

REPORT OF BUILDING PROJECTS MANAGER

SUBJECT : CARBON FOOTPRINT 2019 / 2020

Purpose of Report

1. To provide detailed information for the Carbon Footprint calculation 2019 / 20.
2. To outline actions and recommendations where improvements can be made to ensure delivery of ongoing reductions in Carbon use.
3. To ensure measures are implemented in a co-ordinated approach across the Authority in accordance with Policy & WG targets.

Background

The Authority has calculated its total Carbon Footprint since 2016 using a calculation method adopted by The National Trust which is based on the DEFRA carbon calculator for Green House Gas. This Authority has worked closely with the National Trust over many years being one of the founding members of the Fit for the Future Network.

Part of my role has been to calculate the carbon footprint for the whole Authority, as the calculation is predominantly “buildings” based I took on the task annually to co-ordinate producing the results. This report is based around those results and how improvements can be made to our buildings to drive down usage at meet future reduction targets.

To date this work has been led by the Building Projects Manager however, an Authority wide approach is now being co-ordinated by the Performance & Compliance Co-Ordinator in order that all areas can be scrutinised and a single approach be made to reducing Carbon across the Authority.

Note – Welsh Government is currently trialling a new carbon footprint calculation method to ensure a coordinated calculation method across all public sector authorities in Wales. It is currently being trialled and once it is available the Authority will adopt it as its way of measuring its carbon footprint.

By way of comparison please see the current year along with previous totals :-

| Year | CO₂ |
|-------------|-----------------------|
| 2016 / 17 | 870,313 |
| 2017 / 18 | 946,712 |
| 2018 / 19 | 898,479 |
| 2019 / 20 | 925,401 |

Further details and an explanation of the data are provided below.

Policy Context

The Welsh Government has a target for the Welsh public sector to be carbon neutral by 2030 and its [Valued and Resilient Written Statement](#) highlighted green energy and decarbonisation as one of the priority areas for National Park Authorities.

This report focuses on our internal operations and supply chains and performance, and recommendations within these areas.

Reducing carbon emissions from our internal operations and from our supply chains should support :-

- [Implementation of our Environmental Policy](#)
- National Park Management Plan Policy N1: Contribute to a low carbon economy for Wales and adapt to climate change.
- Authority's Well-being Objectives: Global - To ensure our work makes a positive contribution to global well-being and the works stream underneath it Responding to Climate Change Emergency
- PSB project on Carbon Neutral Pembrokeshire.

The Authority approved the PCNPA '[Responding to Climate Change Emergency Action Plan](#)' in June 2020. This plan was developed through a working group that brought staff together with different expertise and responsibilities across Authority functions. Staff were also consulted on the plan and a workshop held with Members. Making progress against actions within the plan and implementing them should have a positive impact on reducing emissions from our internal operations and supply chains going forward.

2019 / 20 Carbon Footprint – Summary & Actions

| Description | Total CO ₂ (Kg) | Variance (+/-) |
|--------------------------|----------------------------|----------------|
| Electricity | 178,159 | + 3,092 |
| Oil | 9,244 | +5,977 |
| LPG | 1,496 | + 867 |
| Gas | 2,273 | - 198 |
| Biomass | 45 | 0 |
| Direct Transport | 91,713 | -14,673 |
| Indirect Transport | 25,037 | -1,891 |
| Water Supply & Treatment | 1,817 | -501 |
| Supply Chain | 615,616 | + 34,249 |
| Total | 925,401 | +26,922 |

Electricity

| 2018/19 | 2019/20 | Variance (+/-) |
|---------|---------|----------------|
| 175,067 | 178,159 | + 3,092 |

The electricity use across many of our buildings remains at the same level with few recording reductions; the biggest increase in usage was at Carew Castle due to the opening of the new tea room and also at Castell Henllys Visitor Centre. Other increases were noted at Cilrhedyn, Porthgain Harbour and Withybush Depot. The exception to this was Llanion H.Q and Chapel which recorded a reduction to the lowest usage since the Authority began collecting information.

Action – A programme of building surveys to highlight areas of high use & remedial measures that can be implemented. Educate staff to create a Carbon reduction “culture”.

Oil

| 2018/19 | 2019/20 | Variance (+/-) |
|---------|---------|----------------|
| 3,267 | 9,244 | + 5,977 |

The heating system at Pant Glas in Castell Henllys is the only site that is using fuel oil for space heating, use has increased significantly following the buildings refurbishment which include new first floor offices and a staff “hot desking” facility.

Action – Replace heating system to a low carbon alternative.

LPG

| 2018/19 | 2019/20 | Variance (+/-) |
|---------|---------|----------------|
| 629 | 1,496 | + 867 |

LPG supplies the cooker in the café at Castell Henllys Visitor Centre, the variance can be attributed to increased usage.

Action – Alternatives to be investigated but any reduction would be negligible and therefore a lower priority to other recommendations that would result in greater reductions.

Gas

| 2018/19 | 2019/20 | Variance (+/-) |
|---------|---------|----------------|
| 2,471 | 2,273 | -198 |

Gas heating is supplied at Oriol Y Parc and Llanion H.Q. both heating systems are supplemented by gas back-up boilers. Although a small increase was noted at Llanion, the usage at Oriol Y Parc is reduced significantly over the past two years which is due to the work carried out on the BMS system to ensure the system is running at its optimum performance and the close monitoring of the system by staff. BMS Engineers maintain the system twice a year and the savings are significant.

Action – Continue to monitor.

Biomass

| 2018/19 | 2019/20 | Variance (+/-) |
|---------|---------|----------------|
| 45 | 45 | 0 |

Biomass fuel use has remained almost identical to the previous year at Llanion H.Q and Castell Henllys Visitor Centre, the two biomass boilers are working well and there are no issues to report.

Action – Continue to monitor.

Water

| 2018/19 | 2019/20 | Variance (+/-) |
|---------|---------|----------------|
| 2,318 | 1,817 | -501 |

Overall reduction is positive but an increased water use at Llanion, Oriel Y Parc and Castell Henllys need to be addressed.

Action – Investigate reasons for increased use at sites, introduce water saving measures and increase staff awareness.

Transport

Direct

| 2018/19 | 2019/20 | Variance (+/-) |
|---------|---------|----------------|
| 106,386 | 91,713 | -14,673 |

Indirect

| 2018/19 | 2019/20 | Variance (+/-) |
|---------|---------|----------------|
| 26,928 | 25,037 | -1,891 |

Reductions across both direct & indirect transport is positive, significant reductions are evident particularly to our fleet vehicles (c.50k miles).

Work is progressing following WG funding to review fleet / pool vehicles in order to make the transition to hybrid & electric vehicles.

In 2020/2021 the use of the Fleet will change, the extent and type of change, in broad terms, will depend on the functional area.

Wardens and Ranger Teams

Given the nature of the roles, physical travel is generally a must, therefore the mileage is likely to remain comparable to 2019/2020. However, the carbon footprint associated with that mileage will start to reduce. A planned fleet-wide review with managers will be undertaken to firstly examine whether we have the right vehicles,

both in terms of requirement and placement. Secondly a replacement plan and schedule will be agreed. The plan will include replacing end of life diesel vans with electric models once the electric charging infrastructure is in place, and replacing end of life 4x4's with cleaner more efficient diesel models until such time as suitable electric models come on to the market.

General Authority Travel

Whilst the Fleet Pool Cars are in the process of being replaced with hybrid models, the biggest impact on our mileage count and corresponding carbon footprint will come as a result of Covid-19 as the use of virtual meeting technology has proved as effective as face to face meetings in many areas. Underpinned by the Travel and Fleet Policies, the Authority will continue to encourage staff to consider conducting a virtual meeting wherever possible. It is noted that there will be justifiable exceptions where a face to face meeting is essential.

In summary – a reduction in Authority mileage/Carbon Footprint will be driven by a more efficient utilisation of the fleet, changes to cleaner engine technologies and a cultural change via the use of digital technologies.

Action – Continue to deliver plan to improving the fleet and provide the electric charging infrastructure necessary at car parks, centres / depots to make significant reductions in Carbon in this area.

Continue to develop better relationships with suppliers to ensure product selection and frequency of deliveries is the most efficient as an Authority.

Supply Chain

| 2018/19 | 2019/20 | Variance (+/-) |
|---------|---------|----------------|
| 581,367 | 615,616 | +34,249 |

Expenditure across the supply chain (based on the P & L account) has increased, the calculation is based on spend across various categories such as agriculture, forestry, machinery, construction etc. Increased spend on printing, machinery, office machinery & computers and construction.

Action – The supply chain should be reviewed as a whole to identify opportunities to reduce emissions.

This aligns with the action within our Responding to Climate Change Action Plan on Improving Sustainable Procurement Practice which sets out a Phase 1 action on Audit – “Commission external review of procurement practices with recommendations on how Authority can improve its procurement practices regarding sustainability, including community benefits, sourcing locally, circular economy, improving contractor behaviour etc. across Authority teams and functions (including merchandise sold at centres.)” As the Authority currently does not have an in house procurement specialist e.g. Procurement Officer/Team, outside expertise is potentially needed.

This recommendation aligns with the Future Generations Commissioners [Future Generations Report 2000](#) recommendation that public bodies should “Review their procurement approach and activities, to identify opportunities to maximise the social, economic, environmental and cultural impact of spending decisions.”

The Welsh Government in March also produced guidance on [“Procurement: guidance on decarbonisation -How the public sector can identify areas of high CO2 impacts in their expenditure and act to reduce emissions.”](#) and a Decarbonisation Dashboard to enable public bodies to analyse the carbon intensity of their expenditure. This could potentially be a starting point for any review however provision of officer time and identification of lead for this work would need to be agreed. This review could also be informed by areas relating to procurement found within the Well-being and Future Generations Commissions Journey Checker documents.

Building Improvement - Re:fit Cymru

To move away from the current ad-hoc approach to building improvements to reduce energy use etc. it is recommended to take a broader and detailed approach by adopting the Re:fit Cymru to initially review all of our buildings.

This aligns with the action within our Responding to Climate Change Action Plan on Greening Our Buildings (Phase 2) on carrying out a “Feasibility Study: To identify what we need to do next across our sites.”

Background

The Re:fit Cymru initiative, for the Welsh public sector, is supported and funded by the European ELENA Fund (European Local Energy Assistance) and the Welsh Government. (See Appendix 1)

Re:fit is a smart, cost effective and fast way for public sector bodies to improve the energy efficiency and generate revenue from their estate by retrofitting energy efficiency measures, energy generation systems or using optimisation services.

In April 2016, the Welsh Government created the Re:fit Cymru Programme Implementation Unit (PIU) to support Welsh public sector bodies through every stage of their Re:fit projects.

The Re:fit Cymru PIU have recently assisted Pembrokeshire County Council.

Re:fit Cymru Energy Performance Contracting – how does it work?

The Authority supported by the PIU, are able to outline the broad performance parameters and project briefs that it wants to achieve. Tender documentation (from standard Re:fit templates) is prepared and proposals are requested from specialist Energy Service Companies (ESCOs) / service providers through a mini competition; the ESCOs have been pre-procured on the OJEU compliant Re:fit framework.

The service providers bid in the mini competition tender, offering a **guaranteed level of savings over a tranche of work**. Service providers will be contractually obliged to reimburse any annual shortfall in savings and to investigate and rectify, at their own cost, any under performance. The cost of the works are paid back by savings guaranteed over the payback period; this is typically about 3 - 10 years on most projects. Re:fit projects are therefore budget neutral or positive over the payback period.

The PIU is also able to support the Authority with the review and decision on funding routes for the project. This may include zero interest Salix Finance, the Welsh Government Invest-to-Save Grant opportunities, the Green Investment Bank or other commercial or ESCO funded routes.

Re:fit Cymru - financial commitment

At this stage there would be no financial commitment required until further work is carried out and a feasibility proposal agreed.

It is believed that the Re:fit Cymru scheme can accelerate the installation of energy efficiency measures and complement the drive towards Authority Carbon reduction.

Financial, Risk & Compliance Considerations

Funding in place :-

- 2019 / 20 WG Funded Electric Vehicles - £140,000
- 2020 / 21 Greening up Park Buildings (Annual) – £5,000
- 2021 / 22 SLSP Funding – Greening Up NP Buildings - £22,000
- 2020 / 21 SLSP Funding – Photovoltaic (PV) Installations - £50,000
- 2020 / 21 SLSP Funding – EV Charging Points (Phase 2) - £198,000
- 2020 / 21 SLSP Funding – EV Charging Points (Phase 2) - (Up to) £1,000,000

Human Rights/Equality Issues

We need to ensure when introducing any changes to the way we operate we have considered potential negative impacts on staff, Members or service users with protected characteristics and put in place mitigating actions to address any issues.

Biodiversity Implications/Sustainability Appraisal

Supports implementation of our Environmental Policy. Welsh Government's future methodology may cover land management carbon store activities.

Welsh Language Statement

The proposals will comply with the requirements of the Compliance Notice served upon the Authority under Section 44 of the Welsh Language (Wales) Measure 2011. During the works public procurement documents, signage, public notices will be bilingual.

Future Proposed Actions

- To carry out the short term actions highlighted in this report.
- To continue working with Officers to deliver our Climate Change Emergency Action plan in line with Policy.
- To investigate Re:fit scheme further and report back with a feasibility proposal.
- Assist HR Manager in engaging employees via Delivery Plan to highlight our commitment to reducing climate change and improve staff “buy in” / awareness.
- The Authority begins a review of our procurement and supply chain utilising the Welsh Government’s “ Procurement guidance on decarbonisation – How the public sector can identify areas of high CO2 impacts in their expenditure and act to reduce emissions.” and Future Generations Commissioners journey checker documents. Provide officer time and identify a lead for this work, following this a more detailed review will be commissioned and carried out by consultants.

Andrew Muskett
Building Projects Manager
23/10/20



Wedi ei ariannu ar y cyd gan Raglen Ynni Deallus Ewrop yr Undeb Ewropeaidd
Co-funded by the Intelligent Energy Europe Programme of the European Union

Welsh Government is supporting public sector bodies in Wales to make their buildings and assets more energy efficient. RE:FIT Cymru enables the Welsh public sector to secure guaranteed savings and reduce carbon impacts by accessing Energy Performance Contracts (EPCs). The RE:FIT Cymru scheme uses the robust and proven UK Re:fit Framework which was established in 2008-9.

Re:fit Cymru Support Service

The Re:fit Cymru support service is co-funded by the Intelligent Energy Europe Programme of the European Union, and provides support to public sector organisations in Wales.

Re:fit Cymru support includes:

- the Re:fit Cymru Programme Implementation Unit – an expert team providing low cost, end to end support needed to develop and successfully implement projects. This support service is heavily subsidised, and is provided to public sector organisations in Wales for a small contribution; and
- access to the Re:fit framework of energy service companies – which saves time and resources for organisations that are procuring retrofit services and works and – because it is an energy performance contracting framework – guarantees energy and cost savings.

Re:fit Framework

The Re:fit framework is a competitively tendered and OJEU-advertised framework that has been developed to suit the needs of public sector organisations, providing a procurement route which is quick, efficient and economic. The framework comprises sixteen energy service companies (ESCOs) selected for their proven track record in providing energy reduction and generation measures.

The Re:fit framework is an energy performance contracting framework. This means that when they enter into a contract with a public sector organisation, the ESCo guarantees the energy savings from the works that it is undertaking over a given period. As a result, organisations are assured of a secure financial saving.

The PIU will advise on technical aspects of ESCo proposals so public sector organisations are fully supported in their procurement of an ESCo.

Typical measures include:

- lighting and controls
- heat recovery
- variable speed drives on pumps/fans
- PC control
- voltage optimisation
- building management system
- energy management software
- automated meter reading
- automatic monitoring and targeting
- photovoltaic panels
- solar thermal
- cavity wall and loft insulation
- insulation to pipework
- draught proofing
- secondary glazing
- radiator reflector panels
- district heating
- combined heat and power

Contacts

For more information visit the webpage: wales.gov/refitcymru

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