

CEREDIGION COUNTY COUNCIL

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| Report to: | Cabinet |
| Date of meeting: | 02 November 2021 |
| Title: | Annual Review of the Carbon Management Plan 2017/18 to 2022/23. Year 3 (2020/21). |
| Purpose of the report: | To inform the Cabinet of the progress and achievements to date of the Council's Carbon Management Plan |
| For: | Decision |
| Cabinet Portfolio and Cabinet Member: | Cllr Alun Williams – Cabinet Member for Adult Services and Champion for Sustainability Cllr Rhodri Evans – Cabinet Member for Economy and Regeneration |

The Council's Carbon Management Plan (CMP) was updated in 2018 and includes targets for reductions in CO₂ emissions from energy use, fuel consumption and business miles. It identifies the principal areas of energy use and contains the Council's strategy for reducing carbon emissions by at least 15% from 2017/18 to the end of 2022/23.

As part of the ongoing monitoring and reporting process it was agreed that the 5-year Plan would be reviewed and reported annually to Cabinet.

This document represents the Plan's Year 3 annual review, undertaken during 2021 and provides analysis of the Authority's 2020/21 energy usage and carbon emissions. It provides an update of progress to date from the current baseline year of 2017/18, but also looks back to 2007/08 when we introduced the initial Carbon Management Plan and first started calculating our annual carbon footprint.

Ceredigion's actual emissions during 2020/21 were 6,616 t/CO₂ - equating to a 1,478t reduction in CO₂ against the previous year and 2,488 t/CO₂ when compared with the 2017/18 baseline year. This is equivalent to a 19.35% year on year reduction and 28.77% reduction in carbon emissions over the Plan period, which exceeds the 15% target set out in the 5-year Plan.

The current pandemic has significantly contributed to these reductions, with all emission areas seeing a reduction in both emissions and overall spend. The table below shows emissions and costs for 2020/21 vs 2019/20.

| Category | | 2019/20 | | 2020/21 | |
|-----------------------------|-----------------------|------------------|-------------------|------------------|-------------------|
| | | tCO ₂ | Cost £ | tCO ₂ | Cost £ |
| Buildings and Street Lights | Civic buildings | 502 | £289,722 | 373 | £171,490 |
| | Education | 2,689 | £915,166 | 2,391 | £782,179 |
| | Leisure | 523 | £191,275 | 389 | £135,156 |
| | Social Care | 565 | £187,067 | 510 | £164,633 |
| | Libraries & Community | 236 | £84,074 | 173 | £60,034 |
| | Other buildings | 232 | £90,014 | 198 | £73,793 |
| | Other miscellaneous | 162 | £99,224 | 91 | £37,085 |
| | Streetlights | 326 | £188,917 | 255 | £163,362 |
| Transport | Fleet | 1,762 | £660,763 | 1,602 | £530,142 |
| | Business Mileage | 642 | £1,032,307 | 180 | £297,738 |
| Total | | 7,639 | £3,738,529 | 6,161 | £2,415,610 |

In 2020/21, year on year emission reductions were significant at 19.35%, whilst it is noted that a large proportion of these saving was related to the current COVID pandemic and the new way in which we are currently working, we must ensure that as much as possible of these savings are maintained going forward, else it is likely we may see an increase in operational emissions for the 2021/22 financial year. Failure to maintain these savings could be seen as a missed opportunity, especially as on the whole services are operating very well while staff continue to work remotely. Technology has also played a large part in this, with meeting now being held via online platforms, reducing the need to travel between locations.

Has an Integrated Impact Assessment been completed? If, not, please state why

Not for the annual review, however an IIA was undertaken for the 5-Year Plan.

Summary:

Long term: Delivering on the Council's 5-year Carbon Management Plan

Integration: Integrate energy efficiency measures across the Council's operational property portfolio

Wellbeing of Future Generations: **Collaboration:** Working with the Welsh Government Energy Service and third party professionals to deliver energy efficiency and cost savings within the Council's operational portfolio.

Involvement: Engagement with stakeholders, local contractors, service and building managers to deliver emission reductions and energy saving measures

Prevention: Implement energy efficiency measures to reduce the effects of climate change

| | |
|--------------------------------|--|
| Recommendation(s): | IT IS RECOMMENDED THAT Cabinet i) monitor the extent of the Council's Carbon Reduction during and up to year 3 of the current 5 year period of the Carbon Management Plan, which amounted to a 28.77% reduction in CO ² against the 2017/18 baseline; ii) note and endorse the progress and achievements to date of the Council's Management Plan. |
| Reasons for decision: | In the Carbon Management Plan 2017/18 – 2022/23 that was approved by Cabinet on 11 June 2019 it was agreed that an Annual Progress Review would be undertaken and an update report be provided to Cabinet on an annually. |
| Overview and Scrutiny: | Annual reviews have been reported to the Thriving Communities Overview and Scrutiny Committee in previous years. |
| Policy Framework: | |
| Corporate Priorities: | Promoting Environmental and Community Resilience Actively engage in programmes to minimise Ceredigion's contribution to climate change and bio-diversity loss and deal with its effects. Produce a 5 year Carbon Management Plan to reduce carbon usage both internally and externally. To set realistic carbon reduction targets |
| Financial implications: | Capital investment required to deliver projects set out within the 5-year plan - this document notes savings made during 2020/21. |
| Statutory Powers: | Environment Act Climate Change Act Wellbeing of Future Generations Act Public sector carbon neutrality by 2030 EU Energy Saving Directive |
| Background Papers: | Carbon Management Plan 2017/18 to 2022/23 – Year 3 Annual Review (2020/21) |
| Appendices: | |
| Corporate Lead Officer: | Russell Hughes-Pickering |
| Reporting Officer: | Bethan Lloyd-Davies |
| Date: | 12/10/2021 |

Carbon Management Plan 2017/18 – 2022/23



2020/21 (Year 3) Annual Review



Carbon Management Plan 2017/18 to 2022/23

Year 3 Annual Review

1. Introduction

The Council introduced its third Carbon Management Plan in 2018, this document details and attempts to analyse Ceredigion County Council's current position with regard to the 15% emissions target, set in the Carbon Management Plan 2017/18 to 2022/23. It will provide current CO₂ figures, as well as analysis of the Authority's 2020/21 energy usage and emissions against the baseline figures. Obviously the current COVID pandemic has played a large part in emission reductions this year, the data presented here will attempt to look at those reductions in more detail, as well as identify how we ensure those savings are maintained in future years (e.g. remote working, online meetings etc).

2. Baseline Emissions

2.1 Scope

The Council's reduction target is set against a 2011/2012 carbon footprint baseline covering direct emissions from the following sources:-

- Electricity consumption in buildings
- Fossil fuel consumption in buildings (oil, gas, LPG)
- Fuel use by fleet vehicles
- Fuel use by equipment
- Business mileage
- Electricity used by Street Lighting, lit signs and bollards

2.2 Baseline Footprint

Based on the scope, Ceredigion County Council's baseline footprint was calculated to be 8,649 tonnes of CO₂ equivalent (tCO₂e) 2017/18. This has been used as the Council's current carbon footprint baseline emissions figure.

3. Progress to Date

Review of the Council emission figures for 2020/21 show that the Council has successfully achieved and exceeded its 15 % reduction target set out in the Carbon Management Plan. An actual CO₂ reduction of 2,488t/CO₂, equivalent to a 28.77% decrease in emissions was achieved by the end of 2020/21, when compared with the 2017/18 baseline year.



Carbon Management Plan 2017/18 to 2022/23

Year 3 Annual Review

| Carbon Management Plan 3 | | | | | | |
|--------------------------|--------------|--------------|--------------|--------------|---------|---------|
| | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 |
| Buildings | 5,557 | 5,177 | 4,909 | 4,125 | | |
| Streetlighting | 518 | 436 | 326 | 255 | | |
| Fleet | 1,867 | 1,802 | 1,762 | 1,602 | | |
| Business Mileage | 761 | 735 | 642 | 180 | | |
| | 8,649 | 8,150 | 7,639 | 6,161 | | |
| | | 5.77% | 6.27% | 19.35% | | |

The above equates to a cumulative 28.77% reduction against a 15% target (2017/18 to 2020/21)

All service areas saw emission reductions during 2020/21, when compared to the previous financial year. The table below notes emissions & cost by category/service area.

| Category | | 2019/20 | | 2020/21 | |
|-----------------------------|-----------------------|------------------|-------------------|------------------|-------------------|
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| Total | | 7,639 | £3,738,529 | 6,161 | £2,415,610 |

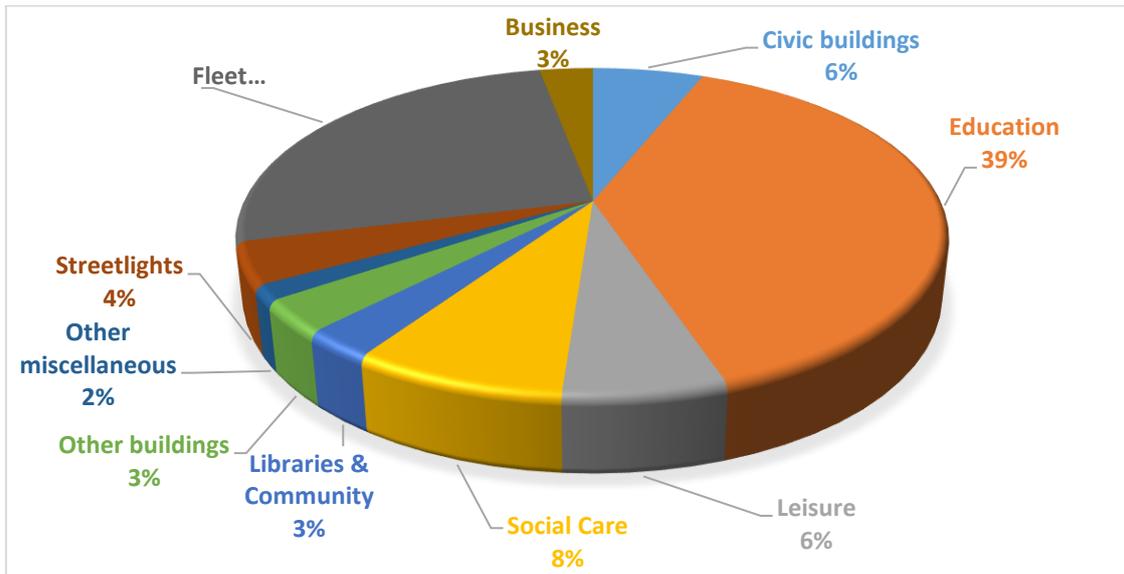
Due to the emission reductions across buildings and business mileage, we have seen a shift in the % emissions from each category. At the beginning of the current Carbon Management Plan (2017/18), Education buildings accounted for 33% of overall operational emissions, but in 2020/21 they contributed 30% to the overall emissions despite a 15.24 % emission reduction since the baseline year. Likewise, business mileage contributed 9% to overall emissions in 2017/18, but in 2020/21 this was reduced to less than 3% in 2020/21 following a 76% reduction in emissions over the period.

The below pie chart shows the % emissions each category contributes to the 2020/21 carbon footprint:



Carbon Management Plan 2017/18 to 2022/23

Year 3 Annual Review



4. 2020/21 Carbon Footprint

4.1 Buildings

Emissions from energy consumed by all of the Council's operational properties (buildings used for service provision) accounted for 66.95% of the Council's carbon emissions in 2020/21.

Energy Consumed by the Council's operational buildings during 2020/21 was as follows:-

| Buildings | kWh | CO ₂ (tonnes) | £ |
|--------------------|-------------------|--------------------------|-------------------|
| Electricity (grid) | 6,068,933 | 1,536 | £980,861 |
| Natural gas | 7,583,131 | 1,544 | £212,126 |
| Gas oil | 681,442 | 186 | £27,153 |
| Kerosene | 222,344 | 57 | £6,646 |
| LPG | 3,373,500 | 776 | £107,068 |
| Wood(Chip) | 1,847,240 | 26 | £90,515 |
| Total | 19,776,591 | 4,125 | £1,424,369 |

Of this buildings-only footprint, electricity consumption accounts for 33.05% of carbon emissions, gas consumption accounts for 33.23%, oil/LPG consumption 33.12% and biomass 0.6%.

The Council has consistently reduced energy consumption since 2007/08, when the original baseline for the first carbon management plan was calculated: Buildings energy consumption has reduced as follows over the period:

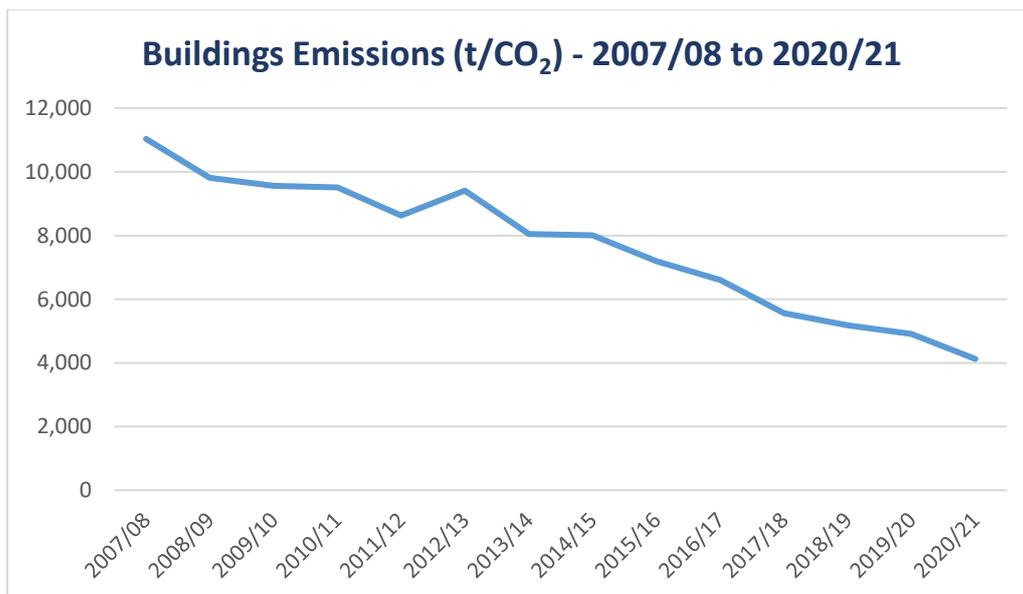


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| | CMP1 Baseline | CMP2 Baseline | CMP3 Baseline | CMP3 Yr1 | CMP3 Yr2 | CMP3 Yr3 |
|-------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Buildings | 2007/08 | 2011/12 | 2017/18 | 2018/19 | 2019/20 | 2020/21 |
| Electricity | 12,822,336 | 10,982,521 | 8,545,767 | 8,365,101 | 7,627,024 | 6,068,933 |
| Natural Gas | 10,736,015 | 8,653,384 | 7,509,427 | 7,798,767 | 8,336,137 | 7,583,131 |
| Oil | 7,329,932 | 4,254,047 | 1,938,590 | 1,498,666 | 1,213,486 | 903,786 |
| LPG | 580,720 | 609,870 | 2,962,206 | 3,550,871 | 3,164,457 | 3,373,500 |
| Biomass | 1,712,922 | 2,005,809 | 2,982,748 | 2,610,840 | 2,824,750 | 1,847,240 |
| Total | 33,181,924 | 26,505,631 | 23,938,738 | 23,824,245 | 23,165,854 | 19,776,590 |
| Year on year reduction | | -20.12% | -9.68% | -0.48% | -2.76% | -14.63% |
| Cumulative saving | | -20.12% | -27.86% | -28.20% | -30.19% | -40.40% |

The associated emission reductions during this period were as follows:-



Building occupancy during the pandemic has been reduced, with the introduction of lockdowns and staff working from home - this is reflected in the overall energy usage figures for 2020/21. In some buildings, we have seen energy usage rise slightly during winter months, which has been as a result of increased heating demand due to the need to keep windows open. This has offset some of the energy saved during periods of reduced occupancy, but these ventilation requirements were needed to ensure that transmission of the virus was limited – e.g. schools/care homes etc.

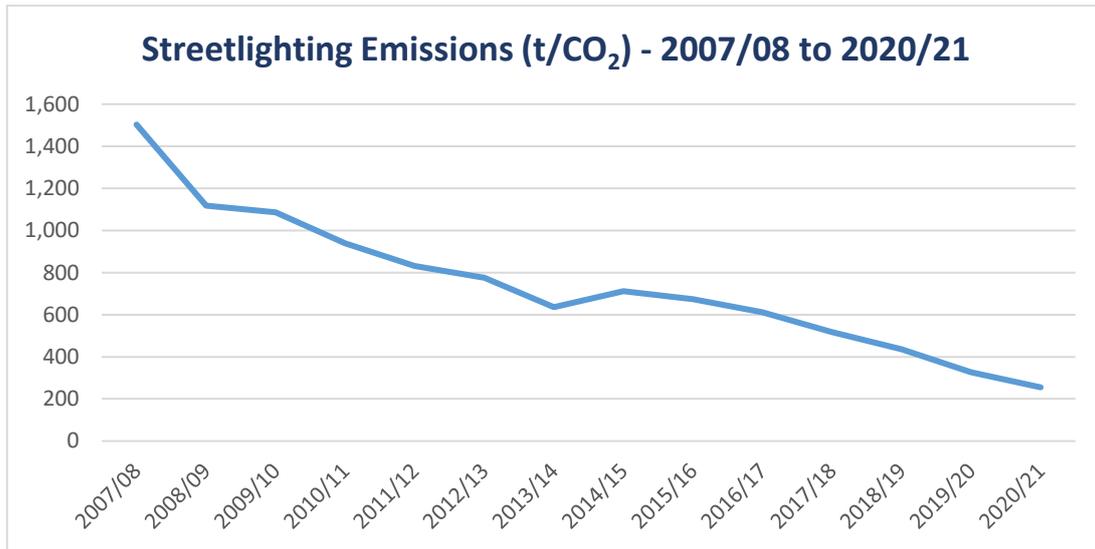


Carbon Management Plan 2017/18 to 2022/23

Year 3 Annual Review

4.2 Streetlighting

Electricity used to provide streetlighting on roads adopted and maintained by the Council, as well as lit signs and bollards during 2020/21 equated to 1,005,790 kWh. The resulting emissions were 255 tonnes of CO₂, which equates to 4% of the Council's overall carbon footprint during 2020/21

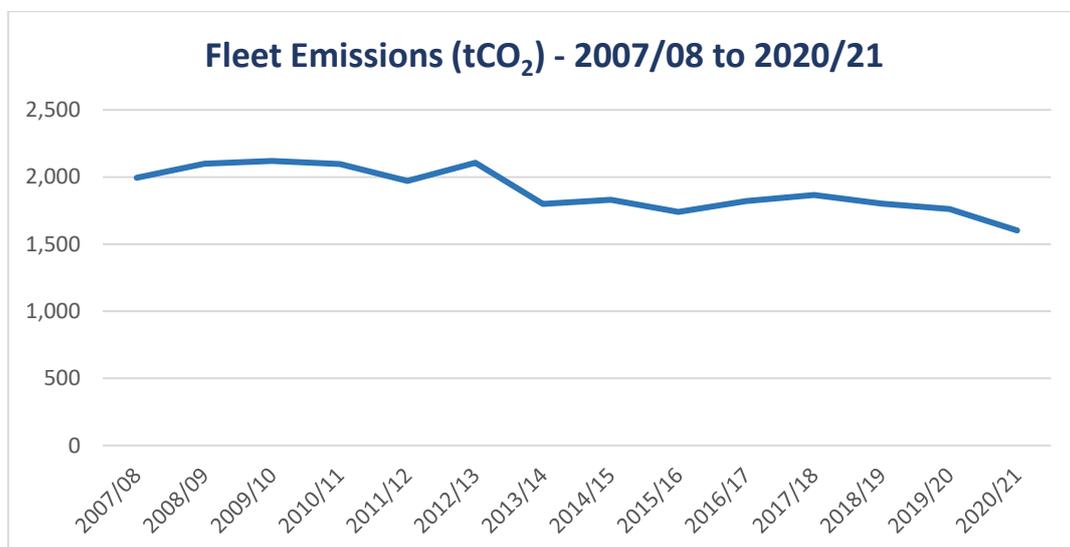


During 2020/21, streetlighting emissions were reduced by a further 71 t/CO₂, equivalent to 9.08% when compared to the previous year. This reduction is mostly due to an ongoing streetlighting scheme, looking at replacement of old inefficient lanterns with more modern LED units.

Streetlighting emissions have reduced by 83.03% since 2007/08.

4.3 Fleet

Fuel consumed by the Council's fleet contributed 26% of the total operational carbon emissions during the 2020/21 financial year.





Carbon Management Plan 2017/18 to 2022/23

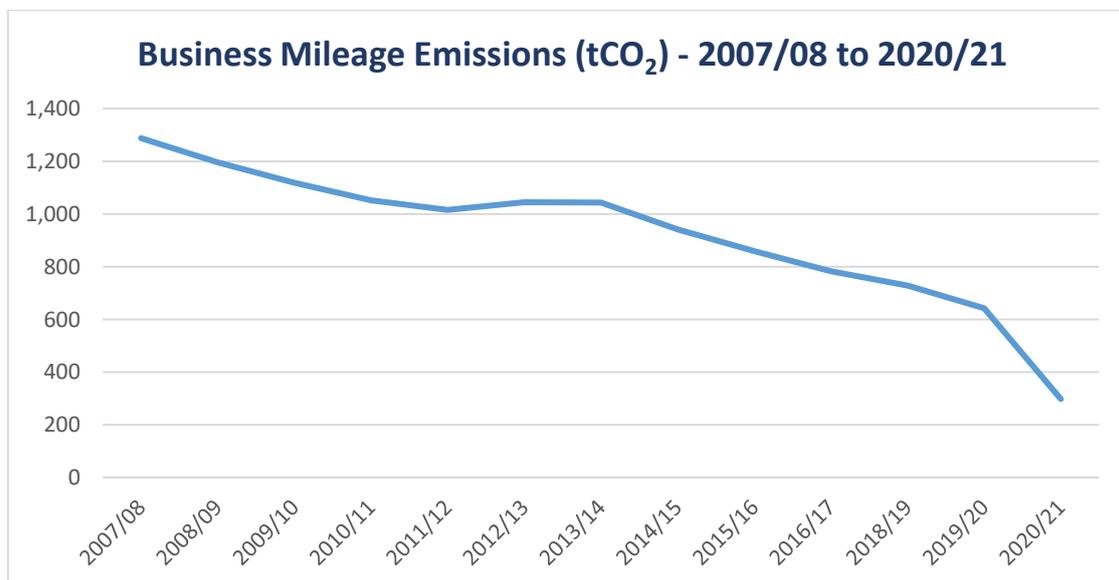
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Fleet emissions during 2020/21 decreased by 160 t/CO₂, equivalent to a 9.08% reduction when compared to the previous year. The current pandemic will have had a small effect on emissions, however not to the levels seen in other areas. Much of the services and operations undertaken by the fleet (e.g. refuse collections) continued throughout the pandemic and although some services were temporarily reduced/suspended during the lockdown periods, additional services were introduced such as PPE deliveries and deliveries of food parcels.

4.4 Business Mileage

Business travel is the use of private vehicles by Council staff to undertake their duties. During 2020/21 Council employees travelled 662,695 business miles, a reduction of over 1.6 million miles on the previous year – business mileage this year accounts for just 2.9% of the Council's total emissions. This area has seen the biggest reduction in both emissions and cost across the operational portfolio.

The Pandemic has altered the way that we work, with a large proportion of the workforce working remotely. On the whole this has worked well, with meetings now being held mostly via online platforms, reducing the need for travel. It can also be argued that staff are now more productive, as work time isn't being lost travelling between meeting locations. This new way of working has had a positive effect on the Authority's emissions, as well as also providing a significant cost saving in the region of £730,000 during the 2020/21 financial year.



Business mileage emissions were reduced significantly by 462 t/CO₂ in 2020/21, when compared with the previous year – a 71.96% year on year reduction.



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5. Revenue Costs

Energy usage from stationary sources, which include buildings, streetlighting, signs and bollards was 20,782,380 kWh during 2020/21, which is a 3,559,866 kWh reduction on the previous year – a 14.62% reduction.

Although overall spend on energy decreased during 2020/21, we have seen year on year increases in the utility and fuel prices during the initial years of this Plan. Contract prices are likely to rise further in future years, however the way that we procure energy should mean that we limit the large record-breaking price increases we are currently seeing.

These significant utility and fuel price increases, further highlight the need for and importance of energy efficiency and sustainability. Reducing energy consumption and our reliance on fossil fuels will not only have environmental benefit, but will also help to reduce pressure on budgets going forward.

In 2020/21 total cost of energy and fuel reported within the scope of this Plan was £2,415,610. Ceredigion County Council spent £1,322,919 less on energy in 2020/21 than they did in the previous financial year (2019/20) – this equates to a 35.39% spend reduction.

6. Conclusion

Carbon Management continues to be one of the Council's priorities and it has been committed to meeting and exceeding the reduction target set out within this Carbon Management Plan, as it did with the two previous plans.

In response to the current climate crisis and in recognition that we need to go further, on the 5th March 2020, Ceredigion County Council declared a global climate emergency, making a commitment to meeting the most significant challenge facing our county and our planet. Along with this, Ceredigion will work towards becoming a net-zero carbon local authority by 2030 and a Net-Zero Action Plan has been produced, looking at how we are going to reach this ambitious target.

Ceredigion County Council has been successful in reducing operational energy usage and emissions since 2007/08, when the initial baseline for the first Carbon Management Plan was calculated. Since then, Ceredigion has reduced operational emissions by 9,659 tonnes of CO₂, equivalent to a 61% reduction.

In 2020/21, year on year emission reductions were significant at 19.35%, whilst it is noted that a large proportion of these saving was related to the current COVID pandemic and the new way in which we are currently working, we must ensure that as much as possible of these savings are maintained going forward, else it is likely we may see an increase in operational emissions for the 2021/22 financial year. Failure to maintain these savings could be seen as a missed opportunity, especially as on the whole services are operating very well while staff continue to work remotely. Technology has also played a large part in this, with meeting now being held via online platforms, reducing the need to travel between locations.



Carbon Management Plan 2017/18 to 2022/23

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During the remaining years of this Plan it is intended to further review the projects included within the Carbon Management Plan, in order to implement emission reduction and energy generation schemes that will further contribute to both the Council's Carbon Management Plan, but also the Council's Net-Zero ambition for 2030.