to this report. I am independent of the Environmental Protection Agency and have fulfilled my other ethical responsibilities in accordance with the standards.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

### Report on Information other than the financial statements, and on other matters

The Environmental Protection Agency has presented certain other information together with the financial statements. This comprises the annual report, the governance statement and Directors' report and the statement on internal control. My responsibilities to report in relation to such information, and on certain other matters upon which I report by exception, are described in the appendix to this report.

I have nothing to report in that regard.

**Andrew Harkness**

For and on behalf of the
Comptroller and Auditor General

3 June 2022

# APPENDIX TO THE REPORT

## Responsibilities of Directors

As detailed in the governance statement and Directors' report, the Directors are responsible for

- the preparation of financial statements in the form prescribed under section 50 of the Environmental Protection Agency Act 1992
- ensuring that the financial statements give a true and fair view in accordance with FRS 102
- ensuring the regularity of transactions
- assessing whether the use of the going concern basis of accounting is appropriate, and
- such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

## Responsibilities of the Comptroller and Auditor General

I am required under section 50 of the Environmental Protection Agency Act 1992 to audit the financial statements of the Environmental Protection Agency and to report thereon to the Houses of the Oireachtas.

My objective in carrying out the audit is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement due to fraud or error. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, I exercise professional judgement and maintain professional scepticism throughout the audit. In doing so,

- I identify and assess the risks of material misstatement of the financial statements whether due to fraud or error; design and perform audit procedures responsive to those risks; and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- I obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal controls.
- I evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures.
- I conclude on the appropriateness of the use of the going concern basis of accounting and, based on the audit evidence obtained, on whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Environmental Protection Agency's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my report. However, future events or conditions may cause the Environmental Protection Agency to cease to continue as a going concern.
- I evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I report by exception if, in my opinion,

- I have not received all the information and explanations I required for my audit, or
- the accounting records were not sufficient to permit the financial statements to be readily and properly audited, or
- the financial statements are not in agreement with the accounting records.

## Information other than the financial statements

My opinion on the financial statements does not cover the other information presented with those statements, and I do not express any form of assurance conclusion thereon.

In connection with my audit of the financial statements, I am required under ISAs to read the other information presented and, in doing so, consider whether the other information is materially inconsistent with the financial statements or with knowledge obtained during the audit, or if it otherwise appears to be materially misstated. If, based on the work I have performed, I conclude that there is a material misstatement of this other information, I am required to report that fact.

## Reporting on other matters

My audit is conducted by reference to the special considerations which attach to State bodies in relation to their management and operation. I report if I identify material matters relating to the manner in which public business has been conducted.

I seek to obtain evidence about the regularity of financial transactions in the course of audit. I report if I identify any material instance where public money has not been applied for the purposes intended or where transactions did not conform to the authorities governing them.

## 7.4 STATEMENT OF INCOME AND EXPENDITURE AND RETAINED REVENUE RESERVES FOR THE YEAR ENDED 31 DECEMBER 2021

| Income | Note | 2021 €'000 | 2020 €'000 |
|---|---|---|---|
| Oireachtas Grants – DECC | 2(a) | 48,636 | 43,048 |
| Environment Fund Grants | 2(b) | 0 | 2,992 |
| Oireachtas Grants – DHLGH | 2(c) | 6,352 | 6,808 |
| Emissions Trading Costs Recovered | 3 | 1,542 | 1,727 |
| Income from Radiological Activities | 4 | 764 | 824 |
| Licensing Activities | 5 | 674 | 579 |
| Enforcement Activities | 6 | 10,133 | 9,884 |
| Sundry Receipts | 7 | 698 | 342 |
| Net Deferred Retirement Benefit Funding | 23(c) | 7,942 | 7,123 |
| **Total Income** | | **76,741** | **73,327** |
| | | | |
| **Expenditure** | | | |
| Remuneration | 8 | 27,373 | 27,064 |
| Retirement Benefit Costs | 23(a) | 11,052 | 10,150 |
| Travelling Expenses | 9 | 466 | 555 |
| Laboratory and Field Costs | 10 | 1,494 | 1,701 |
| Accommodation Costs | 11 | 1,916 | 1,913 |
| Administration Costs | 12 | 8,826 | 8,541 |
| Consultants | 13 | 285 | 364 |
| Grants, Contractors and External Service Providers | 14 | 9,673 | 9,107 |
| Environmental Research Programme Payments | 15 | 8,784 | 8,660 |
| Depreciation | 16 | 5,762 | 5,902 |
| **Total Expenditure** | | **75,631** | **73,957** |
| | | | |
| **Surplus/(Deficit) for the Year before Appropriations** | | **1,110** | **(630)** |
| | | | |
| Transfer (to)/ from the Capital Account | 17 | 145 | 449 |
| | | | |
| (Deficit)/ Surplus on Disposals of Fixed Assets | | (16) | 15 |
| **Surplus /(Deficit) for the Year after Appropriations** | | **1,239** | **(166)** |
| | | | |
| Surplus at 1 January | | 3,496 | 3,662 |
| Surplus at 31 December | | **4,735** | **3,496** |

All income and expenditure for the year relate to continuing activities at the reporting date.

The Statement of Cash Flows and notes 1 to 28 form part of these financial statements.

On behalf of the Board of the Environmental Protection Agency:

**Laura Burke**
*Director General*

**Gerard O'Leary**
*Deputy Director General*

Date signed: 24 May 2022

## 7.5 STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED 31 DECEMBER 2021

| | Note | 2021 €'000 | 2020 €'000 |
|---|---|---|---|
| **Surplus/(Deficit) after appropriations** | | **1,239** | **(166)** |
| Experience gains/(losses) on retirement benefit obligations | 23(d) | 3,143 | 3,606 |
| Changes in assumptions underlying the present value of retirement benefit obligations | | (23,421) | (23,428) |
| **Actuarial (Loss)/Gain in the year** | | (20,278) | (19,822) |
| **Adjustment to deferred retirement benefits funding** | | 20,278 | 19,822 |
| **Other Comprehensive Income for the year** | | **1,239** | **(166)** |

The Statement of Cash Flows and notes 1 to 28 form part of these financial statements.

On behalf of the Board of the Environmental Protection Agency:

**Laura Burke**
*Director General*

**Gerard O'Leary**
*Deputy Director General*

Date signed: 24 May 2022

## 7.6 STATEMENT OF FINANCIAL POSITION AS AT 31 DECEMBER 2021

| | Note | 2021 €'000 | 2020 €'000 |
|---|---|---|---|
| **Fixed Assets – Property, Plant & Equipment** | 19 | **37,882** | **38,027** |
| **Current Assets** | | | |
| Receivables | 20 | 3,252 | 3,225 |
| Cash and cash equivalents | 21 | 10,350 | 9,445 |
| | | **13,602** | **12,670** |
| **Current Liabilities (amounts falling due within one year)** | | | |
| Payables | 22 | **(8,873)** | **(9,180)** |
| **Net Current Assets** | | **4,729** | **3,490** |
| **Total Assets less Current Liabilities before Retirement Benefits** | | **42,611** | **41,517** |
| **Retirement Benefits** | | | |
| Retirement benefit obligations | 23(b) | **(334,807)** | **(306,587)** |
| Deferred retirement benefit funding asset | 23(c) | **334,807** | **306,587** |
| | | **0** | **0** |
| **Total Net Assets** | | **42,611** | **41,517** |
| **Representing:** | | | |
| **Capital account** | 17 | **37,876** | **38,021** |
| **Retained revenue reserves** | | **4,735** | **3,496** |
| | | **42,611** | **41,517** |

The Statement of Cash Flows and notes 1 to 28 form part of these financial statements.

On behalf of the Board of the Environmental Protection Agency:

**Laura Burke**
*Director General*

**Gerard O'Leary**
*Deputy Director General*

Date signed: 24 May 2022

## 7.7 STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 31 DECEMBER 2021

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| **Net Cash Flows from Operating Activities** | | |
| Surplus/(Deficit) of Income over Expenditure | 1,239 | (166) |
| Depreciation and Impairment of Fixed Assets | 5,762 | 5,902 |
| (Increase) in Receivables | (27) | (57) |
| (Decrease)/Increase in Payables | (307) | 804 |
| Interest Paid | 64 | 41 |
| Deficit/(Surplus) on Disposal of Fixed Assets | 16 | (15) |
| Transfer (from)/to Capital Account | (145) | (449) |
| **Net Cash Inflow from Operating Activities** | **6,602** | **6,060** |
| **Cash Flows from Investing Activities** | | |
| Payments to acquire Property, Plant & Equipment | (5,633) | (5,453) |
| Proceeds on disposal of fixed assets | 0 | 15 |
| **Net Cash Flows from Investing Activities** | **(5,633)** | **(5,438)** |
| **Cash Flows from Financing Activities** | | |
| Bank Interest Paid | (64) | (41) |
| Fixed Asset Loan written off | 0 | (23) |
| **Net Cash Flows from Financing Activities** | **(64)** | **(64)** |
| **Net Increase/(Decrease) in Cash and Cash Equivalents** | **905** | **558** |
| Cash and Cash equivalents at 1 January | 9,445 | 8,887 |
| **Cash and Cash Equivalents at 31 December** | **10,350** | **9,445** |

## 7.8 NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

### 1 Accounting Policies

The basis of accounting and significant accounting policies adopted by the Environmental Protection Agency are set out below. They have all been applied consistently throughout the year and for the preceding year.

#### a) General Information

The Environmental Protection Agency was set up under the Environmental Protection Agency Act, 1992, with its headquarters at Johnstown Castle Estate, County Wexford.

Primary Objectives – the description of EPA's operations and principal activities is set out in the Annual Report which accompanies these Financial Statements.

The Environmental Protection Agency is a Public Benefit Entity (PBE).

#### b) Statement of Compliance

The financial statements of the Environmental Protection Agency for the year ended 31 December 2021 have been prepared in accordance with FRS 102, the financial reporting standard applicable in the UK and Ireland issued by the Financial Reporting Council (FRC).

#### c) Basis of Preparation

The financial statements have been prepared under the historic cost convention and in the form approved by the Minister for the Environment Climate and Communications, with the concurrence of the Minister for Public Expenditure and Reform under Section 50 of the Environmental Protection Agency Act, 1992. The following accounting policies have been applied consistently in dealing with items which are considered material.

#### d) Revenue

State Grants

Revenue is generally recognised on an accruals basis; one exception to this is in the case of State Grants which are recognised on a cash receipts basis.

Licensing Activity Income

Applicants for environmental licences are required to pay the full licence application fee at the time of making the application. The amounts received are apportioned to the Statement of Income and Expenditure and Retained Revenue Reserves on completion of the following stages of the licensing process:

Industrial Emissions Directive, Integrated Pollution Control and Waste Management Licences:

| | |
|---|---|
| Application | 30% |
| Proposed Determination | 50% |
| Licence Issue | 20% |

Waste Water Discharge Licences:

| | |
|---|---|
| Application | 10% |
| Acknowledgement of complete application | 40% |
| Licence Decision Issue | 50% |

Other Revenue

Other revenue is recognised on an accruals basis.

## e) Emissions Trading Unit

The Emissions Trading Unit (ETU) was established within the Environmental Protection Agency in 2003. The costs of administering the emissions trading scheme are reimbursed to the EPA by the Department of the Environment, Climate and Communications, from the proceeds of the sale of allowances, which are paid directly to the Department.

## f) Research Grant Payments

The EPA enters into commitments in respect of research projects awarded for funding. Expenditure on these research projects is charged in the financial statements on the basis of the initial payments which are made on signing of the grant award, interim payments which may be made subject to satisfactory performance and further payments which are issued on receipt and verification of claims in respect of work completed. Costs incurred by the EPA in the implementation of the research programmes are charged to the financial statements as they are incurred.

## g) Property, Plant and Equipment

Property, plant and equipment are stated at cost less accumulated depreciation, adjusted for any provision for impairment. Depreciation is provided on all property, plant and equipment at rates estimated to write off the cost less the estimated residual value of each asset on a straight-line basis over their estimated useful lives, as follows:

| | |
|---|---|
| Buildings | 2% per annum |
| Furniture and Fittings | 10% per annum |
| Laboratory and Field Equipment | 15% per annum |
| Equipment | 20% per annum |
| IT and Computer Equipment | 25% per annum |
| Motor Vehicles | 20% per annum |

Leasehold improvements are depreciated over the life of the lease.

Residual value represents the estimated amount which would currently be obtained from disposal of an asset, after deducting estimated costs of disposal, if the asset were already of an age and in the condition expected at the end of its useful life.

## h) Capitalisation of Internally Developed Software

The external costs of software developed for internal use are capitalised where it can be separately identified as software for use by the Agency and where it is expected to convey business benefits for a number of future years. The salary costs of software development staff are also capitalised.

## i) Capital Funding

The fixed assets of the EPA and advances to fund work in progress and asset purchases are met from a combination of capital grants, approved borrowing and allocations from current revenue. Funding sourced from grants (including that used to repay borrowings) is transferred to a capital account which is amortised in line with the depreciation of the related assets.

## j) Inventory

All inventory, including consumables are written off in the year of purchase.

## k) Receivables

Receivables are initially measured at transaction price and are subsequently carried at this amount, less a provision for doubtful debts. The provision for doubtful debts is established when there is objective evidence that the Environmental Protection Agency will not be able to collect all amounts owed to it. All movements in the provision for doubtful debts are recognised in the Statement of Income and Expenditure and Retained Revenue Reserves.

## l) Operating Leases

Rental expenditure under operating leases is recognised in the Statement of Income and Expenditure and Retained Revenue Reserves over the life of the lease. Expenditure is recognised on a straight-line basis over the lease period, except where there are rental increases linked to the expected rate of inflation, in which case these increases are recognised when incurred. Any lease incentives received are recognised over the life of the lease.

## m) Employee Benefits

### Short-term Benefits

Short-term benefits such as holiday pay are recognised in the year, and benefits that are accrued at year end are included in the Payables figure in the Statement of Financial Position.

### Retirement Benefits

The Environmental Protection Agency previously established its own defined benefit pension schemes, which are funded annually on a pay-as- you- go basis from monies available to it, including monies provided by the Department of the Environment, Climate and Communications and from contributions deducted from staff and members' salaries. The Environmental Protection Agency also operates the Single Public Services Pension Scheme (Single Scheme), which is a defined benefit scheme for pensionable public servants appointed on or after 1 January 2013. Single Scheme members' contributions are paid over to the Department of Public Expenditure and Reform (DPER).

Pension costs reflect pension benefits earned by employees and are shown net of staff pension contributions from employees where contributions are retained by the Agency. An amount corresponding to the pension charge is recognised as income to the extent that it is recoverable, and offset by grants received in the year to discharge pension payments.

Actuarial gains or losses arising on scheme liabilities are reflected in the Statement of Comprehensive Income, and a corresponding adjustment is recognised in the amount recoverable from the Department of the Environment, Climate and Communications.

The financial statements reflect, at fair value, the assets and liabilities arising from the Environmental Protection Agency's pension obligations and any related funding, and recognises the costs of providing pension benefits in the accounting periods in which they are earned by employees. Retirement benefit scheme liabilities are measured on an actuarial basis using the projected unit credit method.

Pension liabilities represent the present value of future pension payments earned by staff to date. Deferred pension funding represents the corresponding asset to be recovered in future periods from the Department of the Environment, Climate and Communications.

## n) Critical Accounting Judgements and Estimates

The preparation of the financial statements requires management to make judgements, estimates and assumptions that affect the amounts reported for assets and liabilities as at the date of the Statement of Financial Position and the amounts reported for revenues and expenses during the year. However, the nature of estimation means that the actual outcomes could differ from those estimates. The following judgements have had the most significant effect on amounts recognised in the financial statements.

### Retirement Benefit Obligation

The assumptions underlying the actuarial valuations for which the amounts recognised in the financial statements are determined (including discount rates, rates of increase in the future of compensation levels, mortality rates and healthcare cost trend rates) are updated annually based on current economic conditions, and for any relevant changes to the terms and conditions of the pension and post-retirement plans.

The assumptions can be affected by:

(i) the discount rate, changes in the rate of return on high-quality corporate bonds.

(ii) future compensation levels, future labour market conditions.

## 2 State Grants

| | | 2021 €'000 | 2020 €'000 |
|---|---|---|---|
| **Grants from the Department of Environment, Climate and Communications:** | | | |
| **(a) Oireachtas Grant – Grants from the Department's Vote:** | | | |
| Current | Subhead – E3 | 32,603 | 28,441 |
| Capital | Subhead – E3 | 15,521 | 13,910 |
| Other Programmes | Subhead – E3 | 512 | 697 |
| **Total DECC Oireachtas Grants** | | **48,636** | **43,048** |

**The Current grant shown is net of single scheme employee contributions of €307K (2020: €264K) remitted to DPER.**

| | | | |
|---|---|---|---|
| **(b) Environment Fund Grants** | | | |
| Non-Pay | | 0 | 0 |
| Research | | 0 | 0 |
| Other Programmes | | 0 | 2,992 |
| **Total Environment Fund Grants** | | **0** | **2,992** |
| **Grants from the Department of Housing, Local Government and Heritage:** | | | |
| **(c) Oireachtas Grant – Grants from the Department's Vote:** | | | |
| Current | Subhead – B3 | 5,655 | 5,871 |
| Capital | Subhead – B3 | 697 | 937 |
| **Total DHLGH Oireachtas Grants** | | **6,352** | **6,808** |
| **Total State Grants** | | **54,988** | **52,848** |

Research Funding of €10M (2020: €7.999M) provided by the Department of Environment, Climate and Communications is a specific allocation to meet the cost of environmental research. €11.437M was expended on these research activities in 2021 (2020: €11.134M). See Note 15.

## 3 Emissions Trading Unit (ETU) Activities

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Costs of Emissions Trading Unit recovered from Auction Funds, etc. | 1,542 | 1,727 |
| **Total Funding of ETU Costs** | **1,542** | **1,727** |

## 4 Income from Radiological Activities

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Calibration Service | 28 | 20 |
| Radiation Monitoring Service | 227 | 269 |
| Radiological Licensing and Enforcement | 497 | 535 |
| Miscellaneous | 12 | 0 |
| **Total Income from Radiological Activities** | **764** | **824** |

## 5 Licensing Activities – IED & IPC, Waste and WWD

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Licence Fees prepaid at 1 January | 1,412 | 1,427 |
| Fees Received | 831 | 570 |
| Less Refunds Paid | (128) | (6) |
| Licence Fees prepaid at 31 December (see Note 22) | (1,441) | (1,412) |
| **Amount credited to the Statement of Income and Expenditure and Retained Revenue Reserves** | **674** | **579** |

### Licensing: Industrial Emissions Directive (IED), Integrated Pollution Control (IPC) and Waste

Under Section 83 of the Environmental Protection Agency Act, 1992 the EPA is responsible for the licensing of large/complex industrial and other processes with significant polluting potential. Under Section 40 of the Waste Management Act, 1996 the EPA is responsible for the licensing of all significant waste recovery & disposal activities operated by local authorities and private enterprise.

### Licensing: Waste Water Discharges (WWD)

The Waste Water Discharge (Authorisation) Regulations 2007 provide for the licensing of urban waste water discharges. Discharges from areas that serve over 500 population equivalent require a licence from the EPA. Areas that serve less than 500 population equivalent are required to be certified by the EPA. The EPA's licensing income arises from fees charged in respect of processing such licensing applications.

## 6 Enforcement Activities – IED & IPC, Waste, WWD and Drinking Water

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Enforcement Charges Invoiced | 9,907 | 9,711 |
| Enforcement Income from Prosecutions | 226 | 173 |
| **Total Income from Enforcement Activities** | **10,133** | **9,884** |

Under Section 96 of the Environmental Protection Agency Act, 1992 the EPA is responsible for the regulation of large/complex industrial and other processes with significant polluting potential. Under Section 15 of the Waste Management Act, 1996 the EPA is responsible for the regulation of all significant waste recovery and disposal activities operated by local authorities and private enterprise. Under the Waste Water Discharge (Authorisation) Regulations 2007 the EPA is responsible for the regulation of waste water discharges. Under the European Union (Drinking Water) Regulations 2014 the EPA may charge for monitoring the quality of water supplies intended for human consumption. The EPA's enforcement income arises from fees charged in respect of this enforcement work.

## 7 Sundry Receipts

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Sundry | 698 | 342 |
| | **698** | **342** |

## 8 Remuneration

### (a) Aggregate Employee Benefits

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Staff short-term benefits | 25,039 | 24,807 |
| Termination benefits | 0 | 0 |
| Employer's contribution to social welfare PRSI | 2,396 | 2,323 |
| **Total Salary Costs** | **27,435** | **27,130** |
| IT Development Salary costs capitalised | (62) | (66) |
| **Salary Costs charged to the Statement of Income and Expenditure and Retained Revenue Reserves** | **27,373** | **27,064** |

The total Salary cost of €27.4M includes an accrual of €934,000 (2020: €980,000) in respect of accumulated staff annual leave entitlements. €307,000 (2020: €264,000) of Single scheme members pension contributions has been deducted and paid over to the Department of Public Expenditure and Reform. The total number of Single Scheme members at year end was 151 (2020: 141).

The Pension Related Deduction was replaced by the Additional Superannuation Contribution (ASC) with effect from 1 January 2019. In 2021, €943,000 of ASC (2020: €916,000) has been deducted from staff and paid to the Department of Environment, Climate and Communications.

## (b) Analysis of staff by location:

| | 2021 | 2020 |
|---|---|---|
| Headquarters | 183 | 168 |
| Regional Inspectorate Castlebar | 28 | 26 |
| Regional Inspectorate Cork | 59 | 56 |
| Regional Inspectorate Dublin | 134 | 125 |
| Regional Inspectorate Kilkenny | 24 | 25 |
| Regional Inspectorate Monaghan | 14 | 14 |
| Regional Offices | 6 | 6 |
| | **448** | **420** |

## (c) Analysis of staff salary costs in excess of €60,000:

The number of employees whose employee benefits fell within each band of €10,000 from €60,000 upwards is as follows:

| | 2021 | 2020 |
|---|---|---|
| €60,000 to €70,000 | 78 | 81 |
| €70,000 to €80,000 | 52 | 48 |
| €80,000 to €90,000 | 15 | 29 |
| €90,000 to €100,000 | 24 | 6 |
| €100,000 to €110,000 | 6 | 7 |
| €110,000 to €120,000 | 3 | 1 |
| €130,000 to €140,000 | 0 | 3 |
| €140,000 to €150,000 | 3 | 0 |
| €150,000 to €160,000 | 1 | 1 |
| €160,000 to €170,000 | 0 | 0 |
| €170,000 to €180,000 | 1 | 1 |

The total number of staff employed (WTE) at year end was 415.9 (2020: 411.5).

## (d) Staff Short-Term Benefits

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Basic Pay | 24,974 | 24,742 |
| Overtime | 0 | 0 |
| Allowances | 65 | 65 |
| | **25,039** | **24,807** |

## (e) Key Management personnel

Key management personnel in the Environmental Protection Agency consists of the Director General and the 5 members of the Board of Directors. The Directors of the Environmental Protection Agency are full time executive Directors. They are paid an inclusive salary and consequently no Directors or Board fees are paid. The total value of employee benefits for key management personnel is set out below:

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Salary | 860 | 804 |
| Allowances | 11 | 11 |
| | **871** | **815** |

This does not include the value of retirement benefits earned in the period. The key management personnel are members of the Environmental Protection Agency (Director General and Director) staff pension scheme and their entitlements in that regard do not extend beyond the terms of the model public service pension scheme.

## (f) Director General Salary and Benefits

The Director General remuneration package for the financial period was as follows:

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Salary | **175** | **172** |

This does not include the value of retirement benefits earned in the period. The Director General is a member of the Environmental Protection Agency (Director General and Director) staff pension scheme and her entitlements in that regard do not extend beyond the terms of the model public service pension scheme.

# 9 Travelling Expenses

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Travel and Subsistence | 366 | 452 |
| Motor Vehicle Expenses | 100 | 106 |
| Travel Refunds | 0 | (3) |
| | **466** | **555** |

This includes Executive Board travel expenditure of €23,091 (2020: €25,093).

## 10 Laboratory and Field Costs

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Laboratory and Field Expenses | 912 | 992 |
| Equipment Repairs and Maintenance | 541 | 655 |
| Protective Clothing | 41 | 54 |
| | **1,494** | **1,701** |

## 11 Accommodation Costs

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Rent and Rates | 744 | 758 |
| Power, Light and Heat, Cleaning | 631 | 643 |
| Repairs, Maintenance, Security | 541 | 512 |
| | **1,916** | **1,913** |

## 12 Administration Costs

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Telephone and Postage | 462 | 401 |
| Printing of Publications and Stationery Supplies | 384 | 465 |
| Insurance | 195 | 194 |
| Computer and Data Processing Charges | 4,050 | 3,912 |
| Audit Fees | 29 | 29 |
| Corporate Governance and Internal Audit Costs | 84 | 81 |
| Legal fees, advice and related costs | 1,419 | 1,323 |
| Meeting, External Committee and Guest Speaker Expenses | 210 | 151 |
| Staff Appointment and other related costs | 218 | 130 |
| Bank Interest and Charges | 74 | 57 |
| Books, Periodicals, and Library | 88 | 101 |
| Staff Development and Training Costs | 424 | 408 |
| Advertising | 80 | 153 |
| Communications | 961 | 958 |
| Sundries | 148 | 178 |
| | **8,826** | **8,541** |

## 13 Consultancy Costs

| | 2021 €'000 | 2020 €'000 |
|---|---|---|
| Consultants | 285 | 364 |
| | **285** | **364** |

| The EPA Offices which made use of these consultancies were: | 2021 €'000 | 2020 €'000 |
|---|---|---|
| Office of Communications and Corporate Services | 108 | 143 |
| Office of Environmental Sustainability | 5 | 58 |
| Office of Evidence and Assessment | 86 | 66 |
| Office of Radiation Protection and Environmental Monitoring | 17 | 39 |
| Office of the Director General/Cross Office | 69 | 58 |
| | **285** | **364** |

## 14 Grants, Contractors and External Service Providers

| | 2021 €'000 | 2020 €'000 |
|---|---|---|
| Contractors and External Service Providers | 7,201 | 6,585 |
| Grants | 2,472 | 2,522 |
| | **9,673** | **9,107** |

| The EPA Offices which incurred costs under this heading were: | 2021 €'000 | 2020 €'000 |
|---|---|---|
| Office of Communications and Corporate Services | 622 | 642 |
| Office of Environmental Sustainability | 3,032 | 2,451 |
| Office of Evidence and Assessment | 3,873 | 4,169 |
| Office of Environmental Enforcement | 926 | 762 |
| Office of Radiation Protection and Environmental Monitoring | 1,220 | 1,083 |
| | **9,673** | **9,107** |

## 15 Environmental Research

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| EPA Research Programme – Grant Payments | 10,109 | 9,361 |
| EPA Research Programme – Grant Refunds | (15) | (87) |
| Co-Funding Research Income | (1,310) | (614) |
| Research Programme Payments | **8,784** | **8,660** |

The current EPA environmental research programme was launched in 2021. It is being funded through a combination of Exchequer funding and co-funding provided by other research funding organisations. The EPA Research Programme aims to put science and innovation at the centre of environmental protection in Ireland through the development and proactive transfer of knowledge.

### Research Co-Funding

In addition to the funding provided by DECC, the following research co-funding was received:

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Department of Agriculture Food and the Marine | 346 | 185 |
| Health Service Executive | 211 | 43 |
| Department of Transport | 166 | 50 |
| Sustainable Energy Authority of Ireland | 147 | 0 |
| The Marine Institute | 138 | 50 |
| Geological Survey of Ireland | 87 | 26 |
| National Parks and Wildlife Service | 63 | 0 |
| Met Éireann/Department of Housing, Local Government and Heritage | 55 | 103 |
| Bio Diversa | 25 | 0 |
| Agence Nationale de la Recherche | 21 | 90 |
| Gas Networks Ireland | 0 | 39 |
| REPAK | 0 | 20 |
| Sundry/Other | 51 | 8 |
| Total Co- Funding | **1,310** | **614** |

In 2021 EPA Research Programme expenditure was €11.11M including Grant Payments of €10.109M as shown above and implementation and activity costs of €1,001K which are reported under the Travel, Lab and Field, Administration and Contractors cost headings.

In 2020 EPA Research Programme expenditure was €10.790M including Grant Payments of €9.361M as shown above and implementation and activity costs of €1,430K, which are reported under the Travel, Lab and Field, Administration and Contractors cost headings.

A further €327K of grant payments (2020: €343K) to research projects is included in the Grants figure at Note 14.

At 31 December 2021 commitments entered into but not yet charged to the financial statements in respect of Research projects amounted to €24.841M (2020: €24.391M) with the following breakdown:

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Outstanding Grant Commitments at 1 January | 24,391 | 27,551 |
| Grants Approved during the year | 11,166 | 8,015 |
| Grants Decommitted during the year | (295) | (1,558) |
| Grant Payments made in the year | (10,436) | (9,704) |
| Refunds of Grant payments received in the year | 15 | 87 |
| **Outstanding Commitments at 31 December** | **24,841** | **24,391** |

These figures exclude EPA implementation costs in respect of Research programmes.

## 16 Depreciation of Fixed Assets

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Depreciation of Property, Plant and Equipment (Note 19) | 5,762 | 5,902 |
| | **5,762** | **5,902** |

## 17 Capital Account

| | €'000 | €'000 |
|---|---|---|
| At 1 January 2021 | | **38,021** |
| Transfer from Income and Expenditure Account: | | |
| Income Allocated for Capital purposes – Fixed Asset Additions | | 5,633 |
| **Less:** | | |
| Disposals at cost | (4,196) | |
| Less prior depreciation on disposals | 4,180 | |
| | (16) | |
| Depreciation charge for year | (5,762) | |
| Net Transfer (to)/from Income and Expenditure Account | | (145) |
| **At 31 December 2021** | | **37,876** |

At 31 December 2021 the Capital Account balance includes €15,662 (2020: €15,662) in respect of prepayments for fixed assets (see Note 20 – Receivables).

## 18 Taxation

The EPA is specifically exempted under the provisions of Section 32, and Schedule 2, of Finance Act, 1994. Accordingly, no taxation charges have been included in the accounts.

## 19 Fixed Assets – Property, Plant & Equipment

| | Total | Buildings | Furniture & Fittings | IT & IS Equipment | Lab & Field Equipment | Motor Vehicles |
|---|---|---|---|---|---|---|
| **Cost** | **€'000** | **€'000** | **€'000** | **€'000** | **€'000** | **€'000** |
| At 1 January 2021 | **91,865** | **43,572** | **6,231** | **28,077** | **12,750** | **1,235** |
| Additions | 5,633 | 901 | 399 | 2,943 | 1,390 | 0 |
| Disposals | (4,196) | (5) | (475) | (2,125) | (1,591) | 0 |
| **At 31 December 2021** | **93,302** | **44,468** | **6,155** | **28,895** | **12,549** | **1,235** |
| | | | | | | |
| **Depreciation** | | | | | | |
| At 1 January 2021 | **53,838** | **15,223** | **4,408** | **23,686** | **9,491** | **1,030** |
| Charge for Year | 5,762 | 858 | 734 | 2,954 | 1,122 | 94 |
| On Disposals | (4,180) | (1) | (475) | (2,116) | (1,588) | 0 |
| **At 31 December 2021** | **55,420** | **16,080** | **4,667** | **24,524** | **9,025** | **1,124** |
| | | | | | | |
| **Net Book Value** | | | | | | |
| **At 31 December 2021** | **37,882** | **28,388** | **1,488** | **4,371** | **3,524** | **111** |
| **At 31 December 2020** | **38,027** | **28,349** | **1,823** | **4,391** | **3,259** | **205** |

The EPA regional inspectorate building at Seville Lodge, Kilkenny was constructed by the Office of Public Works on a site acquired for EPA. The legal transfer of the site to the EPA is being processed by the OPW through the Chief State Solicitors Office.

In 2021 the EPA capitalised €2.288M (2020: €2.29M) in respect of the external cost and €62K (2020: €66K) in respect of the internal salary cost of software development for internal use. This is in line with our Accounting Policy for Capitalisation of Internally Developed Software.

## 20 Receivables

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Debtors | 1,727 | 1,982 |
| Prepayments | 1,509 | 1,227 |
| Prepayments for Fixed Assets | 16 | 16 |
| | **3,252** | **3,225** |

## 21 Cash and cash equivalents

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Cash and Bank Balances | **10,350** | **9,445** |

## 22 Payables

| **Amounts falling due within one year:** | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Licence Fees Prepaid | 1,441 | 1,412 |
| Other Deferred Income | 586 | 615 |
| Trade and Other Expenses | 6,846 | 7,153 |
| | **8,873** | **9,180** |

Included in Trade and Other Expenses above are the following amounts due to the Revenue Commissioners:

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Professional Service Withholding Tax | 364 | 388 |
| PAYE/PRSI/USC | 769 | 764 |
| VAT | 371 | 349 |
| Relevant Contract Tax | 2 | 0 |
| | **1,506** | **1,501** |

## 23 Retirement Benefit Costs

### (a) Analysis of total retirement benefit costs charged to the Statement of Income and Expenditure and Retained Revenue Reserves

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Current Service Cost | 9,945 | 8,237 |
| Interest on retirement benefit scheme liabilities | 2,438 | 3,191 |
| Employee Contributions | (1,331) | (1,278) |
| | **11,052** | **10,150** |

### (b) Movement in net retirement benefit obligations during the financial year

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Net retirement benefit obligation at 1 January | 306,587 | 279,642 |
| Current service costs | 9,945 | 8,237 |
| Interest costs | 2,438 | 3,191 |
| Actuarial (gain)/loss | 20,278 | 19,822 |
| Pensions paid in the year | (4,441) | (4,305) |
| **Net retirement benefit obligation at 31 December** | **334,807** | **306,587** |

### (c) Deferred Funding for Retirement Benefits

The EPA recognises these amounts as an asset corresponding to the unfunded deferred liability for retirement benefits on the basis of the set of assumptions described below and a number of past events. These events include the statutory basis for the establishment of the retirement benefit schemes, and the policy and practice currently in place in relation to funding public service pensions including contributions by employees and the annual estimates process. The EPA has no evidence that this funding policy will not continue to meet such sums in accordance with current practice.

The net deferred funding for retirement benefits recognised in the Statement of Income and Expenditure and Retained Revenue Reserves was as follows:

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| Funding recoverable in respect of current year retirement benefit costs | 12,383 | 11,428 |
| Resources applied to pay retirement benefits | (4,441) | (4,305) |
| | **7,942** | **7,123** |

The deferred funding asset for retirement benefits at 31 December 2021 amounted to €334.8M (2020: €306.6M).

## (d) History of defined benefit obligations

| | 2021<br>€ M | 2020<br>€ M | 2019<br>€ M | 2018<br>€ M | 2017<br>€ M |
|---|---|---|---|---|---|
| Defined benefit obligations | 335 | 307 | 280 | 248 | 247 |
| Experience gains/(losses) on defined benefit scheme liabilities: | | | | | |
| Amount (€ M) | 3.143 | 3.606 | 7.264 | (0.688) | (6.240) |
| Percentage of Scheme Liabilities | 0.9% | 1.2% | 2.6% | (0.3%) | (2.5%) |

The cumulative actuarial loss recognised in the Statement of Comprehensive Income amounts to **€159.1M (2020: €138.8M)**.

## (e) General Description of the Schemes

The schemes are defined benefit final salary pension arrangements with benefits and contributions defined by reference to current "model" public sector scheme regulations. The schemes provide staff members with a pension (being 1/80 per year of service), a gratuity or lump sum (being 3/80 per year of service) and spouse's and children's pensions. Normal Retirement Age is a member's 65th birthday, and pre-2004 members have an entitlement to retire without actuarial reduction from age 60. The schemes provide Board members with a pension (being 1/48 per year of service), a gratuity or lump sum (being 1/32 per year of service) and spouse's and children's pensions. Board members are entitled to retire when their contract ends. Pensions in payment (and deferment) normally increase in line with general public sector salary inflation.

The valuation used for FRS 102 disclosures has been based on a full actuarial valuation performed on 29 March 2022 by a qualified independent actuary, taking account of the requirements of the FRS in order to assess the scheme liabilities at 31 December 2021.

The principal actuarial assumptions were as follows:

| | 2021 | 2020 |
|---|---|---|
| Future salary increases | 3.20% | 2.45% |
| Future retirement benefit increases | 2.70% | 1.95% |
| Future state pension increases | 2.20% | 1.45% |
| Discount rate | 1.20% | 0.80% |
| Future inflation | 2.20% | 1.45% |
| Revaluation in deferment | 2.70% | 1.95% |

Mortality

Mortality Pre-Retirement – Nil.

Mortality Post Retirement – Male: 58% of ILT15, Female 62% of ILT15.

The mortality basis adopted explicitly allows for improvements in life expectancy over time, so that life expectancy at retirement will depend on the year in which a member attains retirement age. The table below shows the life expectancy for members attaining age 65 in 2021 and 2041.

| **Year of attaining age 65** | **2021** | **2041** |
|---|---|---|
| Life expectancy – male | 86.8 | 89.1 |
| Life expectancy – female | 89.2 | 91.2 |

## 24 Lease Commitments

At 31 December 2021 the Environmental Protection Agency had the following future minimum lease payments under non-cancellable operating leases for each of the following periods:

| | **2021 €'000** | **2020 €'000** |
|---|---|---|
| Payable within one year | 639 | 719 |
| Payable within two to five years | 2,004 | 2,338 |
| Payable after five years | 2,000 | 2,489 |

Operating lease payments recognised as an expense were €720K, (2020: €723K).

## 25 Related Party Disclosures

The EPA has adopted procedures to govern its decision making in accordance with the Environmental Protection Agency Act, 1992 and the Ethics in Public Office Act, 1995 and regulations made thereunder. These procedures have been adhered to by the EPA during the year.

Key management personnel in the EPA consist of the Director General and the members of the Board of Directors. Total compensation paid to key management personnel, including Directors salaries, vouched expenses and the Director General's remuneration amounted to €894K (2020: €840K).

In the normal course of business the Agency may approve grants and may also enter into other contractual arrangements with undertakings in which EPA Key management personnel have an interest.

The following transactions were carried out with related parties:

| | 2021<br>€'000 | 2020<br>€'000 |
|---|---|---|
| **Purchase of Goods and Services:** | | |
| Other Related Parties | 28 | 46 |
| | **28** | **46** |
| **Payable to related parties:** | | |
| Other Related Parties | 3 | 0 |
| | **3** | **0** |

The payables arise from purchase transactions.

In cases of potential conflict of interest, Board members absent themselves and do not participate in discussions regarding these matters.

## 26 COVID-19

The onset of the Covid-19 pandemic in early 2020 significantly changed the way the EPA operated. The EPA adapted quickly to the changed working environment with remote working becoming the norm for most EPA staff. The EPA Pandemic Response Team (PRT) continued to respond to the Covid-19 pandemic throughout 2021. The PRT is chaired by the Deputy Director General with representatives from all EPA Offices. The PRT has overseen a significant number of activities to protect the safety, health and welfare of EPA staff, contractors and visitors. Throughout 2021, the EPA continued to refine work practices including the use of ICT technologies, which has made remote working more efficient and effective. The inbuilt controls within the EPA's Financial Systems have continued to operate as normal during the Covid-19 pandemic with no procedures or Key Controls being overridden in order to maintain business as usual. The Agency does not believe that Covid-19 is impacting on its ability to continue to operate as a going concern.

## 27 Comparative Figures

Some changes have been made to the presentation of items in the financial statements and the comparative figures have been reclassified where necessary on a basis consistent with the current year presentation.

## 28 Approval of Financial Statements

The Financial Statements were approved by the Board of Directors on 24 May 2022.

# AN GHNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL

Tá an GCC freagrach as an gcomhshaol a chosaint agus a fheabhsú, mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ar thionchar díobhálach na radaíochta agus an truaillithe.

## Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

**Rialáil:** *Rialáil agus córais chomhlíonta comhshaoil éifeachtacha a chur i bhfeidhm, chun dea-thorthaí comhshaoil a bhaint amach agus díriú orthu siúd nach mbíonn ag cloí leo.*

**Eolas:** *Sonraí, eolas agus measúnú ardchaighdeáin, spriocdhírithe agus tráthúil a chur ar fáil i leith an chomhshaoil chun bonn eolais a chur faoin gcinnteoireacht.*

**Abhcóideacht:** *Ag obair le daoine eile ar son timpeallachta glaine, táirgiúla agus deachosanta agus ar son cleachtas inbhuanaithe i dtaobh an chomhshaoil.*

## I measc ár gcuid freagrachtaí tá:

### Ceadúnú

Gníomhaíochtaí tionscail, dramhaíola agus stórála peitril ar scála mór;

- Sceitheadh fuíolluisce uirbigh;
- Úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe;
- Foinsí radaíochta ianúcháin;
- Astaíochtaí gás ceaptha teasa ó thionscal agus ón eitlíocht trí Scéim an AE um Thrádáil Astaíochtaí.

### Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil

- Iniúchadh agus cigireacht ar shaoráidí a bhfuil ceadúnas acu ón GCC;
- Cur i bhfeidhm an dea-chleachtais a stiúradh i ngníomhaíochtaí agus i saoráidí rialáilte;
- Maoirseacht a dhéanamh ar fhreagrachtaí an údaráis áitiúil as cosaint an chomhshaoil;
- Caighdeán an uisce óil phoiblí a rialáil agus údaruithe um sceitheadh fuíolluisce uirbigh a fhorfheidhmiú
- Caighdeán an uisce óil phoiblí agus phríobháidigh a mheasúnú agus tuairisciú air;
- Comhordú a dhéanamh ar líonra d'eagraíochtaí seirbhíse poiblí chun tacú le gníomhú i gcoinne coireachta comhshaoil;
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

### Bainistíocht Dramhaíola agus Ceimiceáin sa Chomhshaol

- Rialacháin dramhaíola a chur i bhfeidhm agus a fhorfheidhmiú lena n-áirítear saincheisteanna forfheidhmithe náisiúnta;
- Staitisticí dramhaíola náisiúnta a ullmhú agus a fhoilsiú chomh maith leis an bPlean Náisiúnta um Bainistíocht Dramhaíola Guaisí;
- An Clár Náisiúnta um Chosc Dramhaíola a fhorbairt agus a chur i bhfeidhm;
- Reachtaíocht ar rialú ceimiceán sa timpeallacht a chur i bhfeidhm agus tuairisciú ar an reachtaíocht sin.

### Bainistíocht Uisce

- Plé le struchtúir náisiúnta agus réigiúnacha rialachais agus oibriúcháin chun an Chreat-treoir Uisce a chur i bhfeidhm;
- Monatóireacht, measúnú agus tuairisciú a dhéanamh ar chaighdeán aibhneacha, lochanna, uiscí idirchreasa agus cósta, uiscí snámha agus screamhuisce chomh maith le tomhas ar leibhéil uisce agus sreabhadh abhann.

### Eolaíocht Aeráide & Athrú Aeráide

- Fardail agus réamh-mheastacháin a fhoilsiú um astaíochtaí gás ceaptha teasa na hÉireann;
- Rúnaíocht a chur ar fáil don Chomhairle Chomhairleach ar Athrú Aeráide agus tacaíocht a thabhairt don Idirphlé Náisiúnta ar Ghníomhú ar son na hAeráide;
- Tacú le gníomhaíochtaí forbartha Náisiúnta, AE agus NA um Eolaíocht agus Beartas Aeráide.

### Monatóireacht & Measúnú ar an gComhshaol

- Córais náisiúnta um monatóireacht an chomhshaoil a cheapadh agus a chur i bhfeidhm: teicneolaíocht, bainistíocht sonraí, anailís agus réamhaisnéisiú;
- Tuairiscí ar Staid Thimpeallacht na hÉireann agus ar Tháscairí a chur ar fáil;
- Monatóireacht a dhéanamh ar chaighdeán an aeir agus Treoir an AE i leith Aeir Ghlain don Eoraip a chur i bhfeidhm chomh maith leis an gCoinbhinsiún ar Aerthruailliú Fadraoin Trasteorann, agus an Treoir i leith na Teorann Náisiúnta Astaíochtaí;
- Maoirseacht a dhéanamh ar chur i bhfeidhm na Treorach i leith Torainn Timpeallachta;
- Measúnú a dhéanamh ar thionchar pleananna agus clár beartaithe ar chomhshaol na hÉireann.
- Taighde agus Forbairt Comhshaoil
- Comhordú a dhéanamh ar ghníomhaíochtaí taighde comhshaoil agus iad a mhaoiniú chun brú a aithint, bonn eolais a chur faoin mbeartas agus réitigh a chur ar fáil;
- Comhoibriú le gníomhaíocht náisiúnta agus AE um thaighde comhshaoil.

### Cosaint Raideolaíoch

- Monatóireacht a dhéanamh ar leibhéil radaíochta agus nochtadh an phobail do radaíocht ianúcháin agus do réimsí leictreamaighnéadacha a mheas;
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha;
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta;
- Sainseirbhísí um chosaint ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

### Treoir, Ardú Feasachta agus Faisnéis Inrochtana

- Tuairisciú, comhairle agus treoir neamhspleách, fianaise-bhunaithe a chur ar fáil don Rialtas, don tionscal agus don phobal ar ábhair maidir le cosaint comhshaoil agus raideolaíoch;
- An nasc idir sláinte agus folláine, an geilleagar agus timpeallacht ghlan a chur chun cinn;
- Feasacht comhshaoil a chur chun cinn lena n-áirítear tacú le hiompraíocht um éifeachtúlacht acmhainní agus aistriú aeráide;
- Tástáil radóin a chur chun cinn i dtithe agus in ionaid oibre agus feabhsúchán a mholadh áit is gá.

### Comhpháirtíocht agus líonrú

Oibriú le gníomhaireachtaí idirnáisiúnta agus náisiúnta, údaráis réigiúnacha agus áitiúla, eagraíochtaí neamhrialtais, comhlachtaí ionadaíocha agus ranna rialtais chun cosaint chomhshaoil agus raideolaíoch a chur ar fáil, chomh maith le taighde, comhordú agus cinnteoireacht bunaithe ar an eolaíocht.

### Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil

- Tá an GCC á bhainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóir. Déantar an obair ar fud cúig cinn d'Oifigí:
- An Oifig um Inbhuanaitheacht i leith Cúrsaí Comhshaoil
- An Oifig Forfheidhmithe i leith Cúrsaí Comhshaoil
- An Oifig um Fhianaise agus Measúnú
- An Oifig um Chosaint ar Radaíocht agus Monatóireacht Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tugann coistí comhairleacha cabhair don Ghníomhaireacht agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

Environmental Protection Agency
*An Ghníomhaireacht um Chaomhnú Comhshaoil*


**Headquarters**

PO Box 3000,
Johnstown Castle Estate,
County Wexford, Ireland
T: +353 53 916 0600
F: +353 53 916 0699
E: info@epa.ie
W: www.epa.ie
LoCall: 0818 33 55 99

**Regional Inspectorate**

McCumiskey House,
Richview, Clonskeagh Road,
Dublin 14, Ireland
T: +353 1 268 0100
F: +353 1 268 0199

**Regional Inspectorate**

Inniscarra, Co. Cork,
Ireland
T: +353 21 487 5540
F: +353 21 487 5545

**Regional Inspectorate**

Seville Lodge, Callan Road,
Kilkenny, Ireland
T: +353 56 779 6700
F: +353 56 779 6798

**Regional Inspectorate**

John Moore Road, Castlebar,
Co. Mayo, Ireland
T: +353 94 904 8400
F: +353 94 902 1934

**Regional Inspectorate**

The Glen,
Monaghan, Ireland
T: +353 47 77600
F: +353 47 84987

**Regional Offices**

The Civic Centre,
Church St, Athlone,
Co. Westmeath, Ireland
T: +353 906 475722

Room 3, Raheen Conference Centre,
Pearse House, Pearse Road,
Raheen Business Park, Limerick,
Ireland
T: +353 61 224764