



Corporate Environmental Report 2015/16

Over the coming years, we want to set the example in Wales in areas including our management and use of carbon, waste, water and land, as outlined in our Corporate and Business plans. Corporate reporting on our organisation's own environmental impact is included in Annex 2.

This year we have:

- retained ISO14001 and UK Woodland Assurance Standard (UKWAS) certification following independent external audits and verification, demonstrating our own commitment to achieving the highest possible environmental standards as an organisation
- increased our carbon footprint by 10% due to the increase in primary aggregate use in construction schemes
- met our target to reduce our carbon footprint by 5% in relation to occupied buildings energy use and business travel
- trained staff on key areas of our organisation's Environmental Management System

During the coming years, we will continue to improve our corporate environmental reporting in working towards Integrated Reporting.

Annex 2 – Corporate Environmental Report

Introduction

We have made the commitment that sustainable development will be at the heart of all our business decisions. Over the coming years, we want to develop ourselves as an exemplar organisation with regards to sustainability and environmental management in Wales, especially in our management and use of carbon, waste, water and land.

Our focus during this year has been to:

- reduce our carbon footprint;
- embed our Environmental Management System (EMS) into the culture of our organisation;
- integrate environmental, social and economic factors into our procurement activity and be an engaging and transparent organisation for our EMS stakeholders; and
- conform with the new ISO14001:2015 standard; and to establish a baseline for waste monitoring, reporting and reduction targets.

This report relates primarily to environmental sustainability, as distinct from wider sustainability actions or outcomes. Wider sustainability-related reporting can be found throughout our Annual Report & Accounts.

Summary of Performance

We have retained ISO14001 certification for our EMS, following independent external surveillance audits and verification. Our EMS¹ now also includes all our forestry operations. Having an externally verified EMS allows us to demonstrate our own commitment to achieving the highest possible environmental standards as an organisation.

We have also retained woodland certification (the UK Woodland Assurance Standard) for the Welsh Government Woodland Estate we manage, following independent external audits and verification via Société Générale de Surveillance (SGS). This enables us to produce FSC/PEFC² certified timber from the Welsh Government Woodland Estate we manage.

¹ Our EMS is currently applicable to: “Activities and services associated with the sustainable management of the environment and the natural resources of Wales”

² Forest Stewardship Council (FSC). Programme for the Endorsement of Forest Certification (PEFC). As supported by our [UK Woodland Assurance Standard](#) (UKWAS) accreditation

Table 1: Corporate Environmental report summary table

Area	Units	2013/14	2014/15	2015/16	Change
Greenhouse gas emissions ³	Consumption (tCO ₂ e)	7,301	7,164	7,894	Increased
	Expenditure (£k)	3,323	3,345	2,961	Decreased
Estate energy	Consumption (million kWh)	7.0	6.3	6.9	Increased
	Expenditure (£k)	570	587	632	Increased
Estate waste	Consumption (tonnes)	400	419	752	Increased
	Expenditure (£k)	147	110	127	Increased
Estate water	Consumption (m ³)	86,486	29,455	78,304	Increased
	Expenditure (£k)	35	27	59	Increased

Table 1 reflects relative change for key areas in the last year. More detail around each can be found within the related sections of this report. In summary there has been:

- a 10% increase in greenhouse gas emissions primarily due to the increase in primary aggregate use in construction schemes
- a 10% increase in energy use due in large part to unmanned site electricity use
- a 68% increase in the reported amount of waste we handle, following the inclusion of additional waste streams in our reporting for the first time this year (primarily for offices and depots)
- a 160% increase in the reported amount of water we use largely related to a meter being repaired at Cynrig Fish Hatchery, which also resulted in under-reporting in previous years

We have targets in place relating to each of these areas in 2016/17 (as described in the next section).

Summary of Future Strategy

Over the next two years we intend to focus on:

- Achieving certification to the revised ISO14001:2015 environmental standard
- Aiming to maintain our UKWAS accreditation
- Cutting our carbon emissions from occupied buildings, business travel and water use by 5% from 2015/16 levels, year on year
- Fulfilling our commitments under the Sustainable Development Charter, taking forward the provisions of the Well-being of Future Generations Act and work towards becoming an acknowledged exemplar of sustainability
- Ensuring our procurement practices are open and transparent, supporting the delivery of economic, social and environmental priorities and that our contracts are appropriately accessible for SMEs, social businesses and larger scale enterprises helping to support the Welsh Government's Tackling Poverty Action Plan
- Investigating scope for distributed energy / small scale renewable developments on land we manage, taking a positive, risk-based approach
- Developing our approach to Integrated Reporting including the delivery of our Business Case.

³ (Scopes 1, 2 and 3 including air/rail travel and excluding outside of scopes emissions)

Next year we want to

- Reduce our carbon footprint – and have set a target to reduce our carbon dioxide emissions from occupied buildings, travel and water use by 5% based on 2015/16 data
- Deliver our Carbon Positive Project - Progressing us towards becoming an exemplar in carbon management and sharing best practice for use across the Welsh public sector
- Meet the requirements of the new ISO14001:2015 standard
- Meet the requirements of our Incident Management Enabling Plan – Achieving UK Spill accreditation
- Continue to embed our EMS into the culture of the organisation – Raising staff awareness of the contribution they can make as individuals to environmental performance and how their work can contribute to the Sustainable Management of Natural Resources

Greenhouse Gas Emissions

Our greenhouse gas emissions are outlined below/right.

We set out a target to achieve a 5% reduction in CO₂e emissions from our business travel and buildings this year, and have achieved this, with a 10% reduction in CO₂e emissions overall from these areas. However, overall emissions have increased by 8% due to the increase in primary aggregate use in construction schemes.

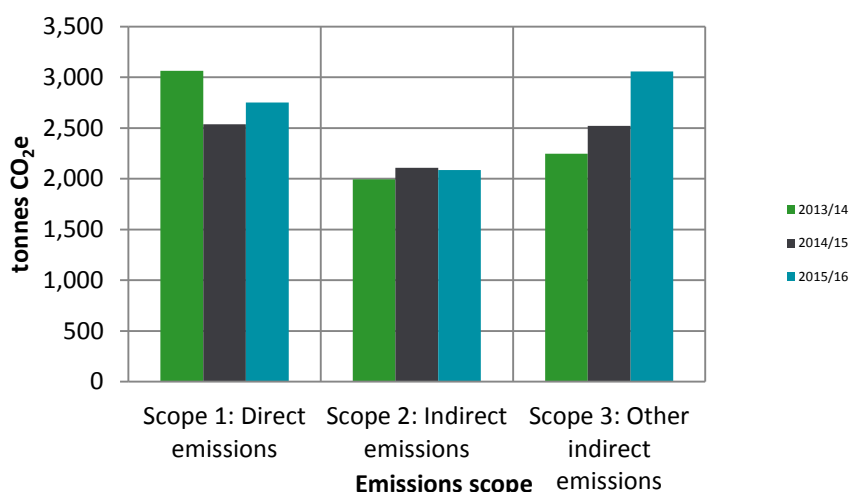


Table 2: Greenhouse gas emissions

Greenhouse gas emissions	2013/14	2014/15	2015/16	Change
Scope 1: Direct GHG emissions (tCO ₂ e)	3,064	2,537	2,752	Increased
Scope 2: Energy indirect emissions (tCO ₂ e)	1,993	2,107	2,086	Decreased
Scope 3: Other indirect GHG emissions (tCO ₂ e)	2,245	2,520	3,057	Increased
Total gross GHG emissions (tCO₂e)	7,301	7,164	7,894	Increased
<i>Outside of scopes (i.e. biomass)</i>	180	176	248	Increased
<i>Carbon intensity (tCO₂e per £m expenditure)</i>	41.3	39.8	44.9	Increased

Waste Minimisation and Management

We have improved the number of waste streams we can report in line with our target to measure and report on all NRW waste streams consistently in 2015/16. This has particularly improved for our offices and depots. Our largest single source of waste is cess pit waste at our Pye Corner depot. Mixed municipal waste from our Coed y Brenin visitor centre is the second largest source of waste. We will be looking into ways to reduce these, and other, large areas of waste in 2016/17

Table 3: Waste Generated

Waste generated	Units	2013/14	2014/15	2015/16	Change
Landfilled	Consumption (tonnes)	80	64	216	Increased
	Consumption (tCO ₂ e)	23	18	80	Increased
	Expenditure (£k)	90	47	25	Decreased
Recycled / reused	Consumption (tonnes)	253	229	359	Increased
	Consumption (tCO ₂ e)	5	5	8	Increased
	Expenditure (£k)	57	Not available	101	Increased
Fly tipped	Consumption (tonnes)	37	95	45	Decreased
	Consumption (tCO ₂ e)	9	22	19	Decreased
	Expenditure (£k)	Not available	Not available	Not available	Not available
Incinerated	Consumption (tonnes)	30	31	132	Increased
	Consumption (tCO ₂ e)	1	1	3	Increased
	Expenditure (£k)	Not currently available[1]	Not available	Not available	Not available
Total waste	Consumption (tonnes)	400	419	752	Increased
	Consumption (tCO ₂ e)	38	46	110	Increased
	Expenditure (£k)	147	110	127	Increased

Use of Finite Resources

We have reported on our estate water and energy use below. The stones/aggregate used in construction projects is also one of our significant areas of resource consumption, and is reported in the Sustainable Construction section of this report.

Water: Our water use reporting was improved last year to ensure office water use figures purely reflect office water use (i.e. not including any combined use sites, depots, visitors centres, hatcheries, etc.). Our water use intensity is below average for water use⁴, and we have set a 5% reduction target for 2016/17.

Table 4: Water Consumption

Resource use – Estate water	Units	2013/14	2014/15	2015/16	Change	
Water supplied: Office use	Consumption (m ³)	8,161	7,208	6,859	Decreased	
Water supplied: Non-office use:	- Mains supply	Consumption (m ³)	4,863	6,630	5,529	Decreased
	- Abstraction	Consumption (m ³)	73,428	15,581	65,886	Increased
	- Rainwater	Consumption (m ³)	34	35	30	Decreased
Water use intensity (for Office use)	m ³ per FTE	4.1	3.7	3.4	Decreased	
Water supplied: Total	Consumption (m ³)	86,486	29,455	78,304	Increased	
	Expenditure (£k)	35	27	59	Increased	
	Consumption (tCO ₂ e)	30	10	27	Increased	

⁴ Average = 4m³ per FTE (Source: Water Key Performance Indicators and benchmarks for offices and hotels. C657 CIRIA www.ciria.org)

Abstraction of water used to operate our fish hatchery site was the most significant water use this year, at over 60,000 m³. Much of the apparent increase in abstracted water use relates to the repair of a non-functioning meter during the year, which meant 2014/15 water use is not reflective of usual site usage. Maintaining the wetland habitats at Newport Wetlands National Nature Reserve (designated SSSI and part of the Severn Estuary SPA, RAMSAR and SAC) was the second largest use⁵ this year, and largest in use 2014/15. We also abstract water at remote sites where mains water is not available.

Energy: Our energy use has increased this year, with the large part of the increase related to our unoccupied sites (electricity use in particular). In the last year we have also generated 1.5% of our own energy use from our buildings with onsite renewables (wind and solar power). Our largest renewable installation (photovoltaic panels at the Maes Y Ffynnon office in Bangor) generated 24,864 kWh during the year. We aim to increase the number of onsite renewables on our own buildings as and when funding becomes available and is economically feasible.

Table 5: Energy Consumption

Resource use – Estate energy	Units	2013/14	2014/15	2015/16	Change
Energy used: Occupied sites	Consumption (kwh)	6,026,274	5,361,986	5,502,994	Increased
	Consumption (tCO ₂ e)	2,151	2,081	1,990	Decreased
Energy used: Unoccupied sites	Consumption (kwh)	930,846	993,431	1,434,275	Increased
	Consumption (tCO ₂ e)	415	491	663	Increased
Renewable energy: Self-generated	Generation (kwh)	77,730	80,870	81,713	Increased
	Consumption (% of energy used)	1.3%	1.5%	1.4%	Decreased
Energy used: Total	Consumption (kwh)	6,957,120	6,355,417	6,937,269	Increased
	Consumption (tCO ₂ e)	2,566	2,572	2,653	Increased
	Expenditure (£k)	570	587	632	Increased
Renewable energy installations ⁶	Consumption (MW)	59	59 ⁷	60	Increased

There is also large scale renewable energy generation on the wider estate we manage (the Welsh Government Woodland Estate) through the Cefn Croes wind farm, which has an installed capacity of 59MW. On a smaller scale, ~1,268kW of renewable energy has become operational in the last two years from small scale hydro generation we have enabled. We have an Energy Delivery Plan to develop further onshore energy projects (covering wind, hydro, solar, biomass, coal, oil and gas), through or over the managed

⁵ Abstracted water is used in dry hot weather to maintain the correct water and salinity levels in the Newport Wetlands Saline Lagoons, vital for the many species of water bird that rely on them. In the autumn, the abstraction is also used to ensure the reserve's lowland wet grassland is kept in the right condition to support overwintering birds.

⁶ Schemes on the estate we manage which involve developers leasing land we manage on which to site installations of renewables (e.g. wind farms). This figure also includes schemes that are only partially on the estate we manage (e.g. small scale hydropower schemes). Figures given reflect installed capacity of operational installations, as opposed to the actual energy generation

⁷ Full figure is 60.3MW, when including the ~1,268kW of small scale hydro generation we have enabled

estate. Over the next three years we are anticipating the amount of energy generated on the estate we manage will increase significantly (in excess of 600MW additional capacity provided via renewables, enough to power ~350,000 houses).

Sustainable Procurement

Sustainable procurement takes into account the economic, environmental and social impacts in our buying decisions. It allows our organisation to meet its need for goods and services in a way that achieves value for money on a whole-life basis, whilst also providing opportunities for Welsh SMEs. These key principles are reflected in our Sustainable Procurement Strategy 2015-2017, and our progress is reported throughout the year in our Business Plan Dashboard.

We have developed a Market Approach Plan which allows requisitioners to question the need to buy, and to consider in practical terms the impact of their purchase and all available options before entering into a contract. The plan also contains the Sustainability Impact Assessment, which examines the impact of the purchase on a whole life cost basis, and identifies mitigation controls.

In the forthcoming year, we will be building on this approach to consider the environmental and socio economic impact of procurement by further aligning to, and integrating, the provisions of the Wellbeing of Future Generations & Environment Acts, whilst also taking into account risk, scope and influence. This will enable us to work with suppliers ensuring their commitment to sustainability, and will help target areas where the best results can be realised. We will also continue to deliver community benefits introduced through key contract awards, and report on the outcomes delivered.

Travel

Our travel needs include: working to manage sites, responding to serious environmental incidents, taking samples, dealing with flooding, site meetings, etc. This year we have travelled ~9 million miles in undertaking our work an 18% reduction from our 2013/14 baseline year. We have a target of a further 5% reduction in travel emissions for 2016/17, which will be achieved by using lower carbon vehicles as well as reducing mileage.

Table 6: Travel detail

Travel by vehicle	Units	2013/14	2014/15	2015/16	Change
Owned vehicles	Miles travelled	6,562,934	5,416,119	5,833,839	Increased
	Expenditure (£k)	1,101	1,033	800	Decreased
Lease vehicles	Miles travelled	2,154,755	2,531,396	1,644,538	Decreased
	Expenditure (£k)	223	329	161	Decreased
Grey vehicles ⁸	Miles travelled	673,345	618,795	552,343	Decreased
	Expenditure (£k)	74	81	244	Increased
Hire	Miles travelled	326,810	357,526	256,654	Decreased
	Expenditure (£k)	14	N/A	N/A	No change
Train	Miles travelled	1,405,603	1,367,762	865,693	Decreased
	Expenditure (£k)	342	377	291	Decreased
Air	Miles travelled	27,997	30,221	18,898	Decreased
	Expenditure (£k)	8	11	6	Decreased
Bicycle	Miles travelled	4,812	804	1,944	Increased
	Expenditure (£k)	0	0	0	No change

⁸ Grey vehicles are staff's own private vehicles

Motorbike	Miles travelled	N/A	N/A	9,372	N/A
	Expenditure (£k)	N/A	N/A	N/A	N/A
Total vehicle travel	Miles travelled	11,156,256	10,322,623	9,183,281	Decreased
	Expenditure (£k)	1,762	1,831	1,502	Decreased

As part of work to reduce our costs and environmental impact related to travel, we have a travel policy in place. Supporting the policy, we have created a travel decision tree which lays out the best to worst options for travel. We also operate a 'no fly policy' within Wales and England, requiring all air travel requests to be fully justified and cleared at Executive Team level. Our use of video/audio conferencing has increased significantly through the year, with increases in the number of users, meetings held and minutes recorded.

Environmental incidents

There have been 18 environmental incidents as a result of our work (or that of our contractors) and three near misses. This a 47% reduction compared with the 38 incidents reported in the previous year 2014/15. None of these incidents were classified as serious according to the environmental incident classification scheme that we apply to environmental incidents. Where incidents occur as a result of our work (or that of our contractors), we review what has happened, and act to address the root cause of the incident.

Sustainable Construction

Much of our construction activity is contracted out, and some of this activity is not covered by the figures below.

Aggregate/stone: This year, 22% of aggregate use has been from a secondary source. The construction of Sea Defence Improvements at Tabbs Gout involved most use of aggregate. Our use of aggregate has dropped significantly this this year for such schemes. Our use of primary aggregate on the Public Forest Estate is typically for infrastructure construction, maintenance and reinstatement, and amounted to 178,000 tonnes in in 2015, most of which was produced from minerals on the estate.

Table 7: Stones/aggregate use

Resource use – Stone/aggregate	Units	2013/14	2014/15	2015/16	Change
Stone/aggregate – primary source	Consumption (tonnes)	63,923	115,786	182,999	Increased
	Expenditure (£k)	526	538	555	Increased
	Consumption (tCO2e)	703	1,274	2,013	Increased
Stone/aggregate – secondary source	Consumption (tonnes)	190,623 ⁹	13,102	51,945	Increased
	Expenditure (£k)	10	12	86	Increased
	Consumption (tCO2e)	381	26	104	Increased
Secondary source use	Expenditure (£k)	536	795	641	Decreased
	(% by total weight)	75	10	22	Increased

Timber: We aim to ensure all the timber we use is from sustainable sources, and we also produce FSC/PEFC¹⁰ certified timber from the Welsh Government Woodland Estate we manage. This year, all timber used in construction¹³ has been from a sustainable source.

⁹ A large amount of aggregate was used in 2014/15 increasing river capacity in the Lower Swansea Vale

¹⁰ Forest Stewardship Council (FSC). Programme for the Endorsement of Forest Certification (PEFC). As supported by our [UK Woodland Assurance Standard](#) (UKWAS) accreditation

Table 8: Timber use

Resource use – Timber	Units	2013/14	2014/15	2015/16	Change
Timber – sustainable source	Consumption (tonnes)	115	32	56	Increased
	Expenditure (£k)	22	9	5	Decreased
Timber – unknown source	Consumption (tonnes)	0	0	0	No change
	Expenditure (£k)	0	0	0	No change
Sustainable source use	(% by total weight)	100%	100%	100%	No change

Site consolidations

When our organisation was formed, we inherited a large amount of accommodation (e.g. depots, offices), some of which fulfilled a similar function at similar sites. We are continuing to sell off spare sites, reducing our accommodation costs, and their related carbon footprint. We will continue to consolidate our sites over the coming years.

Behaviour change

As part of our work to embed our Environmental Management System (EMS) into the culture of our organisation, we have delivered a number of training courses (to ~1,800 staff). Training areas have included awareness raising around our key environmental procedures, waste management, timber procurement and incident response.

Governance and Reporting

We report on our carbon footprint as part of our performance framework, which is reported by the Executive Team to the Board (in open public session) three times each year.

We collect the data used within this sustainability report through a combination of meter readings (e.g. gas, electricity), invoices (e.g. fuel card purchases) and suppliers data (e.g. train miles), using the most accurate source/s we have available. We have improved our biomass and waste data reporting and baselines in this report. We also look to minimise use of any estimated data in our reporting, and we are working to improve in this area.