

# NC'NEAN

## SUSTAINABILITY REPORT

2020-21

2020. The year we bottled our first whisky and the year of our first sustainability report. It shows you our annual carbon footprint, as well as our performance in the other areas of waste reduction, water conservation and eliminating chemical pollutants.



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# MADE BY NATURE NOT BY RULES

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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 and Neachneohain need us, so this report outlines all we are currently doing to protect our planet, and all we plan to do in the future.

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## PREVENTING THE RISE OF 1.5°C

Our planet is already 1°C warmer than it was at the turn of the 20th Century, and we are doing everything that we can to prevent global warming going beyond 1.5°C. A rise of this measure will cause irreversible damage to the way our planet functions. This report delves into what we at Nc'nean are doing to try and prevent this scenario.

# SECTION 1

## SUMMARY

### THE STUFF YOU ABSOLUTELY NEED TO KNOW

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#### NET ZERO

We are verified net zero carbon emissions from our own distillery operations (scope 1 and 2).

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Nc'nean Distillery operates on 100% renewable energy.

-  
In total, inclusive of our supplier emissions, we emit only 267.51 tonnes of CO<sub>2</sub> a year. We offset this through verified carbon removal projects.



#### CERTIFIED ORGANIC

Every bottle of whisky that is purchased supports 2 square metres of biodiversity through farming.

-  
Everything we produce is organic because we want to protect nature from the harmful effects of fertilisers and pesticides.



#### ZERO WASTE

We are proudly zero waste, and this year we recycled or re-used 99.97% of all our site waste.



#### WATER CONVERSION

We continually recycle 80% of our process water, resulting in an exceptionally low water footprint of 35 litres per LPA (litre of pure alcohol)

# SECTION 2

## CARBON FOOTPRINT

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### 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. But if that is the carrot, the stick is the climate crisis, and we believe it is incumbent upon every business, however large or small to measure and then reduce their impact as quickly as possible.

Moreover we want the manufacturing of our whisky and the sourcing of our raw ingredients to actually improve soil and water quality and remove CO<sub>2</sub> from the air. We call this regenerative industry.

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 reduction.



### SO WHY IS THIS IMPORTANT?

Increases in greenhouse gases leads to our planet getting hotter, and this change in our climate, if left unchecked, will eventually create an environment that will be unable to support life.

#### THE GOOD NEWS...

Is that we know this and there is an international agreement (The Paris Agreement) to reduce global greenhouse gas emissions to avoid a worst case scenario.

#### THE BAD NEWS...

Is that our climate is already changing and we are not doing enough to stop it. The average surface temperature of the planet today is 1 degree warmer than it was at the turn of the 20th century, and we have already emitted enough to lock in a further 0.2 degree rise in temperature per decade, for the next two decades. 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 at the current rate and without increased effort to reduce emissions, we are going to overshoot that mark by the end of this decade.<sup>1</sup> So the task we have facing us all is to physically reduce and remove emissions as quick as we can, whilst continuing to grow and show others how to do the same. Literally, every year counts!



## WHAT IS A CARBON FOOTPRINT ANYWAY?

A footprint is basically the total amount of fuel used in the course of business operation, expressed in 'tonnes of CO<sub>2</sub>e'. This is the volume of emissions of green house gases that are created from using that fuel. Carbon dioxide (CO<sub>2</sub>) 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 CO<sub>2</sub>e into the air.



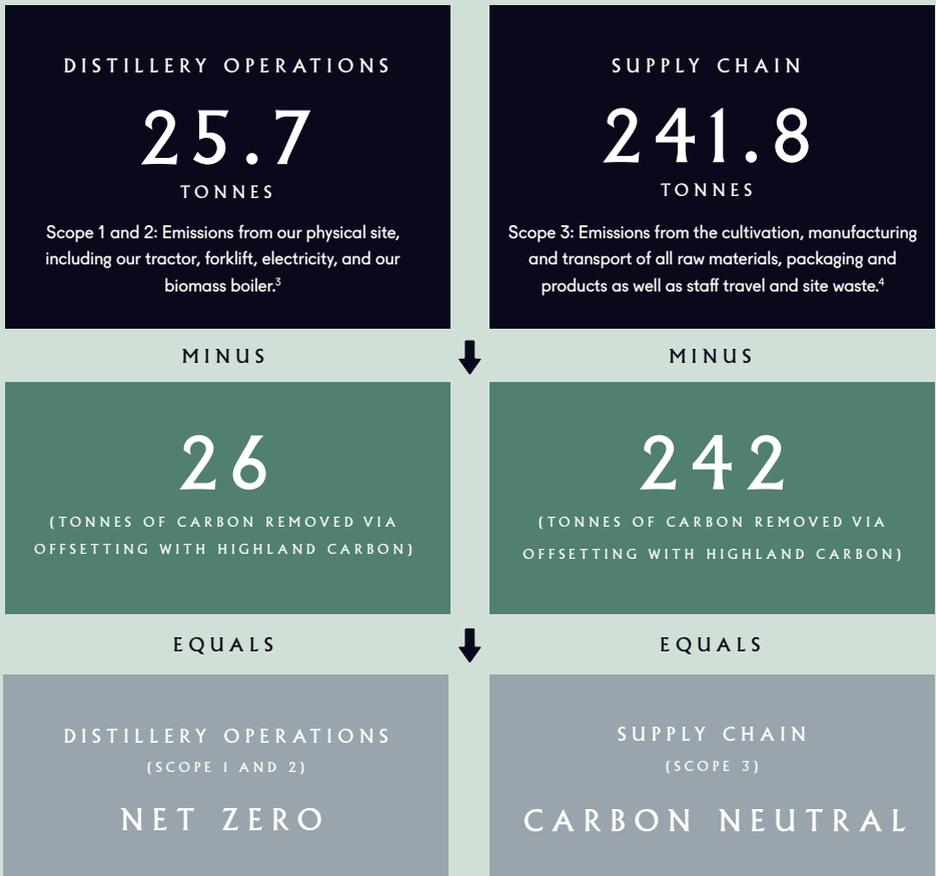
Or to make things simple - a return flight from London to New York emits around 300 tonnes of CO<sub>2</sub> equivalent (CO<sub>2</sub>e) into the air!<sup>2</sup>

# 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](#).

**267.5** TONNES OF CO<sub>2</sub>: OUR TOTAL FOOTPRINT IN 2020 WHICH IS MADE UP OF TWO ELEMENTS...



267.5 TONNES MAY SOUND LIKE A LOT, BUT  
IN FACT IT'S TINY!

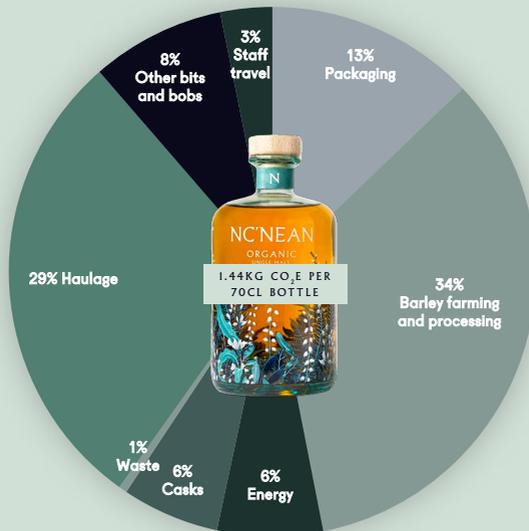


Remember that return flight from London to New York? Well our carbon footprint for a year is less than that return plane journey.

Our emissions are also small because we are a small operation and we expect them to go up before they go down as the company grows, so to help make our footprint comparable to other distilleries we have worked out how much carbon it takes to produce one LPA (litre of pure alcohol). This is one litre of spirit collected from the stills and is something that all whisky distilleries have in common – so it will help compare performance (irrespective of size) across the industry.

OUR CARBON FOOTPRINT PER LPA IS **2.54** KG CO<sub>2</sub>

#### EMISSION BREAKDOWN PER BOTTLE





## AHEAD OF THE CURVE

In Scotland, the target set by the government is for the country's emissions to be net zero by 2045.<sup>5</sup> The Scotch Whisky Association want all their member distilleries to be net zero by 2040.<sup>6</sup>

## WE ARE NET ZERO NOW

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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 CO<sub>2</sub> removed from the atmosphere. Our credits are generated through forest plantations - trees absorb CO<sub>2</sub> 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 CO<sub>2</sub>.

### NET ZERO<sup>7</sup>

GETTING AS CLOSE TO  
ZERO EMISSIONS AS  
POSSIBLE AND REMOVING  
THE REMAINDER OF THE  
CO<sub>2</sub> IN OTHER WAYS.

### CARBON NEUTRAL<sup>8</sup>

OFFSETTING A CARBON  
FOOTPRINT WITHOUT  
THE NEED TO REDUCE  
EMISSIONS.

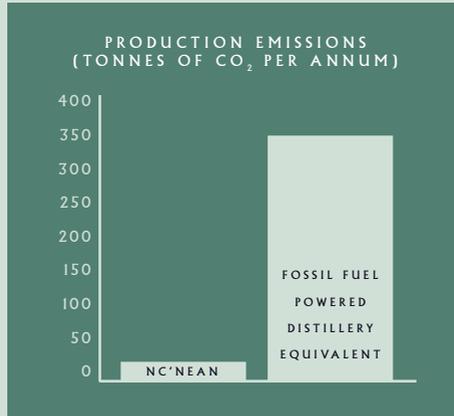
WE ARE VERIFIED NET  
ZERO BY ENVIRONMENTAL  
STRATEGIES LIMITED

[Click here to see our certification](#)

WE PURCHASE OUR  
CARBON REMOVAL CREDITS  
FROM HIGHLAND CARBON

[Click here to see our certification](#)

We have already done the leg work to reduce our production emissions as far as possible – with thanks to our biomass boiler. When wood is burned to make our steam it releases CO<sub>2</sub> that has already been removed from the atmosphere, so that doesn't count towards our footprint. It is called 'Biogenic CO<sub>2</sub>'. However, in the spirit of net zero we also monitor our energy consumption so we can assess how to improve our energy efficiency.



## WORKING TO REDUCE SUPPLY CHAIN EMISSIONS

The majority of emissions are in our supply chain, so our plan for the next ten years is to work with our suppliers and encourage them to reduce their own emissions, bringing our supply chain footprint closer to net zero. We are already doing what we can through purchasing choices to limit our carbon impact. For example:

100%  
RECYCLED  
GLASS,  
40% LOWER  
CARBON  
FOOTPRINT



90%  
RECYCLED  
CARD, A  
TONNE OF  
CO<sub>2</sub> SAVED  
THIS YEAR.

# SECTION 3

SUSTAINABILITY ISN'T JUST ABOUT EMISSIONS

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## ORGANIC PRINCIPLES

Intensive agriculture in the 20th century has seen so many technological advancements and it has made us more productive than ever! But those efficiencies have cost our ecosystem dearly, including biodiversity loss, degradation of soils & eutrophication of water ways. We support organic farming practices because we don't want to be part of that problem. There is still, however, a footprint associated with organic farming, and sometimes this is higher than non-organic. We want to work more closely with the farmers that grow our barley to better understand that footprint, and promote regenerative agricultural practices that can help enhance the soils and the sequestering of CO<sub>2</sub>.

### 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 every living plant on the planet!<sup>9</sup> 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 CO<sub>2</sub><sup>10</sup>**

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 CO<sub>2</sub> 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 CO<sub>2</sub> again. How we choose to manage the land effects how long that carbon is locked in the soil.



## 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 IT'S NOT RUBBISH!

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 2020 we recycled, reused or composted 99.97% of everything that is classed as a distillery 'waste product'. Our goal is to make sure that we maintain or improve on that figure as the company grows.

ONLY  
507KG

OF OUR WASTE WAS  
SENT TO LANDFILL IN  
2020

## REDUCE AND REUSE

Packaging - there is so much of it, and premium whisky is no exception. By increasing the recycled content of our packaging, we are reducing its impact on the planet by leaving raw materials in the ground. The total recycled content of our whisky packaging is 97%. We want all of our packaging to be made from the highest percentage of recycled materials possible so we can better support a circular economy.

Closing that loop fully also requires us to be able to re-use the packaging that we have already created and reduce the amount that we need to buy. To do this we want to be able to offer whisky refills for our partners in hospitality, and for all you whisky fans, without using single-use plastics or materials that can't be easily recycled. Not as easy as you think due to some tricky rules surrounding bottling Scotch whisky, and issues with finding the perfect packaging solution – but we are looking to make this a reality in 2022.

## 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, as well as introduce our very own hive of bees.



## 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 80%. 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  
**80%**  
OF OUR 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 litre of alcohol that comes off of our stills we have used 35 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

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Sustainability is a journey, and while we celebrate our net zero milestone, we are keenly aware we have much more to do. Every year we will publish a sustainability report and our progress towards the following targets.

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

Introduce bees at the distillery in 2022.

Further reduce environmentally hazardous chemicals from production.

Establish a new native broadleaf woodland on the estate by 2030.

Improve on site energy efficiency.

Reduce consumer waste by finding innovative ways to refill our whisky bottles by 2025.

Screen all major suppliers on their environmental performance and produce a supply chain water footprint by 2030.

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.

## 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 is an area we are looking to improve on.

## 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 CO<sub>2</sub> 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 CO<sub>2</sub>.
  - 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. Soil and climate health [https://ec.europa.eu/clima/sites/clima/files/docs/soil\\_and\\_climate\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/docs/soil_and_climate_en.pdf)
10. ['The Drawdown Review - Climate solutions for a new decade'](#)