



## **MISSION ZERO**

**Loch Lomond & The Trossachs National Park Authority's  
Route Map to Becoming a Net Zero Organisation**

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## 1 Foreword by Gordon Watson, Chief Executive

The impacts of the global climate emergency are already being felt here in the National Park and it is clear that they are already affecting our landscapes, nature, businesses and communities. Our winters are wetter and warmer, with flooding events and landslips becoming more frequent, and our summers hotter and drier, with some species once at home here struggling to thrive in a changing climate.

The Scottish Government declared a climate emergency in 2019, setting binding targets for Scotland to become a 'Net Zero Nation' by 2045. We are committed to supporting this national target and have already taken steps towards this. Our greenhouse gas emissions reduction journey began 6 years ago and so far, we have lowered our emissions by 38% from our baseline figures in 2013/14. With partners, we have delivered impactful climate mitigation and adaptation projects across the National Park, including 572ha of peatland restoration since 2015/16 and planting more than 2000 trees last year. We see this as a good start, but with only 25 years until 2045, we all must redouble our efforts to act decisively, swiftly and at scale to face the climate emergency head on.

We believe that as a National Park Authority, whose fundamental aim is to conserve and enhance the natural heritage of this special part of Scotland, we should be a leading organisation in reducing our greenhouse gas emissions to net zero. That's why I am pleased to present the National Park Authority's 'Mission Zero Route Map', which outlines our bold vision to become a net zero organisation by 2030, or sooner.

This ambition relies on transformational steps for our organisation: investing in renewable energy technology to power our estate, shifting our behaviours to place emissions reduction at the heart of our operations and sharing our journey to inspire others. Our Route Map outlines the actions we will prioritise as an organisation to achieve this and the principles that will guide us there.

We look forward to sharing our journey with you, and hope that you join us soon on your own 'Mission Zero'.

## 2 Executive Summary

- Mission Zero is the Loch Lomond and the Trossachs National Park Authority's ambition to become a net zero organisation by 2030. This Route Map is our statement of intent: it outlines the principles that will guide us along our journey and the actions we will prioritise to achieve this.
- Our baseline emissions from the year 2018/19 are 222 tCo2e, which we have segmented into three emissions areas to target action: transport (99.19 tCo2e), electricity (97 tCo2e) and heating (25.5 tCo2e).
- Following the advice of consultants and by modelling a number of scenarios ourselves, we believe we can achieve net zero status by 2030. This trajectory is based on predicted emissions reductions associated with prioritised actions,

alongside assumptions about the decarbonisation of the electricity grid. It therefore represents our current preferred pathway to achieving net zero ambitions, based on the existing data we hold on our organisation's emissions and the technological, infrastructure and legislative context at the time of writing the Route Map.

- Within this Route Map we highlight a number of actions that we will prioritise to reduce our emissions. This will involve us investing in renewable technology across our estate, such as the installation of photovoltaic panels, air source heat pumps, or increasing the proportion of electric vehicles in our fleet. Whilst we have presented them in a linear fashion for the purposes of creating our trajectory, we will take a flexible approach to delivering these over the next decade to capitalise on opportunities as they arise. This agility will also allow us to work to bring the date closer or reduce the residual emissions requiring offsetting, if possible.
- There will be significant financial costs in terms of capital and revenue in order to install, run and maintain new renewable technologies on our estate, along with the need to invest in staff skills and training to run these new systems.
- It is on the basis of these infrastructure investments that we predict the biggest reduction in our emissions will be made. However, we are equally dedicated to championing emissions reductions in our organisational culture and through the behaviour of every member of our staff, Board and volunteers.
- This document culminates with the next steps we will take to begin the implementation of this Route Map. We will accelerate our work in the next two years, quickly developing detailed action plans to quantify and commit resource, ensuring that we are laying strong foundations for the rest of our Mission Zero.

### **3 Our Vision**

#### **The National Park Authority will be a net zero organisation by 2030.**

We will take an active role in Scotland's net zero journey, ensuring that, overall, there is no emissions impact from our organisation by the target date of 2030. We will achieve this by embedding our Mission Zero across our entire organisation, prioritising emissions reduction across all aspects of our service delivery from our strategic decision making processes to our day-to-day operations.

As an organisation, we will strive towards direct zero emissions, but we will also proactively invest in the National Park's environment to aim to deliver carbon sequestration activities through nature-based solutions which will balance any residual emissions.

We will evolve our estate by investing further in sustainable infrastructure such as renewable heating and power technology, and shifting towards an electric vehicle fleet. We will empower our staff, volunteers and Board to embrace and champion a net zero mind-set as we explore new ways to deliver our services.

In addition, we will take further action to reduce emissions arising from activity outside the scope of our net zero boundary, and will work with our local communities and businesses to encourage and support them in taking local action to tackle the climate emergency.

Our actions will be grounded in evidence and we will track our journey and share our learnings as we go with partners. We hope that this approach will help and inspire others on their own emissions reduction journey.

Beyond our organisation we are committed to working towards a net zero National Park for the future – where our landscapes and nature store and capture greater amounts of carbon, where climate-friendly local places and communities sustainably exist and where the carbon footprint of our visitors is net zero.

## 4 Introduction

Climate change is the “defining issue of our time, and we are at a defining moment” where we must act.<sup>1</sup> The Intergovernmental Panel for Climate Change (IPCC) has issued a stark warning: that a 1.5°C ceiling must be placed on overall global warming to avoid irreversible and dangerous effects of climate change. To do so, we need to achieve net zero greenhouse gas emissions globally by 2050.<sup>2</sup> Global warming beyond that level would significantly worsen the risk of drought, floods, extreme heat and poverty for hundreds of millions of people around the world and create even greater pressures on the already perilous state of global biodiversity.

The Scottish Government has recognised this irrefutable evidence and declared a global climate emergency in 2019. Scotland boldly set binding targets to achieve net zero emissions by 2045 at the latest. This reflects a realistic understanding of the disastrous consequences of missing the global target date and also an ambition to be a world leader in tackling the climate crisis.

Since setting these targets, the world has also been shaken by other all-consuming challenges: the global biodiversity crisis<sup>3</sup> and the COVID-19 pandemic. Whilst the response to the biodiversity crises is still emerging through the Aichi process<sup>4</sup>, Governments across the world have focused on developing a multi-benefit ‘green recovery’ to the COVID-19 pandemic. This principle recognises the need to face the social and economic challenges arising from the pandemic in a just, green and resilient way, which emphasises healthy climate and nature as integral to recovery.<sup>5</sup> Whilst this is still an evolving sphere of work, it is expected to be incorporated into forthcoming climate plans and budgets from the Scottish Government and will influence emissions reduction targets for years to come.

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<sup>1</sup> United Nations: [Climate Change](#) Accessed November 2020

<sup>2</sup> Intergovernmental Panel for Climate Change: [‘Global Warming of 1.5°C Special Report’](#) (2018)

<sup>3</sup> Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services: [‘Global Assessment Report on Biodiversity and Ecosystem Services’](#) (2019)

<sup>4</sup> Convention of Biological Diversity: [Aichi Biodiversity Targets](#) Accessed November 2020

<sup>5</sup> The Scottish Parliament: [Green Recovery Inquiry](#) Accessed November 2020

As a National Park Authority, we are uniquely placed within the public sector to support the green recovery and Scotland's emissions reduction targets by delivering real, place-based outcomes for climate and nature. Conserving and enhancing the natural environment of the National Park is one of our core aims and we have been delivering multi-benefit action since our inception, placing nature and nature-based solutions at the heart of climate work.<sup>6</sup> With our partners across the National Park, we have already delivered tangible improvement projects, such as peatland restoration and woodland creation, which have established our credibility in the climate and nature conservation sectors. Whilst we provide leadership and coordination for climate action at a place-based level for the National Park, we are also committed to reducing the impact of our own operations, to date largely through energy reduction initiatives.

The following sections of this document outline what we see as the next step in our existing climate journey: our Mission Zero. This is our plan to amplify our actions to vastly reduce our emissions and become a net zero organisation by 2030. It is grounded in our emissions reduction journey so far and incorporates advice<sup>7</sup> provided by national experts from the [Sustainable Scotland Network](#) and consultants [Practically Green](#), and will grow through continued engagement across the organisation, from our Youth Committee and Board, to volunteers and staff.

## 5 What is the Mission Zero Route Map?

### i Part of our strategic and delivery plan portfolio

Mission Zero is Loch Lomond & The Trossach's National Park Authority's Route Map to becoming a net zero organisation by 2030. It focuses on reducing our organisation's carbon emissions as an urgent and important step towards tackling the global climate emergency, and forms part of our contribution towards the Scottish Government's binding target of becoming a Net Zero Nation by 2045.

Whilst this Route Map focuses solely on our organisation's greenhouse gas emissions, it is part of a wider portfolio of work on climate and nature delivered by the National Park Authority, as summarised below.

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<sup>6</sup> NatureScot: [Nature Based Solutions](#) Accessed November 2020

<sup>7</sup> Practically Green & Sustainable Scotland Network: 'Net Zero Feasibility Study for Loch Lomond and the Trossachs National Park Authority' (2020 awaiting publication)

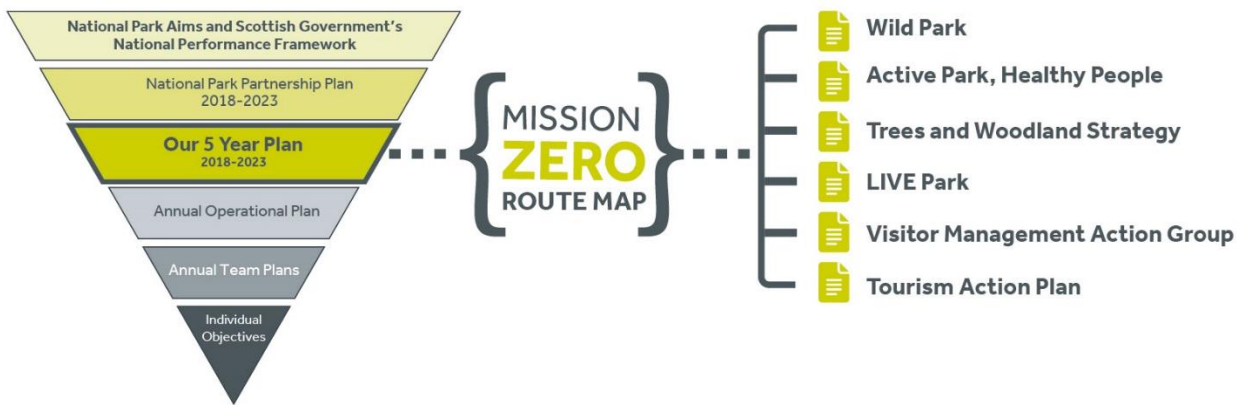


Figure 1 Mission Zero context

Importantly, we also see this plan as a foundation stone for subsequent National Park-wide climate emergency partnership planning work. Building on the model of our National Park Partnership Plan approach, we are committed to leading and supporting our partners, businesses and communities in the development of a coordinated approach to climate change work across the National Park.

## ii Our journey so far

As a public body, we have reported our emissions reduction work to the Scottish Government as part of our Public Bodies Duty since 2014.<sup>8</sup> This annual report encapsulates the required scope one and two emissions, but also water and grey fleet as voluntary scope three emissions. The graph below outlines our emissions over this period, and shows a reduction of 38%, from 310 to c.222 tCo2e. This reduction has largely been due to the marked decarbonisation of the national grid through use of more renewable energy sources and also subsequent amendments to the reporting metrics used to calculate emissions.

We have however also taken active steps to reduce our emissions. A particular success is our road vehicle fleet: as of March 2020 our road fleet was approximately 37% electric or hybrid vehicles; and despite increased operational need for staff to be on the ground across the National Park, we have also reduced our overall emissions associated with transport. Other incremental changes that have improved our energy efficiency have included enhanced internal training on our biomass heating system at our head office at Carrochan and shifting to LED lighting across our estate wherever possible.

<sup>8</sup> The Scottish Government: '[Public bodies climate change duties: putting them into practice, guidance required by part four of the Climate Change \(Scotland\) Act 2009](#)', (2011)

## Emissions Reductions (tCO<sub>2</sub>e) 2015/16 – 2018/19

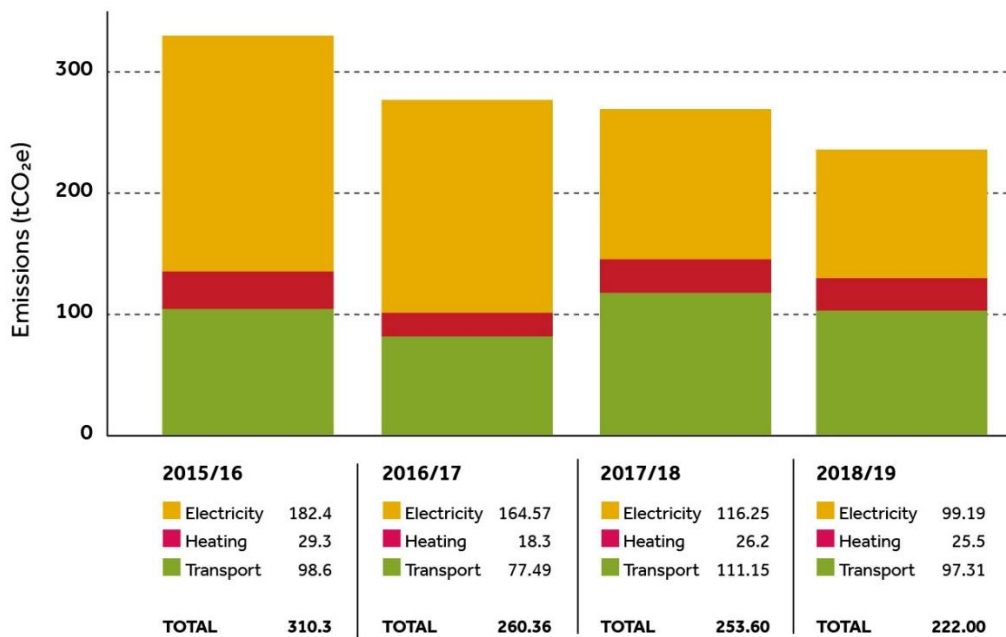


Figure 2 shows our emissions reduction journey from 2015/16 to 2018/19

Whilst our actions to date have had positive impacts in helping to tackle the climate emergency and other associated benefits, they are not sufficient to meet the more recent ambition of being net zero as outlined by the Scottish Government. In order to deliver net zero at a corporate level we now need a step change in our approach. This has led to the creation of this Mission Zero Route Map.

### iii The Principles that guide our Mission Zero

This document is intended as an overview of our journey towards becoming a net zero organisation, outlining high level targets and actions to structure this. This trajectory has been modelled from the emissions data that we have been gathering since 2013/14 and represents a preferred pathway based on current data and national projections. However, work on understanding and tackling the climate emergency is continuously evolving and we anticipate that between now and 2030 we will see changes in global, national and local policies and advancements in technology that will likely alter the trajectory of our route to net zero, but not radically change the destination point. As such, we will take a flexible approach to regularly reviewing and incorporating relevant updates and information into our plans as they emerge. Regardless of any changes, we will continue to be guided by the following principles, to ensure that the National Park Authority remains clearly focused on achieving the target of net zero and beyond.

On our Mission Zero we will:

- **Reduce emissions before considering offsetting**



We will drive down our organisation's emissions as much as possible, aiming towards direct zero. We will also focus on nature-based solutions to tackling the climate emergency, investing in the National Park to deliver carbon sequestration projects which deliver multiple benefits for climate, people and nature.

- **Aim to bring the date closer through early action**

We have been ambitious with our date, but through regular review and continued investment in our Mission Zero, we will seek to bring our net zero date closer than 2030 if practicable.

- **Work beyond the boundary of net zero**

We will make changes to reduce emissions associated with all of the activities we carry out, even if these are indirect and beyond the immediate boundary of our Mission Zero.

- **Embed Mission Zero thinking and action across the whole organisation**

Protecting the environment is already at the core of what we do, but we will ensure that climate thinking and our emissions reduction work is embedded in the culture of all our teams and our Board.

- **Support people and partnerships to drive change**

From our own individual behaviours and organisational culture to developing partnerships, we will collectively build motivation and momentum to drive positive and coordinated climate action across the National Park.

- **Be evidence led, sharing our learning on our journey to net zero**

Our actions are grounded in data and insights and we will continuously measure interventions to track our impact and learn from these as we seek to improve further. We will share our evidence and learning with others to drive more effective emissions reductions.

## 5 What do our Emissions include?

### i Boundary and baseline emissions from our operations

Our Mission Zero 'boundary' encapsulates the emissions that we are confident that we can track and monitor. This includes scope one emissions, which arise from sources that we own or control directly, such as our fleet vehicles or the emissions associated with heating our buildings across our estate.<sup>9</sup> It also includes scope two emissions from electricity generation and scope three emissions that are an immediate result of the National Park's operations and services that we control, such as the use of personal vehicles (grey fleet) or public transport for work purposes.

Whilst our operational boundary is specifically drawn for the purposes of reporting and modelling a route towards net zero, we are aware of, and also committed to, reducing the

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<sup>9</sup> For the purposes of Mission Zero, we have defined our estate as the buildings and sites that we own or manage directly; therefore we have included offices that we are tenants of, but do not own, but any buildings that we own but lease out, are not included within the operational boundary.

emissions associated with activities outside of the boundary, such as commuting, procurement, water and waste, as outlined within our principles.

Our Mission Zero baseline year is 2018/19 and our baseline emissions from that year were c.222 tonnes of Co2e. For the purposes of targeting action, we group our emissions into three areas:

- **Electricity:** this accounts for the largest proportion (45%) of our emissions, currently equating to 99.19 tco2e;
- **Transport:** closely following electricity, this forms 44% of our total emissions (97 tco2e);
- **Heating:** accounting for the remaining 11% of our emissions (25.5 tco2e).

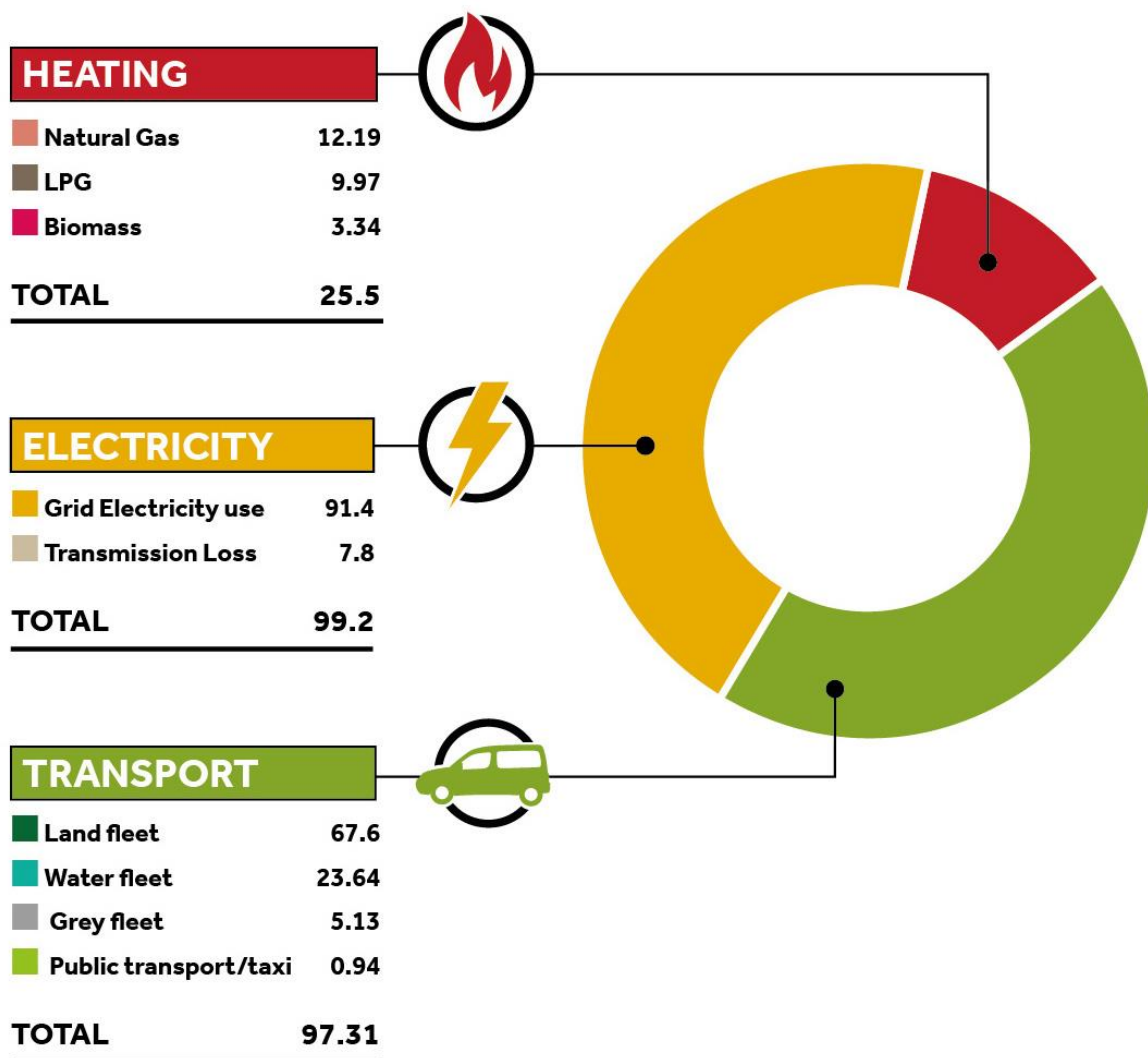


Figure 3 shows the breakdown of the emissions within our boundary (in tCo2e).

## ii Proposed emissions reduction journey

In setting out the preferred direction for this Route Map, we have focused on our principle of being evidence led and sought to set ourselves quantifiable emissions reductions targets across all three Mission Zero emissions areas of electricity, transport and heating. These emissions area targets not only allow us to clearly see how we need to prioritise action to have the most deliverable route to achieving net zero by 2030, but as they are set incrementally, they function as key milestones through which we can monitor our progress. As importantly, these targets are all associated with specific actions that we can take as an organisation, which have been robustly modelled by consultants to predict demonstrable emissions reductions.

Figure 3 summarises a proposed trajectory for an emissions reduction journey, based on achievable actions that are within our ability to deliver over the next decade: 2020-2030. It also includes the assumption of a predicted, gradual reduction in electricity emissions due to the continued decarbonisation of the national grid.<sup>10</sup> It does not include other assumptions on projected emissions reductions on the basis of any other national change (for example, changes to the emissions reporting factors), though these are likely to happen within the 10 year timeframe of our Mission Zero. To capture these as they arise, we will monitor and remodel on the basis of significant national developments. We anticipate that these are likely to have a positive impact on our net zero trajectory, bringing our residual emissions down and potentially bringing the target date closer.

### Planned Emissions Reductions (tCO<sub>2</sub>e) 2018/19 – 2030/31

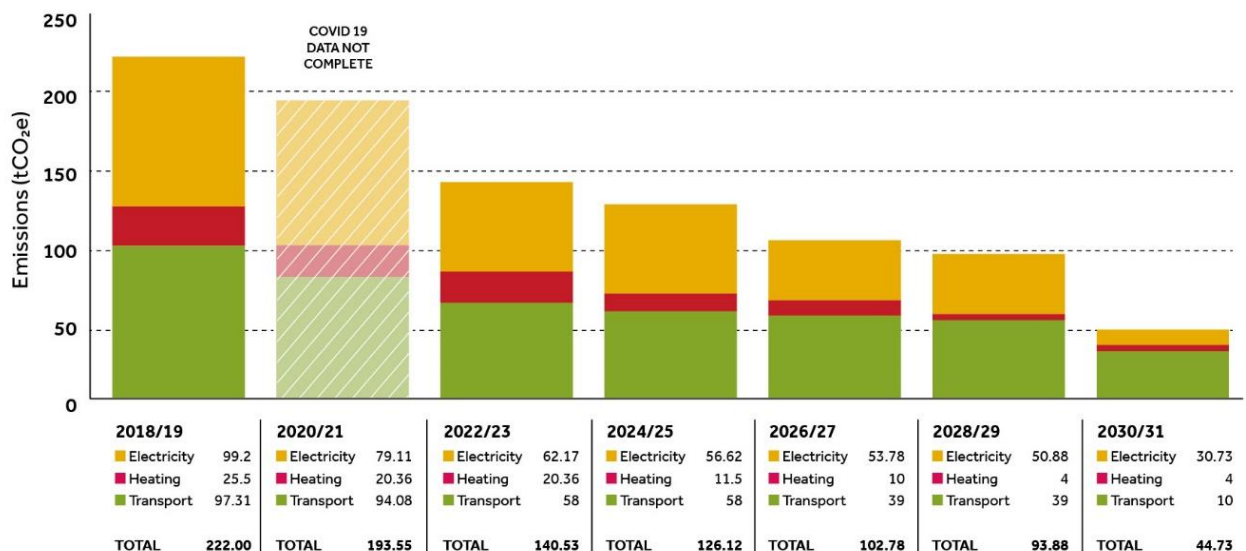


Figure 4 shows our proposed emissions reduction journey from 2018/19 to 2030/31, with each year broken into the three Mission Zero emission areas.

<sup>10</sup> These national electricity emissions reduction amounts have been extrapolated from the trajectory included within the feasibility report of our estate – see footnote 6 for reference.

Note: whilst we have made our best effort to model our journey on the basis of evidence, we are mindful of the significant anomaly in emissions predicted for the year 2020/21 due to COVID-19. As a result of the pandemic, we transformed our ways of working almost overnight; shifting the majority of our operations out of our buildings and moving to staff working from home wherever possible. This will have noticeable impacts on reducing our electricity and heating emissions in particular, though the effect on our transport emissions is yet to be determined as essential National Park patrolling and maintenance continued. As such, we have not included any predicted emissions reduction in 2020/21 within our Mission Zero trajectory, as the impacts are so far unknown. However, we are in the process of reviewing our operational response to the pandemic to understand what changes could be incorporated for the benefit of our emissions reduction journey – some of these potentially being longer term changes to our emissions. Once these are fully understood, we will reflect these within our Mission Zero monitoring and adjust accordingly.

The reduction benefits of our Mission Zero actions are therefore predicted from 2022/23 onward, where we have modelled our journey on a biennial basis. We believe this period of time is sufficient for us to realistically scope out, develop and deliver the capital infrastructure investment projects, such as air and ground source heat pump systems, that will be required to significantly reduce our emissions. In addition, this approach provides us with two-yearly milestones where we can carry out reviews of our trajectory on the basis of progress so far and any significant national level changes which may alter our trajectory.

### iii Investing in the National Park as a place to offset our residual emissions

As outlined in our principles, our focus first and foremost is on the reduction of our emissions. However, due to current technological limitations, such as the lack of proven high-power/high-range electric boat engines for our patrol boats, and emissions associated with our activity that we can't control, such as electricity transmission loss, we anticipate that we will be left with a relatively small amount of residual emissions of about 44 tco2e per year. Whilst we will seek to reduce this residual amount even further through the actions of our staff and the way we shape our services, we are mindful that some offsetting is likely to be required in order to achieve net zero. Our preference for offsetting would be to allow us to account for a portion of the sequestration activity that we facilitate and deliver within the National Park, for example, through peatland restoration and woodland creation projects that capture carbon. Currently, there is not an accounting system that allows us to easily do this, but along with other similar public bodies, there will be a need to create such a system and we therefore are making an informed assumption that the Scottish Government will address this gap in time.

### iv Emissions reduction targets and actions

As previously stated, our proposed emissions reduction trajectory is built from a series of actions across the three emissions areas, each of which has been modelled to deliver percentage reductions in our overall footprint. These actions will result in the most substantial reductions in our emissions and as such, should be prioritised over the next decade.

However, we are determined wherever possible to reduce any residual emissions, aiming for as close as possible to direct zero emissions. We will champion emissions reduction through our organisational culture and by supporting individual’s behaviours and choices. For example, this could take the form of policy reviews to embed emissions focussed decision making, or a commitment to online meeting attendance where possible to reduce our staff travel. By integrating these two factors we will see smaller, though still important additional, reductions in our carbon footprint.

For all of the three emissions areas we have outlined both the priority actions and the targets proposed to achieve these by, as well as the additional cultural and behaviour change actions we will take below. Whilst this is not intended as a detailed delivery plan, it does form the structure from which we will base arising plans around.

It is important to note that these targets and actions are based on a number of assumptions. A flexible approach is required and whilst we expect changes in the trajectory due to externally driven factors (e.g. legislation or technology) and internally driven factors (e.g. resources or skill sets), we cannot foresee their impacts at this time. However, what we are also currently unable to accurately predict is the staff resource and associated training that will be required to manage and maintain the net zero programme of delivery, including the infrastructure changes that we will make.

Further information about the way we will seek to mitigate any potential issues arising from these assumptions is outlined in sections 5v and 6.

<b>Electricity – 2018/19 emissions baseline: 99.19 tco2e</b>	
<b>Target</b>	<b>Actions</b>
<b>70% reduction in emissions by 2025</b>	<ul style="list-style-type: none"> <li>• We will invest in photovoltaics across our estate, installing on the buildings where practicable to generate our own electricity directly.</li> <li>• We will also seek to reduce our use of electricity by actively replacing all of our older lighting with LEDs.</li> <li>• At the same time, we will monitor developments on the national grid and will switch to a renewable energy supplier if it becomes a feasible, practicable option.</li> </ul>
How our behaviour and organisational culture will also reduce emissions	<p><b>Beyond boundary:</b> we will investigate more innovative approaches to photovoltaic installation, such as multifunctional panel-covered shelters in carparks, to increase our own direct energy generation.</p> <p><b>Embed Mission Zero:</b> we will create policies and training materials to support staff in making energy efficiencies across our estate.</p> <p><b>Early action:</b> we will utilise our smart meter monitoring to understand the breakdown of electricity use by certain pieces of infrastructure, our peak use patterns, and automate switch offs where possible.</p>
Work we’ve done so far	We are actively replacing our lighting with LED replacements, including the lighting within our HQ. This includes lux sensors,

	which ensured lights are not triggered on during daylight hours. Lux sensors are estimated to reduce our electricity use by 1 tCo2e each year.
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<b>Transport – 2018/19 emissions baseline: 97.31 tco2e</b>	
<b>90% reduction in emissions by 2031</b>	<ul style="list-style-type: none"> <li>• Our priority action is to incrementally increase the proportion of journeys undertaken in an electric vehicle as opposed to a fossil fuel vehicle and looking to procure larger maintenance vehicles when they become available.</li> <li>• We will also seek to reduce the amount of miles travelled, whilst maintaining responsibilities that require us to travel across the National Park. We will do this by reviewing our service provision, finding alternative modes of transport, such as active or public transport where possible or reducing the number of journeys to a minimum through innovative approaches.</li> </ul>
How our behaviour and organisational culture will also reduce emissions	<p><b>Embed Mission Zero:</b> where efficient and achievable we will embed the positive remote working practices through policy; for example, promoting greater use of conference call technology instead of travelling to meetings.</p> <p><b>People and partnerships:</b> we will support our staff and volunteers in choosing active or public transport and incentivise this wherever possible; for example, investing in electric bikes to reduce the difficulties associated with cycling.</p> <p><b>Beyond boundary:</b> wherever possible, when we install electric vehicle charging points, which in time may become available to partners and the public and potentially generate income.</p>
Work we've done so far	Our Volunteer Rangers carry out important visitor engagement patrols across the National Park and historically, they have relied upon the National Park Authority fleet to do so. However, in the last 6 years we have actively sought to develop opportunities for our Volunteer Rangers to be less dependent on our fleet, with a move to more routes being available on foot or by bike. The popularity of these walking and cycling opportunities increases each year, and subsequently we have seen a decrease in the transport emissions associated with volunteering.

<b>Heating - 2018/19 emissions baseline: 25.5 tCo2e</b>	
<b>85% reduction in emissions by 2029</b>	<ul style="list-style-type: none"> <li>• Our key priority is the replacement of LPG and natural gas heating systems and replace these with air source heat pumps. We propose to start by initially installing these at two sites: Balmaha Visitor Centre and the Duncan Mills Memorial Slipway.</li> </ul>

	<ul style="list-style-type: none"> <li>We will implement a detailed operational review of the other sites, including our stores and HQ, to reduce the heating requirements and ensure that the systems are as efficient as possible.</li> </ul>
How our behaviour and organisational culture will also reduce emissions	<p><b>Embed Mission Zero:</b> we will review our heating practices of public sites, such as toilets, to ensure that we are not overheating sites that have lower use, or outside of peak times.</p> <p><b>Evidence led and improvement focused:</b> we will continue to invest in our staff's skills to better manage our smart heating systems to ensure they are as efficient as possible.</p> <p><b>People and partnerships:</b> we will promote efficiency behaviours and choices, such as layering clothing and closing windows, before reverting to individual electric heaters or turning up thermostats.</p>
Work we've done so far	Our Visitor Centre in Balmaha welcomes thousands of visitors every year, giving us a great opportunity to engage them about the National Park. On a site visit by the Estates team, it was noticed that doors and windows were propped open in the summer to welcome people into the building, whilst the heating was still programmed on at a low level. By reviewing the heating requirements, we were able to turn heating off completely for four months over summer, saving an estimated 0.5 tCo2e each year.

#### v The cost of renewable technologies

Staff estimate that based on the outline purchase costings supplied by the consultants at the time of writing, the scale of the capital investment required to implement these new renewable energy systems across our estate could be in the region of £500k, over a three year period, should we decide to proceed. These are however outline costings only requiring further detailed investigation over the coming one to two years.

There will also be ongoing maintenance, management and staff training revenue costs, which again will require further investigation to more accurately forecast. However it should be highlighted that there will be some expected savings in energy utility costs should renewables be installed, and there may be new funding and technical support measures from Scottish and UK governments to assist public bodies on their journeys to net zero.

#### vi Monitoring, evaluating and reporting on our journey

As outlined in our principles, our actions are grounded in data and insights and we will continue to measure interventions to not only track our impact and monitor the resource input needed, but to lead discussions on how to improve further. Our ambition is to

demonstrate leadership through robust, yet accessible monitoring and we will share our evidence and learning with others to inspire continued action.

In accordance with our internal governance processes, the implementation of our Mission Zero Route Map will be governed through our project management system, which will ensure dedicated resource allocation and active ongoing engagement through a project team. We will implement regular internal reporting, leading to our annual public body duty reporting and presentation to our Board. In addition, we will carry out reviews and remodelling of our trajectory on the basis of progress so far and any national changes, in-line with the two-yearly milestones set in our Route Map.



vii Timeline (Figure 5)

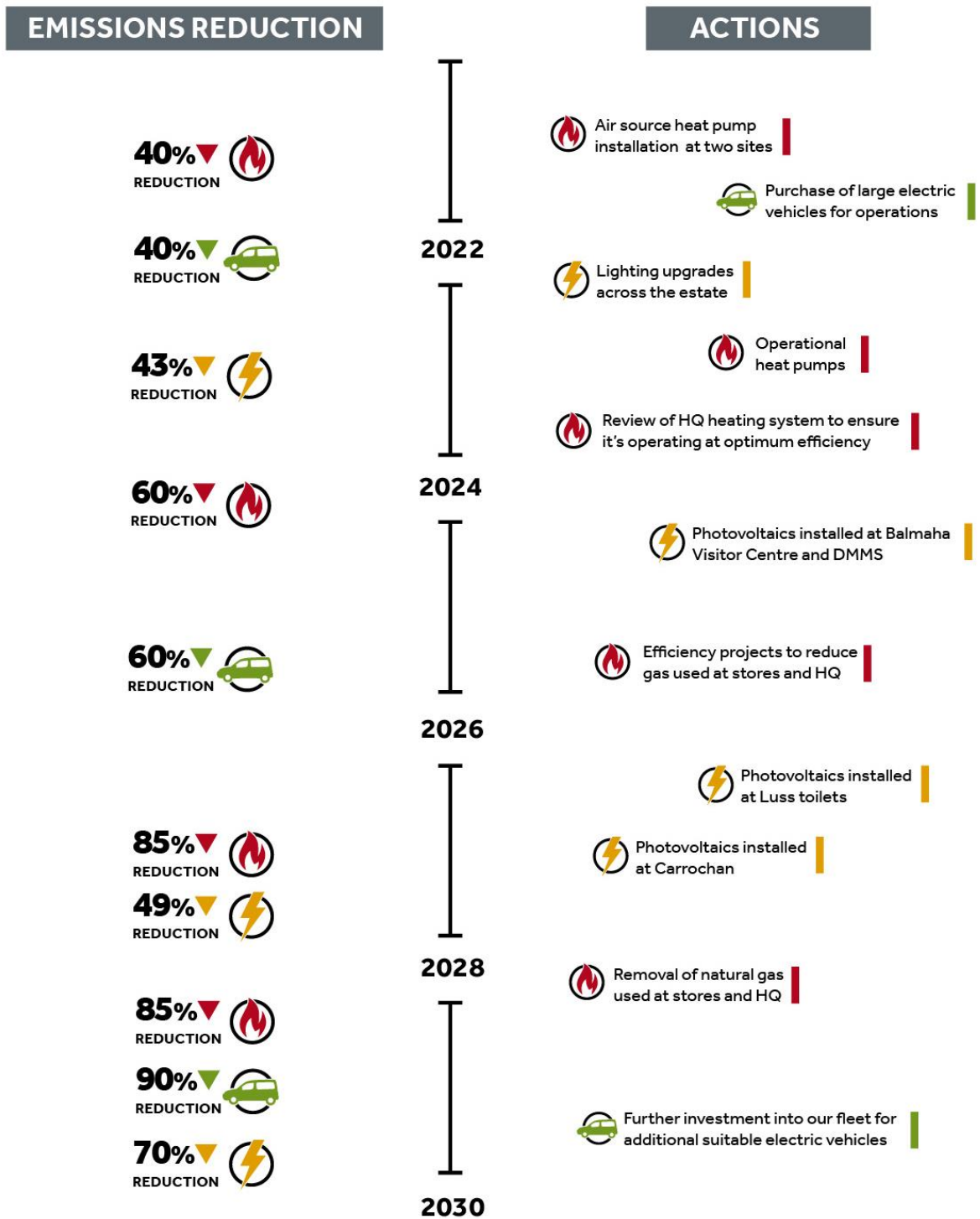


Figure 5 is a visual representation of the proposed timeline for emissions reduction (subject to change)

## 6 Implementing our Mission Zero: our next steps

We are fully aware of the challenges that lie before us in achieving our net zero ambitions, and understand that in order for us to be able to make the transformational changes required, we will need to continuously invest in our Mission Zero; not only in terms of capital budget to implement infrastructure projects but also in our staff resource, skills and capacity. Our next steps for implementation are to:

- Develop a detailed action plan for delivery in years one and two (2021-22)

We want to kick-start our Mission Zero through early investment into fully scoping infrastructure transformations and staff training and engagement, so to facilitate this we will quickly develop a detailed action plan. Within this plan, we will quantify, prioritise and commit resources to Mission Zero over the first two years as the bedrock for the next eight years of our journey.

- Build staff capacity through renewed engagement around Mission Zero

We will create a dedicated Mission Zero Project Team to secure staff time and to build capacity towards our priority actions, as well as developing a wider engagement programme for all staff, Board and volunteers, ensuring that everyone is invested in, and understands how, they can positively impact our Mission Zero.

- Bring together our local network of public sector partners

Other public bodies across the National Park such as the local authorities are also on their own emissions reduction journeys. By bringing these bodies together with support from the Sustainable Scotland Network, we would aim to identify and deliver mutually beneficial actions to reduce our respective emissions.

- Continued engagement with Scottish Government and our sister public environmental organisations

In order to help us achieve our ambitions, we will need to maximise our continued support from the Scottish Government and our partners across the networks. We would seek to work with other public environmental bodies, developing a shared best practice for net zero organisations, and positioning the National Park Authority in both the public and private sectors as an agency capable of capitalising on future opportunities arising from the Green Recovery agenda.

- Gain momentum for a National Park-wide net zero plan

Mission Zero is a critical piece of work for our own sustainability journey; but, perhaps more importantly, we see it as the first phase in developing a climate emergency partnership for the National Park as a place. We will engage partners through our Mission Zero, facilitating, influencing and supporting others to move towards net zero across the National Park, using the Park as a place to bring together the key issues of emissions reduction, sequestration and wider benefits for climate, nature and people.

## **7 Conclusion**

We have made some promising early progress in reducing our organisation's emissions, but we are really only beginning our journey to net zero. Our targets are ambitious, but we are committed: over the next decade we will increase our efforts to achieve net zero emissions by 2030.

Our Mission Zero starts now.

## 8 Glossary

**Adaptation** - Adjusting to actual or expected future climate. The goal is to reduce our vulnerability to the harmful effects of climate change whilst making the most of any potential beneficial opportunities associated with climate change.

**Baseline** - [Base year] A historical specific year against which an organisations emissions are tracked over time.

**Boundary** - The boundary determines which emissions are measured or calculated and reported by the organisation.

**Carbon footprint** - The amount of carbon emitted by an individual or organisation in a given period of time.

**Carbon sequestration** - The removal and storage of carbon from the atmosphere in carbon sinks (such as oceans, forests or soils).

**Climate Emergency** - A situation in which urgent action is required to reduce or halt climate change and avoid potentially irreversible environmental damage resulting from it.

**Decarbonisation** - The process of reduction or removal of carbon from energy production.

**Direct zero emissions** - Mitigation of organisational activities so there are no emissions whatsoever.

**Emissions** - The release of greenhouse gases into the atmosphere.

**Fossil fuel** - A fuel derived from geological deposits of plant and animal remains, such as coal, oil, or natural gas.

**Greenhouse gas** - These are the gases known to warm the earth's climate. Greenhouse gases per the Kyoto protocol are: Carbon dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), Hydro-fluorocarbons (HFC), Perfluorocarbons (PFC), Nitrogen Trifluoride (NF<sub>3</sub>) and Sulphur Hexafluoride (SF<sub>6</sub>).

**Green Recovery** - A package of environmental, regulatory and fiscal reforms to recover prosperity after the COVID-19 pandemic. This investment, to lift countries out of economic recession, should be spent in a way that combats global warming, including the reduction of coal, oil, and gas use, as well as investment in clean transport, renewable energy, eco-friendly buildings, and sustainable corporate or financial practices.

**Heat pump** - A heat pump is a device that transfers heat energy from a source of heat to what is called a thermal reservoir. Heat pumps move thermal energy in the opposite direction of spontaneous heat transfer, by absorbing heat from a cold space and releasing it to a warmer one.

**Mission Zero** – The National Park Authority's ambition and approach to becoming a net zero organisation by 2030.

**Mitigation** - Reducing emissions of and stabilising the levels of heat-trapping greenhouse gases in the atmosphere.

**Net zero** - Is the balance between the amount of greenhouse gas produced and the amount removed from the atmosphere. We reach net zero when the amount we add is no more than the amount taken away.

**Offsetting** - [*Carbon offset*] An action or activity (such as the planting of trees or carbon sequestration) that compensates for the emission of carbon dioxide or other greenhouse gases to the atmosphere.

**Photovoltaics** - Photovoltaics is the conversion of light into electricity using semiconducting materials that exhibit the photovoltaic effect.

**Renewable energy** - Energy taken from sources that are replenished by natural processes, e.g. wind, water, solar, geothermal energy and biofuels.

**Residual emissions** - These are emissions produced by "hard-to-treat" sectors where emission abatement is prohibitively expensive.

**Scope** - Greenhouse Gas Protocol definition which defines the operational boundaries in relation to indirect and direct greenhouse gas emissions.

**Scope 1** - Covers direct emissions from owned or controlled sources.

**Scope 2** - Covers indirect emissions from the generation of purchased electricity, steam, heating and cooling consumed by the reporting company.

**Scope 3** - Includes all other indirect emissions that occur in a company's value chain.

**Smart meter** - Is an electronic device that records information such as consumption of electric energy, voltage levels, current, and power factor. They communicate the information to the consumer for greater clarity of consumption behaviour, and electricity suppliers for system monitoring and customer billing.

**tCo2e** - Tonnes of carbon dioxide equivalent.