

# Comisiwn y Cynulliad Assembly Commission

NAFWC 2014 (Paper 8 Part 1)  
Our commitment to sustainability

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Cynulliad  
Cenedlaethol  
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National  
Assembly for  
Wales



## Our Commitment to Sustainability – Progress Report

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### 1.0 Purpose and summary of issues

1.1 In November 2009 the Assembly Commission agreed a Carbon Management strategy for achieving a carbon neutral estate by 2015.

1.2 This report is for information only and sets out the progress made in the first year of the Carbon Management Programme.

### 2.0 Recommendations

2.1 The Assembly Commission is invited to note:

- a) the achievement of our target in Year 1; and
- b) further details of progress and the action plan for Year 2 at Annex A.

### 3.0 Discussion

3.1 On 25 November 2009, the Commission approved the Carbon Management Strategy and action plan for becoming a Carbon

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**Neutral Assembly. The attached document 'Our Commitment to Sustainability' (Annex B) refers.**

**3.2 The principle aims of the strategy are to:**

- achieve Carbon Neutrality by 2015;**
- achieve annual emissions reduction targets of 8 per cent for energy and 3 per cent for business travel; and**
- focus on reducing emissions and using carbon offsetting as determined later in the target period.**

**4.0 Progress and achievements**

**4.1 The strategy outlined the initial package of improvements amounting to an initial estimate of £900,000. In Year 1, the costs associated with the improvements have been financed through the existing budget amounting to £100,000. Annex A gives details of the work carried out.**

**4.2 In Year 1, we were successful in achieving an 8 per cent reduction target in energy emissions across the estate. This suggests our original calculations for reductions were realistic. This reduction equates to a saving of 247 tonnes of carbon and £50,000 in cost savings.**

**4.3 We achieved a reduction of 18 per cent for business travel emissions, far exceeding our original target of 3 per cent per year. This is due to changing employee attitudes towards travel primarily as a result of budget constraints, but also improved staff awareness of sustainable travel choices. This reduction equates to a saving of 35 tonnes of carbon and cost savings of £150,000 over the previous year.**

**4.4 The Assembly's continued drive towards creating a sustainable workplace has been recognised this year with an award for the 'Most Sustainable Public Sector Organisation – Government category by the Sustainable Facilities Management Awards 2010. The award is testament to the ongoing programme of improvements we are making to our buildings and the way we work.**

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**5.0 Looking ahead**

**5.1 Clearly over the course of the programme, financial commitment is essential to ensuring we incrementally improve as we exhaust low cost 'quick win' options and invest in proven technology to achieve our targets. A lack of capital investment may make it significantly harder to achieve these targets. Any capital investment will be subject to full and proper financial appraisal and projects will be assessed based on feasibility, length of payback and potential implications on building users. Costs for the package of works outlined in the Action Plan for Year 2 will be developed.**

**5.2 The Action Plan for Year 2 is set out in Annex A and £100,000 has been included in the 2011-12 budget for this.**

**6.0 Carbon Reduction Energy Efficiency Scheme**

**6.1 We are not full 'participants' of the Carbon Reduction Energy Efficiency Scheme as our carbon footprint for energy is below the current threshold and as a result there will be no financial implications. However, we have registered an 'information disclosure', which includes our energy data under the guidelines of the scheme. Over time the threshold will reduce but as long as we continue to reduce our energy consumption it is likely that we will continue to be exempt.**

**7.0 Conclusion**

**7.1 The Carbon Management Plan is proving extremely valuable in reducing the impact of the Assembly's activities on the environment. Progress in the first year is encouraging; however a continued financial commitment would be necessary to ensure the long term aim of carbon neutrality can become an achievable reality.**

## 1.0 Background

1.1 In 2008-09 the Assembly's carbon footprint was 2,890 tonnes of CO<sub>2</sub>. Most of this comes from two main sources:

- i) energy consumption from the Assembly's buildings; and
- ii) business travel (whilst at work).

1.2 The Carbon Management Plan sets a 40 per cent reduction target in CO<sub>2</sub> emissions to be achieved by 2015. The plan to deliver the Carbon Reduction Strategy included a schedule of projects which had the potential to produce a 380 tonne reduction in carbon emissions over the duration of the programme.

*Table 1.0 Progress to date against these projects*

Details of selected package of works	Progress to date
Current model of existing building to assess feasibility of natural ventilation options	Modelling completed as part of the Arups report.
Movement sensor lighting throughout	There is an on-going programme to install PIR lighting throughout the office subject to budget availability. Office areas remaining to be completed include WAG offices in 5A and Assembly Members' offices.
PIR sensors to meeting rooms, air conditioning and car park lighting.	<p>PIR sensors have been installed to conference and meeting rooms with standalone air conditioning units. Therefore, these units will automatically switch off when these rooms are vacant.</p> <p>PIR sensors have also been linked to the underground car park lighting to enable these lights to be switched off when no one is present in the underground car</p>

<b>Details of selected package of works</b>	<b>Progress to date</b>
	park.
<b>T5 fittings (replacing existing T8s)</b>	<b>Installed throughout the building.</b>
<b>LED car park lighting</b>	<b>External car park lighting replaced for more energy efficient LED lights.</b>
<b>Point of use electric domestic hot water</b>	<b>These are installed to all staff kitchens and tea points as well as timer switches so that these are switched off during out of hours periods.</b>
<b>Mechanical vent improvements</b>	<b>See below variable speed drives</b>
<b>Improve heat recovery</b>	<b>Adjustments have been made to B block air handling unit to improve heat recovery in this area.</b>
<b>Variable speed pumps/fans</b>	<b>Variable speed drives have been installed to all fans and pumps to improve the energy efficiency of heating and cooling systems.</b>
<b>Wall and roof insulation (to regulations)</b>	<b>On-going longer term strategy</b>
<b>Improve boiler and chiller efficiency</b>	<b>On-going longer term strategy</b>
<b>Improve infiltration</b>	<b>On-going longer term strategy</b>
<b>Mixed mode ventilation strategy</b>	<p><b>Trial of natural ventilation has been successfully carried out in the EFM section on the ground floor for the past two years and works well in this area of the building.</b></p> <p><b>Further trials are planned to other elevations of the building as part of the plan to return Ty Hywel to</b></p>

Details of selected package of works	Progress to date
	natural ventilation.
Fully naturally ventilated	On-going longer term strategy

- 1.3 We also stated that we would achieve the remaining 380t reduction through the Green Dragon Environmental Management System. This continues to be highly effective in driving cultural change, improving buy-in and changing hearts and minds.
- 1.4 Reductions in energy consumption and increasing sustainable choices in business travel are the clearest indicators that sustainability is starting to embed in everyday business. However, the bigger challenges such as working in naturally ventilated spaces, an increase in homeworking and seasonal "mothballing" of parts of the building will require even greater acceptance of change.
- 1.5 The table below summarises how progress against these actions has reduced CO2 emissions and resulted in cost savings.

*Table 1.1 Carbon and Cost Savings*

	Energy (tCO2)*	Business Travel (tCO2)*	Total
2008-09 (baseline year)	2,653	237	2890
2009/10 (year 1)	2,441	194	2635
Carbon Saving (tCO2)	212	43	255
Cost Saving (£)	£50,000	£150,000	£200,000

\* In the period between calculating the Assembly's carbon footprint through the Carbon Management Plan and the present year, Groundwork Wales - the organisation responsible for administering the Green Dragon Environmental System have decided to adopt Defra's conversion factors for greenhouse gas reporting as they are

**updated annually. This has resulted in the recalculation of the figures in the baseline year (2008-09) which has resulted in an overall increase in the Assembly's emissions for energy and a reduction in the emissions for travel. This has not significantly changed the overall carbon footprint.**



## **2.0 Looking ahead - Year 2**

- 2.1 The focus for Year 2 of the strategy will be ‘more of the same’ with an even greater emphasis on energy management and driving down consumption through further building improvements, increased awareness of energy consumption throughout the estate and the potential for installing solar panels on the roof of Tŷ Hywel to generate electricity.**
- 2.2 A key challenge for the Assembly will be to ensure that resources are available to fund and support key initiatives that may require significant investment for long term gain, as only the highest level of enthusiasm, commitment and technical understanding will deliver a positive outcome.**
- 2.3 The Green Dragon action plan for 2010-11 which supports the strategy has recently been reviewed by the Clear Skies Group as part of the Green Dragon annual management review. Progress has been noted and actions identified to help achieve the 8 per cent reduction target. The delivery of the action plan will continue to be monitored throughout the year.**
- 2.4 This works in tandem with the proposed package of works for improving the building management systems in Year 2 which are as follows:**

### **Action Plan – Year 2**

<b>Details of selected actions</b>
<b>Undertake further natural ventilation trials throughout the building</b>
<b>Continued PIR rollout</b>
<b>Wall and roof insulation (to regulations);</b>
<b>Improve boiler and chiller efficiency</b>
<b>Improve infiltration</b>
<b>Focussed energy management</b>

<b>Details of selected actions</b>
<b>4<sup>th</sup> Assembly building improvements</b>
<b>Potential solar generation opportunity (converting sunlight into energy)</b>
<b>Continued review of on-going building management controls</b>
<b>On-going review of heating and cooling systems</b>
<b>Assess efficiencies from auto shutdown of new ICT equipment</b>
<b>Improve occupant behaviour through targeted environmental communications</b>
<b>Publish performance data monthly to encourage ownership of energy consumption</b>
<b>Review of server farm set points</b>
<b>Assess feasibility of free cooling for Ty Hywel server farm in winter months.</b>

**2.5 The actions outlined above will lead to further financial savings and a reduction in carbon emissions. It should be noted that currently, financial savings realised are not ring fenced and re-invested into further sustainability initiatives and maybe this is something that could be considered going forwards.**

### **3.0 Offsetting**

**3.1 We stated in the energy strategy that our focus to 2015 will be on reduction only. In accordance with this, we have not offset any emissions In Year 1. Although we proposed to offset the emissions from air travel and Members' private car use immediately, this has not taken place as a result of the huge drop in air travel and the reduction in the conversion factor. There is also a need to improve the availability of Members travel data in order to accurately determine our offsets.**

**3.2 If we choose to adopt this approach in Year 2, the financial resources required will be drafted into the budget once we have frequent reliable data.**