



REGENERATION AND ENVIRONMENT SCRUTINY COMMITTEE – 18TH SEPTEMBER 2018

SUBJECT: WELLBEING OBJECTIVE: CARBON MANAGEMENT - REDUCE OUR CARBON FOOTPRINT - END OF YEAR REPORT 2017/18

REPORT BY: INTERIM CORPORATE DIRECTOR OF 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 performance monitoring.
- 1.2 We chose this as an objective because, our climate is undergoing changes partly as a result of green-house gas (GHG) emissions from human activity

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 achievements made in the 2017/18 period and judges delivery of this objective to be '**partly successful**' as two of the five measurable targets were not fully completed:
 - The number and type of vehicles obtained for piloting. Initially the target was 5 small vans, but only 1 light vehicle was trialled due to vehicle pricing and availability.
 - The number of our schools which achieve accreditation to Eco Schools Green Flag. (CCBC currently have 90 schools). The target was set at 80 schools but 78 schools made the accreditation.
- 2.3 Details against the key actions selected for 2017/18 are 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. In addition a number of strategies impact on Carbon Management as follows:-
 - CCBC - Carbon Reduction Strategy 2009.
 - Corporate Asset Management Strategy
 - Welsh Government Climate Change Strategy

3.2 Our Carbon Reduction activity Green contributes to several of the Well-being goals within the wellbeing of Future Generations Act (Wales) 2015, including:

- A prosperous Wales
- A resilient Wales
- A healthier Wales
- A more equal Wales
- A Wales of cohesive communities
- A globally responsible Wales

Carbon Reduction initiatives also support the Protect and enhance the local natural environment action area and the Asset management enabler identified within the Caerphilly Public Services Board Well-being Plan 2018-2023, supporting the Positive Change, Positive People and Positive Places objectives.

3.3 The work also supports the following Corporate Well-being Objective, identified within the Council's Corporate Plan 2018-2023:

- Promote a modern, integrated and sustainable transport system that increases opportunity, promotes prosperity and minimises the adverse impacts on the environment.

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 The Wellbeing Objective provided 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 for example improve lighting levels or reduce overheating
- Help maintain legislative requirements

4.3 Through the various actions outlined in Appendix 1 we are clearly seeing a positive improvement in raising awareness and training activities.

4.4 Public awareness of climate change and the link to carbon footprint is high and Caerphilly County 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 for example, Provision of Display Energy Certificates, Energy Performance Certificates and compliance with the Carbon Reduction Commitment Scheme (which is an outright carbon tax, resulting in 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 in relation to resurfacing and leading to increases in utility 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 who 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:
- Issued regular advice to schools via a bulletin covering various opportunities for energy efficiency improvements.
 - Issued regular advice through the intranet covering topics including heating and time clock adjustments.
 - Provided bespoke advice, for individual problems, direct to building managers
 - Provided energy reporting to building managers where we have identified issues on consumption patterns.
- 4.9 We provided training to pupils at 31 schools on energy efficiency using our dedicated presentation which covers all of the core efficiency improvement methods outlined in the CCBC Carbon Reduction Strategy.
- 4.10 Building Energy Management Systems (boilers) training was provided to St Gwladys and Risca Primary school.
- 4.11 We can prove that certain activities undertaken have resulted in physical energy, carbon and cost savings. We have guided our staff to implement energy savings themselves such as programming holiday time scheduling into their building energy management systems
- 4.12 Appendix 1 outlines in greater detail the activities undertaken and progress resulting from them.

Invest To Save

- 4.13 We have invested £112k across 11 projects. The majority of the investment was for energy efficient lighting and savings on electricity, which is important due to the higher carbon emission factors and because of the high unit cost. One of these projects St Cenydd Comprehensive has received an additional phase of LED lighting to the value of £48k with estimated annual savings of 59,571kWh, £7,137 and 27 tonnes of carbon.
- 4.14 The Invest to Save projects reduced carbon emissions by 61 tonnes per year.
- 4.15 Not all projects reviewed were progressed; we rejected six possible projects based on poor payback rate.
- 4.16 Dimmable Light Emitting Diode (LED) lighting on one wing of Ty Penallta offices was trialled on floor one and deemed a success. Due to workload the tender for the remainder of the office areas won't be actioned until autumn 2018. A list of new potential projects has been identified for 18/19.
- 4.17 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.
- 4.18 We provided a costed proposal for a solar PV panel scheme at Blackwood Miners Institute, which was outside of the scope of the invest to save scheme. The scheme would have cost the centre £29k, paid for itself in 8.3 years, saved 29,500kW per year in grid drawn electricity and saved circa 13 tonnes of carbon each 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 schools were closed. They were replaced by Islwyn High school.
- 4.20 Islwyn High is providing net energy and carbon savings when compared to the two old schools. These saving are partly attributable to the design of the building with high levels of insulation and the good selection of equipment such as the extensive use of LED lighting and the smaller physical size of the new school. There are short periods when the building draws no electricity from the electricity grid.
- 4.21 Ty Dyffryn is now empty (with staff relocated to other existing offices) and has been leased to a private sector company. 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 PhotoVoltaic (PV - Solar Power) panels have been installed at three sites:
- Risca Leisure Centre. 200 panels providing 45,473 kW and 17 tonnes of carbon saved annually.
 - Tredomen Technology and Business Centre. 198 panels providing 46,464 kW and 17 tonnes of carbon saved annually.
 - Centre for Sporting Excellence. 184 panels providing 47,150 kW and 17 tonnes of carbon saved annually.
- 4.23 The cost of these three schemes was £161k. No additional funding has been identified for PV installation in 2018/19 however the authority has further suitable roofs that can accommodate PV schemes.
- 4.24 Small scale PV systems of up to 4kW were installed on 17 schools. These have an overall carbon saving of approximately 32 tonnes per year and will be used to teach school pupils about sustainable energy.
- 4.25 There is a £104k capital allocation for carbon reduction which the authority has developed into an Electric Vehicle charging proposal.
- 4.26 Six electric vehicle charging points have been installed at Penallta House, with an additional five points at Tir Y Berth Depot. Additional points are being considered.
- 4.27 A Nissan light duty electric powered van has been leased on a short term basis as a trial.
- 4.28 Thirteen schools renewed their Eco School Green Flag award during 2017/18. Thirty six schools have achieved their Platinum award (4th Green Flag) and eight schools have lost their Green Flag status

Overview of Good Housekeeping; Invest to Save; Design and Asset Management; Renewable technology

- 4.29 Under the four priorities above we can prove that significant effort was made to raise awareness and understanding under good housekeeping principles and this impacted staff and pupils positively across the authority. We exceeded our target on our Invest To Save schemes which has resulted in significant long term carbon savings. Islwyn High school has been built which is energy efficient and on occasions draws no power from the grid and we have installed £161k of PV panels which generated a revenue stream and significant annual carbon savings.

5. WELL-BEING OF FUTURE GENERATIONS

- 5.1 Carbon reduction initiatives contribute to the Well-being Goals as set out in the Links to Strategy. In particular they contribute to a Globally Responsible Wales reducing the activities that promote climate change. Similarly they support a resilient Wales and offer a long term source of energy when other non-renewable sources have become depleted.
- 5.2 Carbon reduction schemes are consistent with the five ways of working as defined within the sustainable development principle in the Act in that they are a long term measure capable of providing energy that will sustain into future generations. The projects under consideration will support the development of an infrastructure which will prevent the on-going reliance on carbon based fuels in the future. They also provide opportunities to involve our communities in the development and use of renewable energy, and to collaborate with schools and other sectors.

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 associated with this report, 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 direct personnel implications associated with this report.

9. CONSULTATIONS

- 9.1 The views of the consultees listed below have 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 as two of the five measurable targets (the number and type of vehicles obtained for piloting and the number of our schools which achieve accreditation to Eco Schools Green Flag) were not completed.

11. REASONS FOR THE RECOMMENDATIONS

- 11.1 That the Council undertakes effective scrutiny for setting and monitoring of performance of this well being Objective.
- 11.2 To inform members and enable them to judge the partial success in relation to the outcome(s) for this objective.

12. STATUTORY POWER

12.1 Local Government Measure 2009.

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