



NC'NEAN

SUSTAINABILITY REPORT

2021-22

The year we drove our carbon footprint per bottle down, and the year we became a B Corp. This report shows you our annual carbon footprint, as well as our performance in the other areas including packaging, water conservation, waste management and biodiversity.



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MADE BY NATURE NOT BY RULES

Our mission is to change the way the world thinks about whisky from Scotland. To create light and delicious spirits which can exist in harmony with this planet we call home. Our name, pronounced Nc-nee-an, is an abbreviation of Neachneohain, the Queen of Spirits in ancient Gaelic mythology. She was a fierce protector of nature and a lover of all things wild. Never afraid to walk her own path. She is our guiding star and we try to follow her ethos in everything we do, which means sustainability always comes first. Now more than ever, our earth needs us, so this report outlines all we are currently doing to protect our planet, how we've improved since last year and what we plan to do in the future.

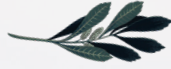


PREVENTING THE RISE OF 1.5°C

Our planet is already 1°C warmer than it was at the turn of the 20th century. You only had to look outside the window to see the effects of the droughts across most of the UK this year, or watch the news to see the devastating impacts of extreme weather events across the globe. Further rises will cause irreversible damage to the way our planet functions. The point at which the temperature will stop rising is not defined by when we stop emitting, but by the overall amount (tonnes) of greenhouse gases in the atmosphere. Climate scientists have predicted that we only have a 50/50 chance of keeping our planetary warming to below 1.5°C at the current rate and without increased effort to reduce emissions, we are going to overshoot that mark by the end of this decade.¹ So the task we have facing us all is to physically reduce and remove emissions as quickly as we can, and this report delves into what we at Nc'nean are doing to help.

IN SUMMARY

SECTION 1



THE STUFF YOU ABSOLUTELY NEED TO KNOW

NET ZERO

Verified net zero carbon emissions from our own operations (scopes 1 and 2).

Our distillery operates on 100% renewable energy.

In total, inclusive of our supplier emissions, we emit only 334.9 tonnes of CO₂ a year. We offset this through verified carbon removal projects.

CERTIFIED ORGANIC

Our organic barley has a 42% lower carbon footprint than conventional barley.

Every bottle of whisky that is purchased supports two square metres of biodiversity through farming.

PACKAGING

Our whisky bottles are made from 100% recycled glass, reducing their carbon footprint by 40%.

Our use of natural cork stoppers reduces our packaging carbon footprint.

Our gift tubes are made from 90% recycled card.

B CORP

In January 2022 we became certified as a B Corporation, putting our planet and all of us who call it home, on an equal footing with profit.

We were delighted to receive an incredibly high score of 135.6, with major points being awarded in the environmental stewardship area.

ZERO WASTE

We are proudly zero waste to landfill. This year we recycled or re-used 99.96% of all our waste on site at the distillery.

WATER SAVINGS

We continually recycle 100% of our cooling water, resulting in a low water footprint.

CARBON FOOTPRINT

SECTION 2

WHY ARE WE REPORTING?

Nc'nean is a protector of nature. We are extremely lucky to be located in an area of the world which has outstanding natural beauty, and this is the everyday motivation behind wanting to preserve, conserve and enhance this land we inhabit.



WHAT IS A CARBON FOOTPRINT ANYWAY?

A footprint is the total amount of fuel used in the course of business operation, expressed in 'tonnes of CO₂e'. This is the volume of emissions of green house gases that are created from using that fuel. Carbon dioxide (CO₂) is the most abundant of these, but there are others which also have global warming potential, to a lesser or greater extent, so to make it easy to understand the total impact, all the emissions are counted together as 'carbon dioxide equivalents' and that's why we have the little 'e'!

A tonne is a pretty abstract measurement for a gas, so to put it into context you would need to burn 400 litres of diesel or 500 litres of petrol to release 1 tonne of CO₂e into the air.



Or to make things simple - a whole plane's return journey from London to New York emits around 300 tonnes of CO₂ equivalent (CO₂e) into the air!²

OUR NET ZERO JOURNEY

THE NC'NEAN CARBON FOOTPRINT

Our footprint represents all of the emissions that are created by us and those created in our supply chain up to the point that our spirits are purchased from us. This is known as a 'cradle to gate' footprint. Our 'gate' is not physically at the distillery (because we are far too remote) - we use a distribution warehouse, so we have included the transport emissions to get our spirits there. More detail about our carbon footprint can be [found here](#).

334.9 TONNES OF CO₂; OUR TOTAL FOOTPRINT IN 2021 WHICH IS MADE UP OF TWO ELEMENTS...

DISTILLERY OPERATIONS

26.5

TONNES

Scopes 1 and 2: Emissions from our physical site, including our tractor, forklift, electricity, and our biomass boiler.³

SUPPLY CHAIN

308.4

TONNES

Scope 3: Emissions from the cultivation, manufacturing and transport of all raw materials, packaging and products as well as staff travel and site waste.⁴

MINUS



MINUS

26.5

(TONNES OF CARBON REMOVED VIA OFFSETTING WITH HIGHLAND CARBON)

308.4

(TONNES OF CARBON REMOVED VIA OFFSETTING WITH HIGHLAND CARBON)

EQUALS



EQUALS

DISTILLERY OPERATIONS

(SCOPE 1 AND 2)

NET ZERO

SUPPLY CHAIN

(SCOPE 3)

CARBON NEUTRAL



WE ARE NET ZERO NOW

Ahead of the curve. In Scotland, the target set by the government is for the country's emissions to be net zero by 2045.⁵ The Scotch Whisky Association want all their member distilleries to be net zero by 2040.⁶

The reason people (governments and businesses) report their emissions is so they can see how much they need to reduce them. We all need to reduce our emissions as much as we can, but removing them entirely isn't always possible. What can't be avoided can be offset by buying credits that represent 1 tonne of CO₂ removed from the atmosphere. Our credits are generated through forest plantations - trees absorb CO₂ as they grow, it's locked away in its biomass and it's stored in that wood (even if the timber is felled and sold to be used in construction or furniture). Any trees which are felled are replanted to then absorb more CO₂.

NET ZERO⁷

GETTING AS CLOSE TO
ZERO EMISSIONS AS
POSSIBLE AND REMOVING
THE REMAINDER OF THE
CO₂ IN OTHER WAYS.

CARBON NEUTRAL⁸

OFFSETTING A CARBON
FOOTPRINT WITHOUT
REDUCING EMISSIONS
BEFOREHAND

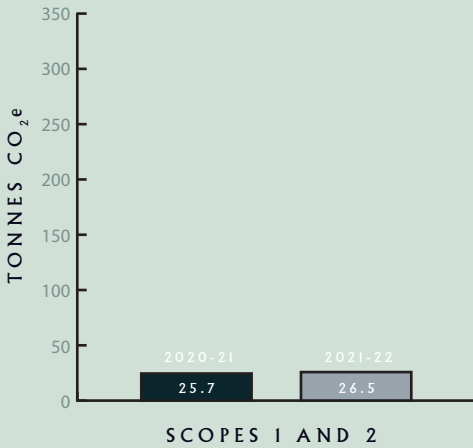
WE ARE VERIFIED NET
ZERO FOR SCOPES 1 AND
2 BY ENVIRONMENTAL
STRATEGIES LIMITED

[Click here to see our certification](#)

WE PURCHASE OUR
CARBON REMOVAL CREDITS
FROM HIGHLAND CARBON

[Click here to see our certification](#)

CARBON FOOTPRINT VS LAST YEAR



CARBON FOOTPRINT REDUCTION PER WHISKY BOTTLE

2021



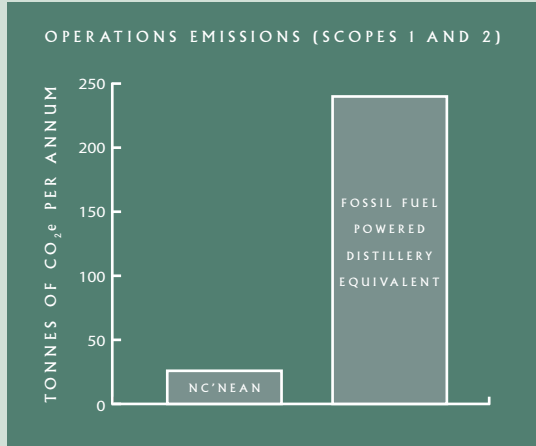
2022



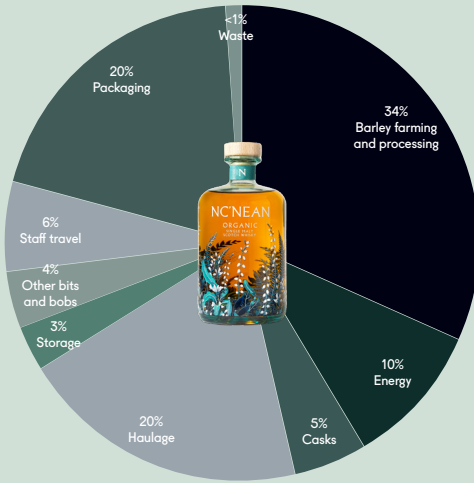
As you can see, our overall footprint has gone up very slightly this year. This is because we are producing more bottles of spirit than we were last year, and naturally with more volume comes more emissions. However, our carbon footprint per bottle of whisky we produce has gone down. We are aiming to reduce this again every year.

HOW DOES OUR FOOTPRINT COMPARE WITH OTHERS?

We have already done the leg work to reduce the majority of our energy emissions – with thanks to our biomass boiler. When wood is burned to make our steam it releases CO₂ that has already been removed from the atmosphere, so that doesn't count towards our footprint. It is called 'Biogenic CO₂'. However, in the spirit of net zero we also monitor our energy consumption so we can assess how to improve our energy efficiency.



EMISSION BREAKDOWN PER WHISKY BOTTLE



1.74kg CO₂e PER BOTTLE



By comparison, a bunch of Kenyan roses has a carbon footprint of 6kg CO₂e,⁹ which is over 3 times higher than a bottle of our whisky.

WORKING TO REDUCE EMISSIONS

The majority of emissions are in our supply chain (scope 3), which are much harder to reduce because they are not created by us. Along with further reducing our scope 1 and 2 emissions, the plan for the next nine years is to work with our suppliers and encourage them to reduce their own emissions, bringing our supply chain footprint closer to net zero. Here are some of the things we have done and are doing to help us hit that target.

PACKAGING OUR
WHISKY IN MATERIALS
MADE FROM MINIMUM
90% RECYCLED
CONTENT

ALWAYS GIVING
CONSUMERS AND
RETAILERS THE OPTION
TO BUY OUR WHISKY
WITHOUT A GIFT BOX

USING ORGANIC
BARLEY WITH A 42%
LOWER CARBON
FOOTPRINT THAN
CONVENTIONAL

REDUCING ROAD
MILES BY CHOOSING
SUPPLIERS CLOSER TO
THE DISTILLERY

REPLACING FOSSIL
FUEL VEHICLES IN
THE DISTILLERY
WITH GREENER
ALTERNATIVES

REDUCING THE
CARBON INTENSITY
OF HAULING GOODS
THIS YEAR BY 19%



OUR ORGANIC FARMERS

Organic farming has many benefits, including protecting biodiversity, water and soil quality, which is why we choose to make our whisky from barley that's been farmed organically. Alongside steering clear of pesticides and artificial fertilisers, our farmers also take a very holistic approach to their farm management and include the use of renewable energy to reduce their emissions.

OUR ORGANIC BARLEY

0.21 kg CO₂e

AVERAGE CONVENTIONAL BARLEY

0.36 kg CO₂e

THE SECRET OF SOILS

Soils have a huge capacity to store carbon. In fact there is 3 times more carbon in the soil than there is in all vegetation on the planet!⁹ And here's the really cool thing... if we treat the soil correctly it would have the capacity to absorb an additional **30 BILLION TONNES OF CO₂**¹⁰ by 2050 from regenerative cropping alone! If we don't treat it correctly what happens? – It turns to dirt, and this is called desertification. The difference between healthy soil and dirt is the amount of organic matter. Organic matter is basically all the things that live and die and then rot down within the soil that create a continuous cycle of nutrients that plants need to live. As plant roots rot down, it locks all the carbon from the CO₂ that has been absorbed by the plant into the soil. With the intensive practices of applying pesticides, we are killing off the living things that help create soil organic matter, and then we disturb the soil (ploughing) so the carbon in the decaying matter is exposed to oxygen in the air and released as CO₂ again. How we choose to manage the land affects how long that carbon is locked in the soil.

IT'S NOT JUST ABOUT EMISSIONS

SECTION 3

As well as carbon footprinting, we consider sustainability to include a broad variety of things, including measuring our carbon footprint, reporting our chemical and water usage as well as waste and packaging reduction.

B CORP

Putting our planet, and all of us who call it home, on equal terms with profit.

We are chuffed to say, after a lengthy and rigorous process, that in January 2022 we officially became a B Corporation. We joined over 1000 other UK companies who, like us, believe in doing business responsibly and in putting social and environmental priorities on equal footing with profit. But what exactly is a B Corp? The B Corp certification is awarded to companies who have met extremely high social and environmental standards, representing their commitment to goals outside of simply trying to make money.

OUR SCORE:
135.6

Certified



Corporation

We were delighted to receive an incredibly high score of 135.6, with major points being awarded in the environmental impact area. In the UK, the average score for a B Corp certified business is 88, with the median score of an 'ordinary business' currently at 50.9.

As well as continuing to identify areas where we can improve, our next mission is to inspire others to go through the same certification process - to learn how to improve their social and environmental business practices. We were awarded over 70 points for our innovative efforts to protect the planet, but B Corp isn't just about nature, the process looks at governance, the community and people too. Donating to charity following our 2020 auction and engaging shareholders in environmental and social KPIs are examples of practices which also contributed to our score. You can full our full score breakdown by [clicking here](#).

We wrote a blog on why we think all companies should go through the rigorous certification process, which you can read by [clicking here](#).

PACKAGING AND CIRCULAR ECONOMY

There are many elements to product packaging, all of which have different carbon footprints, are made from different materials and have different disposal methods. We've broken down our packaging below which provides examples of how our whisky packaging is reducing our scope 3 emissions, reducing the need for sourcing virgin materials and reducing chemicals all whilst giving consumers easy options for recycling or composting at home.



RECYCLED GLASS

100% post-consumer recycled glass, reducing the carbon footprint of each bottle by 40% compared with virgin glass. Recyclable in household recycling.

REDUCING EXCESS

In 2021 11% of our bottles were sold without the gift tube. We offer all consumers and customers the option to buy without, and we are working with key retailers to improve this going forward. The tube itself is made from 90% recycled cardboard and can be recycled in household recycling.

BIO TAMPER

As opposed to plastic, we've opted for a biodegradable alternative made from renewably sourced wood pulp. You can compost this in your home compost with your stopper.

NATURAL CORK

Natural cork stopper with a wooden top. Cork is an amazing resource as the thick bark can be stripped every decade to extract the cork without damaging the trees. Both the cork and the wooden top will degrade in your home compost.

NON-TOXIC INKS

We print directly onto the bottle using water based inks which are non-toxic and considered much better for the environment.

REFILLS

We've introduced whisky refills in our distillery bar, saving both glass and a few pounds too. We want to be able to roll this out for all our partners in hospitality and retail without using single-use plastics or materials that can't be easily recycled. Not as easy as you think due to some tricky laws surrounding bottling Scotch whisky, and issues with finding the perfect packaging solution - but we are continuing to plug away at this.



DISTILLERY CHEMICALS

We are directly responsible for protecting our immediate environment and we avoid using chemicals where possible that would have a negative environmental impact. We have already replaced all of our day-to-day cleaners with alternatives like Ecover or Bio D, and we have switched out half of all the caustic (a chemical alkaline cleaner) we use for sterilising our distillery equipment, and replaced it with an Enzybrew (an enzyme cleaner) which is completely harmless to the environment.

ZERO WASTE TO LANDFILL

We are the only living thing on this planet that creates waste. We make, buy and dispose of things that don't readily break down in our environment – whether that's physical waste like plastics or chemicals that end up in our water. We believe that everything should be treated as a resource rather than as waste, so we orientate our distillery operations to remove waste altogether and make sure that we reuse, compost or recycle as much as we possibly can. In 2021 we reused or recycled 99.96% of our waste, putting only 617kg of waste into landfill. Our goal is to make sure that we maintain or improve on that figure as the company grows.

ONLY
0.04%

OF OUR WASTE
WAS SENT TO
LANDFILL IN 2021

BIODIVERSITY

We use organic barley because it supports healthy biodiversity, but we also want to enhance the concentrations of local wildflowers around the distillery and pollinator friendly plants in our courtyard. This year we introduced our very own colony of bees to the distillery. One of our distillers Simon is currently looking after them, and he reports they are settling very well into their new home. Hopefully, by 2023 we will have our very own Nc'nean honey.



WATER

The most valuable resource on the planet, and the whisky industry uses a lot of it to make products that we put on the shelves. With that usage comes a responsibility to ensure that we are using it wisely. The biggest part of a distillery's usage is not the water that ends up in the whisky but the water that is used to cool the spirit as it comes off the stills. Rather than continually extracting water for this purpose, we recycle the same water over and over which reduces our water footprint by 90%. Even better is that the recycling process is completely natural – we don't use any additional chemicals or large energy intensive pieces of equipment to cool the water, we leave it to the Scottish climate and our cooling pond.

WE RECYCLE
100%
OF OUR
COOLING WATER

We do extract water from our spring to make our whisky, to make steam in our boiler, and for everyday use at the distillery. For every bottle of whisky we produce it takes 11 litres of water to make it. Going forward, we also want to measure the water usage in our supply chain and establish a verified water footprint by 2025.

SECTION 4

TARGETS

Sustainability is a journey, and while we celebrate our net zero milestone, we are keenly aware we have much more to do. For example, we want the manufacturing of our whisky and the sourcing of our raw ingredients to actually improve soil and water quality and remove CO₂ from the air. Every year we will publish a sustainability report and our progress towards the following targets. The ticks indicate where we have achieved our targets set out in our 2020-21 report.

Introduce bees at the distillery in 2022.



Reduce consumer waste by finding innovative ways to refill our whisky bottles.



Meet zero waste targets year on year, and look at different ways that our waste can be turned into a resource.



Reduce our per bottle carbon and our per LPA carbon footprint.



Work with our farmers to reduce the carbon footprint of our barley by encouraging regenerative organic practices.



Improve on site energy efficiency.

Screen all major suppliers on their environmental performance and produce a supply chain water footprint by 2025.

Further reduce our use of environmentally hazardous chemicals in production.

Bottle our Botanical Spirit in 100% recycled glass by 2024.

THE HONESTY BOX

We want to be as open and transparent about sustainability as we can, so here are some things that we feel it is important to include:

Our 'cradle to gate' footprint is not the full picture – but it's a really good start. Once we have a better idea of our distribution lines and when our consumer base is more established, we will be looking to expand this to 'cradle to grave'. This means taking into account all transport to the end consumer and also the energy used in disposal.

Not all our products have a high recycled footprint. Our Botanical Spirit bottle is currently made from flint glass, which has less than 35% recycled glass content. At the moment it's a small percentage of the products we bring to market, but we are looking to transition over to recycled glass by 2024.

Our carbon footprint of the business will go up as we produce more spirits. There are elements where we have not been able to improve on yet - for example, the carbon intensity of staff travel which has increased since Covid lockdowns were eased. We still have targets to reduce this as we grow.

REFERENCES

1. Intergovernmental Panel on Climate Change special report on the global warming of 1.5°C <https://www.ipcc.ch/sr15/>
2. ICAO <https://www.icao.int/environmental-protection/Carbonoffset/Pages/default.aspx>
3. Scope 1 emissions 'Direct GHG emissions occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.; emissions from chemical production in owned or controlled process equipment. Direct CO₂ emissions from the combustion of biomass shall not be included in scope 1 but reported separately'
 - Scope 2 emissions 'GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company' <https://ghgprotocol.org/corporate-standard>
4. Scope 3 emissions 'An optional reporting category that allows for the treatment of all other indirect emissions within a companies' reporting boundary. Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company' <https://ghgprotocol.org/corporate-standard>
5. Scotland government targets – net zero: <https://www.gov.scot/policies/climate-change/reducing-emissions/>
6. SWA sustainability strategy 2020 <https://www.scotch-whisky.org.uk/insights/sustainability/>
7. There is no agreed definition of net zero, but there is growing consensus surrounding how it should be achieved. See the ['The oxford principles'](#). In addition to this our net zero achievement is in line with both national and industry targets of net zero.
 - The **National Audit Office** have defined the UK's ambition to reach net zero as 'Reducing emissions substantially from current levels, with the greenhouse gases that the UK still emits in 2050 being equal to or less than what is removed from the atmosphere by either the natural environment or carbon capture technologies. The UK's emissions are accounted for on a 'territorial' basis which are production-based emissions, generated from business and domestic activity within the UK. It does not include emissions from imported goods, biomass, or international shipping/aviation. **Source: Office for National Statistics.**
 - The SWA are defining their net zero target in terms of their scope 1&2 emissions. <https://www.scotch-whisky.org.uk/insights/sustainability/climate-change>.
8. There are varying definitions of 'carbon neutral' but we understand that net zero is distinguished from carbon neutral by meeting both of the following criteria.
 - The type of offsets used balance the footprint - for net zero the footprint must be offset by removal credits but for neutrality the offsets can be avoidance credits i.e., you can pay someone else to not emit CO₂.
 - Footprint reductions - there is no set level of ambition in terms of emissions reductions to be carbon neutral across your footprint. The 'spirit' of net zero is to achieve significant reductions in emissions in addition to offsetting. Although we have ambitions to reduce our scope 3 footprint, we have not been able to quantify those reductions yet so we cannot be net zero across all scopes.
9. Carbon footprint of Kenyan roses: <https://www.scientificamerican.com/article/environmental-price-of-flowers/>
10. Soil and climate health https://ec.europa.eu/clima/sites/clima/files/docs/soil_and_climate_en.pdf
11. ['The Drawdown Review - Climate solutions for a new decade'](#)