

REPORT TO CABINET

June 23rd, 2015

Cabinet Member: Cllr. John Wyn Jones

Subject: The Council's Carbon Management Plan

Contact Officer: Dafydd Gibbard, Senior Corporate Property Manager

Decision sought

Following the success of the Carbon Management Plan for the last five years, adopt the Second Carbon Management Plan for the period 2015/16 until 2020/21 and agree on the funding source

Local member's opinion

Not a local matter

1.0 Background

- 1.1 The Council's first Carbon Management Plan, which was adopted by the Council in October 2010, established a strategy and work plan to attempt to reach an ambitious target of reducing our carbon emissions by 30% by the year 2014/15. The same target was also set for emissions from buildings only.
- 1.2 The Plan contained projects to reduce carbon emission from:
 - the Council's stock of operational buildings
 - street lighting on all the streets adopted by the Council
 - the waste produced in all of the Council's operational buildings
 - the operational fleet
 - the use made by the Council of private vehicles for business journeys

2.0 The Business Case

- 2.1 In order to achieve the target of a 30% reduction, the Plan contained a substantial number of individual projects. It was estimated that reaching the goal would require an investment of £7.4 million and that this would

lead eventually to annual revenue savings of £950,000. This meant that simple repayment would take about 8 years.

2.2 The table below summarises the business case and the actual results:

	Original targets	Actual results
Capital Costs	£7.4M	£3.8M
Revenue Savings	£950,000	£770,000
Simple repayment period	7.8 years	4.9 years
Buildings' percentage reduction	30%	30.3%
Percentage reduction across all areas	30%	26.1%

2.3 So far, of the £3.8 million that has been spent, only £2.6M has been financed by the Council. The remainder (£1.2M) has been financed by interest free borrowings from a dedicated fund from the Government. Gwynedd Council has been the most successful council in the country with applications for money from this fund.

2.4 The table shows that the realisation costs of the projects have been substantially lower than forecast. This is mainly because the technology is becoming more common and that we have been able to programme the work at the same time as other work on buildings which has led to savings in our procurement methods.

2.5 Although the realisation costs have been substantially lower, substantial revenue savings have been realised. This means that the repayment period has improved substantially to a little less than five years, compared with less than almost 8 years as was forecast initially.

2.6 The table below shows the Plan's various successes in terms of reduction in emissions in the various areas.

Category	Street Lighting	Fleet	Business Travel	Waste	Renewable Energy	Buildings Energy	Total Emissions
CO2 Emissions (t) 2005/06	3,899	5,325	2,095	930	-	18,906	31,154
CO2 Emissions (t) 2013/14	2,802	4,927	1,720	405	-77	13,175	23,031
% change since the baseline	-28.1%	-7.5%	-17.9%	-56.4%	-	-30.3%	-26.1%

- 2.7 It was recognised at the beginning that the target set was extremely challenging. We were starting without knowing whether we had any chance of success but, from the feasibility work that had been done, 30% was set as a target to show our ambition and to drive our efforts.
- 2.8 It is a source of pride that we have been able to realise a reduction of 26.1%, although we are short of the ambitious target that was set. It is also pleasing to note that emissions from buildings have reached the 30% target, emissions from waste from buildings have been reduced by 56% and that street lighting emissions are also very near the target. Reductions were also obtained from the fleet and business travel but it seems that further efforts are required in these areas.
- 2.9 Our ability to reach the main target has also been affected by the fact that we did not take into consideration that we would not see the effects of the projects in the last year of the plan until the following year i.e. the effects of any upgrading work in 14/15 will not affect energy use until 15/16. This was not considered sufficiently when setting the target of 30%.

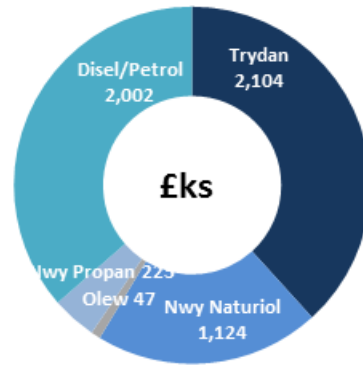
3.0 **Additional Benefits**

- 3.1 **Carbon Reduction Commitment (CRC)** A number of projects in the Plan involve reducing electricity use. As a consequence of this reduction, our electricity use, as a Council, will be below the threshold of the energy tax that was introduced in 2010 named the "Carbon Reduction Commitment" until at least 2018.
- 3.2 This has saved £1.74 million of expenditure for the Council between 2010 and 2018.
- 3.4 **Awareness Raising Plan** – The revenue savings has financed an officer to be responsible for raising awareness about energy conservation in the Council. According to the Carbon Trust, it is possible to save about 10% of energy use in buildings by changing user behaviour and this awareness raising work has contributed substantially to the reductions realised.
- 3.5 A substantial awareness raising plan has been prepared (Sbarci a Fflic Plan) for the County's primary schools. (www.sbarciafflic.org) Awareness raising in schools has been given priority as the County's schools are responsible for 24% of all carbon emissions.

4.0 **The Second Carbon Management Plan**

- 4.1 Since the first Carbon Plan was established, the economic climate has changed completely. Even so, the success of the first Plan, especially the

revenue savings that have derived from it, leads us to consider investing again in a second Plan The graph below shows that the Council's energy expenditure is still considerable, a total of £5.4 million annually:



- 4.2 With the help of the Carbon Trust and external specialist consultants, we have been able to identify further opportunities to achieve carbon savings and, as a consequence, revenue savings.
- 4.3 Obviously, the easiest savings have been realised in the first Plan but, as technology develops and becomes more dependable, new opportunities are always available. The work of preparing the second plan has also shown substantial opportunities to reduce our carbon emissions without investing in technology - by concentrating more on a technique known as Monitoring and Targeting.

5.0 The Projects in the Second Carbon Plan

- 5.1 A complete list of projects is appended to this report. Every plan has been costed on the basis of experience and evidence of other recent plans. The figures are not entirely definite, of course, more detailed design and tender work is required. Several plans use quite new technology and we are showing the risk level by each one. Detailed work will be required to check the business case and how dependable the technology is in each case before investing. Of course, this is also how the first Plan was managed. Conservative figures have been used in each case to form the initial business case. The plans fall into several categories:
- 5.2 **Monitoring and Targeting** – encourage and motivate site managers and Service managers to manage their energy use better by introducing a software system, monitoring regime and formal targets. This means that the sites will obtain regular information on their energy performance and

that they will be compared with other, similar, sites. This will encourage site managers to try and manage their energy use more proactively.

Assessments on a sample of sites have shown that, despite the assistance that has already been given, there is still room for improving managing systems. Site managers do not understand them well enough and constant refinement is required on the various technologies in our buildings to ensure they are working on the most efficient settings possible.

We will be investing in a new software system which will give an immediate warning if energy use rises too high and which will enable us to respond immediately and so avoid excess expenditure / use.

Evidence from similar schemes in other organisations prepared by the Carbon Trust show it possible to aim for over 3% reduction through this technique. We are already trialling an informal scheme whilst preparing this plan and clear positive results can be seen.

This technique depends on having competent staff available for the monitoring, research, analysing and solving work. This work plan will also help us to ensure that the reduction that was realised by the first Plan will not be lost.

- 5.3 **Renewable energy** – we have already been successful with PV solar panel plans. We are now producing 500KW of electricity through panels on 54 sites. There are opportunities to install panels on a few additional sites and increase the number of panels on present sites. Two plans for producing electricity through hydro technology have also been included.

We are also in the process of doing a feasibility study on a site in our possession which could be suitable for use as a solar park. This would not have a direct impact on our carbon footprint but it is obviously a commercial opportunity for the Council to consider. We will consider the outcome of the study before suggesting the way forward in this area.

- 5.3 **Low energy technology in buildings** – a number of schemes in a number of buildings across the county e.g. upgrading lighting in junior schools, insulating heating pipes, improved radiators, improved ventilation systems in kitchens etc. This type of scheme has been a substantial part of the success of the first Carbon Management Plan.

- 5.4 **Water Conservation** – although the use of water does not add directly to the Council's carbon footprint (energy used to pump water comes from the supplier) we spend around £590K a year on water supplies. We have inspected 13 sites and identified possible savings through pressure reducing technology, taps which control flow, new cisterns etc. As the

majority of our sites are on a water meter, a reduction in use leads to revenue savings.

5.5 **Fleet Projects** – the scheme includes the proposal to create savings by improving the present fleet management system and by procuring low energy Vehicles as part of the renewal programme.

5.6 **Street Lighting Projects** – The Highways and Borough Department has already started on a programme of upgrading street lights, the work has been very successful and has led to savings.

Following this a business case was presented to the Cabinet to consider speeding up the upgrading programme. This scheme has already been approved and funded.

6.0 **Findings and business case of the Second Carbon Management Plan**

6.1 The projects' list shows the business case as follows for the Plan in its entirety:

Capital Costs	Yearly revenue savings	Annual expenditure forgone	Part qualifying for Salix application	Invest to save	Capital	Carbon Fund
£3.259M	£645k	£60K	£375k	£1.410M	£185k	£1.289M

6.2 The simple repayment period for the programme is 5 years with periods for individual projects varying from 0.8 years (Monitoring and Targeting) to 10.8 years (PV solar panels).

6.3 In respect of the reduction in carbon emissions, adoption of the Scheme is likely to lead to a further reduction of 9.8%. It would be reasonable therefore, for the Council to adopt a reduction target of 40% against the baseline by the end of the Financial year 2020 / 21.

6.4 It should be remembered that the percentage of the reduction depends very much on two projects, upgrading street lights (3.1%) and the Monitoring and Targeting scheme (3.3%). If we cannot realise one of these two schemes then the target and what can be accomplished would have to be reviewed.

7 Scheme Funding

- 7.1 To realise the whole scheme a capital Investment of around £3.259 million is required. However, we will apply for interest free loans from the Government's Salix fund to cover £375K of this. The cost of realising the street lighting upgrading scheme has already been met i.e. £1.410M.
- 7.2 As we were able to obtain support from the Salix fund for a considerable amount of the work and we have been able to do the work in conjunction with other work, the Cabinet is asked to consider making use of the underspend from the first Carbon Management plan to fund the second Plan i.e. f £185k capital and £1.289M from the Carbon Fund.

Next steps and timetable

Were the Cabinet to give its' approval, the Plan could be realised immediately with 2015 / 16 as the first year of the 5 year Plan. Decisions to cut staffing levels could affect the Plan's success, of course.

Recommendation

Adopt the Second Carbon Management Plan for the period 2015/16 to 2020/21 and approve the funding source.

Statutory officers' opinion

Chief Executive:

What is noted in the report highlights what is possible to achieve by looking creatively at a subject and making a decision to invest – and creating substantial benefits (in terms of carbon emissions) and very substantial revenue savings. As the programme goes forward, the opportunities to save money and create benefits are certainly more difficult but, the experience we have gained from the success of the first Plan gives us confidence that we can see similar success once again.

Monitoring Officer:

No observations from a propriety perspective

Head of Finance:

Following the success of the first Carbon Management Plan in environmental terms and financial terms, we see here an opportunity to adopt a second plan which would enable us to achieve even more. It is noted that from the total spend requirement of £3.259m that the Street Lighting Project at £1.410m has already been approved recently which therefore leaves £1.849m to be funded through a combination of interest free loans and funds approved for the first plan which remain unallocated and are therefore available for the second plan.

I support the application, and in its entirety it should lead to annual revenue savings of nearly £646,000 for the Council.

Appendixes

Appendix A – list of projects

Main matters for the Cabinet to consider: Approve the Second Carbon Management Scheme for 2015 / 16 until 2020 / 21.