



North York Moors
National Park

North York Moors National Park Authority Decarbonisation Plan 2023-2030

Introduction

What does carbon neutrality mean?

- The North York Moors National Park NPA Strategy and Business Plan 2022 – 27 set a target of reaching net zero greenhouse gas emissions by 2030 with an interim target of a 75% reduction in Scope 1 and 2 emissions by 2027.
- A net zero means organisation is one that is no longer emitting any greenhouse gas equivalent emissions.
- Defra has committed to achieve a science-based target of 42% reduction in scope 1 and 2 emissions by 2033 from a 2019/20 (pre-Covid) baseline.
- The UK Government ambition is for carbon neutrality across the entire UK public sector, i.e., some public sector organisations may be able to achieve negative emissions, to balance out unavoidable emissions in other organisations.

What is a Decarbonisation Plan?

- The purpose of a Decarbonisation Plan is to describe how the NPA intends to replace fossil fuel reliant systems with low carbon alternatives (e.g., Electric Vehicles, low-carbon energy generation).
- To meet the challenge of net zero, the NPA will need to decarbonise its buildings and transport over the next 7 years.
- The plan describes the current state of the NPA's energy use and its plans for reducing and/or decarbonising its energy use.
- The plan outlines what the NPA has already done, what it is currently doing, what it plans to do in the future.
- The plan explains what actions are going to be taken, over what timescales, and the intended outcomes.

Scope of the Decarbonisation Plan

- The Plan is predominantly concerned with emissions that are in our direct control (Scope 1 and 2), i.e., the NPA's transport fleet or how we heat our buildings, as well as the services that the NPA provides.
- We recognise that some elements of our emissions are not solely in our direct control and/or will require additional support to achieve, e.g., the availability of low carbon technology, decarbonisation of the power grid and downstream supplier emissions. We will seek to collaborate with partners, procure responsibly, advocate for action in these areas or influence positive behaviour where it is right to do so.
- The NPA is working closely with wider the National Park family, Defra and our regional partners to ensure knowledge and best practice is shared on approaches to decarbonisation.

Carbon Reduction Pathways

Sources of emissions have been broken down into the following 8 pathways:

Decarbonisation Pathway	What does this cover?	Current % of NPA Emissions (FY 22/23)
Electricity	<p>The electricity grid is becoming increasingly green as a variety of forms of renewable power are installed across the UK leading to gradual decarbonisation of the grid under a business as usual scenario. Low carbon electricity will also play a key area in decarbonising other areas such as heating and transport, placing pressure on supply.</p> <p>The NPA purchases its electricity through a 'Green Energy' contract to enable it to use low carbon electricity sources but there is potential to further improve energy efficiency and use throughout NPA buildings. There is also likely to be small-scale generation opportunities at some NPA sites.</p>	0% (Scope 2: all electricity is currently purchased through an accredited green tariff)
Heat	<p>Decarbonising space and water heating (and cooling) in NPA buildings means moving away from the standardised gas grid and off-grid oil. The NPA has already made good progress through the replacement of kerosene boilers with low-carbon systems at its most emissions-intensive sites. It has also sold one former office building that used the gas grid.</p> <p>Thermal efficiency will also need to improve, to reduce unnecessary heat loss as well considering appropriate cooling strategies.</p>	39% (Scope 1)
Transport	<p>Direct transport includes all work-related travel by NPA employees, whether in its fleet use, employees own, vehicles or by public transport.</p>	61% (Scope 1) 7% (Scope 3)
Waste	<p>This pathway focuses on waste from NPA operational sites. Emissions from waste come from collection, treatment, disposal and material recovery and it is one of the hardest sectors to decarbonise with the waste sector not expected to achieve full decarbonisation by 2050 unless some form of GHG removals (offsetting).</p> <p>The NPA can reduce emissions from waste by reducing the volume and type of waste.</p>	Currently unavailable (Scope 3)

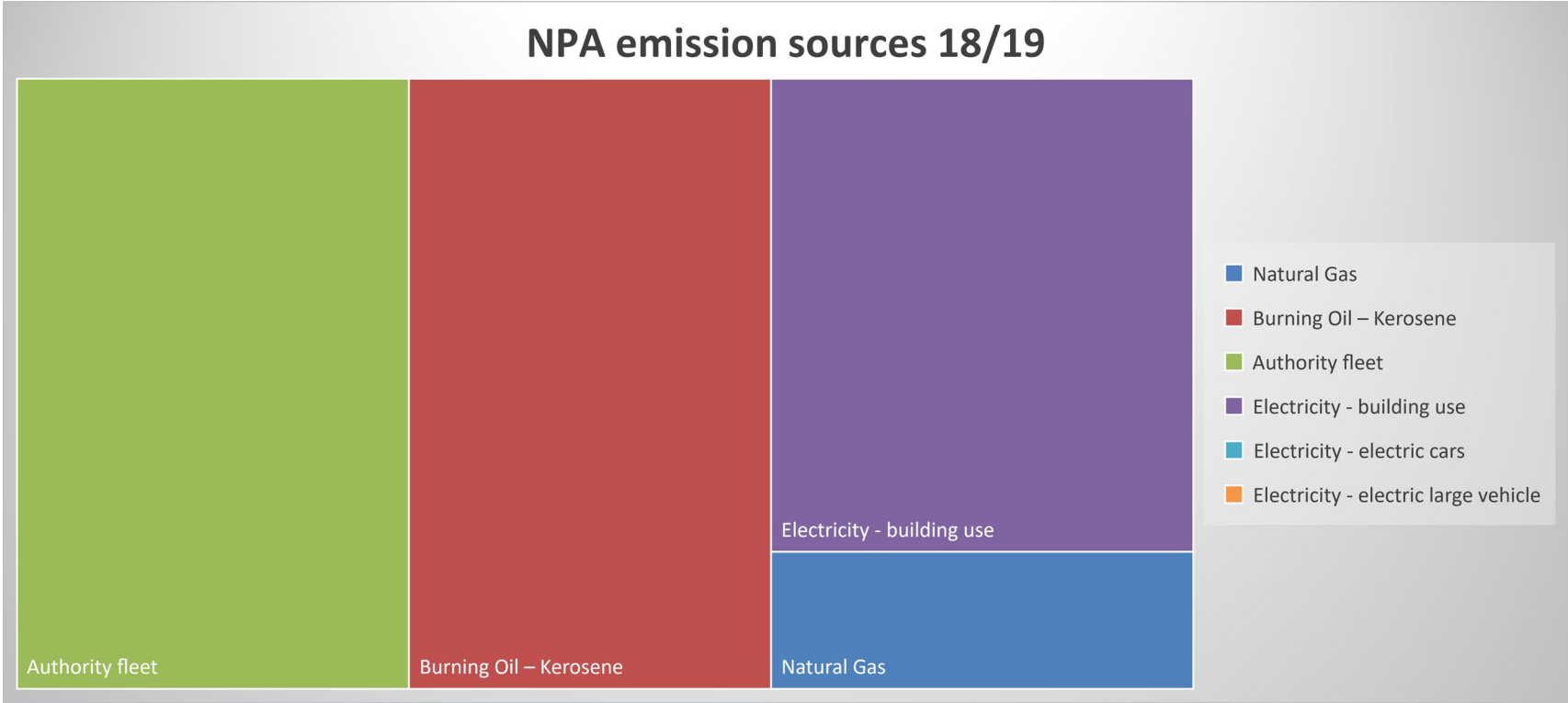
Water	The treatment and distribution of water used by the NPA is energy intensive, the decarbonisation of these emissions is the responsibility of the utility provider. Water companies in England have committed to achieving Net Zero operational emissions by 2030. The NPA can directly reduce emissions from water by using less and investing in more efficient water systems at its sites (grey water etc).	2% (Scope 3)
Material Use	Emissions are created in the production, packaging, transport and processing (use) of various material the NPA uses in daily operations (paper, plastics, chemicals) as well as in capital activities that are part of NPA projects. These types of downstream emissions are harder to avoid and rely on emission reductions beyond the NPA organisational boundary. The NPA can attempt to reduce material use to limit emissions and ensure that it is considering the emissions implications during the procurement process as well as tracking its impact where unavoidable.	Currently unavailable (Scope 3)
Working from Home	The NPA stipulates that office-based employees should spend approximately 50% of their contracted hours working from home unless the nature of their work requires otherwise. Increased collaboration through digital means can significantly reduce the emissions associate with travelling to a single physical location. Working from home does produce some downstream emissions are associated with home working where employees use heating and lighting of their own homes that might have not been used. The NPA can do little to affect these emissions but can track them using nationally aggregated conversion factors.	<1% (Scope 3)
Natural Environment	As a landowner, the NPA is responsible for carbon stocks sequestered in its estate. There is also the potential to enhance these areas to increase the levels of carbon uptake through more planting or land management changes. The natural environment plays an important role in decarbonisation, removing emissions from the atmosphere, these negative emissions can help to achieve carbon neutrality. Currently the NPA is not considering any in-setting of its emissions as it has a credible pathway to net zero Scope 1 and 2 emissions. Generally, off-setting/in-setting should be the option of last-resort.	(N/A)

Summary of current emissions

NYMNPA Emissions tCO₂e	18/19	19/20	20/21	21/22	22/23
Scope 1					
Natural Gas	22	23	20	30	23
Burning Oil - Kerosene	84	97	92	93	29
Authority Fleet	93	92	59	101	80
<i>Total Scope 1</i>	<i>199</i>	<i>212</i>	<i>172</i>	<i>224</i>	<i>131</i>
Scope 2					
Electricity - Building Use	76	76	54	45	51
Electricity - Electric Cars	0	0	0	2	0
Electricity - Electric Vans	0	0	0	0	0
<i>Total Scope 2</i>	<i>76</i>	<i>76</i>	<i>54</i>	<i>46</i>	<i>51</i>
Scope 3					
Staff Business Travel - Staff	19	17	14	13	10
Water	8	7	4	2	2
<i>Total Scope 3</i>	<i>27</i>	<i>24</i>	<i>18</i>	<i>15</i>	<i>12</i>
Total annual gross emissions (tCO₂e/year)	302	312	244	285	195
Total annual scope 1 and 2 gross emissions (tCO₂e/year)	275	288	226	270	183
Purchased Green Tariff	0	0	19	47	51
Total annual net emissions (tCO₂e/year)	302	312	225	238	144

Total annual scope 1 and 2 net emissions (tCO2e/year)	275	288	207	223	131
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As illustrated in the graph below, most emissions relate to burning oil and fleet emissions (Scope 1), followed by electric use (Scope 2) at NPA buildings.



Action Plan

1. Electricity – NPA Buildings

Electric use emissions are associated with the generation, and transmission and distribution of electricity. The UK grid is decarbonising as conventional power generation from coal and gas is replaced by low-carbon generation (e.g., from renewables and nuclear).

In December 2020 the NPA took the decision to change its electricity supply contract to a 'green tariff' for all its purchased electricity. This is currently supplied under the SSE Green – 100% renewable energy package that comes with a zero-emission rating stating 100% of electricity being provided is backed by Renewable Electricity Guarantee of Origin's (REGO's). The consumption used is matched with an equivalent volume of renewable electricity generated from large scale wind and hydro sources and exported onto the National Grid. The NPA utilises a dual reporting method for electrical emission. This means it reports gross emission as well a 'market-based' or 'net' reporting method under the GHG Protocol Corporate Standard. This enables any electricity purchased that can be matched to REGOs, can be reported as zero emissions for 'Scope 2' purchased electricity.

As the NPA consolidates its main operational sites (closure of Beaconsfield), usage figures will naturally reduce, however the electrification of heating and the fleet will cause this electricity consumption to increase by 2030. Some emission reductions from electricity use can be made through energy efficiency measures, including lighting, the type and usage of electrical appliances and IT equipment, energy monitoring (smart meter roll-out). There may also be options for electricity generation at some NPA-owned sites.

Reduction ceiling: 100%

Year	tCO2e	Total Percentage +/-
18/19 Baseline	76	-
19/20	76	0
20/21	54	-29%
21/22	45	-16.7%
22/23	51	+13%

	Objective	Action	Measure	Target	RAGB	Outcome	Responsible area	Investment cost
1.1	Complete LED retrofit plan	<p>Ensure LED roll out is complete SB public toilets.</p> <p>Ensure Dark skies compliance is met all NPA sites.</p> <p>Ensure appropriate use of lighting sensors where not currently in place.</p>	All retained NPA sites have full LED lighting and sensors and are Dark Skies compliant.	2027	In progress		W&R (LSJ) CS (IAN)	Maintenance budget
Progress Update								
1.2	Switch to Automate Meter Readings (AMR)	Instruct supplier to roll out of SMART meters at all NPA sites	SMART metering fully rolled out	2024	In Progress		W&R (LSJ)	No cost
Progress Update: <ul style="list-style-type: none"> • Electricity contract to renewed in 30/9/25. (October '23) • Installation of SMART meters was originally scheduled for completion Autumn 2023, significant delays due to supplier issues. (October '23) 								

1.3	Reduce energy use and lifespan of all procured IT equipment	Ensure energy efficiency, projected lifespan and repairability is considered in tech spec when procuring new IT equipment.	IT procurement guidance updated/adopted to include: <ul style="list-style-type: none"> 1. Renew IT min of 5 years instead of 4 years. 2. Make energy efficiency a requirement for any new procurements/RFQ's. 3. Consider upgradeability in all new IT procurement. 	2024	In Progress		CS (SB)	IT Budget
<p>Progress Update</p> <p>New policy to be factored into laptop refresh cycle. (October '23)</p>								
1.4	Introduce policy for mandatory limit of IT equipment assigned to officers.	Adopt a 2-item limit (laptop and optional mobile), unless special business case requires it. Replacement of 2 monitor systems with	Policy agreed by Members	2024	In Progress		CS (SB)	No cost

		single 32" at next refresh (SB to research) Additional screens for home use exempt Review Mobile phone use.						
<p>Progress Update</p> <ul style="list-style-type: none"> IT item limit to be adopted in 2024, Mobile review scheduled for 2024. 								
1.5	Reduce on-site IT back-office footprint	Consider on site server infrastructure requirements in HQ redesign. Look into more cloud-based infrastructure to reduce need for onsite kit.	Reduced hardware requirements in new build.	2026	Not started		CS(SB)	IT Budget for ongoing costs. Some capital costs will be incorporated in HQ build.
<p>Progress Update</p>								

To be planned into new build. (October '23)								
1.6	Consider opportunities for renewable energy generation (VCs, toilets, depots etc)	<p>Include solar review at each site as part of refurb cycle.</p> <p>Scope out feasibility for electricity generation at VC's. Target new HQ and depot to be carbon neutral with electricity generation capacity at new site.</p> <p>Produce business base for generation roll-out.</p>	Business case produced and deployed where it is cost effective to do so.	<p>Business Case 2024</p> <p>Deployment 2024></p>	Not started		CS(LSJ) CC(TS)	<p>Maintenance budget</p> <p>Capital costs of new HQ build</p> <p>External funding</p>
Progress Update								
1.7	Review procurement policy on the energy	Ensure all newly procured white goods have the	Policy in place and operational.	2023	In progress		CS (IAN,LSJ)	Additional 10%-20% on purchase prices

	efficiency of white goods, ensuring it is prioritised when units are replaced.	highest energy efficiency rating available. Replace inefficient items at end of life and/or as part of refresh cycles (e.g. toilet refurb)						
<p>Progress Update</p> <ul style="list-style-type: none"> • IAN to brief all staff responsible for procurement of new policy. (October '23) • Review state of hand dryers. (October '23) 								

4. Heating

Emissions from heating are associated with burning fossil fuels for space and water heating in its buildings,

In 22/23 the NPA fitted a combination of air source and ground source heat pumps at NPA visitor centres replacing energy intensive kerosene boilers. The closure and sale of Beaconsfield removed a second gas-fired boiler from the Authority estate. Two remaining gas-fired boilers are location at HQ and Sawmill Lane.

As with electricity usage, a reduction in the number of operational sites will see usage figures fall. The NPA should mandate electric heating for all new-builds with high energy performance. For existing buildings, where possible a fabric first approach should be taken and retrofit actions should be performed to reduce heat loss and drafts before electrification.

Reduction ceiling: 100%

Year	tCO2e	Total Percentage +/-
18/19 Baseline	84	-
19/20	97	+15.5%
20/21	92	-5.2%
21/22	93	+1.1%
22/23	29	-69%

	Objective	Action	Measure	Target	RAGB	Outcome	Responsible area	Investment cost
2.1	Decommission remaining fossil fuel	New HQ designed around low carbon	Decommissioning of gas units at OV, SML.	<2026	Not started		CS(IAN)	New build capital costs

	heating sources.	heating/cooling system (type TBD)	Installation of low-carbon solution in new HQ.					
Progress Update								
2.2	Sutton Bank building fabric improvements and heat management	Install additional internal wall and ceiling insulation at site, investigate improvements to entrance/exits heat loss. Building Management System for improved heat utilisation	Costed, shovel-ready project for insulation improvements for at SB: building fabric.	2026	Not started		HW(LSJ)	Maintenance budget Look into external funding options.
Progress Update								
2.3	Replacement of any Scope 1 emissions as part of tenancies (catering)	Investigate replacement of LPG powered stoves with electric powered alternatives	Installation of induction catering appliances at catering sites.	2026	Not started		HW(LSJ)	TBC
Progress Update								

Contract scheduled for review 2025 when contract expires (October '23)

2.4	Danby Lodge building fabric improvements	Assess current loft insulation at Danby Lodge.	Add additional insulation if required	2029	Not started		HW(LSJ)	TBC
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Progress Update

5. Transport

The NPA operates a fleet of 33 vehicles which deliver the core business needs, project delivery, ranger and maintenance services, volunteer transportation and parking services. Most vehicles are diesel or petrol powered, with 3 electric vehicles (EV) used by the parking services team. The common decarbonisation pathway for transport is electrification, which will make up the large proportion of new fleet vehicles as old stock is replaced. The current market for low-carbon heavy towing vehicles is in its infancy therefore NPA operated 4x4's or minibuses may be some of the last things to decarbonise requiring a degree of off-setting/in-setting in the medium term.

Emissions from staff travel for business use is beyond the direct control of the NPA. It is assumed a gradual reduction in combustion engine vehicles will occur as staff replace their personal vehicles with EV (or zero emission alternative) vehicles following market trends and driven by government targets for phase-out.

Emissions for staff commuting is currently outside the scope of this plan and will likely follow the pace and nature of the national transition away from combustion engine personal vehicles.

The NPA should look at what provision it can make for staff to encourage uptake in EV usage including charging facilities that will lead to a reduction in emission for both staff business mileage and commuting.

The NPA could also look at how it can encourage more active travel, non-car low carbon transport (E-bikes) and car sharing.

Reduction Ceiling: 100% Scope 1, 40%-100% Scope 2 depending on private EV uptake.

Year	tCO2e	Total Percentage +/-
18/19 Baseline	93	-
19/20	92	-1.1%
20/21	59	-36%
21/22	101	+71%
22/23	80	-21%

	Objective	Action	Measure	Target	RAGB	Outcome	Responsible area	Investment cost
3.1	Improve resource efficiency/utilisation of fleet	Review size and use of fleet to ensure adequate utilisation of existing vehicles. Undertake internal review and report to SLT.	Established limits on vehicles purchases limits. Improved utilisation of existing vehicles.	Review conducted by 2024.	Not Started		CS(IAN) CC(TS)	No cost
Progress Update:								
3.2	Transition light/medium fleet vehicles to EV.	Extend operational life of corporate fleet till 2026 whereby new corporate fleet will be replaced with EV units. Any vehicles required in interim should be leased and EV if possible.	All light/medium vehicles out of service by 2026 and replaced with EV.	2026	In progress		CS(IAN) CC(TS)	Capital reserve budget for vehicle replacement
Progress Update								

Parking attendant vehicles replaced with EV in 2021.								
3.3	Transition heavy fleet vehicles to EV.	Extend operational life of corporate fleet till 2030 whereby new ranger/project fleet will be replaced with EV units zero-emission alternative. Any vehicles required in interim should be leased and EV if possible.	All heavy vehicles out of service by 2030 and replaced with EV or zero-emission alternative.	Identify suitable vehicle and external funding for trial use 2025. Where possible any project-leased vehicle should be EV if available. 2030 for full ranger fleet.	Not Started		CS (IAN) CC (TS)	Capital reserve budget for vehicle replacement
Progress Update								
3.4	Reduce emissions from staff commuting.	New car share initiative, identify options for software tools to assist. Encourage/enable staff uptake of active travel.	2% reduction in Scope 3 staff travel emissions	2024 review options for increased sustainable travel uptake	In progress		CS(IAN) CC(TS)	Active travel facilities as part of new build capital costs. Identify external

		<p>Provide improved active travel facilities for staff.</p> <p>Continued promotion of CycleScheme to staff.</p> <p>Provide at cost EV charging for staff to facilitate EV uptake.</p> <p>Potential for incentives</p>						funding sources.
<p>Progress Update:</p> <p>Active travel T&F group set up (October '23)</p>								

6. Waste

Waste and recycling are produced from NPA operations (office, depot and visitor centres). Currently the volume of waste is not recorded therefore the calculation of CO₂e emissions can only be derived from. Procedures to improve waste and recycling monitoring should be developed to enable better emissions monitoring or waste and the effectiveness of waste reduction initiatives.

Minimising waste should be considered in all NPA projects and incorporated into project sustainability plans.

Minimising food waste should be encouraged for all internal meetings.

Reduction Ceiling: 78%

Year	tCO ₂ e	Total Percentage +/-
18/19 Baseline	No Data	-
19/20	No Data	-
20/21	No Data	-
21/22	No Data	-
22/23	No Data	-

	Objective	Action	Measure	Target	RAGB	Outcome	Responsible area	Investment cost
4.1	Enable accurate waste monitoring capability.	Develop waste reporting for: <ul style="list-style-type: none"> Site-based waste contracts 	Improved waste reporting added to existing emission	2023 Reporting accuracy/granularity to be refined as this matures	In progress		CS(IAN)	-

		<p>(general, recycling)</p> <ul style="list-style-type: none"> • Electrical/IT waste • Food <p>Review waste disposal contracts. Select contractors who can provide better data where it is insufficient.</p> <p>Include waste reporting as a requirement part of new catering tenders</p>	reporting capability.					
<p>Progress Update</p> <ul style="list-style-type: none"> • Expanded waste usage data submitted to Defra to inform Scope 3 work. (October '23) • Review waste existing contract in 2024 (October '23) 								
4.2	Reduce waste within project-based work.	Review/implement project-based sustainability plan guidance (add to Project Management Policy/guidance)	Guidance in place and implemented in all new projects.	2023/2024	In Progress		CC(TS/MY)	-
<p>Progress Update</p> <ul style="list-style-type: none"> • Project teams briefed about requirement for sustainability plans for each project (October'23) 								

4.3	Assist our local communities with waste reduction.	Investigate recycling facilities at Sutton Bank to enable our visitors to dispose of their waste more responsibly. Investigate food waste initiative at visit centres	Expanded community waste services at Sutton Bank (subject to analysis of demand)	2024 Consult catering suppliers on what their current food waste policy is. Build this into tender	Not Started		HW(LSJ)	Maintenance budget
Progress Update								

7. Water

The NPA can directly reduce emissions from water by using less and investing in more efficient water systems at its sites (brown water etc).

Reduction Ceiling: 78% derived from UK water industry net zero target date.

Year	tCO2e	Total Percentage +/-
18/19 Baseline	8	-
19/20	7	-12.5%
20/21	4	-42.5%
21/22	2	-50%
22/23	2	-

	Objective	Action	Measure	Target	RAGB	Outcome	Responsible area	Investment cost
5.1	Reduce water usage in NPA toilet facilities	Consider water sensitive measures (inc. grey/brown-water) as part of refurb cycle	Water sensitive measure in all NPA facilities. Implement improved messaging.	<2026 (Check schedule of Maintenance Plan)	In progress Adopted into new refurb cycle		HW (LSJ) CS (IAN)	Maintenance budget
Progress Update								
5.2	Review procurement policy on the water efficiency of white goods, ensuring it is prioritised when units are replaced.	Ensure all newly procured white goods are the highest water efficiency rating available.	Policy in place and operational.	2023	In progress		CS	Site maintenance. budgets
Progress Update								
IAN to brief all staff responsible for procurement on new policy (October'23)								

8. Material Use

This relates to materials used in NPA operations and projects such as wood for rights of way maintenance, plastic tubes for woodland planting, concrete, metal and glass for construction. The NPA can directly reduce emissions from its materials use through using less or, if possible, sourcing less carbon intensive materials. Indirect emission reductions will require reduction in downstream emission at the point of production.

Reduction Ceiling: 50%

Year	tCO2e	Total Percentage +/-
18/19 Baseline	No data	
19/20	No data	
20/21	No data	
21/22	No data	
22/23	No data	

	Objective	Action	Measure	Target	RAGB	Outcome	Responsible area	Investment cost
6.1	Improve monitoring of material use within NPA core operations and on a project basis.	Work with project management to assess what is currently recorded what level of reporting is appropriate/achievable (quantity vs value etc)	Material use recorded and annually reported.	<2024	In progress		CC(TS) CS (IAN)	None

Progress Update

- Expanded material usage data submitted to Defra to inform Scope 3 work. (October '23)
- JB and SB to work with TS to devise reporting scheduled for CS material use (October '23)

6.2	Reduce material use within project-based work.	Review/implement project-based sustainability plan guidance (add to Project Management Policy/guidance)	Guidance in place and implemented in all new projects.	2023/2024	In progress		CC(TS/MY)	-
<p>Progress Update</p> <ul style="list-style-type: none"> Expanded material usage data submitted to Defra to inform Scope 3 work. (October '23) Briefing of new policy at all section meetings in '23 (October '23) MY to add to new PM policy (October '23) 								

9. Working from Home

The NPA operates a blended working policy (50% working from home). Emissions associated with staff working from home (heating/electricity use) are largely outside the control of the NPA, however it is useful to track these to give a full picture of emissions associated with all NPA operations. These emissions are expected to fall in line with the decarbonisation/retrofit of domestic properties and the grid. Estimation is based upon LGA conversion factors which apply a generic based on a total number of FTE and average UK domestic emissions data.

Reduction Ceiling: 78%

Year	tCO2e	Total Percentage +/-
18/19 Baseline	No data	-

19/20	No data	-
20/21	No data	-
21/22	No data	-
22/23	0.9	

10. Natural Environment

The NPA currently owns the following sites:

- Levisham
- Cliff Plantation
- Cawthorne Camps
- Hutton-le-Hole Car Park
- Tom Smith's Cross
- Sutton Bank (triangle)
- Thornton Dale Car Park
- Rail Trail
- Chop Gate Car Park
- Various small parcels of land.

The land holding covers approximately 1459 hectares that sequestrate approximately 5324 tCO₂e annually* as well as provided multiple ecosystem services.

Whilst it may not be feasible to implement significant land use changes to maximise carbon uptake due to existing constraints or usage, the NPA can ensure that these sites are optimally managed for climate, people, place and nature and that adaptations for a changing climate are considered.

**Figures produced using habitat types and conversion factors from Natural England's 2021 Research Report, Carbon Storage and Sequestration by Habitat 2021 <https://publications.naturalengland.org.uk/publication/5419124441481216?cache=1678357062.74>*

Year	tCO ₂ e	Total Percentage +/-
22/23 Baseline	5324	-

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	Objective	Action	Measure	Target	RAGB	Outcome	Responsible area	Investment cost
6.1	Accurate baselining of NPA-owned natural carbon assets.	Annually review latest Natural England emissions factors and any habitat survey changes	Data up to date and annually reported.	Ongoing	In progress		CC(TS)	
Progress Update								
6.3	Identify potential for inseting/offsetting at appropriate NPA sites.	Identify relevant carbon codes applicable to positive management and habitat restoration measures at NPA sites	Trial site and scheme identified	2024	In progress		CC(TS)	
Progress Update								

Emissions Reduction Pathway

The actions detailed above, if delivered on schedule, are projected to achieve net zero Scope 1 and 2 emissions by 2030 with a small amount of residual Scope 3 emissions. The interim target of a 75% reduction in net Scope 1 and 2 emissions is projected to be achieved by 2026/27. This predicated on the scheduled replacement of the corporate fleet and the decommissioning of natural gas heating at the Old Vicarage in 2026, delays to either of those milestones would delay this target.

Scope 1 and 2 Risks

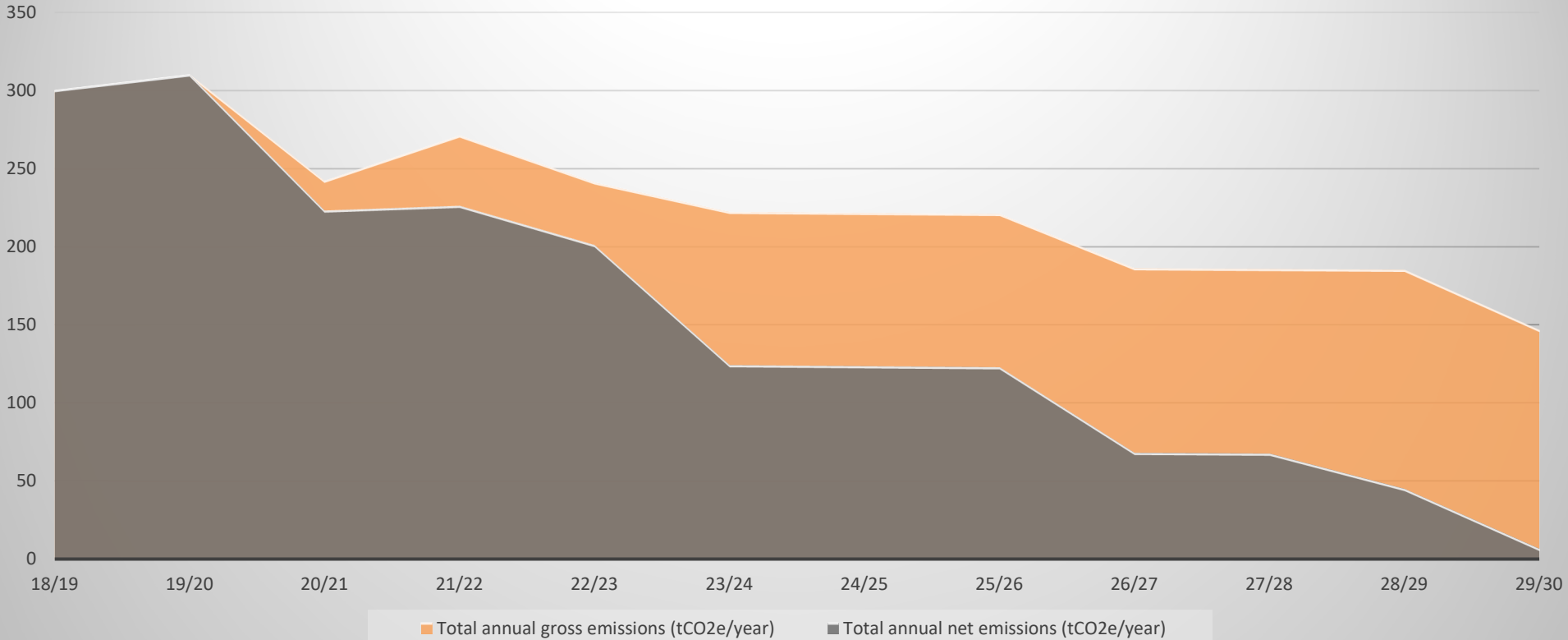
The transition to low-carbon medium and heavy vehicles represents the current area of highest uncertainty of all Scope 1 and 2 emissions given the immaturity of this market comparative to the car market, however the market is developing rapidly. Currently NPA emissions from the large fleet are ~60tCO₂e.

Scope 3 Risks

The second area grey emission or staff business travel that relies on the use of their own vehicles as this is dependent on the uptake of private ownership in EV vehicles.

Other residual emission may be included in the reporting as the NPA develops its Scope 3 reporting to include more types of up/downstream emissions. In these circumstances they will a dependency on decarbonisation strategies of our suppliers.

Projected NPA emissions totals



Projected emission reductions

NYMNPA Emissions (tCO2e)	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30
Scope 1	-	-	-	-	-	-	-	-	-	-	-	-
Natural Gas	22	23	20	30	23	23	23	23	0	0	0	0
Burning Oil – Kerosene	84	97	92	93	75	0	0	0	0	0	0	0
Authority fleet	93	92	59	101	80	90	90	90	60	60	60	0
Scope 2	-	-	-	-	-	-	-	-	-	-	-	-
Electricity - building use	76	76	54	45	51	98	98	98	110	110	110	110
Electricity - electric cars	0	0	0	2	0	0	0	0	8	8	8	8
Electricity - electric large vehicle	0	0	0	0	0	0	0	0	0	0	0	22
Scope 3	-	-	-	-	-	-	-	-	-	-	-	-
Staff business travel – staff	19	17	14	13	10	9	8	8	7	7	6	6
Water	8	7	4	2	2	2	2	2	1	1	1	1
Waste	-	-	-	-	-	*	*	*	*	*	*	*
Working from home	-	-	-	-	-	*	*	*	*	*	*	*
Material use	-	-	-	-	-	*	*	*	*	*	*	*
Total annual gross emissions (tCO2e/year)	300	310	242	271	241	222	221	221	186	186	185	147
Purchased green tariff	0	0	19	45	40	98	98	98	118	118	140	140
Total annual net emissions (tCO2e/year)	300	310	223	226	201	124	123	123	68	68	45	7

On reaching net zero, the largest energy consumer within the NPA will be heating, cooling and building use through low-carbon electricity sources followed by vehicle use.

