



REGENERATION AND ENVIRONMENT SCRUTINY COMMITTEE – FOR INFORMATION

SUBJECT: WELLBEING OBJECTIVE: CARBON MANAGEMENT - REDUCE OUR CARBON FOOTPRINT (SIX MONTH PROGRESS UPDATE) - 2017/18

REPORT BY: CORPORATE DIRECTOR - COMMUNITIES

1. PURPOSE OF REPORT

- 1.1 At the beginning of 2017/18, it was recommended that progress of the Wellbeing Objective: **Carbon Management: Reducing our carbon footprint** would be reported to this committee for regular performance monitoring.
- 1.2 This is the six month progress 2017/18 update of the performance of this Well-being Objective.

2. SUMMARY

- 2.1 In Line with the Carbon Reduction Strategy (2009) this Wellbeing Objective focuses on 4 priorities to reduce emissions; Good Housekeeping; Invest to Save; Design and Asset Management; Renewable technology.
- 2.2 This report highlights key progress for the period April to September 2017 and judges this objective to be **'partly successful'** at this time
- 2.3 The comments outlined in this report and attached appendix, provide a snapshot of the progress made as at the end of quarter 2 of 2017/18. Details against the key actions selected for 2017/18 is listed in the Appendix: **Carbon Management: Reduce Our Carbon Footprint** (scorecard).

3. LINKS TO STRATEGY

- 3.1 The local Government Measure 2009 requires each authority to publish priorities (objectives) for improvement.
- 3.2 Strategies that impact on this Well Being objective are:
 - CCBC - Carbon Reduction Strategy 2009.
 - Corporate Asset Management Strategy.
 - The Well-being of Future Generations (Wales) Act.
- 3.3 The Well Being Objective helps to maximise our contribution towards:
 - A prosperous Wales.
 - A resilient Wales.
 - A healthier Wales.
 - A more equal Wales.
 - A Wales of cohesive communities.
 - A globally responsible Wales.

4. THE REPORT

- 4.1 In Line with the Carbon Reduction Strategy (2009) the Wellbeing Objective focuses on 4 priorities to reduce emissions:
- Good Housekeeping (strategy target 10% reduction)
 - Invest to Save (strategy target 20% reduction)
 - Design and Asset Management (strategy target 10% reduction)
 - Renewable technology (strategy target 5% reduction)
- 4.2 This Wellbeing Objective provides opportunities to:
- Drive down carbon emissions in our non-domestic buildings
 - Drive down utility service costs and carbon tax, whilst also protecting against future utility price increases
 - Improve working/teaching environments e.g. improve lighting levels or reduce overheating
 - Help maintain legislative requirements
- 4.3 Through the various actions outlined we are clearly seeing a positive improvement in raising awareness and training activity.
- 4.4 Public awareness of climate change and the link to carbon footprint is high and Caerphilly Borough citizens expect the Authority to take reasonable steps to reduce the energy consumed by its buildings.
- 4.5 Caerphilly CBC along with all other organisations is under increasing pressure from UK wide legislation aimed at improving energy efficiency e.g. Provision of Display Energy Certificates, Energy Performance Certificates and compliance with the Carbon Reduction Commitment scheme (which is an outright carbon tax, bearing costs to the authority).

Good Housekeeping

- 4.6 Good Housekeeping is about doing the simple things right across all of our buildings. It is a constant challenge to remind building users that their actions have a direct impact on carbon emissions and therefore utility bills.
- 4.7 The activities highlighted below must continue in the future to prevent bad habits from resurfacing and leading to increases in consumption levels. Activities taken under Good Housekeeping are often difficult to quantify in terms of energy and carbon savings but the assumption is that staff that are better informed will make better judgements and make improvements on energy and water conservation where possible.
- 4.8 We have engaged the wider Authority staff through various media formats :
- We have issued regular advice to schools via a bulleting covering various opportunities for energy efficiency improvements.
 - We have issued regular advice through the intranet covering topics including heating and time clock adjustments.
 - We have provided bespoke advice, for individual problems, direct to building managers
 - We have provided energy reporting to building managers where we have identified issues on consumption patterns.
 - We have advised community centres on utility providers.
- 4.9 We provided training to pupils at 9 schools on energy efficiency using our dedicated presentation which covers all of the core efficiency improvement methods outlined in the CCBC Carbon Strategy.
- 4.10 Building Energy Management Systems (boilers) training was provided to St Gwladys Primary.

- 4.11 We can prove that certain activities undertaken have resulted in physical energy, carbon and cost savings. We have empowered our staff to implement energy savings themselves.
- 4.12 The scorecard attached outlines in greater detail the activities undertaken and progress resulting from them. See Appendix Scorecard WO4-Carbon Management- Reduce our Carbon Footprint.

Invest To Save

- 4.13 We believe we will out-perform our targets on Invest-to-Save by the end of quarter 4 due to the strong advances made in the first 2 quarters. We have already implemented 6 energy efficiency projects at a cost of £34,784, at schools, a leisure centre and Tredomen House, resulting in annual carbon savings of 25 tonnes.
- 4.14 We have rejected three possible projects based on payback criteria and we are considering a further 9 projects for investment.
- 4.15 We have identified two major improvement projects for consideration in Q3 and Q4. Dimmable Light Emitting Diode (LED) lighting at Ty Penallta offices is already on trial on floor 1 and a larger trial covering a whole wing of Ty Penallta is planned. St Cenydd Comprehensive should receive an additional phase of LED lighting to the value of £54k with estimated annual savings of 62,445kWh, £7,481 and 28 tonnes of carbon.
- 4.16 These projects have not only reduced carbon emissions and the size of the utility bills. They have also improved teaching, training and working conditions by bringing those areas up to current design standards.
- 4.17 We have secured funding for 3 medium scale PV installations in 17/18. Risca Leisure Centre will be one of the locations.
- 4.18 We provided a costed proposal for a solar PV panel scheme at Blackwood Miners Institute, which cost £29k, paid back in 8.3 years, saved 29,500kW per year and saves 13 tonnes of carbon per year.

Design and Asset Management

- 4.19 Disposal of non-domestic buildings provides an opportunity for rapid carbon savings. During the first two reporting quarters Oakdale Comprehensive and Pontllanfraith Comprehensive were closed. They were replaced by Islwyn High school.
- 4.20 Islwyn High is providing net energy and carbon savings compared against the two old schools. These saving are partly attributable to the design of the building with high levels of insulation incorporated and the good selection of equipment such as the extensive use of LED lighting and the smaller physical size of the new school.
- 4.21 Ty Dyffryn is now empty with staff relocated to other existing offices. The annual carbon emissions for this building when occupied was circa 190 tonnes and most of this will now be saved.

Renewable Technology

- 4.22 There is no specific budget for installing new renewable energy installations however £161k has been made available for installation of three medium scale PV systems which will provide between 400+ PV panels. One of the confirmed properties is Risca Leisure Centre.
- 4.23 Estimated carbon savings for these PV installations will be 59 tonnes per year and will generate an estimated lifetime (20year) profit circa £280k.

- 4.24 Small scale PV systems of up to 4kW have been installed on 21 schools to date, which have an overall carbon saving of approximately 40 tonnes per year. 4kW PV systems will be installed on up to 20 additional schools by the end of March 2018, with an overall estimated carbon saving of 38 tonnes.

5. WELL-BEING OF FUTURE GENERATIONS

- 5.1 Linking the 6 wellbeing goals highlighted in 3.3 above we can prove that we have made a contribution to a prosperous, healthier and more equal Wales by utilising local suppliers.

6. EQUALITIES IMPLICATIONS

- 6.1 There are no equalities implications to this report that have not been considered or would adversely affect any individual or group who fall under one of the protected characteristics or wider issues as shown in the Council's Strategic Equality Plan.

7. FINANCIAL IMPLICATIONS

- 7.1 There are no financial implications other than to note that for each unit of energy conserved or offset, gas or electricity, there are direct financial savings recorded on the utility bills and annually on the carbon tax bill.

8. PERSONNEL IMPLICATIONS

- 8.1 There are no personnel implications from this report.

9. CONSULTATIONS

- 9.1 The result of all consultations has been incorporated into this report.

10. RECOMMENDATIONS

- 10.1 The Scrutiny Committee consider the content of this report and its Appendix, and note the progress made in meeting the actions set out in this Well-Being Objective.
- 10.2 The Committee discuss and reach agreement on the officer judgement of 'partially successful' for this objective at this time.

11. REASONS FOR THE RECOMMENDATIONS

- 11.1 That the Council undertakes effective scrutiny for setting and monitoring of performance improvement.
- 11.2 To inform members of progress made in meeting the objective and the impact on our organisation and staff.

12. STATUTORY POWER

- 12.1 Local Government Measure 2009.

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Mark Williams, Interim Head of Property Services.
Cllr. Phipps, Lisa, Cabinet Member for Homes and Places
Nicole Scammell, Acting Director of Corporate Services & S151
Robert Hartshorn, Head of Policy and Public Protection
Kathryn Peters, Corporate Policy Manager
Ros Roberts, Performance Manager
Paul Cooke, Senior Policy Officer.

Appendices:
Appendix 1 WO4-Carbon Management - Reduce our Carbon Footprint (Q2 17/18)

Wellbeing Objective 4. Carbon Management: Reduce Our Carbon Footprint (scorecard).

Summary of progress Q1 and Q2 .

National Well-being Goals Appendix A	Council priorities 2013/17	Well-being Objectives 2017/18	Service Specific outcomes (if applicable)
<ul style="list-style-type: none"> •A globally responsible Wales •A prosperous Wales •A resilient Wales •A healthier Wales •A more equal Wales •A Wales of cohesive communities 	8. Affordability – To deliver the medium term financial plan aimed at providing a period of stability that helps the Authority to have a range of services that are in the future sustainable	WO4. Carbon Management: Reduce our carbon footprint	Carbon Management: Reduce our Carbon Footprint

Key Actions / Tasks	Owner & Completion Date	Additional resource required?	Success Criteria	Progress update
Raise awareness and understanding of carbon management and improve control through; advisory, education, training, guidance, skills and operational activities	Paul Rossiter Ongoing	N/A	Good Housekeeping, Invest To Save and Asset Management	<p>We have registered in excess of 35 individual activities that raise awareness. Ranging from emails to schools, intranet advice and bespoke guidance to individual sites.</p> <p>Examples include intranet advice on:</p> <ul style="list-style-type: none"> •An information note was distributed outlining the benefits of the new LED lighting upgrade, at TY Penallta. •Outline of the benefits and availability of the LAEF invest to save funding scheme •Good Housekeeping – tips on general energy savings. •Winter is Coming – saving on heating. <p>In addition to the above awareness material, examples of additional email advice particular to schools included:</p> <ul style="list-style-type: none"> •Water conservation tips •Summer Closedown Checklist – this is to be issued ahead of all holiday periods and covers – Metering, Heating, Equipment and Maintenance. •The benefits of Building Energy Management System in controlling heating costs.

				<p>We wrote to all community centre secretaries giving advice on utility suppliers.</p> <p>We provided guidance and a costed proposal for Blackwood Miners institute to have a PV array. Cost £29k, generated 29,500kW per year and pays back in 8.3 years. The scheme would save 13 tonnes of carbon per year.</p> <p>We provided training to 9 schools on energy efficiency which was directly aimed at school children but also incorporated a few members of staff.</p> <p>We contacted many individual sites in relation to utility supplies where we suspected there may be an issue surrounding usage. Graphs evidencing spikes in consumption were provided.</p> <p>Building Energy Management Systems (boilers) training was provided to St Gwladys Primary.</p>
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Better controlled use of our facilities through; asset rationalisation (property stock), energy and utility audits, and the feasibility of further technology investments	Paul Rossiter Ongoing	N/A	Good Housekeeping, Invest To Save and Asset Management	<p>We issued 6 detailed energy and water audits outlining opportunities for energy improvements:</p> <ul style="list-style-type: none"> • St Helens RC primary school • Bryn Awel Primary school • Caerphilly Leisure Centre • Risca Leisure centre • Llancaiach Junior school • The Hanger 81 community centre <p>We have made financial investments to save energy, carbon and cost through the LAEF scheme :</p> <table border="1"> <thead> <tr> <th>Site</th> <th>Project Type</th> <th>Cost</th> <th>Annual kWh Saved</th> <th>Annual Carbon tns Saved</th> </tr> </thead> <tbody> <tr> <td>Blackwood Comp</td> <td>LED Lighting</td> <td>£2,000</td> <td>2,377</td> <td>1.08</td> </tr> <tr> <td>Trinant Primary</td> <td>LED Lighting</td> <td>£14,683</td> <td>14,535</td> <td>6.48</td> </tr> <tr> <td>Twyn Primary</td> <td>LED Lighting</td> <td>£7,535</td> <td>11,550</td> <td>5.14</td> </tr> <tr> <td>Trinant Primary</td> <td>Insulation</td> <td>£1,801</td> <td>12,935</td> <td>7.37</td> </tr> <tr> <td>Heolddu LC</td> <td>LED Flood Lighting</td> <td>£8,015</td> <td>9,095</td> <td>4.08</td> </tr> <tr> <td>Tredomen House</td> <td>LED Lighting</td> <td>£750</td> <td>1,225</td> <td>0.55</td> </tr> </tbody> </table>	Site	Project Type	Cost	Annual kWh Saved	Annual Carbon tns Saved	Blackwood Comp	LED Lighting	£2,000	2,377	1.08	Trinant Primary	LED Lighting	£14,683	14,535	6.48	Twyn Primary	LED Lighting	£7,535	11,550	5.14	Trinant Primary	Insulation	£1,801	12,935	7.37	Heolddu LC	LED Flood Lighting	£8,015	9,095	4.08	Tredomen House	LED Lighting	£750	1,225	0.55
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				<p>We have identified the following projects which will be considered in Q3 and Q4:</p> <table border="1"> <thead> <tr> <th colspan="2">Further Projects Identified</th> </tr> </thead> <tbody> <tr> <td>St Cenydd Comp</td> <td>LED Lighting</td> </tr> <tr> <td>Bryn Primary</td> <td>Insulation</td> </tr> <tr> <td>Sue Noake LC</td> <td>LED Lighting</td> </tr> <tr> <td>Libanus Primary</td> <td>LED Lighting</td> </tr> <tr> <td>Bryn Primary</td> <td>LED Lighting</td> </tr> <tr> <td>Newbridge LC</td> <td>LED Lighting</td> </tr> <tr> <td>ST Martins Comp</td> <td>LED Lighting</td> </tr> <tr> <td>Libanus Primary</td> <td>BEMS</td> </tr> <tr> <td>TY Penallta</td> <td>LED Lighting</td> </tr> </tbody> </table> <p>TY Penallta and St Cenydd (£54k)LED lighting are the main projects being reviewed for the final two quarters.</p>	Further Projects Identified		St Cenydd Comp	LED Lighting	Bryn Primary	Insulation	Sue Noake LC	LED Lighting	Libanus Primary	LED Lighting	Bryn Primary	LED Lighting	Newbridge LC	LED Lighting	ST Martins Comp	LED Lighting	Libanus Primary	BEMS	TY Penallta	LED Lighting
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Continued:				<p>We have considered and rejected projects based on pay back rates for:</p> <ul style="list-style-type: none"> • Deri Primary School (LED lighting 9.3 yr payback) • Tredomen Park Car Park (LED lighting 14 yr payback) • Plasyfelin Primary (LED lighting). Building not suitable. <p>PV solar schemes have been identified for 3 sites (including Risca Leisure centre) totalling £161k. These sites will anticipated annual carbon savings is in excess of 59 tonnes a year for the next 20+years and generating an estimated simple lifetime profit circa £280k. Circa 400 PV panels will be installed.</p> <p>Ty Dyffryn is now empty with staff relocated to other existing offices. The annual carbon emissions for this building when occupied was circa 190 tonnes and most of this will now be saved.</p> <p>Oakdale and Pontllanfraith Comprehensive schools are closed and have been replaced by Islwyn High Comprehensive. Islwyn High has all Light Emitting Diode lighting, improved insulation levels and is a smaller building compared to the old ones. These are major factors contributing to the carbon savings being made.</p>
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<p>Feasibility study and piloting of integrating Electric/Hybrid vehicles into parts of our vehicle fleet.</p>	<p>Paul Cooke. Corporate Policy 31/03/18</p>	<p>Yes</p>	<p>5 vehicles on the road</p>	<p>We have installed multiple over-night slow charging power points: x6 at Ty Penallta and x5 at Tir Y Berth Depot.</p> <p>The Meals on Wheels service and Policy Team trialled an electric vehicle for one week in July 2017. Feedback was very positive; in fact we struggle to get the vehicle back from the Meals on Wheels team. They found it very easy to charge up and drive. They had to get into the routine, but once they had got everything in place, everything run smoothly. They did find the vehicle quiet as there was no engine noise, but that was the only non-positive comment from them.</p> <p>We are waiting for Fleet Management to obtain prices so we can lease 3 vehicles (2 for Meals on Wheels and 1 pool vehicle).</p> <p>The pool vehicle will be used by employees for meetings etc. and also by service areas so they can determine if they could deliver their service using an electric vehicle.</p> <p>We are also waiting for a demo vehicle for the Countryside Service to trial to determine if they can deliver their service using the electric vehicle. If successful, they will lease 1 vehicle. They couldn't try the previous vehicle as we had to return it earlier than planned.</p> <p>Due to cost savings and budget cuts the Countryside Service might only be able to lease one electric vehicle instead of two as initially planned.</p> <p>We have also secured funding to install one or two additional 'fast charge' power point units at Penallta House, that will further support the services using the electric vehicles, as they will be able to do top up charges during the day as well as using the slow charge points over night.</p>
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Measures of priority objective	Target 2017/18	Result 2017/18	Progress / Comments
The number of building energy audits completed and handed over to building managers.	15	6	We are continuing to generate audits and are on track for the 17/18 target.
Identify and implement invest to save projects under the LAEF scheme	80% (of Pot 1 Capital)	78% to date	78% of the target value has been allocated to date. The target value will be exceeded by the end of the reporting year
Number of electric charging locations approved and installations completed at Council Offices	2 sites (10 charging points)	2 sites (11 charging points as at Sept 2017)	6 charging points at Penallta House, 5 charging points at Tir Y Berth Depot installed already. Additional being considered.
Number and type of vehicles obtained for piloting	5 small vans	0 (at Sept 2017)	Awaiting further information from Fleet Management & Maintenance Services Manager for lease prices and information to start leasing vehicles for the pilot.
The number of our schools which achieve accreditation to Eco Schools Green Flag. (CCBC currently have 90 schools)	80	77 (at Sept 2017)	76 schools (June 17) 77 schools (Sept 2017) 10 schools renewed their Eco School Green Flag award during 2017/18 36 schools have achieved their Platinum award (4th Green Flag) to date 8 schools have lost their Green Flag status