



Mission Zero Update Paper

Agenda Item 10
National Park Authority Board Meeting
11 March 2024

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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 as an organisation 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 new [National Park Partnership Plan \(2024-29\) approved by members in December 2023](#) places our response to the climate emergency front and

centre. The Plan's vision to 2045 is a National Park that is "a thriving place that is nature positive and carbon negative" and targets being a net zero emitting place by 2035.

- 3.2. The Park Authority's estate and operations are part of the National Park's emissions footprint. Reaching net zero as an organisation, through Mission Zero's rapid programme of decarbonisation, delivers emission reduction and leads by example.
- 3.3. An updated Corporate Plan (previously named 'Our 5-year Plan) will be produced this year and Mission Zero is expected to be central to this document also.

4. Context

- 4.1. In December 2020, the Board approved our [Mission Zero Route Map](#). Since then, we have worked to further develop and deliver the Route Map, albeit the onset of the COVID-19 pandemic meaning that we have had to adjust our delivery plans and priority actions.
- 4.2. This paper provides an update on our key activities for the period since the last [Mission Zero Update paper](#) to Board; from January 2023 to date. It provides updates across our Mission Zero programme, with a focus on the delivery of significant capital works during the period. It includes an update on progress towards reaching our emissions reduction targets and outlines our priorities for action moving forwards in the coming year and beyond.
- 4.3. Our Mission Zero programme has been a steep learning curve for us as an organisation. The decarbonisation works involve novel and changing renewable energy technologies being retrofitted at pace to our estate within the financial constraints of an annualised budget cycle. While this is not straight forward our staff remain committed to achieving net zero by 2030 and leading by example.
- 4.4. This year in particular has seen lots of learning 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 programme, that there will be many more learnings to come through this multi-year journey.

5. Delivery Update

- 5.1. The Mission Zero Route Map is a complex programme of work which involves every area of our organisation. Since the production of the first Route Map, our Mission Zero programme has been scoped in greater detail and we are now in the delivery phase.

- 5.2. The programme has been framed under four workstreams. Table 1 below summarises these workstreams and describes key delivery achievements in each work area for the reporting period.
- 5.3. Recognising that Mission Zero has moved out of inception and fully into implementation, a governance review and refresh was completed in summer 2023. This included clarifying and renaming the existing workstreams and adding climate adaptation planning. To ensure clarity of the programme's focus on our organisational emissions, our efforts to reach net zero for the National Park have been separated out and are being progressed as a distinct project.
- 5.4. All activity is overseen by the Director of Environment & Visitor Services and reports through the High Priority Project Board which consists of several members of the Executive Team and the Project Management Team.
- 5.5. Substantial capital works have been delivered during this reporting period, with the completion of 2022/23 works and a large-scale, complex delivery plan of major works currently in progress across four sites (Carrochan HQ, Duncan Mills Memorial Slipway, Balmaha Visitor Centre and Loch Chon campsite). Most of these works will be completed within the financial year of 2023/24, with some carry over to 2024/25. Table 1 provides detail on the works completed and in progress.
- 5.6. We were pleased to secure grants of £1,129,000 from the [Scottish Central Government Energy Efficiency Grant Scheme](#) and £300,000 from [Transport Scotland's Switched on Fleet Funding](#) to enable the current works in progress.
- 5.7. As members will be aware climate-friendly refit work commenced on our main office, Carrochan, in late 2023. Carrochan accounts for 65.31 tonnes of carbon dioxide equivalent (tCO_{2e}) per year, or approximately 29% of our 2018/19 baseline organisational emission footprint. It is estimated that the works at Carrochan, as detailed in Table 1, will deliver 32.1 tCO₂/year of emission reduction. The works required public closure of the office and a cross-organisational effort to minimise disruption and ensure successful operation of the organisation throughout. This effort is ongoing and includes hybrid working, regular internal communications, establishment of suitable workspaces to enable a complement of staff to work from the building, and sourcing of alternative meeting venues.
- 5.8. Staff capacity is a challenge for the programme which requires some skills new to the organisation. Following the departure of the Climate Action Manager in December it has been necessary to delay some elements of

the programme in order to prioritise the ongoing capital works. Currently in the interim, the Insights and Innovation Adviser has taken on additional responsibilities to provide leadership across the organisation's climate portfolio, which includes the Mission Zero programme and emerging work on Net Zero National Park. The resourcing gap is currently being reviewed by the Executive Team to scope options to address this moving forward.

5.9. We are in year 4 of our 10-year programme to be a net zero emitting organisation by 2030. Years 1 (2020/21) and 2 (2021/22) had no capital delivery due to pandemic impacts and unsuccessful attempts to secure specialist contractors, Year 3 (2022/23) saw works beginning to get underway. Therefore, 2023-24 is the first year to see the true scale and pace of capital works needed to be net zero by 2030.

Table 1: Mission Zero Programme - workstreams

<p>Estate & Infrastructure <i>Main delivery strand for Mission Zero, delivering decarbonisation across our estate and operations to reduce our greenhouse gas emissions.</i></p>	<p>Monitoring & Management <i>Assessing the impact of our infrastructure works and progress against our 2030 target.</i></p>	<p>Embedding & Engagement <i>Engagement work and developing internal good practice on organisational decarbonisation.</i></p>	<p>Adaptation Planning <i>Understanding and preparing for unavoidable climate change.</i></p>
<p>Key Areas of Progress January 2023 to February 2024</p>			
<p><u>Capital works completed during 2022/23:</u></p> <p>Balmaha Visitor Centre:</p> <ul style="list-style-type: none"> - Installation of Solar Photovoltaic Panels. - Installation of Air Source Heat Pumps/Heating System upgrades. - Removal of old LPG tank. <p>Duncan Mills Memorial Slipway:</p> <ul style="list-style-type: none"> - Installation of Air Source Heat Pumps/Heating System upgrades - Glazing upgrades <p>Loch Achray campsite</p> <ul style="list-style-type: none"> - Installation of Solar Photovoltaic Panels, Batteries & Battery storage - Reduced use of diesel generator, retained for back up only. 	<ul style="list-style-type: none"> - Submission of the 2022/23 Public Bodies Climate Change Report on our annual emissions to Scottish Government completed at the end of Nov 2023. 	<ul style="list-style-type: none"> - Mission Zero staff 'champions' across the organisation continued to deliver team-specific actions. - Internal communications keeping staff up to date on the works, what is happening, why it's happening and providing practical information about the impact on day to day working. - Press release issued on Mission Zero detailing how grant funding has been allocated to deliver on the project objectives with media coverage secured in local press including Helensburgh Advertiser, Lochside Press and The Democrat. Handling of enquiries from media regarding spend on the project since then, with 	<ul style="list-style-type: none"> - Completion of a review of adaptation planning frameworks and good practice of comparable organisations (National Park Authorities and Local Authorities) - Consultancy support underway to provide National Park-specific climate change projections and a bespoke climate change risk and opportunity register. (First steps in creating an Adaptation Plan.)

<p><u>Capital works in progress during 2023/24:</u></p> <p>Carrochan HQ</p> <ul style="list-style-type: none"> - Installation of Solar Photovoltaic Panels & Tiles. - Installation of Air Source Heat Pumps/heating System upgrades. - Installation of new Car Port with Solar Photovoltaic Panels - Installation of e-bike station. - Electrical upgrades - New & upgraded electric vehicle charging points for fleet. <p>Loch Chon campsite</p> <ul style="list-style-type: none"> - Installation of Car Port with Solar Photovoltaic Panels, Batteries & Battery storage. - New electric vehicle charging point for fleet vehicles. <p>Balmaha Visitor Centre & Duncan Mills Memorial Slipway</p> <ul style="list-style-type: none"> - Electrical upgrades - New & upgraded electric vehicle charging points for fleet vehicles. 		<p>recent coverage in the Lennox Herald.</p>	
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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** was set based upon a calculated approach to being able to reduce our emissions over time.

6.2. 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 organisational emissions. These figures are measured in tonnes of carbon dioxide equivalent (tCO_{2e}).

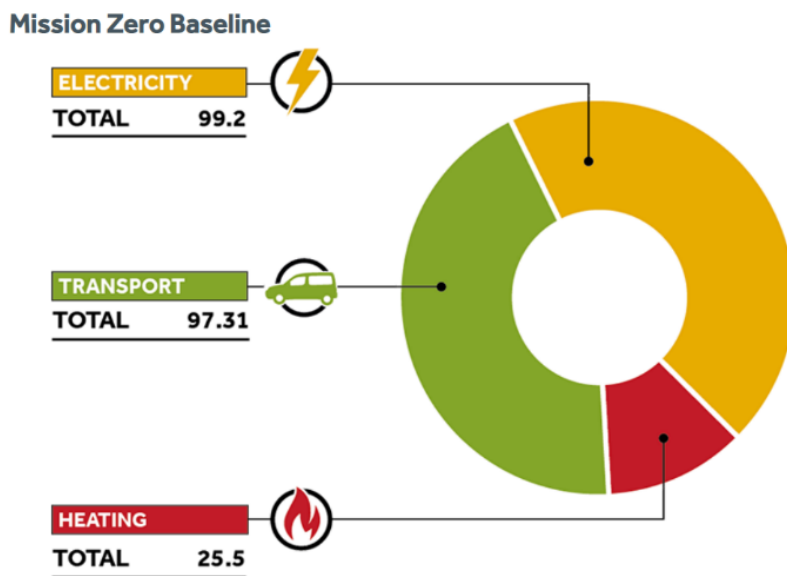


Figure 1. Baseline emissions 2018/19

6.3. Our annual Public Bodies Climate Change Report is part of our ongoing reporting requirements to Scottish Government but also acts as an annual measure of progress against our Mission Zero ambitions. It is a retrospective report for the financial year, so this update covers 2022/23.

6.4. Please note that the emission reduction impact of the capital works detailed in section 5 are unlikely to be seen in the 2022/23 report. Works completed in 2022/23 would only be evident in the report if fully operational during that year. Impacts of works completed since April 2023 will be captured in future reports.

6.5. Like last year, we are reporting on our three original Mission Zero emissions areas as well as homeworking emissions. Our main emissions

areas are tracked using regular utilities meter readings and related invoices and managed internally through our own databases and finance systems. The homeworking emissions are calculated using a set methodology for all public bodies, estimating emissions from full time equivalent staff numbers. A summary of our emissions reporting from the baseline year to now is shown below.

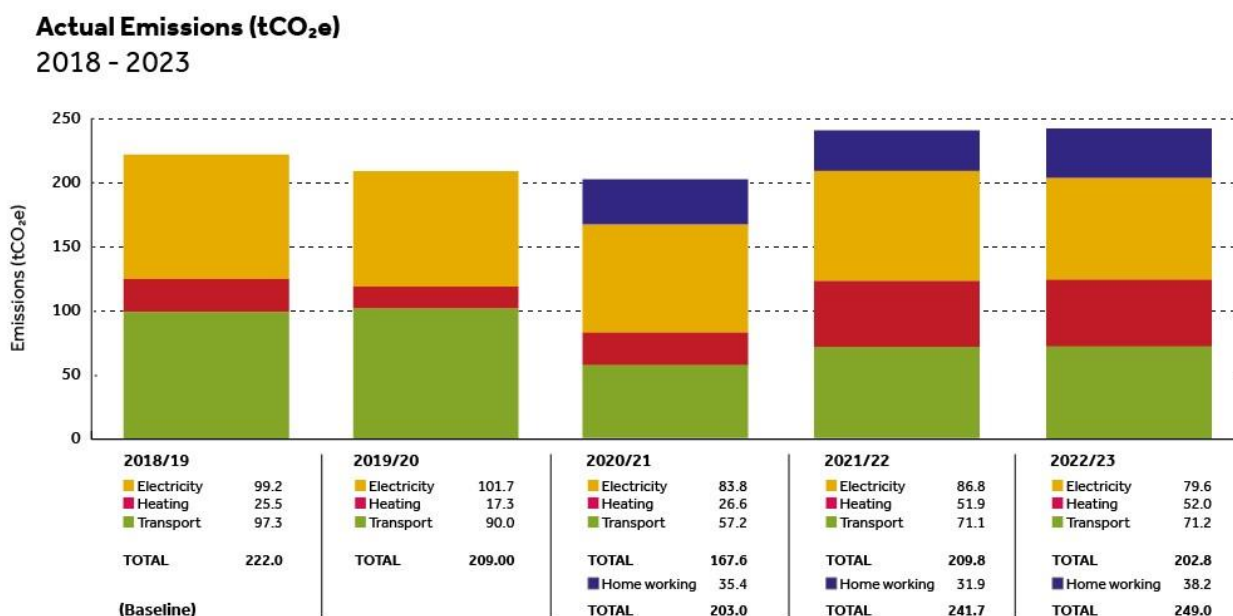


Figure 2. Actual emissions 2018-23

6.6. Board members will see that total emissions have slightly increased over the past two financial years after a period of decline, but with a shift in proportions of the component parts. The reasons for this are outlined below.

6.7. An uplift in 2021/22 and 2022/23 emissions, was unsurprising due to post-pandemic recovery and a return to more normal operations, with staff returning to offices and using more transport. Board members will observe from figure 2 that, *excluding* homeworking emissions, we have seen a modest (19.2 tCO₂e) overall reduction in total emissions against the baseline year of 2018-19. Within this overall picture there is important variation; a reduction on the baseline for electricity emissions and transport emissions, and an increase for heating emissions, these are explained below.

6.8. A small reduction in overall emissions is welcome while the impacts of the capital programme are yet to be seen in the statutory reporting (as explained at point 6.4 above). However, it is important to note that the

change seen is not at the pace required by our Mission Zero commitment and is best characterised as a fairly static picture of overall emissions reduction.

Electricity

- 6.9. Last year's total electricity emissions were 79.6 tCO₂e, a 20% reduction on our 2018/19 baseline year. This is most likely attributable to the continued decarbonisation of the electricity supplied to us all through the national grid, which consumers will see as their emissions proportionally decrease year on year, regardless of active measures to reduce consumption. Whilst we will see the benefits of this national scale decarbonisation, we remain committed to installing appropriate renewable technologies across our estate, such as photovoltaic panels and tiles, which will actively accelerate local decarbonisation.
- 6.10. Our electricity usage is likely to trend higher than previous years, predominantly due to the increasing proportion of our vehicle fleet being electric. We expect however this will be balanced with a reduction in the fossil fuel emissions associated with our vehicle fleets.

Transport

- 6.11. Last year's total transport emissions were 71.2 tCO₂e, a 26% reduction on our 18/19 baseline year. Our current transport emissions are based on our remaining fossil fuel vehicles, and more action is attention is required to decarbonise our fleet as far as is practicable for our operations.

It is important to note that due to the ongoing and increasing demand for visitor management measures, our patrols had increased from the baseline year, which is reflected in the resulting emissions. We expect this to shift with the increasing proportion of our land fleet being electric, but there could also be a contribution from operational decision-making and behaviour change in relation to work-related journeys. This is one of the continuing examples of the reality of balancing our Mission Zero commitment in tandem with delivering our other objectives for the National Park.

Heating

- 6.12. Last year's total heating emissions were 52 tCO₂e, which is a 104% increase on our 18/19 baseline year. This is unwelcome and a continuation of drivers identified and explained in the last [Mission Zero Update paper](#) to Board, particularly:

- 6.12.1. The use of a diesel generator at Loch Achray campsite as a back-up while we install and operationalise appropriate solar panels. As shown at Table 1, above, these works were completed in 2022/23 and we expect these fossil fuel emissions to decrease over time.
- 6.12.2. The increased use of a natural gas boiler at Carrochan as a back-up for the aging biomass boiler. As shown in Table 1, the significant works at Carrochan include heating upgrades such as air source heat pumps which will replace the biomass boiler and start to shift these emissions. The impact of these works will also be captured in future years' reports.
- 6.13. 2022/23 should, therefore, be the last year we see significant fossil fuel emissions arising from the back-up systems at Loch Achray campsite and Carrochan. Nonetheless, Board Members are asked to note that as early adopter of sustainable technologies, we may see emissions fluctuations in subsequent years as we transition away from fossil fuel-based systems and as we learn to manage these emerging renewable energy technologies.

Homeworking

- 6.14. Emissions from homeworking have grown from 35.4 tCO₂e to 38.2 tCO₂e during the three years we have been tracking them. Such emissions have been included in our Public Bodies Climate Change Report since 2020/21 and are outside the scope of the Mission Zero Route Map. We will see this emissions category fluctuate with updates to the emissions factor, as well as changes to the number of staff full time equivalents and their working arrangements.
- 6.15. Our staff numbers grew during the 2022/23 year, and this is the most likely driver for the increase in overall homeworking emissions. An increased staff number will be having an impact on our energy consumption in some other areas, for example electricity use for IT equipment, and fuel and electricity for vehicles.
- 6.16. Members are asked to note that we have set up this reporting against our Mission Zero Route Map during the pandemic at a time of significant upheaval and challenge for the organisation, meaning we have not yet worked nor consumed energy in a 'routine' way. We continue to look at how to get a more detailed understanding of the nature of our energy consumption and how to analyse and interpret it.

7. Risks to delivery

- 7.1. As a new and developing programme resource in terms of staffing and budget continue to be a challenge. As reported at 5.8 above, current limited staff capacity is one of the greatest risks to the programme's delivery.
- 7.2. The scale, pace and success (or otherwise) of our Mission Zero action is dependent on a number of inter-linked factors. These include, as above, availability of funding and staff and specialist contractor resource. They also include the type, availability and performance of the renewable energy technologies and systems used and where these can be deployed on our estate, and perhaps most importantly our willingness and ability to make changes to some of our operations and ways of working through behaviour change.
- 7.3. As reported in the last [Mission Zero Update paper](#), pre-Planning guidance has also raised questions around some of the proposed technologies and the cumulative effect of renewable technologies in more sensitive landscape locations in the Park. This is starting to impact progress against the programme and further consideration is required in order to find a way through this particular challenge.
- 7.4. The overall programme of infrastructure changes proposed to enable the National Park Authority to reach net zero by 2030 is currently estimated to cost in excess of £8 million over the 10 years of the programme. It is important to note that the high level of capital spend for the year of 2023/24 is not atypical in the programme. Similarly, while 2023/24 is an important step forward in our emission reduction journey, we still have significant organisational emissions yet to address. Complexities are also continuing as we progress through the programme, as we consider how best to use facilities across the estate (not all of which we own directly), and at this point without clearly identified external funding sources such as the current Scottish Government grants.
- 7.5. The Public Bodies Climate Change Report has been an essential tool for the development of the route map and progress reporting to date and will remain a key deliverable, as an important source of insight and a statutory obligation. However, now we are in the implementation phase for Mission Zero, it is evident that we need to develop our progress measures for a more nuanced and timely understanding of the impact the programme is having.
- 7.6. We are however fully aware of and actively working to overcome these multiple challenges which will be essential if we are to meet our 2030 net zero target.

8. Beyond Mission Zero: Net Zero National Park

- 8.1. As noted in section 5 above, our work to reach net zero emissions as a National Park is distinct from our work to decarbonise our organisation. It goes way beyond our Mission Zero programme and is under development as a separate programme of work. It is a far more complex and challenging an outcome to achieve but is the biggest prize for us to aim for.
- 8.2. Members will remember that a Greenhouse Gas (GHG) Assessment has been carried out for each of the UK's National Parks, providing a detailed carbon footprint and a pathway for each Park to become a Net Zero place. All UK National Parks have now adopted the target dates of their Assessments and are collaboratively progressing their net zero work.
- 8.3. The coordinated adoption means that the family of UK National Parks can now complete the process started over a year ago of jointly becoming the first national parks in the world to join [Race to Zero](#). Race to Zero is the world's largest coalition of non-state actors taking immediate action to halve global emissions by 2030 and build a greener, fairer and healthier future. The UN-backed initiative is a climate leadership framework that supports members to lead ambitious climate action in their local area. Joining Race to Zero means NPAs leading decarbonisation across the whole national park. National parks are experience in this coordinated leadership role across landscapes for nature.
- 8.4. The [GHG Assessment for Loch Lomond & The Trossachs](#) shows that the National Park has the capacity to go from being an emitter, as it currently is, to being a significant source of sequestration, or a 'carbon sink'. This means that the superpower of this National Park's landscape is that it can transform, going beyond net zero and becoming carbon negative, absorbing more carbon than it emits, helping Scotland and the wider world reach its ambitious climate targets.
- 8.5. During the reporting period we have taken the important first step to becoming a net zero National Park by embedding ambitious emission mitigation and sequestration in the [new National Park Partnership Plan \(2024-29\)](#). Specifically, the Plan includes a science-based target and pathway to net zero, strengthened links to net zero across all our outcomes, objectives and actions, and alignment of the measures of success with the pace and scale set out in the GHG Assessment.
- 8.6. The Insights and Innovation Adviser is currently necessarily focused on Mission Zero to a much greater degree than originally planned, but this is

temporary. Once the Mission Zero resourcing gap is resolved, work will resume more fully on the next steps of net zero National Park.

9. Next Steps

9.1. Board members are asked to note the following priorities for the coming financial years:

- Completion of all works currently underway across four sites (Carrochan HQ, Duncan Mills Memorial Slipway, Balmaha Visitor Centre and Loch Chon campsite).
- Installation of Solar PVs at Duncan Mills Memorial Slipway.
- Fabric improvements (capacity and funding contingent).
- Identification of the next main site of works (planned in 2024/25 and delivered thereafter).
- Development of multi-year delivery planning for the remainder of the programme.
- Development of a monitoring framework and associated data collection processes.

9.2. 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 the vision for a carbon negative National Park.

9.3. Board is asked to note the points of information made above, which provide a good illustration of the complex pathway that the organisation is experiencing on its ambitious journey to net zero status.

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