



An Roinn Cosanta  
Department of Defence

ENERGY

WASTE  
MANAGEMENT

WATER

# RESOURCE EFFICIENCY ACTION PLAN 2019-2021

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## **Acronyms**

<b>SUPs</b>	Single Use Plastics
<b>REAP</b>	Resource Efficiency Action Plan
<b>OPS</b>	Our Public Service
<b>DOD</b>	Department of Defence
<b>OPW</b>	Office of Public Works
<b>DAFM</b>	Department of Agriculture Food and Marine
<b>NSSO</b>	The National Shared Services Office
<b>REC</b>	Resource Efficiency Committee
<b>FTE</b>	Full Time Equivalent
<b>BMS</b>	Building Management System
<b>SuDS</b>	Sustainable Urban Drainage System

## Introduction

In January 2019 the Minister for Communications, Climate Action & Environment received Government approval for actions to be taken by each Government Department on single use plastics (SUPs), prevention of waste and green public procurement. This included the requirement for all Government Departments to produce a Resource Efficiency Action Plan (REAP).

With the recent publication of the Whole of Government National Climate Action Plan, it is clearly in the national interest that environmental sustainability becomes embedded in how we manage resources in the public service. The new climate action plan, which puts us on a trajectory to meet our 2030 target for carbon emissions, contains comprehensive governance and performing monitoring arrangements. These include the obligation on every public sector body to adopt a Mandate for Climate Action to demonstrate their leadership on climate action. This REAP is an important step in that process of learning and accountability.

The obligation on the public service to play its part in combatting climate change is fully aligned with the objectives of public sector reform and the focus of *Our Public Service 2020* (OPS) <http://www.ops2020.gov.ie> on greater collaboration, innovation, evaluation and increasing public trust and satisfaction in the public service along with more effective and better quality services. The emphasis in the REAP process on staff involvement in improving resource efficiency in their Departments is also a very practical way of contributing to the OPS outcome of greater employee engagement.

## The role of the Department of Defence

The Department of Defence (DOD) is one of the Government Departments primarily concerned with ensuring the secure and stable environment necessary for economic growth and development. The High Level Goal of the Defence Organisation is to provide for the military defence of the State, contribute to national and international peace and security and fulfil all other roles assigned by Government.

The primary role of the Department of Defence is to support the minister as head of the Department and in particular to provide policy advice and support on Defence matters, including assistance with policy formulation and the implementation of policy as directed by the Minister. The Department comprises civil and military elements. Its mandate reflects the global concept of civil control of the armed forces.

The civil element has a number of specific roles which include the management of legal, regulatory and litigation policy and related matters on behalf of the Minister; the management of the Department's human resources and industrial relations and the coordination of the delivery of security, emergency and community services by the Defence Forces. In addition, the civil element provides liaison between the Defence Forces and other Government Departments, public authorities, the EU and public representatives. Policy in respect of overseas operations, in furtherance of Ireland's commitments in the area of international security and peacekeeping, is also coordinated by the civil element which, jointly

with the military, has an important strategic responsibility in relation to emergency planning coordination and oversight.

Civil servants discharge financial managements and audit functions in connection with the Secretary General's role as Accounting Officer and provide administrative support services to the Defence Forces, including pay administration, the management of major procurement and infrastructural programmes and the management of lands used by the military. There is a significant degree of delegation of financial authority to the Defence Forces, particularly in the area of the procurement of goods and services.

Finally, the civil element is responsible for the administration and granting of military pensions and has a range of responsibilities in relation to Civil Defence and the Irish Red Cross Society.

Defence Forces Headquarters (DFHQ) is the military element of the Department of Defence, which is headed by the Chief of Staff, who is the Minister's principal military adviser. It is focused on planning, managing, formulating military advice, development, and major strategic issues affecting the Defence Forces, including ongoing modernisation and transformation.

Whilst the civil and military elements have separate and distinct roles, both work together in order to achieve maximum effectiveness. On this basis, a separate Resource Efficiency Action Plan for the Defence Forces will be considered within the Department's governance structure.

## Overview of the Department

The Department of Defence is the only fully decentralised Government Department. The total number of staff in the department is circa 379. The Department's HQ is located in Newbridge, Co. Kildare, it also has offices in Galway, Dublin and Roscrea.

The largest group of Departmental staff are based in the Department's Headquarters at Station Road, Newbridge, Co. Kildare W12 AD93, which was built by the Office of Public Works (OPW) for the Department in 2009. The building in Newbridge was designed as an energy efficient building using renewable resources. There are both civilian and military personnel using the building at Newbridge, made up of 229 Departmental staff and 75 military personnel.

## The other sites:

- 123 Defence staff work in the Department's Galway office at Áras an tSáile, Renmore, Galway H91 AN2E. This is a 30 year old OPW building measuring 4,157m<sup>2</sup> and is shared with two other Government Departments, the Department of Agriculture Food and Marine (DAFM) and the National Shared Services Office (NSSO) with 17 staff and 96 staff respectively.
- 24 people occupy the Department's Tipperary office at Benamore, Roscrea, Co. Tipperary E53 CY80. The building was originally constructed as a warehouse prior to

2006 and subsequently converted for office use. This is the Civil Defence Headquarters and is divided into 3 sections: Training College, Policy and Planning, Finance and Procurement.

- 3 people work in the Department's training facility at the Phoenix Training Centre, Phoenix Park, Dublin 8 D08 YR23. This is a purpose built 13-year old prefabricated building of c.500 m<sup>2</sup>, adjacent to Ratra House. Ratra House was formally the HQ for Civil Defence until they decentralised to Roscrea in 2004 and is now home to the Garda Technical Bureau Forensics Science Laboratory and the Gaisce President's Awards programme. The waste for this site is shared between Phoenix Training Centre and the Garda Technical Bureau, the latter has a staff total of 14, so for waste calculations, the total staff will be 17.

Improving resource efficiency needs a combination of behavioural change, which is often low or no cost, and targeted investment in facilities and enabling infrastructure. Prior to the introduction of REAP, each site had concentrated on achieving the task of improving our energy efficiency by 33% by 2020. Since the introduction of REAP, each site has broadened their efforts to include waste management and water usage. As a consequence, Departmental Energy Teams have now evolved into Resource Efficiency Committees (REC) to work towards the Department's REAP targets.

### Baseline figures used for REAP

The figures used for the calculations of energy, waste and water use per person in Annex 1 are based on numbers of full time equivalent (FTE) staff occupying Departmental locations at end December 2018. On this date the total number of people in the Department and occupying their buildings was 581 (379 Defence Staff, 75 Military Staff and 127 non-defence staff). Annex 2, Annex 3, Annex 4 and Annex 5 sets out the breakdown of current resource use across energy, waste and water usage based on data from Newbridge, Renmore, Roscrea and Phoenix Training Centre respectively.

## Energy

### Overview

In 2007, Department of Defence, Renmore and Roscrea buildings were selected by the Office of Public Works (OPW) as two of five Government buildings for a pilot energy conservation study. Following an energy audit of the buildings, an information programme was communicated to all staff on ways of conserving energy within the building. This programme was eventually rolled out to all Defence buildings and savings have been achieved since the initial programme in 2007. The Newbridge HQ building was built as an energy efficiency building, with a focus on installing energy efficient systems, including a bio mass fuel system. It has been occupied since 2010.

## Activity to date

Savings have been made as a result of participation in the OPW's Optimising Power @ Work programme, which provides energy monitoring and support for improving staff awareness of energy efficiency. In 2019, DOD buildings in both Newbridge and Galway participated in OPW energy audits, which must be completed every four years and comprised of detailed reviews of their energy consumption profile. The results and reports are outstanding, but it is anticipated that it will identify efficiency opportunities and related actions to further enhance the Department's energy efficiency.

The Department's activities to date include extensive use of PIR sensors for lighting, installation of occupancy/motion sensors in common areas, installation and optimising settings of building management systems (BMS). Along with these improvements, the Department has also installed timers on water heaters, insulation to attic spaces as well as the replacement of oil heating systems to natural gas heating systems in Galway. Where possible, historical lighting which includes T8s and T5s have been replaced by LED energy efficient lighting.

## Future actions

- We will continue to participate in the SEAI public sector Monitoring and Reporting and OPW's Optimising Power @ Work programmes
- Complete a detailed lighting audit to consider replacing T5 and T8 light fittings with LED lighting along with the installation of motion sensors to all external lighting.
- Further optimisation of BMS
- Investigate the feasibility of installing electric car charging points
- Investigate greening element of vehicle procurement

Addressing high energy use lighting is common across all sites and the above actions will lead to further energy savings across the department.

## Waste Management

### Overview

Reducing, reusing and recycling waste is important for the environment, it decreases the amount of waste for disposal, saves space in landfills, and conserves natural resources. With the introduction of REAP, the Department has made efforts to eliminate single plastics, encourage recycling and to better manage our waste.

A resource efficiency assessment was undertaken by the department in 2019, this has identified other areas that will benefit our 2020 targets.

## Activity to date

- Reusable keep cups and water bottles policy implemented and are provided to all staff
- Ecolabel printing paper in use
- All printing is double-sided as default
- Multiple recycling points for paper in offices
- The Department has not purchased single use plastic utensils, plates or straws since the Government decision of the 3 January 2019

## Future actions

- Phase out SUPs in canteens including single-use condiments
- Incorporate greening requirements into canteen tender specifications
- Elimination of individual bins in offices
- Desk top paper recycling trays to be provided to all staff
- Provide waste segregation training – Improve communications and signage

All current and future actions will be rolled out to all sites where possible, the REC for the department will ensure that all sites work together to achieve these actions.

## Water

### Overview

The Department's water usage has an estimated use of 3.1m<sup>3</sup> per employee per year. Benchmark for water use in offices with a canteen is on average 8.8m<sup>3</sup> per employee per year (5.5m<sup>3</sup>/employee/year for no canteen).

## Activity to date

- Installation of waterless urinals in some locations
- Installation of dual flush toilets in some locations

## Future actions

- Reduce water flowrates in showers
- Investigate 'fill and flush' urinal system with PIR motion sensors or dry urinals
- Reduce water flowrates in office toilet taps/ wash hand basins
- Investigate rainwater harvesting for non-potable use (e.g. urinal and toilet cisterns)
- Consider the possibility of incorporating actions under the All-Ireland Pollinator Plan
- Where possible, aim to include the requirement for a Sustainable Urban Drainage System (SuDS) for the upgrade of car parks.

## **Conclusion – Looking beyond 2021**

All sites working together with the OPW will highlight the best options to achieve savings. The upgrade of the BMS and heating system to a natural gas heating system in Galway along with other possibilities at other sites will help to dramatically increase our efficiency as a department. With the work to date and the planned implementation of further actions for the Department, it is envisaged that we will continue to improve our resource efficiency.

The REAP will allow an assessment of opportunities to achieve efficiencies in relation to: waste production, management and prevention; the reduction of energy bills and charges; heat recovery; optimisation of equipment use; lighting efficiency; and water efficiency. It will also provide opportunities to improve the awareness of management and staff in relation to these matters

### **Annex 1**

Data for REAP environmental benchmark				Year:	2018	
<b>Department name:</b> Department of Defence						
<b>Total number of sites:</b>						
<b>Total number of staff across all sites (full time equivalent):</b>						
<b>Number of sites included in this data set:</b>				4		
<b>Number of staff (full time equivalent) covered by this data set:</b>				581		
<b>Summary data on energy, water and waste</b>						
<b>Indicate which site(s) are included in this data set:</b>			Newbridge, Renmore, Roscrea and Phoenix			
<b>Energy data</b>						
<b>Total electricity use for the year</b>				1,569,154	kWh	
<b>Total thermal fuel use for the year</b>				1,333,323	kWh	
<b>Total transport fuel use for the year</b>				27,372	kWh	
<b>Water data</b>						
<b>Total water use for the year</b>				1,725	m3	
<b>Water indicator:</b>				3.1	<b>m3 per employee per year</b>	
<b>Waste data</b>						

Total waste amounts for the year (fill in as relevant):						
Recyclables					27	tonnes
Food waste					5	tonnes
General waste					24	tonnes
				Other	4	tonnes
<b>Total waste</b>					58	<b>tonnes</b>
<b>Waste indicators:</b>					100	<b>kg per employee per year</b>
					60%	<b>percentage recycled</b>

## Annex 2

<b>Data for REAP environmental benchmark</b>					Year:	2018
Department name:		Department of Defence				
<b>Site</b>						
Site address:		Station Road, Newbridge, Co.Kildare, W12 AD93				
Green team contact person:		Name:			Stephen Murphy	
					<a href="mailto:stephen.murphy@defence.ie">stephen.murphy@defence.ie</a>	
					045 492098	
Total number of staff at this site (full time equivalent):						304
Total area of the building (m2):					8,100	m2
<b>Energy data</b>						
Total electricity use for the year					1,021,792	kWh
Total thermal fuel use for the year (as relevant):						
Natural gas					419,206	kWh
Heating oils					0	kWh
				Renewables - wood pellets	453,216	kWh
<b>Total thermal fuel use:</b>					872,422	kWh
<b>Energy indicator:</b>					234	<b>kWh per m2 per year</b>

Total transport fuel use	n/a	kWh	
<b>Water data</b>			
Total water use for the year	1,280	m3	
<b>Water indicator:</b>	<b>4.2</b>	<b>m3 per employee per year</b>	
<b>Waste data</b>			
Total waste amounts for the year (fill in as relevant):			
Recyclables	4.5	tonnes	
Food waste	2.0	tonnes	
General waste	16.4	tonnes	
	Other: WEEE	3.6	tonnes
<b>Total waste</b>	<b>26.4</b>	<b>tonnes</b>	
<b>Waste indicators:</b>			
			<b>87</b>
			<b>kg per employee per year</b>
			<b>38%</b>
			<b>percentage sent for recycling</b>

### Annex 3

<b>Data for REAP environmental benchmark</b>			Year:	2018
Department name:	Department of Defence			
<b>Site</b>				
Site address:	Áras an tSáile, Lakeshore Dr, Renmore, Galway			
Green team contact person:	Name:			James Harris
	email:			<u>james.harris@defence.ie</u>
	phone:			(091) 743706
Total number of staff at this site (full time equivalent):				236
Total area of the building (m2):	4,157	m2		
<b>Energy data</b>				

Total electricity use for the year		381,584	kWh			
Total thermal fuel use for the year (as relevant):						
Natural gas, LPG, & biogas			kWh			
Heating oils		239,410	kWh			
Renewables			kWh			
<b>Total thermal fuel use:</b>		<b>239,410</b>	<b>kWh</b>			
<b>Energy indicator:</b>		<b>149</b>	<b>kWh per m2 per year</b>			
Total transport fuel use		n/a	kWh			
<b>Water data</b>						
Total water use for the year			m3			
<b>Water indicator:</b>		<b>0.0</b>	<b>m3 per employee per year</b>			
<b>Waste data</b>						
Total waste amounts for the year (fill in as relevant):						
Recyclables		21.2	tonnes			
Food waste		2.7	tonnes			
General waste		5.9	tonnes			
Other (e.g. confidential paper, WEEE, etc.)			tonnes			
<b>Total waste</b>		<b>29.7</b>	<b>tonnes</b>			
<b>Waste indicators:</b>		<b>125</b>	<b>kg per employee per year</b>			
		<b>80%</b>	<b>percentage sent for recycling</b>			

#### Annex 4

<b>Data for REAP environmental benchmark</b>				Year:	2018
Department name:		Department of Defence			
<b>Site</b>					
Site address:		Department Of Defence, Benamore, Roscrea, Co. Tipperary			

Green team contact person:			Name:	Martina Byrne
		email:		<u><a href="mailto:martina.byrne@defence.ie">martina.byrne@defence.ie</a></u>
		phone:		(0505) 25337
Total number of staff at this site (full time equivalent):				24
Total area of the building (m2):			3,212	m2
<b>Energy data</b>				
Total electricity use for the year			126,215	kWh
Total thermal fuel use for the year (as relevant):				
Natural gas, LPG, & biogas				kWh
Heating oils			172,769	kWh
Renewables				kWh
<b>Total thermal fuel use:</b>			<b>172,769</b>	<b>kWh</b>
<b>Energy indicator:</b>			<b>93.08</b>	<b>kWh per m2 per year</b>
Total transport fuel use			27,372	kWh
<b>Water data</b>				
Total water use for the year			445	m3
<b>Water indicator:</b>			<b>18.54</b>	<b>m3 per employee per year</b>
<b>Waste data</b>				
Total waste amounts for the year (fill in as relevant):				
Recyclables			0.839	tonnes
Food waste				tonnes
General waste			1.277	tonnes
Other (e.g. confidential paper, WEEE, etc.)				tonnes
<b>Total waste</b>			<b>2.116</b>	<b>tonnes</b>
<b>Waste indicators:</b>			<b>88</b>	<b>kg per employee per year</b>
			<b>40%</b>	<b>percentage sent for recycling</b>

**Annex 5**

<b>Data for REAP environmental benchmark</b>				Year:	2018
Department name:		Dept. of Defence			
<b>Site</b>					
Site address:		Ratra House, Phoenix Park			
Green team contact person:		Name:		James Harris	
			email:	<a href="mailto:james.harris@defence.ie">james.harris@defence.ie</a>	
			phone:		
Total number of staff at this site (full time equivalent):				17	
Total area of the building (m2):				500	m2
<b>Energy data</b>					
Total electricity use for the year				39,563	kWh
Total thermal fuel use for the year (as relevant):					
Natural gas, LPG, & biogas				48,722	kWh
Heating oils					kWh
			Renewables		kWh
<b>Total thermal fuel use:</b>				<b>48,722</b>	<b>kWh</b>
<b>Energy indicator:</b>				<b>176.57</b>	<b>kWh per m2 per year</b>
Total transport fuel use					kWh
<b>Water data</b>					
Total water use for the year				215	m3
<b>Water indicator:</b>				<b>13</b>	<b>m3 per employee per year</b>
<b>Waste data</b>					
Total waste amounts for the year (fill in as relevant):					

Recyclables	3.8	tonnes
Food waste	0	tonnes
General waste	1.94	tonnes
Other (e.g. confidential paper, WEEE, etc.)		tonnes
<b>Total waste</b>	<b>5.74</b>	<b>tonnes</b>
<b>Waste indicators:</b>	<b>338</b>	<b>kg per employee per year</b>
	<b>66%</b>	<b>percentage sent for recycling</b>