1. The issues

a) What are the specific performance/cost issues that the review has been set up to tackle?

The review was set up to:

(i) Understand the effectiveness of the current Carbon Reduction Plan by reviewing performance in this area and the cost effectiveness of measures undertaken;

(ii) Assess whether the existing objective is realistic; and,

(iii) Identify potential further carbon reduction measures that could be explored as part of the new Carbon Reduction Plan 2025-2030

b) Why do the issues matter?

The Authority is one of many organisations to have declared a "climate emergency". The Authority adopted the Carbon Reduction Plan in 2020 and has set an ambitious carbon emissions reduction objective - *"By 2030, reduce greenhouse gas emissions from our operations by at least 95% compared to 2005/06, and achieve annual carbon savings from woodland planting that we have funded of at least 30 times our residual annual emissions"*

Whilst the Authority is a small organisation in public sector terms, it is incumbent on the Authority to try to set a local and national example. The issue is also important in terms of identifying cost savings that can be made from reducing our carbon emissions.

The Government's own targets for its estate are set out here: https://assets.publishing.service.gov.uk/media/6569cb331104cf000dfa7352/net-zero-government-emissions-roadmap.pdf
The UK government aims to reduce all direct emissions from public sector buildings by 50% and 75% by 2032 and 2037 respectively, against a 2017 baseline.

2. Current performance

a) How is the service currently being delivered?

The current Carbon Reduction Plan and associated monitoring of the Authority's carbon emissions is carried out in house. The Authority does not have a dedicated Climate Change Officer but sees this role as incorporated into the day job for a number of officers, primarily the Estates Officer.

b) What are we *supposed* to be achieving (i.e. what are our current objectives, targets, standards etc)?

The current objective is set out in the Corporate Plan – Objective 35:

By 2030 reduce greenhouse gas emissions from our own operations by at least 95% compared to 2005/06 and achieve annual carbon savings from woodland planting that we have funded of at least 30 times our residual annual emissions.

c) What are we *actually* achieving?

By March 2024, the Authority had reduced carbon emissions from our own operations by 74% compared to 2005/06. Since adopting the current Carbon Reduction Plan in March 2020, emissions have been reduced from 265 tCO2e to 169t CO2e – a reduction of 36%. The following actions set out in the Carbon Reduction Plan have been completed to help achieve this reduction -

(i) Premises

This has been the most significant area of activity. The Authority has reduced emissions from our premises by:

- Installing PV panels at Yoredale, Aysgarth National Park Centre, Colvend, the Dales Countryside Museum and Malham National Park Centre.
- Air source heat pumps have replaced existing heating systems at three National Park Centres (Grassington, Aysgarth and Malham).
- A wholesale replacement of our lighting with LED lighting has been completed.
- Some further work has also been undertaken to insulate our premises at Colvend and at the National Park Centres. Our leased premises at Orton have been double glazed. The IT server room at Yoredale has also seen the replacement of the air conditioning system with one that reduces power consumption.

(ii) Switching to a "green" electricity supplier

The Authority's current electricity contract runs until March 2027. The Authority is not currently signed up to a Renewable Energy Guarantees of Origin (REGO) tariff, which provides transparency to consumers about the proportion of electricity that suppliers source from renewable energy. Our current electricity supplier offers a renewable energy solution with 100% renewable energy generated in the UK from wind or solar.

(iii) Travel

The Authority has installed 8 dual electric vehicle charging points (16 sockets) at our premises in preparation for switching most of the Authority's fleet to electric vehicles in April 2025. A further 6 dual electric charging points (12 sockets) have been installed for public use in our car parks. This is in addition to the 10 dual electric charging points (20 sockets) we have already installed in our car parks for public use, making a total of 16 dual electric charging points (32 sockets) available for the public to charge their vehicles in our car parks.

The Authority has been working to reduce petrol/diesel for business use by encouraging car sharing and strengthening relevant travel policies. For all journeys between Grassington/Colvend, Bainbridge/Yoredale and Hawes/DCM staff are expected to car share unless there is an overriding business reason why this is not possible.

(iv) "…and achieve annual carbon savings from woodland planting that we have funded of at least 30 times our residual annual emissions."

In 2024 we achieved annual carbon savings from woodland planting of 4 times our annual emissions. If the Authority did nothing further between now and 2030 (i.e. no further reduction in our emissions and no further funding of woodland/trees), it would still be storing 8 times our residual annual emissions.

d) How much is it costing?

Please see **Appendix 1** for further details of the cost of implementing carbon reduction measures and the cost savings achieved through implementing these measures.

3. The evaluation

a) How does our performance compare to other bodies (NPAs and/or other bodies providing the same type of service)?

The table below shows the Authority's performance compared to other NPAs. The indicator is collected every 3 years and is % reduction over that 3-year period. The last figures were collected in 2022-23:

% change in annual greenhouse gas emissions from National Park Authority operations		
1	Yorkshire Dales	-28.4%
2	Lake District	-27.0%
3	North York Moors	-13.0%
4	Northumberland	-3.3%
5	Dartmoor	data not available
5	New Forest	data not available
5	South Downs	data not available
5	Peak District	data not available

The Authority's total greenhouse gas emissions are lower than any other NPA except Northumberland (which is half our organisational size).

b) Are the current objectives realistic given the current priority of the programme and any funding decisions already taken?

The Corporate Plan objective is extremely ambitious and is likely to be difficult to achieve. A 95% reduction in emissions would require emissions to be no more than 33 tCO_2e in 2030/31.

When the Authority switches to a primarily electric vehicle fleet next year, it is estimated that this will reduce greenhouse gas emissions by a further 7 percentage points (assuming there is no increase in carbon emissions in other areas). This would take the Authority to 81% by the end of 2025/26. This is less than the anticipated milestone of 85% by 2025 identified in 2020. A switch to REGO could

push the Authority's reduction in carbon emissions to nearer 90% and therefore ought to be considered. Nevertheless, the current target of 95% would still appear to be challenging.

To reach the objective of 30 times our emissions, the Authority would need to get carbon emissions down to no more than 44 tonnes CO_2e, roughly a quarter of current levels, and 93% lower than in 2005. Achieving the woodland planting element of the target is linked to meeting the reduction target. Further detail regarding this part of the objective can be found in **Appendix 2**.

c) Are there any other options (e.g. ending the service, reducing quality etc)?

Whilst there is an option to "do nothing" that would not be in keeping with the Authority's ambition and therefore the Authority could:

(i) Explore further carbon reduction measures including the installation of further PV panels at other premises and also the use of solar batteries. It is also hoped that in the future, an electric vehicle alternative to the Land Rover will become available. If it switches to a REGO tariff, the Authority would still be required to report location-based grid average emissions through a Dual Reporting Approach to adhere to standards. The Authority could also explore what other electricity providers are able to offer.

(ii) Consider clarifying that the Corporate Plan objective relates to only Scope 1 and Scope 2 emissions[1] and be specific about the Scope 3 emissions which are included (these are business mileage for Members and officers using their own vehicles, volunteers' mileage, rail and air travel, water supply and water treatment). If Defra's reporting requirements change and the Authority has to start including other Scope 3 emissions such as homeworking and employee commuting, then that would make it much harder to achieve our objective and a change to the objective is likely to be required.

[1] Emissions are classified into three "Scopes" in line with current standard reporting practice.
Scope 1 comprises direct emissions produced by the burning of fuels by the Authority (i.e. the fuel used to heat premises and run the vehicle fleet).
Scope 2 comprises indirect emissions generated by the electricity used and purchased from the national grid.
Scope 3 comprises indirect emissions arising from business activity using assets the Authority does not own (e.g. business travel in private vehicles or by public transport).

4. Future action

a) Recommended action plan

The Authority will be presented with a new Carbon Reduction Plan for 2025-2030 at March Authority for adoption. This will include potential further carbon reduction measures that could be implemented.

Members will also be asked to consider whether the Corporate Plan objective should be changed.

b) Future funding/resourcing implications

Grant funding may be available for the installation of additional PV panels at other Authority premises which have been identified as potentially suitable.

c) Timetable for implementation

The new Carbon Reduction Plan will be implemented between 2025-2030.

5. Conclusion

(i) The current Carbon Reduction Plan has been effective in enabling the Authority to reduce its carbon emissions and to make cost savings despite the huge increase in the cost of electricity. This achievement should be celebrated.

(ii) The existing Corporate Plan objective requires further consideration in light of the findings of this review.

(iii) Further carbon reduction measures have been identified that could be explored as part of the new Carbon Reduction Plan 2025-2030.

30 October 2024

Carbon Reduction Plan Review Costings **Appendix 1**

(i) Cost of interventions

Intervention	Sites	Cost
Solar PV panels	Colvend & Yoredale offices, Aysgarth & Malham Visitor Centres and the Dales Museum	£71,682
LED lighting upgrades	All sites	£24,350
Air source heat pumps	Aysgarth Visitor Centre and Malham Visitor Centre	£50,234
Further insulation	Colvend office and Grassington National Park Centre	£1,500
Double glazing	Orton office (leased property)	£2,855
IT server room replacement of the air conditioning system	Yoredale office	£3,296
Total		**£153,917**

Of this total, £133,500 was through the Public Sector Decarbonisation scheme grant. Therefore, only £20,417 of YDNPA reserves were used.

(ii) Electricity use change – all properties

Scope 2 - Indirect emissions from energy – Electricity	2019-2020	2023-24	Reduction
Total KgCO2e	93,454	53,239	40,215
Total kwh	365,627	257,100	108,527

Cost savings

Given the huge increase in the cost of electricity, our bills have actually increased significantly over this period, from £57k per annum in 2019-2020 to £141k per annum in 2023-2024.

However, had we not implemented any carbon saving measures, our bill in 2023-2024 would have been £46k per year more.

Based on 2023–2024 energy costs, this £153,917 initial investment has a payback period of 3.3 years. If we take into account that the Authority obtained a grant for £133,500 of that initial investment, our outlay of £20,417 has been paid back in 6 months.

(iii) Breakdown by site

	2019-2020		
	kwh	**kg CO2e**	**£**
Aysgarth NPC	38,890	9940	6,672.43
Aysgarth Toilets	4,431	1133	579.54
Bruntacres	2,053	525	374.04
Buckden Toilets	4,037	1032	748.21
Clapham Toilets	7,077	1809	1,029.35
Colvend	35,041	8956	5,427.75
Colvend Cottage	1,351	345	304.10
Colvend Potting shed	693	177	370.18
Dales Museum	83,409	21319	12,421.54
Grassington NPC	12,679	3241	1,925.32
Grassington Toilets	3,971	1015	627.08
Horton Toilets	5,097	1303	909.65
Kettlewell Toilets	34	9	4.05
Linton Toilets	3,166	809	516.55
Malham NPC	10,562	2700	1,573.47
Orton	13,872	3546	2,104.34
Stainforth Toilets	2,354	602	511.76
Stonedykes	26,120	6676	4,381.58
Tebay - closed Jan 2024	13,536	3460	2,199.03
Weighbridge Hut (Dales Museum)	1,675	428	327.95
Yoredale	97,586	24943	13,977.81
Totals	**367,634**	**93,967**	**56,985.73**

ghg conversion factor	0.2556		
	2023-2024		
	kwh	kg CO2e	£
Aysgarth NPC	37,510	7,767.35	16,331.26
Aysgarth Toilets	2,715	562.21	1,937.78
Bruntacres	1,448	299.84	692.55
Buckden Toilets	3,602	745.88	1,875.21
Clapham Toilets	5,736	1,187.78	2,667.41
Colvend	26,829	5,555.59	13,116.89
Colvend Cottage	499	103.33	216.44
Colvend Potting shed	5,314	1,100.39	2,014.14
Dales Museum	51,594	10,683.78	22,796.23
Grassington NPC	7,589	1,571.48	3,540.58
Grassington Toilets	4,138	856.87	2,090.93
Horton Toilets	8,400	1,739.42	3,576.57
Kettlewell Toilets	11,892	2,462.52	3,589.84
Linton Toilets	7,232	1,497.56	3,089.02
Malham NPC	32,450	6,719.55	12,801.83
Orton	10,337	2,140.52	4,023.53
Stainforth Toilets	3,701	766.38	2,652.62
Stonedykes	18,945	3,923.02	7,920.55
Tebay - closed Jan 2024	10,870	2,250.89	4,753.07
Weighbridge hut (Dales Museum)	8,250	1,708.36	3,420.46
Yoredale	64,652	13,387.75	27,407.78
Totals	**323,703**	**67,030**	**140,514.69**

ghg conversion factor	0.207074

The discrepancy between the DEFRA reported kgCO2e and figures above in 2023-2024 is due to the kwh usage of our public vehicle chargers, which are deducted for DEFRA reporting.

Carbon Reduction - Woodland Creation **Appendix 2**

Background

As part of efforts to enhance the natural beauty and wildlife of the National Park, and reduce greenhouse gas emissions, the Authority has provided significant amounts of funding to support woodland creation in the National Park since 2005.

It should be stressed that none of this activity can be counted as 'formal' offsetting for our own emissions. Initially, formal off-setting was only possible via investment in woodland creation overseas (clearly ridiculous for a NPA). Latterly, investment in the UK has become possible but – again – can only formally be counted where either the trees are planted on land the Authority owns (of which we have almost none), or by buying credits from an accredited scheme (i.e. that has already been planted). Given the public benefit imperative to support *new* woodland – and only within this National Park – none of these options looked like a good use of public money.

As a solution to this accounting issue, the English NPAs collectively agreed an approach in 2011 to calculate equivalent 'carbon reductions' from their own activities and investment within the National Park, on the basis that it is entirely valid to show our "equivalent" contribution to *de facto* offsetting our own emissions.

Offsetting calculations

The figures for the carbon-equivalent savings generated by our own direct funding of woodland creation in the National Park were recalibrated in 2020, using more detailed 'Woodland Carbon Code' calculations for three typical Dales woodlands. The result of this more rigorous approach was to reduce our historical 'off-setting' figures compared with those previously reported. However, it did not alter the fact that the amount of carbon being taken from the atmosphere each year by trees directly funded by the Authority already exceeded the emissions from our operations. Although we cannot claim to be a 'carbon neutral' organisation, that is still a significant achievement in reality.

Progress since 2020

Since 2020, the Authority has been successful in securing significant amounts of external funding to support woodland creation. As a result, there has been very little direct funding by the Authority itself. Nonetheless, the overall carbon balance has continued to improve as the first woodlands planted have started to reach maturity (the point at which trees significantly increase their sequestration rate).

In 2023/24, the carbon being sequestered by trees directly funded by the Authority was 4 times our emissions. Even with no further tree planting, and no further reductions in our emissions, it will still be 8 times our emissions by 2030. However, in order to reach the Carbon Reduction Plan target of 30 times our emissions, we would need to reduce our emissions to no more than 44 tonnes CO_2e - roughly a quarter of current levels, and 93% lower than in 2005.

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