

Mission Zero – becoming a net zero organisation



MISSION
ZERO

INTRODUCTION

Climate change is one of the biggest threats facing humankind and we only have a short timeframe in which we must act to limit global damage. Defining climate change as an emergency recognises the seriousness of the situation and expresses the need to take immediate and large scale action.

The Scottish Government declared a global climate emergency in 2019, and set out its ambition to become a 'Net Zero Nation' by 2045. The impacts of the global climate emergency are being felt here in Loch Lomond & The Trossachs National Park and it is clear that they are already affecting our landscapes, nature, businesses and communities.

As a public body, the National Park Authority have a moral and statutory obligation to play our part in helping Scotland achieve its ambitious plans. We believe we must lead by example in tackling the climate emergency, and our Mission Zero is our plan to be a net zero emitting organisation in terms of greenhouse gas emissions by 2030.

Did you know?

Over two thirds of adults in Scotland view climate change as an immediate and urgent problem (Scottish Household Survey, 2019).

A recent survey run by the National Park Youth Committee highlighted that for the 120 young people completing the survey, by far the most important issue was Climate Change, with 41% of the young people completing the survey, ranking this as of most importance. This was followed by litter (24%) and single use plastics (11%).

The Climate Emergency



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. 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.

In Scotland, our winters are now wetter and warmer, and our summers hotter and drier. Some of the effects of climate change in and around

the National Park include regular flooding events and increased extreme rainfall causing landslips and road closures that negatively impact upon the communities and economy of the area. Less noticeable but still concerning are the rapid shifts in natural lifecycles, as species and habitats try to adapt to milder, wetter and windier conditions. The effects of the global climate emergency have very real, negative impact on all our lives, our places and our natural world at a local level, and these are predicted to increase in the future.

The scientific community continues to raise awareness of the action that needs to be taken. Most recently, there was a data led landmark report from the [IPCC](#) which reinforces the need for swift and decisive action to limit our impact on climate.

Our work to tackle the Climate Emergency

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.

We have been taking action to help tackle the climate emergency for several years, such as reducing the level of fossil fuel use, and working with partners on peatland restoration and tree planting projects that sequester (store) carbon.



What does becoming Net Zero mean?

Climate changing gases are often called greenhouse gases or more generally grouped under the name 'carbon emissions'. Carbon dioxide is the most well-known, as it is the main gas that's released when burning fossil fuels, though there are a number of gases which contribute to the climate emergency.

Net zero emissions means that the amount of greenhouse gas emissions we put into the atmosphere balances with the amount we're able to take out of the atmosphere. We can achieve net zero by cutting our emissions to a minimum and capturing the emissions we can't prevent by, for example, planting trees, restoring peatlands or using carbon capture technology.

This balancing or offsetting should be seen as secondary to reduction of emissions and preventing these in the first place. When an organisation sets a Net Zero target, this is the date by which they are aiming to reach this balance.



Where are we on our Net Zero Journey?

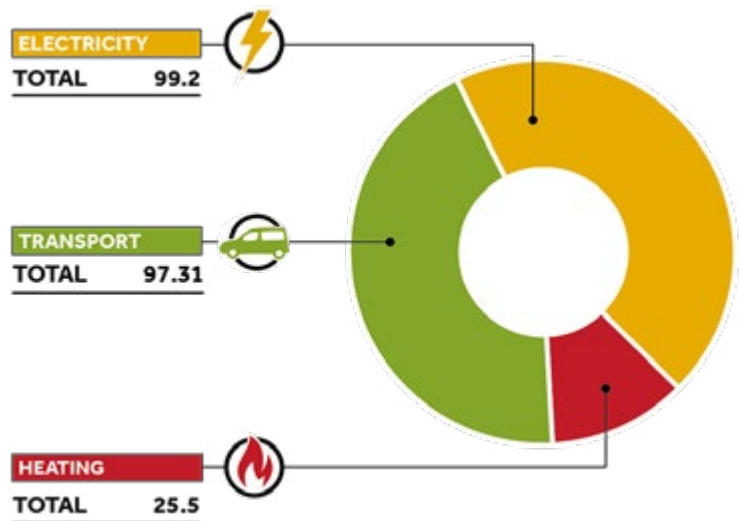
Our greenhouse gas emissions reduction journey began six years ago and so far, we have lowered our emissions by 38% from our baseline figures in 2013/14.

We have work underway across many different areas to start to reduce our emissions in these areas. We have started to change the vehicles we use (our fleet) away from fossil fuels to electric cars and use biomass instead of gas to heat our headquarters. We also have an active Climate Change Group who have championed sustainability across the organisation, leading on numerous projects that have 'greened' the way we work.

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.

Whilst our actions to date have had positive impacts in helping to tackle the climate emergency, they are not sufficient to meet the more recent ambition of being net zero as outlined by the Scottish Government.

BASELINE FIGURES IN 2013/14



Mission Zero Route Map

Our next step in our climate action journey is through our [Mission Zero Route Map](#). We have published a [glossary](#) of the terms we have used in the routemap to help explain what they mean.

Mission Zero is Loch Lomond & The Trossachs 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.

Our Net Zero target focuses solely on the emissions associated with the activities we do as an organisation. In order to make our calculations meaningful we have drawn a boundary (a limit) around which emissions are included within our net zero target. These are Transport (for example the use of our fleet vehicles), Electricity (including any energy used across our sites for lighting, or charging of equipment) and Heating (the many

different ways in which we heat our buildings, which includes the use of oil and gas systems). These are called our 'Within Boundary' actions.

However what you will see within the Routemap is that we are also committed to taking action to reduce our emissions, even if they come from a different type of activity. For example any emissions associated with our waste we produce. But we need more time to understand how to measure these and capture the right kinds of information. These are called our 'Beyond Boundary' actions.

So in practice what this means is that our approach to reducing our emissions is woven through all our key strands of work such as our visitor experience and management activities, and the way we support and engage businesses.

Just as importantly, we have agreed a set of principles, which we will use to guide our work. These are shown here:

OUR MISSION ZERO PRINCIPLES



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.



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.



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.



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.



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.

How will we get to our target date of 2030?

Our Mission Zero Route Map is an overview of our journey towards becoming a net zero organisation, outlining high level targets and actions we will take. 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 change our route to net zero, but not radically change the destination point. Regardless of any changes, we will continue to be guided by our principles, to ensure that the National Park Authority remains clearly focused on achieving the target of net zero and beyond.

In the Route Map we have grouped our core emissions into three themes:

 **TRANSPORT**

 **ELECTRICITY**

 **HEATING**

Taking the year 2018/19 as the baseline from which we have planned our reductions, we have 222tCO₂e (tonnes carbon dioxide equivalent) to reduce to net zero. That's roughly equivalent to 42 return flights from Edinburgh to New Zealand.

On our Mission Zero journey we will:



Reduce emissions before considering offsetting - We will drive down our organisation's emissions as much as possible and also focus on nature-based solutions to tackling the climate emergency.

Offsetting is 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.

Nature-based Solutions are actions to protect, sustainably manage, and restore natural ecosystems



Aim to bring the date closer through early action - we will seek to bring our net zero date closer than 2030 if practicable.




Embed Mission Zero thinking and action across the whole organisation - we will ensure that climate thinking and our emissions reduction work is embedded in the culture of all our teams, our Volunteers, Youth Committee and our Board.




Be evidence led, sharing our learning on our journey to net zero - we will continuously measure and track our impact so we can learn and seek to improve further. We will share our evidence and learning to support others, leading to more effective emissions reductions.

How do we break this down?


We have set ourselves measurable emissions reductions targets across all three Mission Zero areas of electricity, transport and heating. These targets not only allow us to clearly see how we need to prioritise action but also they function as key milestones so we can monitor our progress.



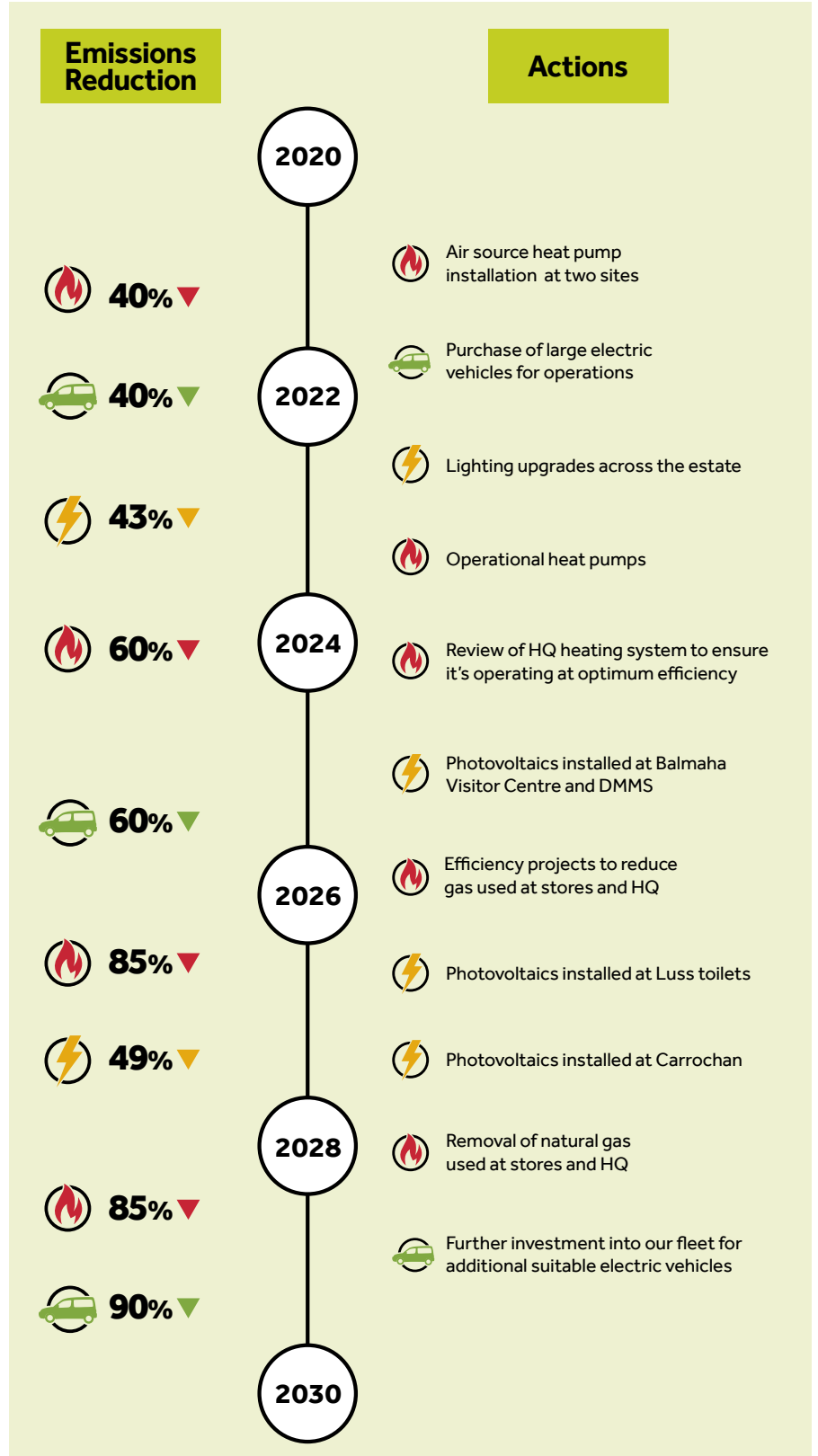
ELECTRICITY
this accounts for the largest proportion (45%) of our emissions, currently equating to 99.19 tco2e



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).



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

What are our priority actions?



ELECTRICITY REDUCTION TARGETS – 70% REDUCTION IN EMISSIONS BY 2025

- Invest in photovoltaics (converting light into energy) across our estate, installing on the buildings where practicable to generate our own electricity directly.
- Reduce our use of electricity by actively replacing all of our older lighting with LEDs (light-emitting diodes).



TRANSPORT REDUCTION TARGETS – 90% REDUCTIONS IN EMISSIONS BY 2031

- Increase the proportion of journeys undertaken in an electric vehicle instead of petrol or diesel and will look to buy larger electric maintenance vehicles when they become available.

We will also seek to:

- Reduce the amount of miles travelled, whilst maintaining responsibilities that require us to travel across the National Park.
- Reviewing how we provide our services, 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 such as holding virtual meetings.



HEATING REDUCTION TARGETS – 85% REDUCTIONS IN EMISSIONS BY 2029

- Replacement of LPG (Liquid Petroleum Gas) 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.
- Detailed review of the other sites, including our equipment stores and main Headquarters office in Balloch, to reduce the heating requirements and ensure that the systems are as efficient as possible.



ebike volunteers

Volunteer Rangers are trialling e-bikes as a sustainable method of transport for them to engage with visitors and for volunteers to deliver conservation management and path maintenance.

This is part of a wider plan for reducing the environmental impact of delivering volunteer activities, whilst also focusing volunteering resources on raising awareness of mission zero, enhancing biodiversity and encouraging responsible access. This trial will help us to incorporate using e-bikes into wider National Park plans.

How do we know how much progress we're making?

Every year Scottish public sector organisations have to report to Scottish Government on progress towards reducing emissions and wider climate activity. All Reports are made publically available, and give a really interesting snapshot of how we're all doing! Completing these reports take a lot of time, and requires us to be gathering information and data as we go through the year. For example, staff from across the organisation are involved in taking electricity meter readings or recording how much fuel is being used.

It's really important to us that we can measure how effective we are being at reducing our emissions and we work hard to share with others and learn from how all our partner organisations are doing.



Climate as central to our role - National Park Partnership Plan

The National Park Partnership Plan guides the work of not just the National Park Authority but of all the organisations and other partners involved in managing the area and making the overarching vision a reality. The Plan sets out how we will work together to tackle key issues within the National Park and to widen the many social, environmental, cultural and economic benefits it offers. This plan is approved by Scottish Government and acts as guidance for everything we do.

As you'll see, climate and nature are top priorities for not only the National Park Authority, but for our work with partners across the National Park.

Future projects

The Route Map is our plan for emissions reduction, and it outlines how we will transform the land and buildings we manage by investing in green infrastructure such as air source heat pumps to heat our visitor centre and toilets, solar panels to power our headquarters and Duncan Mills Memorial Slipway and even more efficient LED lightbulbs and sensors across all our buildings.

We will continue our shift towards an electric fleet so we can travel round the National Park as sustainably as possible, including our cars and vans as well as embracing new innovative technology with the first ever electric boat for our Ranger Service on Loch Lomond.



Electric boat

How you can reduce your impact on the National Park

Whether you live in the National Park, are visiting for the day, or here on a study visit, there are ways that we can all reduce our impact on the National Park and take action against the climate emergency.

Everyone has a role to play in tackling the climate emergency and individual action is just as important as the action being taken by businesses, countries or organisations. The COVID-19 pandemic has shown we are able and willing to make radical changes to our way of life in the face of crisis; we think it's really important to use this energy in the fight against climate change. It is important also to understand that the changes we need to make to take positive climate action, are likely to have many different positive benefits, not just for the planet, but for our health, wellbeing and lifestyles.

As individuals, one way to start thinking of our own behaviour is to question whether we can do something less, or do it differently. An example for transport, which is one of Scotland's highest emissions areas, is to consider how you get to the places you visit. We would encourage everyone to think about whether you need to make the journey? If you do, then consider whether you can choose a mode of transport which has less emissions e.g. walking to the shops or taking a bike.



AT HOME

Scottish Government's [Net Zero Nation website](#) has plenty of materials and ideas for how you can make changes at home to help Scotland take action, including guidance on things like:

- **EATING GREENER** – reducing the emissions and impact of the food we choose, buying seasonal and locally produced food where possible and cutting down on the amount of red meat.
- **HOME ENERGY** – how to make your home energy efficient
- **ACTIVE TRAVEL** – choosing ways of travelling which are better not only for the planet but for your health too!





Questions and pupil enquiry

- What do the terms Mission Zero and Net Zero mean? Why do you think these are important in helping to tackle Climate Change?
- What year has the National Park Authority set as our goal for Mission Zero? How is this different from the date set by the Scottish Government and why do you think that is?
- In our National Park Mission Zero Routemap, what are the key three areas where we are taking action to reduce our impact?
- Can you list three ways we are aiming to balance our emissions with the carbon we can sequester (store)? Why do we prioritise reducing emissions to offsetting?
- What does the term tCO₂e mean? Why is this important when calculating emissions?
- Calculate your personal Carbon Footprint, did anything surprise you? What simple steps can you take to reduce the footprint?
- Have a look at the new National Park Journey Planner. Can you plan a class visit to Balmaha, east Loch Lomond? Consider how your visit would impact on the environment and list the ways you could reduce emissions.

FURTHER READING

Online

- [Our Mission Zero Routemap](#)
- [Mission Zero Glossary of terms used](#)
- [Climate Change impacts in Scotland](#)
NatureScot have published this to highlight how the unprecedented rate of human-induced climate change threatens plants and animals unable to adapt quickly enough to its effects.
- [Climate and nature impact report](#)
See how the John Muir Award helps groups take action for the climate and nature in the National Park and ways you can get involved.

Videos

Our Mission Zero

National Park Authority Board Member, Heather Reid, introduces Mission Zero: our pledge to become a net zero organisation by 2030.

Reducing your carbon footprint in the National Park

from choosing sustainable transport methods to reducing your waste and signing up to volunteer on conservation projects, there are lots of ways you can reduce your carbon footprint when visiting the National Park.

Bog in a bottle experiment

Learn more about the importance of peatlands for climate change with this simple experiment.