



Mission Zero Update Paper

Agenda Item 8 National Park Authority Board Meeting 12 December 2022

Paper for information

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1. Purpose

- 1.1. To provide an update on the National Park Authority's Mission Zero activity, as part of our work towards reaching Net Zero by 2030.
- 1.2. To share progress on our emissions reductions, from the 2018/19 baseline figures.
- 1.3. To outline the priorities for climate-related action in the coming year.

2. Recommendation

Members are asked to note the contents of the report.

3. Contribution to National Park Partnership Plan and/or Our 5-year Plan

- 3.1. The outcomes that this strategy will help to deliver from the National Park Partnership Plan are:
 - 3.1.1. Outcome 3: Climate Change, Priority 3.1: Climate Change;

3.1.2. Outcome 11: Sustainable Growth, Rural Development Priority 11.1
Low Carbon Economy Rural Diversification.

3.2. Within Our 5-year Plan the draft Mission Zero Route Map helps to deliver
Priority Sustainable Organisation

'We will exemplify great practice as a sustainable, low carbon organisation, including targeting being plastic free, renewably-powered, and maximising use of electric vehicles. We will collectively consider, reduce and mitigate our impacts on climate change in everything we do and lead the way for others to do the same.'

4. Context

- 4.1. In December 2020, the Board approved our [Mission Zero Route Map](#). Since then, and with the onset of the COVID-19 pandemic, we have had to adjust our delivery plans and priority actions.
- 4.2. This paper will provide an update on our key activities within this period (from March 2022 to date), across our Mission Zero portfolio. This will include an update on progress towards reaching our emissions reduction targets and will outline our priorities for action moving forwards in the coming year and beyond.
- 4.3. Through our Mission Zero process to date, including this year, we have learned a lot, including around our data gathering, and in terms of on-the-ground delivery of infrastructure upgrades. We are taking on board those lessons but expect, as we are early in this process, that there will be more learnings to come through this journey.

5. Delivery Update

- 5.1. The Mission Zero Route Map is a complex portfolio of work which involves every area of our organisation. Since the production of the Route Map, our Mission Zero portfolio of projects has been scoped in greater detail, resources have been mapped where possible, and we are now in the delivery phase.
- 5.2. The portfolio has been framed under four programmes. Table 1 below summarises these programmes and resulting work areas and describes key delivery achievements in each work area for the reporting period. All activity is overseen by the Mission Zero Steering Group, which consists of several members of the Executive Team and the four staff covering key elements of the portfolio following the departure of the Climate Action Manager.

5.3. Several elements of the portfolio are paused due to the current Climate Action Manager vacancy, most notably the further development and adjustment of the Mission Zero portfolio.

Table 1: Mission Zero Portfolio

| Within Boundary Programme <i>Focuses on implementing changes across our Estate and Operations to reduce our Within Boundary emissions.</i> | Engagement Programme <i>Focuses on ensuring our staff, board and volunteers are aware of and engage with the programme to support our Net Zero activity.</i> | Delivery Support Programme <i>Focuses on data collection, monitoring and evaluation.</i> | Developing Work Programme <i>Focuses on scoping and delivering work which will help reduce emissions that are beyond our organisational net zero boundary.</i> |
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| Key Areas of Progress March – November 2022 | | | |
| <ul style="list-style-type: none"> - Planning permission granted for first phase of infrastructure improvements/renewable technology works at Balmaha Visitor Centre (BVC) and Duncan Mills Memorial Slipway (DMMS). - Contracts for the above works let for the installation of Air Source Heat Pumps, Photovoltaic (PV) panels/tiles and glazing upgrades at DMMS and BVC. Contract also let for installation of PV panels and off-grid batteries at Loch Achray campsite. All to be complete by end of the financial year. - Additional area of work being carried out by technical specialist design consultants to advise on options for emissions reductions and renewable energy installations recognising landscape or site sensitivities at some sites that has been identified - Smart meters installed the majority of our sites, just three | <ul style="list-style-type: none"> - Mission Zero ‘champions’ identified within all staff teams, actions tracker set up to report progress, initial meeting held, and two subsequent meetings scheduled before the end of the financial year. - Climate Literacy training completed for third cohort of staff. 41 staff have now completed the training and we are scoping the potential to have the full Ranger Service receive the training. - Updates on the Mission Zero portfolio and general climate awareness raising communications being published on our internet and intranet pages. | <ul style="list-style-type: none"> - Submission of the 2021/22 Public Bodies Climate Change Report on our annual emissions to Scottish Government completed at the end of Nov 2022. - Ongoing support across the organisation for improved efficiency of climate-related data gathering. How to guides produced and training delivered to teams. | <ul style="list-style-type: none"> - Phase 1 of the Small World Consulting (SWC) project has been completed. It gives us a full carbon footprint assessment and proposed decarbonisation pathways to achieve a Net Zero National Park. - Sharing, publication, utilisation and embedding of this work and links from this into the development of our strategic plans, especially the new National Park Partnership Plan, is in progress. - Commission being prepared for Phase 2 of the project, which will focus on detailing the decarbonisation pathways proposed in Phase 1. This is due to complete by the end of the financial year. |

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| remaining for install by the end of the calendar year. | | | |
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5.4. As indicated in table 1 above, a significant proportion of time has been spent on activity which falls under our **Within Boundary Programme**¹, primarily as this is where we will be able to quantify tangible reductions in our emissions. Concerted efforts and dedicated staff time has meant that we are making good progress on work for this financial year across three sites, with Planning permission and contractors in place.

5.5. However, looking forward to future years delivery, our pre-Planning discussions have raised challenges around some of the proposed renewable technologies and the cumulative landscape effect of technologies across our Estate. Taking this into consideration, our technical specialist design consultants has been re-modelling and adjusting our portfolio delivery plan, and we have funded this work through Scottish Government grant funds. The adjusted plan will inform the work programme for next year's Within Boundary work.

6. Progress towards emissions reduction targets

6.1. Our Mission Zero Route Map is data and evidence based and informed by an understanding of the emissions from each of our activities. The **net zero target of 2030 for the National Park Authority** was set based upon a calculated approach to being able to measure and reduce our emissions over time.

6.2. Within our Mission Zero Route Map, the baseline year for the targets set was 2018/19. Figure 1 below shows the proportions and levels of emissions we recorded during this baseline year across all our within boundary emissions. These figures are measured in tonnes of carbon dioxide equivalent (Tc02e)

¹ Within Boundary covers directly produced emissions such as electricity used, vehicles and transport, and heating.

Mission Zero Baseline

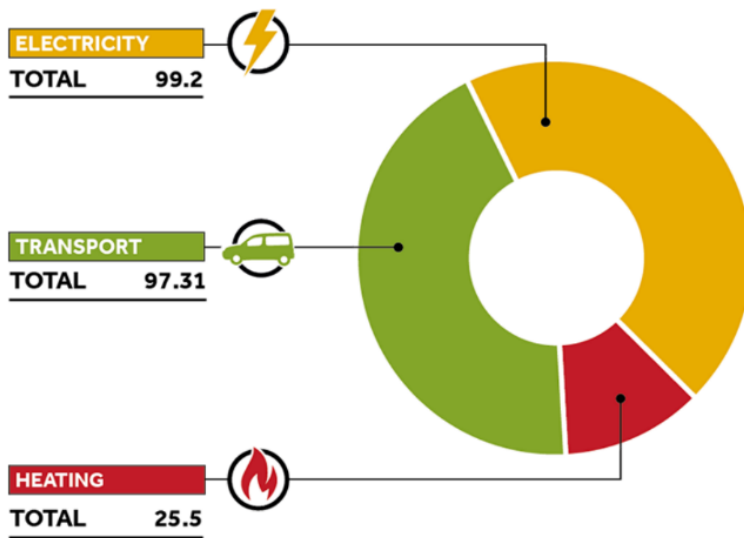


Figure 1. Baseline emissions 2018/19

6.3. Our annual Public Bodies Climate Change Report is part of our ongoing reporting requirements to Scottish Government but also acts as our annual measure of progress against our Mission Zero ambitions. It is a retrospective report for the financial year, so this update covers 2021/22.

6.4. Like last year, we are reporting on our three original Mission Zero emissions areas as well as homeworking emissions (stemming from COVID-19 restrictions). Our main emissions areas are tracked using regular meter readings and related invoices and managed internally through our own databases and finance systems. The latter remains a standardised methodology for all public bodies, calculating estimated emissions from full time equivalent staff numbers. A summary of our emissions from the baseline year to now is shown below.

Actual Emissions (tCO₂e)

2018 - 2022

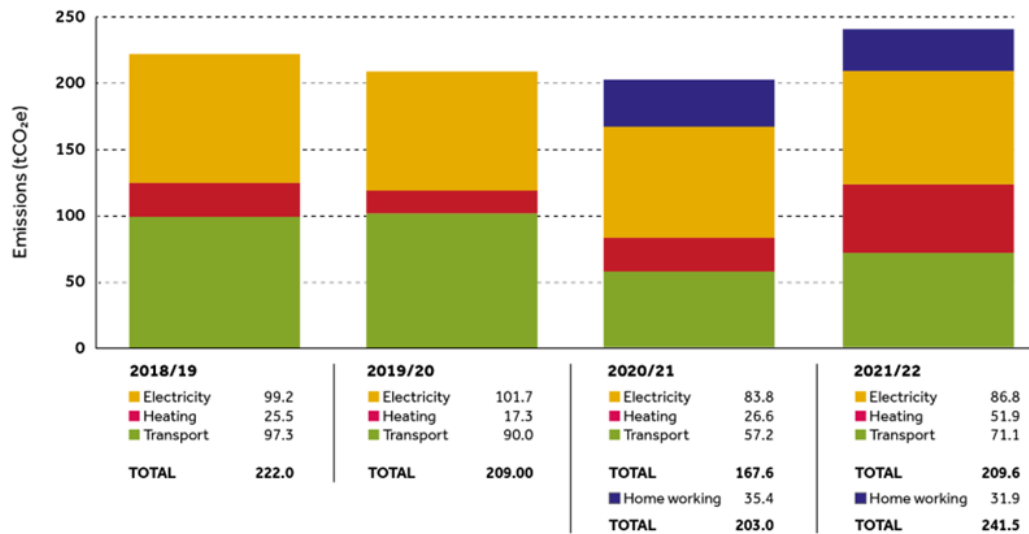


Figure 2. Actual emissions 2018-22

6.5. We were expecting a rebound in 2021/22 emissions following last year's reduction due to post-pandemic recovery and a return to more normal operations, with staff returning to offices and using more transport. However, Board members will observe from figure 2 that we have seen a reversal of the overall downward trend, with 2021/22 showing an increase in emissions on our baseline year. This includes increases across electricity, transport, and heating that are explained below.

Electricity.

6.6. Last year's total electricity emissions are 86.8tCO₂e, which is a 13% reduction on our 18/19 baseline year but a rebound on the previous year's reported emissions of 83.8tCO₂e. There are three factors that have contributed to this year's electricity emissions. Firstly, due to upgrades to smart meters across our sites as part of our infrastructure programme, we have discovered a reporting error which means we have previously underreported on consumption at our headquarters. This is clearly acknowledged and corrected within the recent submission to Scottish Government, but Board members should be aware that emissions from electricity have been unwittingly underreported by around 10tCO₂e in the past two years.

- 6.7. Our electricity usage is likely to trend higher than previous years too, due to the increasing proportion of our vehicle fleet being electric, though this will be balanced with some reductions in the fossil fuel emissions associated with our fleet. We are hoping with the addition of the smart meters and improvements to the ChargePlace Scotland portal we will be able to better quantify the electricity usage associated with our fleet in subsequent years.
- 6.8. Finally, we recognise that continued national decarbonisation of the electricity grid means that everyone will see their emissions proportionally decrease year on year, regardless of active measures to reduce consumption. Whilst we will see the benefits of this national decarbonisation, we remain committed to installing appropriate renewable technologies across our estate, such as photovoltaic panels and tiles, which will accelerate local decarbonisation.

Transport

- 6.9. Transport was one of the main areas that we were anticipating an increase from the previous reporting year due to more face-to-face work restarting across the National Park, along with a larger workforce (see 5.15 below). Whilst higher than the previous year, we are still on a 26% reduction from our baseline year. Our transport emissions are based on our remaining fossil fuel vehicles, so whilst we have continued to electrify our fleet some notable omissions remain, such as our patrol boats on Loch Lomond. Due to the ongoing increased demand for visitor management measures our scheduled boat patrols increased in number from previous years; this is one of the continuing examples of the reality of managing our Mission Zero with current technologies, whilst still fulfilling essential roles within the National Park.

Heating

- 6.10. Emissions associated with heating is where we have seen an unwelcome increase in this report. One cause of this is an isolated issue: the diesel generator at our Loch Achray campsite, which is used as a back-up to the failed solar panels producing electricity (in part used to heat water). Whilst the failing of the solar panels is disappointing, we are pleased to have already sourced upgraded replacements that are due to be installed this winter. 2022/23 should therefore hopefully be the last year we should see significant emissions arising from that generator once new system is operational.
- 6.11. The other cause is increased use of natural gas. There are known practical elements to this, such as ongoing performance issues with our aging biomass boiler at Carrochan, with faults resulting in us relying on the natural gas boiler as a backup. Managing this boiler is an ongoing priority

for the Facilities team, and upgrades such as air source heat pumps are scoped within our current Mission Zero plan, which we hope will remove this latent natural gas use as soon as possible. Board Members are asked to note that as early adopter of sustainable technologies, we may see emissions spikes in subsequent years as we learn to manage these emerging technologies.

6.12. In our reporting preparation process for this year, we uncovered a further error in last year's report for heating, which masked our understanding of heating emissions progress. It has transpired that in our emissions reporting last year, the organisation overlooked a conversion step, which resulted in a continued downward trend. Due to fluctuations across that reporting year (from Covid-19 impacts), we did not identify this error at the time and therefore did not further investigate the increased reliance on natural gas. We have corrected this within this year's report and clearly stated this for transparency.

6.13. Members should note that we have set up this reporting against our Mission Zero Routemap during a time of significant upheaval and challenge for the organisation, meaning we have not worked nor consumed energy in a routine way. Also, our work has caused us to get a far more detailed understanding of the nature of our consumption and how to analyse it. These are valuable initial learning steps that will help inform delivery and monitoring in future years. It is good therefore that we have flagged up these reporting discrepancies early.

Homeworking

6.14. Estimated emissions from homeworking have slightly reduced from last year. As previously stated, as this is a standard calculation provided within the Public Bodies Climate Change Report, we will see this fluctuate with updates to the emissions factor and staff full time equivalents.

6.15. Finally, it is worth noting that following an uplift in our budget, our staff numbers grew during the 2021/22 year, including for both permanent seasonal staff. This will be having an impact on our energy consumption in some areas, for example electricity use for IT equipment, and fuel and electricity for vehicles.

7. Risks to delivery

7.1. The scale and pace of our Mission Zero action are dependent on availability of budget and staff resource. The overall programme of infrastructure changes proposed to enable the National Park Authority to reach net zero by 2030 is scoped out to have a cost in the region of £6 million, although the costs for the first let contracts have come in lower than

estimated and the pre-Planning guidance, which has resulted in us reviewing and revising our delivery plan, is likely to mean this will change. Securing additional funding will need to take a priority if we are to achieve our net zero target.

- 7.2. Acting sooner rather than later within our net zero journey will minimise the risk associated with the increased market demand for equipment (such as renewable energy systems; solar panels, heat pumps) and skilled contractors as more and more organisations prioritise their net zero activity.
- 7.3. As stated in 4.5 above, pre-Planning guidance has raised questions around some of the proposed technologies and the cumulative effect of renewable technologies in more sensitive landscape locations.

8. Next Steps

- 8.1. Board members are asked to note the following priorities:
- 8.2. The implementation plan for the 2022/23 reporting year includes the following as key priority activities:
 - Glazing upgrades and installation of the following renewable technologies, Air Source Heat Pumps and Photovoltaic panels/tiles, at Duncan Mills Memorial Slipway and Balmaha Visitor Centre.
 - Installation of PV panels and off-grid batteries at Loch Achray campsite.
 - Modelling electricity requirements for Carrochan HQ, DMMS and BVC.
 - Continued staff, volunteer and Board engagement.
- 8.3. An important area of climate-related work that goes beyond our own Mission Zero is consideration of the approach for setting a net zero target for the whole National Park as a place. This will be based on the findings from the Small World Consultancy work and is likely to involve working closely with other National Parks, partners and stakeholders to share our different approaches and consider response options and implications for change. This is still to be fully scoped and developed through collaboration with our Scottish public sector partners and through relationships with advisory groups such as the [Sustainable Scotland Network \(SSN\)](#).
- 8.4. Continued improvement of our data gathering and monitoring frameworks to enable more effective reporting against net zero targets.
- 8.5. Continued development of links and synergies with the new Future Nature programme and delivery of priorities focused on Nature Based Solutions

activity, such as peatland restoration and woodland expansion, which deliver for both climate and nature outcomes.

- 8.6. Despite the ups and downs en-route we remain committed in our task and the learnings we have to date are important as we start to engage wider with decision makers and local stakeholders on achieving a vision for a net zero National Park in the future. Our role is to create a special place that continues to provide opportunities and enjoyment for all, but in a more sustainable way that will benefit climate, nature and future generations.
- 8.7. Board is asked to note the points of information made above, which provide a good illustration of the complex and non-linear pathway that the organisation is experiencing on its ambitious journey to net zero status.

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