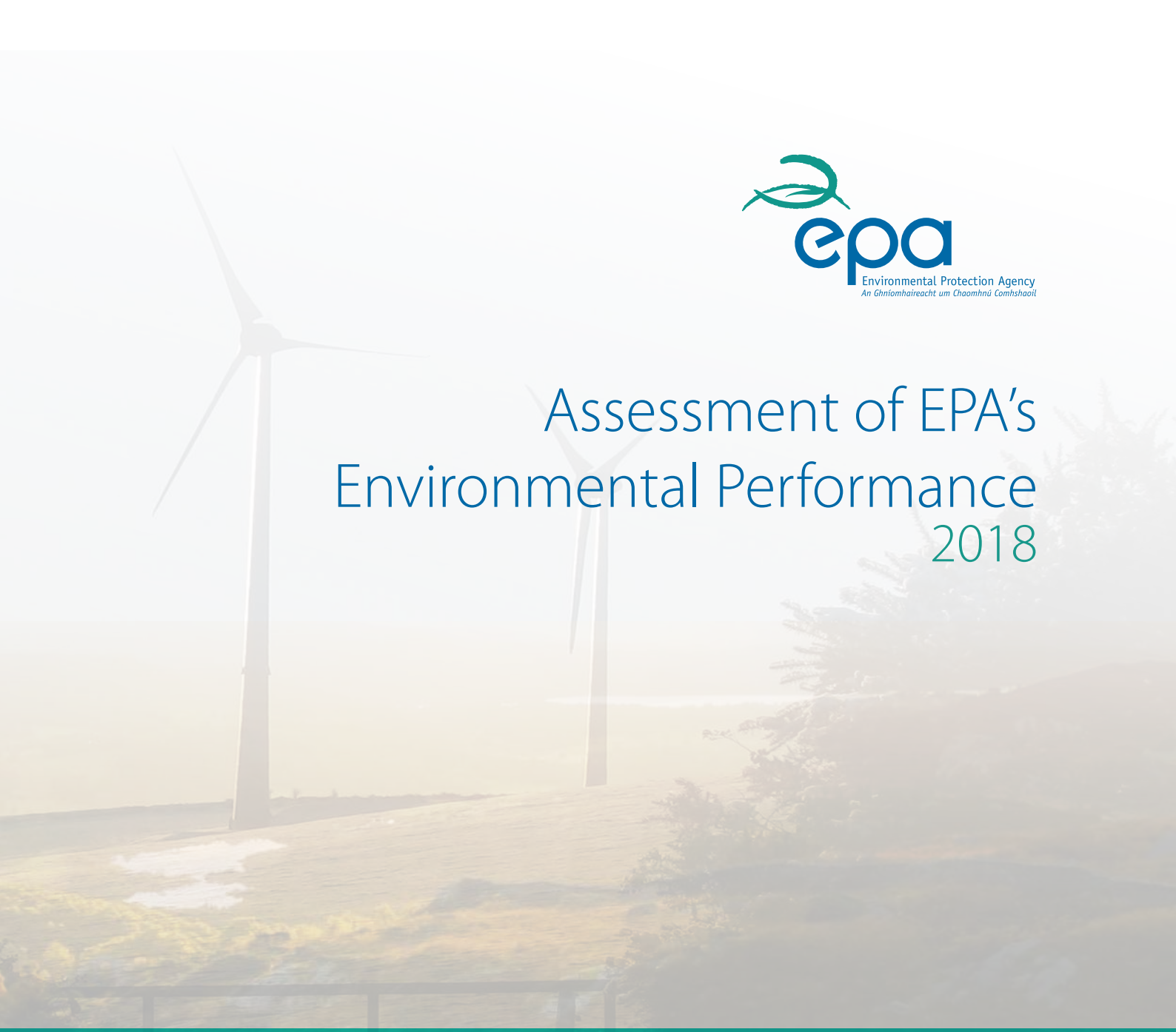
Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Assessment of EPA's Environmental Performance 2018



Introduction

The Environmental Protection Agency (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. We play key roles in environmental regulation, provision of knowledge and advocacy for the environment.

The EPA currently employs 410 full-time-equivalent staff working from our Headquarters in Wexford and five Regional Inspectorates in Dublin, Cork, Kilkenny, Castlebar and Monaghan. Four of the Regional Inspectorates, Dublin, Kilkenny, Castlebar and Monaghan; also contain accredited laboratories.

We have a wide range of functions to protect the environment, and our primary responsibilities include:

- National greenhouse gas inventories and projections assessment and reporting;
- Coordination of national research on climate change.
- Emissions trading regulation.
- Secretariat to the Climate Advisory Council.
- Secretariat to the National Climate Dialogue.
- Intergovernmental climate science support to DCCAE.
- State of the environment reporting and Strategic Environmental Assessment.
- Resource efficiency and behaviour change.
- Advice and assistance to local authorities.
- Industrial and chemical regulation.

The EPA are committed to leading by example and incorporate good environmental management and practice into our everyday activities. We implement and maintain an Environmental Management System (EMS), certified to the international standard ISO14001 and have done so now since March 2010. Using this standard, we strive to continually improve our environmental impact and in doing so prevent pollution and encourage environmental awareness.

In summary, the EMS has facilitated:

50% reduction in energy demand since 2006 and achievement of the 2020 government efficiency target ten years ahead of time.

54% reduction in water usage since 2010 while EPA benchmarks well against other organisations.

17% reduction in municipal waste and 23% reduction in mixed recyclables in an eight-year period.

In addition, a new Vehicle Management Policy has a specific commitment to decarbonise EPA transport. In 2014, as part of the Government's public sector reform plan, legislation to merge the EPA and the Radiological Protection Institute of Ireland (RPII) was enacted. The merger increased the staff numbers within the EPA and the number of buildings and activities therein were included in the scope of our EMS from 2015. The scope of the Environmental Management System includes along with our Wexford Headquarters, all our Regional Inspectorates i.e. Dublin, Cork, Kilkenny, Castlebar and Monaghan. Certification of the extended scope and to the new ISO standard (ISO14001:2015) was achieved in 2017.

Our current EPA Corporate Strategy 2016-2020 – Our Environment, Our Wellbeing highlights the importance of a clean, protected environment for our health, our wellbeing and our quality of life.

The supporting Action Plan includes an action to "Develop and implement an improved, environmentally sustainable, and consistent approach to the delivery of facilities management (including business partnering) in all locations."

The EPA aims to minimise the environmental impact of our own activities, to achieve continual environmental improvement, to prevent pollution, to encourage environmental awareness within our organisation, to limit and adapt to climate change and to contribute to sustainable development.

CONTENTS

1. Outline of environmental sustainability initiatives

This section outlines the EPA's environmental sustainability initiatives under the relevant aspects, such as energy, waste, waste, transport, biodiversity and sustainable procurement. Each section contains, achievements to date, initiatives already undertaken and planned actions. Summary data for all EPA locations are included in Appendix 1.

1.1 Energy

The EPA are fully committed to reducing our energy demand with a reduction in over 50% since 2006. We have had considerable success with the achievement of reaching the Government's 2020 energy efficiency target of 33%, in 2010, ten years ahead of time.

Monitoring of energy consumption across all sites has been critical in achieving our success to date. The EPA has appointed a Site Environmental Manager (SEM) at each of its locations. The SEM actively manages and controls energy usage through a Building Management System (BMS). Furthermore, the OPW's Energy Management System is utilised in each location to provide energy usage data. There are plans to carry out upgrades on the BMS systems to ensure their continued effectiveness and to maximise the benefits we get from these systems. Significant effort and capital investment have been made in recent years to reduce energy consumption and to use renewable energy sources where possible.

Key energy reduction projects carried out include:

- Installation of Building Management System (BMS) for all locations.
- Building thermal insulation upgrades.
- Heat recovery is in place at HQ, capturing waste heat from the IT server room and supplementing the Low Temperature Hot Water (LTHW).
- The 35-year-old heating plant in Clonskeagh Square, Dublin was replaced during 2018 with New Hybrid Heat Pump (primary) & Cascading Condensing Gas Boiler (secondary) solution. This project achieved a significant reduction in our energy demand due to efficiencies in the heat pumps and also efficiencies gained through the upgrade of other heating plant equipment (e.g pumps) to a more modern energy efficient solution. During the 9 Month Period post installation, the system saved over 13 tonnes of CO_2.
- The photovoltaic installation at HQ and the solar panels in Kilkenny supplement the electricity base load. Initiatives such as occupancy sensors and intelligent lighting systems have been introduced to further increase efficiencies.
- Comprehensive independent energy surveys have been undertaken for all sites with the resulting recommendations being implemented. Major actions have been prompted from these surveys; e.g. re-commissioning of Mechanical and Electrical (M&E) plant and ventilation and the introduction of natural ventilation in Richview, Dublin.
- Introduction of biomass (wood pellet in Cork and wood chip in Wexford) to reduce reliance on kerosene.
- Total building-wide LED upgrades in regional offices in Monaghan & Castlebar as pilots projects to inform future such upgrades in our larger buildings.

Future Actions (2020+) which the EPA intend to take include the following:

- Undertake LED lighting upgrades, internal and external, in all EPA locations using learnings from Monaghan & Castlebar case studies.
- Identify opportunities to extend the use of Solar PV in all EPA locations.
- Continue to identify opportunities of sustainable energy performance improvements in all construction projects.
- Continue to work with the OPW to develop new Building Energy Monitoring solution for EPA HQ with a view to rolling out to other sites.
- Continue to upgrade building heating systems with a view to more sustainable and energy efficient solutions.

1.2 Water

The EPA have made very positive gains in reducing its water usage and have achieved a reduction in its water usage of 54% since 2010. Water usage targets are continually revised with the latest performance target of 6.0 m^3 set in 2017. This helped to further drive water usage downwards, achieving a usage per person of 5.9m^3 by 2018. The level of water usage in the EPA is low when benchmarked against other organisations1 considering that the demand for water also incorporates our laboratory water demand in addition to our domestic use.

All EPA locations use metered water supplies which is monitored. Initiatives such as reduced flush cisterns, flush on demand urinals, tap restrictors, and waterless urinals have been introduced across many EPA sites in an effort to reduce the use of water. Domestic effluent is generated and is collected by the local authority treatment systems at each location. In Headquarters, there is a pond system in place to attenuate surface water run-off.

Rainwater harvesting is in use in Headquarters to supplement metered water supply. During dry periods the rainwater harvesting is topped up from a well bore. The EPA has replaced all drinking water stations with mains fed water filter systems. Disposable cups are not provided for use with water fountains to encourage the use of reusable drinking receptacles.

Since 2009 there has been a significant reduction in the amount of water used annually. Actively monitoring water usage started in 2008 and has proven an effective means of identifying leaks in the system. Identifying and repairing leaks has been a major factor in achieving a reduction target of 54%.

The EPA actively manages water usage and deliver awareness programmes to staff.

The EPA plans (2020+) to continue to:

- monitor water usage for early leak detection.
- Incorporate water reduction measures in all new building upgrade works.
- review water performance targets.

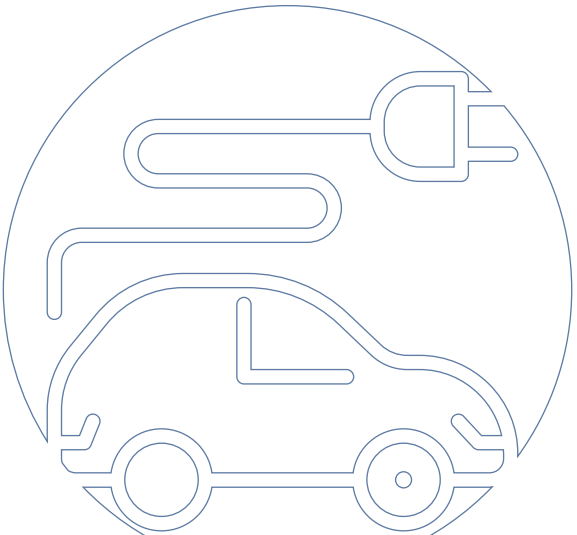
1 According to Resource Efficient Scotland, the average domestic water use for offices is 5.5m^3 per employee, with no canteen) and 8.8m^3 per employee with canteen, based on a 220-day working year.

1.3 Transport

Emissions from EPA owned fleet vehicles in 2018 were 144 tonnes carbon dioxide equivalent (CO_2e) down from 151 tonnes CO_2e emitted in 2017. The addition of hybrid vehicles to the fleet has already led to fuel efficiencies together with reductions in CO2e emissions. Air travel of approximately 928,000 km contributed emissions of 158 tonnes CO_2e in 2018 – similar to 2017.

Personal car use for work, such as inspections (with over 1,540,000 km travelled in the year), shows a decrease in emissions down to 213 tonnes CO_2e in 2018 from 221 tonnes CO_2e in 2017.

In December 2016, the EPA approved a new Vehicle Management Policy with a specific commitment to decarbonise EPA transport. The policy envisages: rationalising the fleet; replacing end-of-life fleet vehicles with low- or zero-emission variants; to maximise environmental benefits and raising awareness among staff of the availability and benefits of low emission vehicles.



The EPA operates a fleet of 33 vehicles used mainly by staff who are engaged in field activities. Extensive research and trials of alternative fuel sources such as pure plant oil, gas and synthetic diesel were undertaken over several years. Issues with continuity and reliability of supply reduced the viability of these alternative fuels. Our four-wheel drive vehicles are required to access rough terrain for environmental monitoring, site visits and some inspections. Light cargo vans are also used for environmental monitoring and transport of equipment. However, the EPA is committed to continual improvement in this area and our stated policy is to replace these vehicles with suitable low emission vehicles where available and suitable. In recent years, we have replaced diesel-powered vehicles with five hybrid vehicles, reduction of the overall fleet by non-replacement of two end-of-life vehicles and increased sharing of vehicles among business units. All EPA locations have EV charge points available for staff and visitors – to encourage an increased uptake in personally owned EVs. We expect delivery of two fully electric vehs for delivery before the end of 2019.

Our future actions (2020+) for transport includes:

- the purchase of pool staff cars.
- expansion of the EV charging network, encouraging further use of video conferencing, as appropriate for both internal and external meetings.
- continue to monitor the market and move the EPA fleet toward more electric powered vehicles as they become available.

1.4 Reduction of Waste Generated

The EPA have been actively managing and monitoring the waste arising from their activities since 2008, including waste segregation and monitoring of all waste streams. All locations operate a 3-bin system as a minimum for main waste types (mixed waste, recyclables and food waste), however we have provisions for segregation of other waste types, such as glass, shredded paper, WEEE, plastic and newspapers. Controls for segregation and management of waste arising have been critical in supporting the effective management and monitoring of waste. Between 2010 and 2018 we have achieved a 17% reduction in municipal waste and 23% reduction in mixed recyclables. Also, since 2012, we have achieved a 50% reduction in the quantity of paper purchased.

The EPA introduced a Lean six sigma process focused on eliminating any resource consuming activity that is not adding value to the customer. The process includes a 5S programme which concentrates teams on arranging their work areas in the best manner to optimise performance, comfort, safety and cleanliness. This, due to initial clear outs, has resulted in an increase in waste generated in 2017/2018 but is expected to deliver reductions in waste generated in the longer term.

The EPA's waste streams include; paper (our largest waste stream), mixed canteen waste, segregated cardboard, waste electrical and electronic equipment (WEEE), glass and plastic (particularly at laboratory sites), newspapers and packaging. The EPA also generates hazardous waste from activities such as laboratories.

Key actions undertaken to control waste include:

- Waste segregation is in place in all EPA locations actively managed by Site Environmental Managers (SEMs) and local green teams.
- Ongoing staff awareness activities encourage best practice in waste prevention, reuse and recycling.
- Regular audit of bins, particularly in offices with high mixed waste results are used to evaluate the appropriate level of segregation of waste.
- Managed print services have been introduced across all offices with a view to achieving further reductions in paper generated and therefore reducing the need of waste management.
- Work is ongoing in Headquarters to reduce canteen food waste.
- Programmes are in place for the re-use of furniture, stationary and other office equipment;
- The Facilities Office in the EPA continues to liaise with the Community Reuse Network Ireland (CRNI) and Rediscovery Centre in respect to re-use projects.
- Prioritisation of reuse in office refurbishments projects through engagement with local Green Teams to develop alternative mechanisms for re-use of fixtures & fittings where not suitable for re-use within a specific project.

The EPA also generates hazardous waste, mainly from our laboratories located in Dublin, Castlebar, Kilkenny & Monaghan. The volumes of hazardous waste generated from our laboratory activities varies from year to year depending on monitoring and measurement programmes. In 2008 the total amount of hazardous waste at all locations amounted to 1.2 tonnes down from 5.3 tonnes in 2017 reflecting the variable nature of this waste stream.

Since establishing our environmental management programme our principal aim has been to promote waste prevention and reduction and to segregate unavoidable waste so that recycling is efficient and effective. This includes an established infrastructure of waste segregation bins at appropriate locations within the EPA and a culture among staff of segregating waste at point of disposal. Given the confidential nature of some documentation, paper waste is shredded on site and then recycled.

The EPA has also developed an end-to-end licensing, enforcement, monitoring and reporting application (LEMA) as part of a strategic programme to promote, efficient and effective work practices, information sharing and improved communication with stakeholders. This has resulted in a significant reduction in the amount of paper documents received and generated as part of the EPA's environmental licensing activities. These and other such initiatives carried out by the EPA have resulted in halving the quantity of paper purchased since 2012.

The EPA's Key Performance Indicator (KPI) for non-hazardous waste is calculated as the total amount of non-hazardous waste generated per staff member per year (kilogrammes per Full Time Equivalent per year – kg/FTE/yr). Over the same period there was a 21% increase in the numbers of staff.

Segregation of waste has been effective in increasing our recycling rate from 61% in 2010 to 71% in 2018.

Future actions (2020+) in the area of waste include:

- Continue to explore innovative projects which reduce waste at source (such as online applications).
- Streamline the data collation and reporting process for waste across all locations.
- Continue with staff awareness projects providing guidance on waste reduction, segregation and contamination.
- Raise awareness among staff of the need for better waste segregation and reduction of paper waste.
- Investigate the quantities of food waste arising across relevant locations and set targets to reduce food waste from EPA canteens.
- Analyse the impact of projects such as LEAN on waste paper arisings.

1.5 Biodiversity

Our 2015-2016 'Greening the EPA' report committed the EPA to developing a plan for taking action for biodiversity across all of our offices, starting with EPA headquarters. EPA is carrying out a number of actions as part of the plan, including a low mowing regime, pollinator planting and citizen science training, to ensure its footprint on biodiversity is positive.

The plan will identify priorities for action as well as identify how any potential impact on biodiversity is taken into consideration in our activities, including the day-to-day management of our grounds and facilities. The role of biodiversity in staff well-being initiatives is also being enhanced through the plan. We have planned and complete one outdoor meeting room for staff with another to be constructed by end of 2019.

IN THE PAST TWO YEARS, THE EPA HEADQUARTERS HAVE MAPPED THE EXTENT AND CHARACTERISTICS OF HABITATS/BIODIVERSITY RESOURCES WITH PLANS FOR THE ROLL-OUT TO OTHER EPA LOCATIONS.

Key actions undertaken regarding biodiversity include:

- Creation of outdoor meeting area
- Biodiversity walks and talks.
- Working with our neighbours.
- Wildlife planting at main entrance.
- Increased native planting.
- Maintaining access to Johnstown Castle Estate via woodland path.

Our future plans (2020+) for Biodiversity include:

- Update and delivery of Biodiversity Action Plan.
- Extend/Introduce Biodiversity project to other EPA locations.

2 There were 1,530 visits to industrial, waste, dumping at sea and VOC facilities. Over 305 urban waste water site visit, 61 drinking water site visits and 102 inspections of Radiological Licensees in 2018

1.6 Sustainable Procurement

The EPA requires green criteria to be considered when procuring services in areas which have the potential to impact the environment. Priority areas include: managed print services, cleaning, construction, IT equipment and vehicles.

The sustainable building design of the extension to our Headquarters in 2009 and of the office and laboratory completed in Kilkenny in 2006 show the environmental benefits to be gained from including environmental criteria into the procurement processes. Both designs took a holistic approach to sustainability by utilizing and improving existing services and infrastructure. Within Organisational Services and Facilities management in the EPA, reuse is our priority and as such everything from stationary and fixtures and fittings are reused prior to any procurement process.

Examples of where green criteria are used include:

- recycled stationery.
- construction projects.
- IT equipment.
- replacement of water coolers with mains water coolers.
- the replacement of disposable water cooler cups with drinking water glasses.
- Minimisation and elimination of hazardous chemicals used for cleaning offices.
- The purchase of replacement fleet vehicles.
- Prioritisation of reuse in office refurbishments projects through engagement with local Green Teams to develop alternative mechanisms for re-use of fixtures & fittings where not suitable for re-use within a specific project.

Our future actions (2020+) regarding sustainable procurement:

- Explore methodologies to collate data on Green Public Procurement (GPP) across the EPA.
- Set targets for expansion of 'core' green criteria into all relevant tenders.

1.7 Green Team

To deliver on our commitment to "lead by example by reducing our own impact on the environment from EPA activities and facilities, the Green Team was established in 2008. The Agency Green Team is an internal committee, comprising of Site Environmental Managers (SEMs) and staff from all levels of the organisation and locations. Local Green Teams at each location are involved in the implementation of the Environmental Management Systems (EMS) objectives including communication and consultation about the Environmental Management Programme (EMP) objectives.

TO DATE, OVER 70 MOTIVATED VOLUNTEERS HAVE SERVED ON LOCAL OR AGENCY GREEN TEAMS SINCE ITS INCEPTION.

1.8 Communication

Communication on green team activities are key to keeping staff engaged and informed. A communications plan is developed each year as part of the environmental management programme that outlines: the objectives, audiences, key messages and communication channels. An activity calendar is included in the plan that outlines dates for events, publications and articles. Communication channels include: intranet, emails, articles in the internal newsletter, posters, information and awareness talks and events, and briefings at regional meetings. We use these channels to report progress, encourage action and listen for feedback on Greening the EPA.

A primary objective of the communications plan is to convey the EPA as an exemplar of good practice in incorporating environmental management in everyday work practices.

More formally, the green team regularly report to the EPA's Partnership Committee, Meitheal, which is made up of Management, Unions and Staff, and is chaired by the EPA's Director General. The committee members disseminate information from its meetings to all staff via email and through its intranet page. Under the ISO 14001 framework, the Green Team carries out an annual management review meeting with the Directors of the EPA in order to outline progress on the Environmental Management Programme (EMP) and to agree the focus for the year ahead.

Every two years an Environmental Performance Report is published summarising the activities of the Green Team and progress in reducing the EPA's impact on the environment. The report is disseminated to staff, made available on the EPA's website and promoted through the EPA's external newsletter- An Scéal. At a local Green Team level and Agency-wide, material is disseminated to provide hints and tips on improving environmental performance at work and at home.

Stakeholder	"Internal/External"	Methods of Communication	Topic
Board of Agency	Internal	"Presentations, reports and meetings"	EMP
Meitheal	Internal	Presentations and email	EMP and progress
Staff	Internal	"Email, presentations, signage, intranet, awareness days, newsletter and reports"	"EMP, progress, awareness campaigns and case studies"
Estate neighbours	External	Email and meetings	Biodiversity
Public	External	Reports, website	"Environmental Performance review"

Plans for 2020+

Plans for 2020+ are highlighted below each section.

Further Information / Useful Links

EPA remains committed to minimise the environmental impact of our own activities, to achieve continual environmental improvement, to prevent pollution, to encourage environmental awareness, to limit and adapt to climate change and to contribute to Ireland's sustainable development goals.

http://www.epa.ie/pubs/reports/other/corporate/greeningepa/

http://www.epa.ie/pubs/reports/other/corporate/epastrategy2016-2020.html

http://www.epa.ie/about/info/policy/

http://www.epa.ie/pubs/reports/other/corporate/epainternalenvironmentalpolicystatement.html

Report Information

Data for REAP environmental benchmark	Year:	2018	
Department name:	**Environmental Protection Agency (all locations)**		
Total number of sites:		6	
Total number of staff across all sites (full time equivalent):		410	
Number of sites included in this data set:		6	
Number of staff (full time equivalent) covered by this data set:		410	
Summary data on energy, water and waste			
Indicate which site(s) are included in this data set:	All sites		
Energy data			
Total electricity use for the year		1,223,400	kWh
Total thermal fuel use for the year		1,398,177	kWh
Total transport fuel use for the year		548,946	kWh
Water data			
Total water use for the year		2,417	m^3
Water indicator:		6	m^3 per employee per year
Waste data			
Total waste amounts for the year (fill in as relevant):			
Recyclables		19	tonnes
Food waste		8	tonnes
General waste		17	tonnes
Confidential paper		17	tonnes
Total waste		61	tonnes
Waste indicators:		**149**	**kg per employee per year**
		71%	**percentage recycled**

Summary list of recent environmental actions already taken (waste, water, energy, resources)

Specific details on energy, waste, water, biodiversity & sustainable procurement for all locations are included in the main part of the statement.