



Quality, Consistency & Support

## SUSTAINABILITY REPORT 2021/22

Supporting Nottingham to be the  
UK's first carbon neutral city by 2028

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 Forward by Iain Kenny (Head of Technical) and Jordan Heeley (Sustainability Coordinator)

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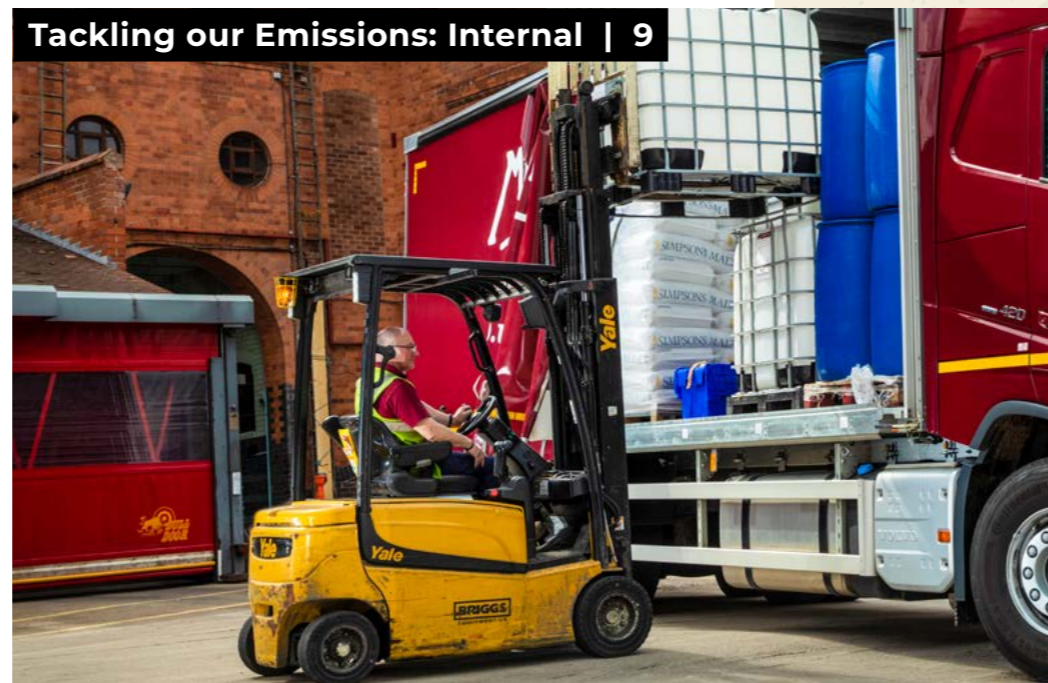
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**“AS A FAMILY OWNED BUSINESS, IT IS IMPORTANT THAT WE LOOK AFTER OUR PEOPLE AND COMMUNITY, AND THESE VALUES GO HAND IN HAND WITH OUR EFFORTS TO REDUCE OUR ENVIRONMENTAL IMPACT.”**





# Sustainability Report 2021 / 2022

Welcome to our first sustainability report, which provides information on where we are currently at with our environmental and social sustainability at Murphy and Son.

*Forward by Iain Kenny (Head of Technical) & Jordan Heeley (Sustainability Coordinator)*

Our 21/22 report primarily focuses on the recording of our business scope 1 and 2 carbon emissions. The collation of this data allows us to set a baseline to compare future years against, and highlights areas of our business where we can make the biggest changes to reduce our footprint. Over the next few years we will aim to document our progress in reducing these figures, where possible sharing best practices to help other businesses achieve reductions too. Although recording carbon emissions is not a legal requirement for us, we believe it is important as a business to take responsibility and start our journey to reducing our emissions now.

Environmental factors make up a large part of this report, but we have also included some information on the social projects that Murphy's is involved in. As a family owned business, it is important that we look after our people and community, and these values go hand in hand with our efforts to reduce our environmental impact. In the next annual report we will look to include more information on our social projects.

## Sustainability is core to our values

In order to embed sustainability initiatives within our business and get projects off the ground, we need a passionate and committed workforce who champion this work. Our recently updated company values recognises this, with a working group of employees from across our business choosing sustainability as 1 of 7 key values.

On a broader perspective, it is also important that the brewing industry recognises the importance of sustainability and promotes good practice. We played a key role in the discussion of sustainability at SIBA BEER X and attended the inaugural UK IBD (Institute of Brewing and Distilling) Sustainability Summit. These events promote engagement throughout the industry, helping businesses learn from each other and share sustainability wins. In making our sustainability report publicly available, we welcome other businesses to use our ideas and projects to inspire action within their organisations, and we also welcome suggestions from stakeholders on any areas they believe we can improve on.





# Our Mission

**By engaging and developing our people we support the beverage industry worldwide.**

**This is achieved through our technical advice, high quality products, continuous innovation and a commitment to delivering to our customers consistently, accurately, first time and on time.**



## About Us

Formed in 1887, we have a long and proud history as a leading brewery supplier, supporting the industry with our expertise, service and family-focused customer service to help brewers achieve their targets and refine their product.

As an innovator within the industry, we pride ourselves on continually re-evaluating our products and processes to ensure we deliver the best product and service to our customers. This involves working with our own research and development teams to enhance current products and processes, while always looking at innovative ideas and ways to improve the brewing process and our own ways of working.

Our business site is based in Nottingham with a team of around 70 employees working throughout production, delivery, sales and within our laboratory team. Historically we have supplied products to customers in the United Kingdom (UK) and Europe, but our market has grown to cover South America, North America, Oceania and Asia.



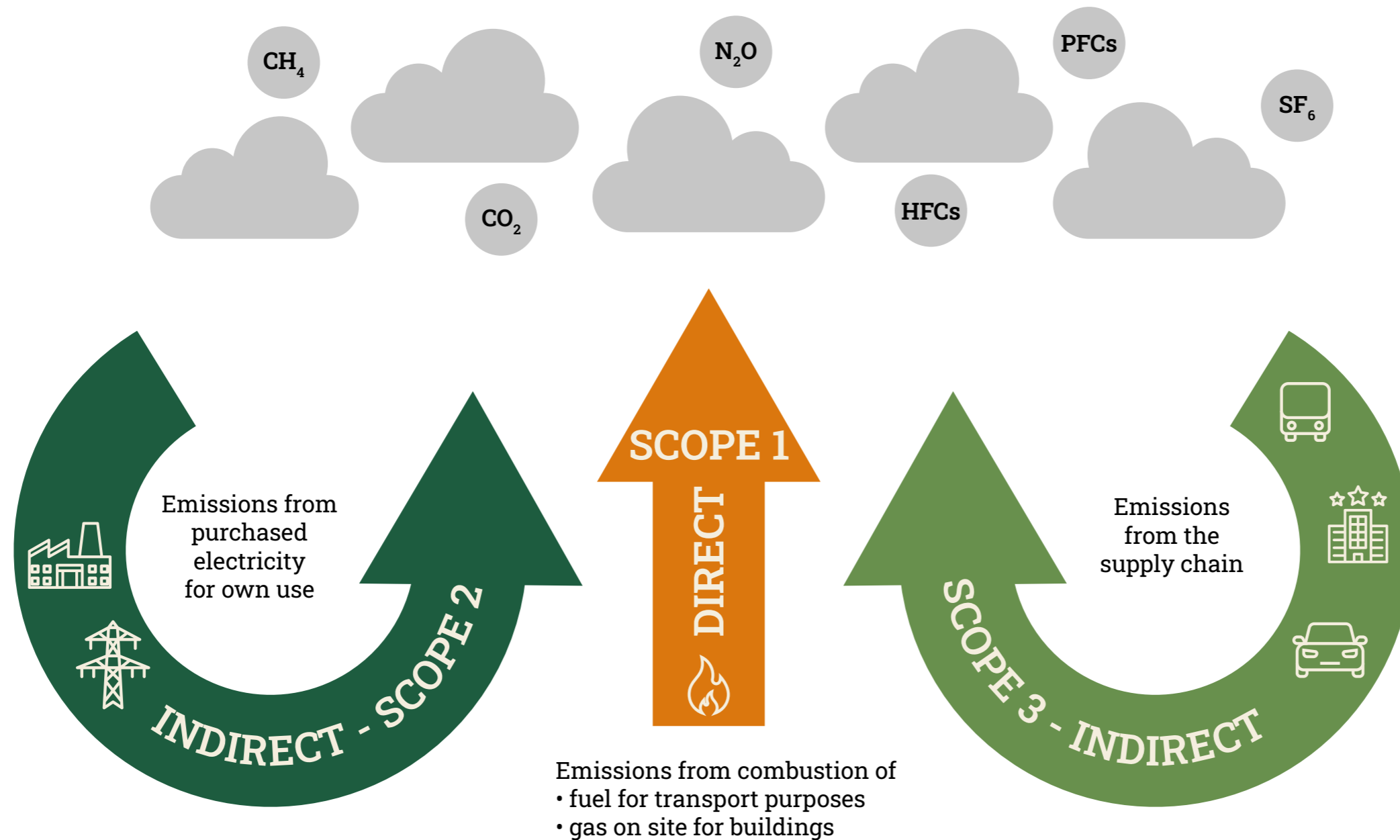
## Why Sustainability is important to us

Throughout the last fiscal year evidence of a changing planet has been witnessed globally with several extreme weather events. Locally, a record high temperature of 39.8°C was recorded in Nottingham in July 2022, a figure 5°C higher than the previous record set in 2019. Weather events on this scale will directly impact our business with forced closures on site and supply chain disruptions. It will also affect our employees/customers/suppliers and the communities they live in.

We understand our responsibility to act sustainably and be a leader in the field for our industry. In producing this report, we are aiming to provide transparency to our stakeholders, shareholders and all else concerned regarding our current sustainability performance and our ambitions for the future.

As a climate-responsible business we do already aim to act sustainably throughout our operation, both for the benefit of our community and for the benefit of our business. For several years, our site has benefited from on-site solar panels, which has reduced our reliance on greenhouse gas emitting alternatives and reduced our energy costs. But we understand that we can and need to do more.

In producing this report, we are acknowledging our own sustainability challenges and aiming to put plans in place to make our business more sustainable for the future.



## Sustainability

The United Nations Brundtland Commission (1987) defined sustainability as “meeting the needs of the present without compromising the needs of future generations to meet their own needs”. In business, this means striving to meet the three pillars of sustainability with consideration for environmental and social issues, while ensuring economic prosperity for the business into the future.

The UNs (United Nations) 17 Sustainability Goals (2015) provide a blueprint for how we can achieve a brighter future for people and our planet. The goals cover a range of objectives that target each pillar of sustainability with objectives to be met by 2030. At Murphy and Son, we are aligning our future strategies to incorporate these goals into our everyday activities.

The 2015 Paris Agreement (agreed at COP21) set a legally binding international treaty to

limit global temperature rise to well below 2°C (ideally 1.5°C ). Failure to meet this target will result in a significant increase in extreme weather events worldwide, leading to major challenges for future generations, and to meeting the sustainable development goals. To achieve these targets governments and businesses around the world must work to limit greenhouse gas emissions into the atmosphere. This means taking more responsibility for calculating emissions and seeking solutions to reach net zero.

At Murphy and Son, we have calculated our Scope 1 and 2 emissions in this report. Our aim is to use these baseline figures to review our progress in reducing internal emissions and highlight areas where we need to improve. We also have plans to begin to attain information to calculate our full Scope 3 emissions. This will help us to fully understand our greenhouse gas emissions throughout our value chain, including our suppliers and customers.



# Our Commitments



## Carbon Neutral Nottingham 2028

At the beginning of 2020 Nottingham City Council declared a Climate and Ecological Emergency, recognising the importance of immediate action that is required to tackle Climate Change within the region. To signify their intentions, the Council have set a target to become the first carbon neutral city in the UK by 2028.

As a business within the Nottingham City Council region, we are committed to working towards this target as a business and starting on our own journey to carbon neutrality by 2028.

## SME Climate Commitment

Murphy and Son are proud to have signed up to the SME Climate Commitment. We recognise that climate change poses a threat to the economy, nature and society-at-large, and our company commits to take action immediately in order to:

1. Halve our greenhouse gas emissions before 2030
2. Achieve net zero emissions before 2050
3. Disclose our progress on a yearly basis

In doing so, we are proud to be recognised by the United Nations Race to Zero campaign, and join governments, businesses, cities, regions, and universities around the world with the same mission.





## APPENDIX A

# Calculating our Carbon Emissions

### Methodology

Murphy's emissions were categorised and calculated in accordance with 'The UK government Environmental Reporting Guidelines (including streamlined energy and carbon reporting guidance) and the WBCSD (World Business Council for Sustainable Development) / WRI 'World Resources Institute' GHG Protocol. To calculate the emission data, the carbon emission factors were used from the latest published UK BEIS (Business Energy and Industrial Strategy) government document (Greenhouse gas reporting: conversion factors 2021) and directly from SSE Energy Solutions for the Scope 2 market-based emission data. The calculated GHG emissions have been rounded to 2 decimal places.

The carbon emission data is reported into the common denominator of carbon dioxide equivalent (CO<sub>2</sub>e) metric tons. This unit is used to compare the greenhouse gas potential of 6 of the main greenhouse gases equally and to account for all of them. Scopes 1 & 2 data for gas and electricity were based on annual energy consumption in kWh. The meter readings were taken directly to allow for a high confidence of data.



Transportation data for our own fleet was calculated directly from litre usages from fuel cards (Silver fleet) used by the drivers. Grey fleet data from all staff was provided from business mileage claims, the fuel source and size of cars accounted for when using the conversion factors for carbon emissions. Mileage was converted to TCO<sub>2</sub>e in accordance with the distance and type of transportation using the factors from BEIS 2021.

All staff members were asked to complete a commuting to work survey, and these results meant primary data was collated and the fuel source and size of cars accounted for when using the emission factors BEIS 2021. The survey was also conducted pre-Covid 19, enabling us to see the difference working from home had with a reduction in the frequency of commutes to work.

Murphy's methodology for carbon accounting was chosen to follow the most widely accepted, science based and publicly available protocols and guidance currently available. The methodology will be reviewed annually and the carbon mitigation plan to keep in line with any up-to-date developments.





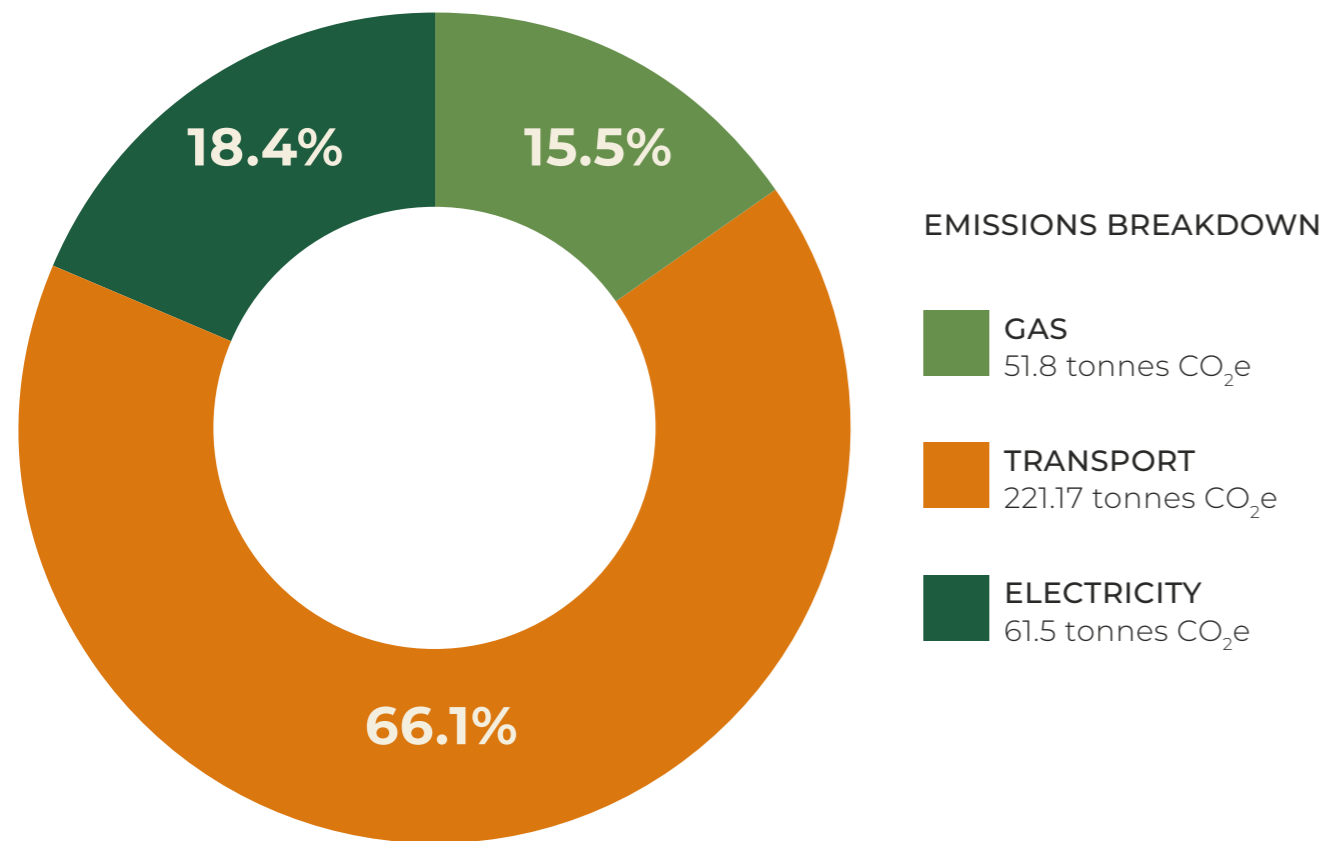


## APPENDIX A CONTINUED



### Data Quality / Confidence

Data from GHG emission sources contributing over 90% of the group footprint was obtained via direct metering or derived from fuel consumption as stated above, with the appropriate National or International emissions factors applies. This allows for a high confidence in the data collection and analysis.



### Fiscal year: 1st April 2021 – 31st March 2022

Gas (kWh)	247998.8
Electricity (kWh)	289771.6
<b>Transportation (kWh)</b>	
Emissions from combustion of gas, TCO <sub>2</sub> e (Scope 1)	51.8
Emissions from combustion of fuel for transport purposes, TCO <sub>2</sub> e (Scope 1)	108.9
Emissions from purchased electricity, TCO <sub>2</sub> e (Scope 2)	61.5 (market based)
Emissions from business travel in employee-owned vehicles, public transportation, including hotels, TCO <sub>2</sub> e (Scope 3)	57.1
Emissions from employee commuting, TCO <sub>2</sub> e (Scope 3)	55.17
Total gross, TCO <sub>2</sub> e	334.47
Intensity ratio, TCO <sub>2</sub> e/ Million Turnover (£1 Million Turnover)	24.1

### Methodology

Murphy's GHG emissions are categorised into Scope 1, 2, and 3 as referred to in the UK Government Environmental Reporting Guidelines (including streamlined energy and carbon reporting guidance WBCSD/ WRI GHG protocol)

### Uncertainties

The only uncertainty identified in this report was the estimation of business mileage incurred by one of the UK-based technical sales representatives. This information was not made available so to best estimate, an average of employees in similar job roles was taken.



## APPENDIX B

# Tackling our Emissions: Internal

### Carbon Footprint Management Strategy

As Murphy and Son continues to grow, we are committed to staying true to our core, family values. At the heart of this is sustainability and looking after our people and the wider community.

Our overall goal is to work collectively, collaboratively, and transparently with all stake holders with a continuing plan of energy saving, waste reduction and where needed changing our manufacturing and wider operations to reduce our impact on the environment.

A key part of this is supporting Nottingham's aim to be the UK's first carbon neutral city by 2028, aiming to achieve and maintain carbon neutral status for our Scope 1 and 2 emissions as well as business travel and commuting for our first base line year. For the rest of our emissions, we aim to act year on year to achieve carbon neutral status by 2050 in line with the UK Government targets.

We have integrated sustainability into the core values across the company so it is influential in every aspect of our business.

Prior to the 2021/2022 fiscal year we had already completed some internal sustainability actions to reduce our emissions:

#### SOLAR PANEL INSTALLATION

For several years we have benefited from the installation of solar panels at our Nottingham site. This has helped reduce our energy-related emissions, while also reducing our overall energy costs. The panels provide renewable electricity that make up part of our energy mix, with any excess sold back to the Grid.

#### ENERGY EFFICIENT LIGHTING

We have installed energy efficient lighting across some areas of our Nottingham site. This has helped to reduce energy use and lighting costs.

#### RE-USING PLASTIC IBCS (INTERMEDIATE BULK CONTAINERS) AND DRUMS

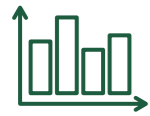
To reduce waste Murphy's implemented a drum return scheme which has ensured IBCs and drums are re-used multiple times. The containers are washed after use to prevent contamination, and as a result have a longer lifespan which reduces the associated emissions used to produce them. The containers are all collected after the end of their life cycle and recycled to further reduce associated sustainability challenges.





## APPENDIX B CONTINUED

### Completed Carbon Reduction Initiatives 21/22



#### MEASUREMENT OF EMISSIONS

In producing this report, we have measured baseline targets for our scope 1 and 2 emissions. This will allow us to compare performance and progress in future reports and gives indication into which areas we need to improve most on.



#### ELECTRIC CAR INTRODUCTION

Approximately 10% of employees now either use electric company vehicles or are part of a wider company electric car scheme. The company provides complementary charging facilities on-site for staff and visitors, and this is helping to reduce commute related transport emissions for staff and visitors.



#### WASTE BALER AND NEW RECYCLING SYSTEM

Reduced the number of waste collections from site by installing a waste baler, therefore reducing emissions related to transporting waste. On site waste segregation has also been introduced to increase recycling rates and reduce waste sent to landfill.



#### FULL-TIME SUSTAINABILITY COORDINATOR

Employed to collate data and promote all sustainability issues across the company, ensuring this becomes central with all business activity.



#### SUSTAINABILITY INDUCTION

All existing and new employees have completed the sustainability induction which forms part of the company on-boarding. This is aimed to encourage and empower staff to act on sustainability issues and increase their understanding around the area.



#### INVESTMENT IN SUSTAINABLE RESEARCH

Funding provided to the Grain-4-Lab Team who are researching compostable plastics that can be developed using waste from the brewing and distilling industry.



#### ENVIRONMENTAL AND CARBON ASSESSMENT REPORT

Worked with Nottingham Trent University's Sustainability Team to produce an overall report on our current actions and areas for improvement.





APPENDIX C

# Tackling our Emissions: External

## Carbon Off-Set Strategy

As a business we are at the beginning of our carbon-neutral journey and do not currently have the means to become a fully net-zero business. We have detailed in Appendix B the measures that we have already taken to limit our emissions, however we want to act now to become a carbon neutral business.

To reduce our current associated greenhouse gas emissions (GHGs), we have invested in three United Nations (UN) carbon offsetting projects that either reduce, avoid, or remove GHGs from the environment. The carbon credits we purchase for each project equate to a specific figure of CO<sub>2</sub> equivalent, which in turn can be used to offset our current GHG emissions.

As well as providing environmental benefits, the projects all have wider reaching impacts within their communities that meet specific sustainable development goals. These include the creation of jobs and improvements to local health care systems, focusing on our wider aim to create positive impacts in communities, as well as creating a more sustainable planet through our actions as a business.

Two of the projects we have invested in are located in the regions of our suppliers. This was done specifically to promote our family values as a business, supporting the communities that help make us a successful business.

TOTAL CARBON IDENTIFIED TO OFFSET:

334.47

CREDITS PURCHASED

400

CREDIT BALANCE

65.53

Period to offset	Date Purchased	Scheme	Project	Units cancelled CERs (tonnes CO <sub>2</sub> )
21/22	12-May-22	United Nations Framework Convention on Climate Change	Burgos Wind Project	150
21/22	12-May-22	United Nations Framework Convention on Climate Change	5MW Solar Power Project by Baba Group	125
21/22	12-May-22	United Nations Framework Convention on Climate Change	Biomass Energy Conservation Programme	125
<b>Total Credits Purchased</b>				<b>400</b>



**A LOOK AT OUR PROJECTS IN DETAIL:**

# Burgos Wind Project

The Burgos Wind Project is the largest wind farm in the Philippines, considered to be one of the largest wind farms in Southeast Asia when built in 2014. The 150-MW facility has fifty wind turbines, each with a rated capacity of 3 MWs, and helps provide the local population with a green electricity supply that is free from GHG emissions.

At Murphy and Son, we supply our Carrageenan product from the Philippines. Through the fiscal year 2021-2022, we supplied 32 tonnes of the product from our suppliers, and believe with our core family values that it is important to support and develop the communities that we work in. Investing in the project also helps offset some of the sustainability problems of transporting the product to our Nottingham site. Below is a list of the benefits that this project helps support:



**ECONOMIC**

- During the construction phase the site provided skilled job opportunities, contributing to wider economic benefits within the community and supporting local businesses and people. This has continued into the operations stage with skilled job opportunities to maintain the site
- The project complies with all national and local regulations on fees and taxes, with the proceeds going into local government which has helped improve community facilities
- The Burgos Wind Team actively leads initiatives that help the livelihood of communities, partner with local government agencies, and respond to the needs of the residents in times of disasters



**ENVIRONMENTAL**

- The Project complies with all local and national environmental policies, maintaining strict compliance to standards on land use, water and waste disposal, and noise monitoring
- It produces clean energy thereby reducing reliance on GHG emitting alternatives
- The Burgos Wind Team lead projects and initiatives with local governments and communities that promote the protection of the environment. This outreach into the community is a key pillar to its environmental objectives



**SOCIAL**

- The project has provided jobs for local people which has subsequently helped improve standards of living within the area





## A LOOK AT OUR PROJECTS IN DETAIL:

# 5MW Solar Power Project

### 5MW Solar Power Project by Baba Group:

Located in the region of Madhya Pradesh in India, the purpose of the Baba Group Solar Power Project is to utilise renewable solar energy for the generation of electricity. The project activity contributes towards a reduction in the demand-supply gap in the region and is helping to increase the share of renewable energy in the grid mix.

We invested in this project as it directly benefits communities in the region where we supply our fish maws from, encompassing our businesses family values. Due to the specific qualities required in the product, fish maws can only be sourced from tropical and sub-tropical fish, meaning we cannot supply this locally. Investing in this project helps offset some of the sustainability issues associated with the sourcing and transportation of it to our Nottingham site.



#### ECONOMIC

- Creation of skilled and non-skilled jobs at the site has benefited the economy of the local area
- More reliable energy supply ensures local industry have less hours without electricity, and therefore more available hours to operate



#### ENVIRONMENTAL

- The project is reducing the need for GHG emitting alternatives in the region. It is also acting as a successful blueprint to encourage similar projects in the area



#### SOCIAL

- Located in a region where energy supply is often difficult and unreliable, this project provides more energy security for local communities





A LOOK AT OUR PROJECTS IN DETAIL:

# Biomass Energy Conservation Programme

The country of Malawi is one of the world's poorest with a population that has limited access to electricity. Historically, people have used a traditional three-stone fire to cook food and heat their homes. This traditional open fire is highly inefficient and is contributing to increased deforestation in the country. It also has associated health risks with many women and children being affected by inhalation of smoke which contains harmful particles and gases such as carbon monoxide.

The Biomass Energy Conservation Programme is helping to support the roll-out of Chitetezo Mbaula stoves across the country; an alternative cooking appliance that is more efficient and produces up to 60% less smoke. The stoves are hand made using local materials, ensuring local businesses benefit and increasing the levels of self-reliance within communities. The programme has helped provide an income to over 2,000 local people (mostly women in rural areas) who help manufacture and promote the stoves within communities.

Although as a business we have no direct relationship with Malawi, this project truly encompasses all our values and diversifies our investment in global projects. It enables local communities to take ownership and work together to create solutions, with the funding provided from Murphy and Son helping generate further innovation and excellence within communities.



## ECONOMIC

- Benefitting local businesses with subcontracts for producing the stoves



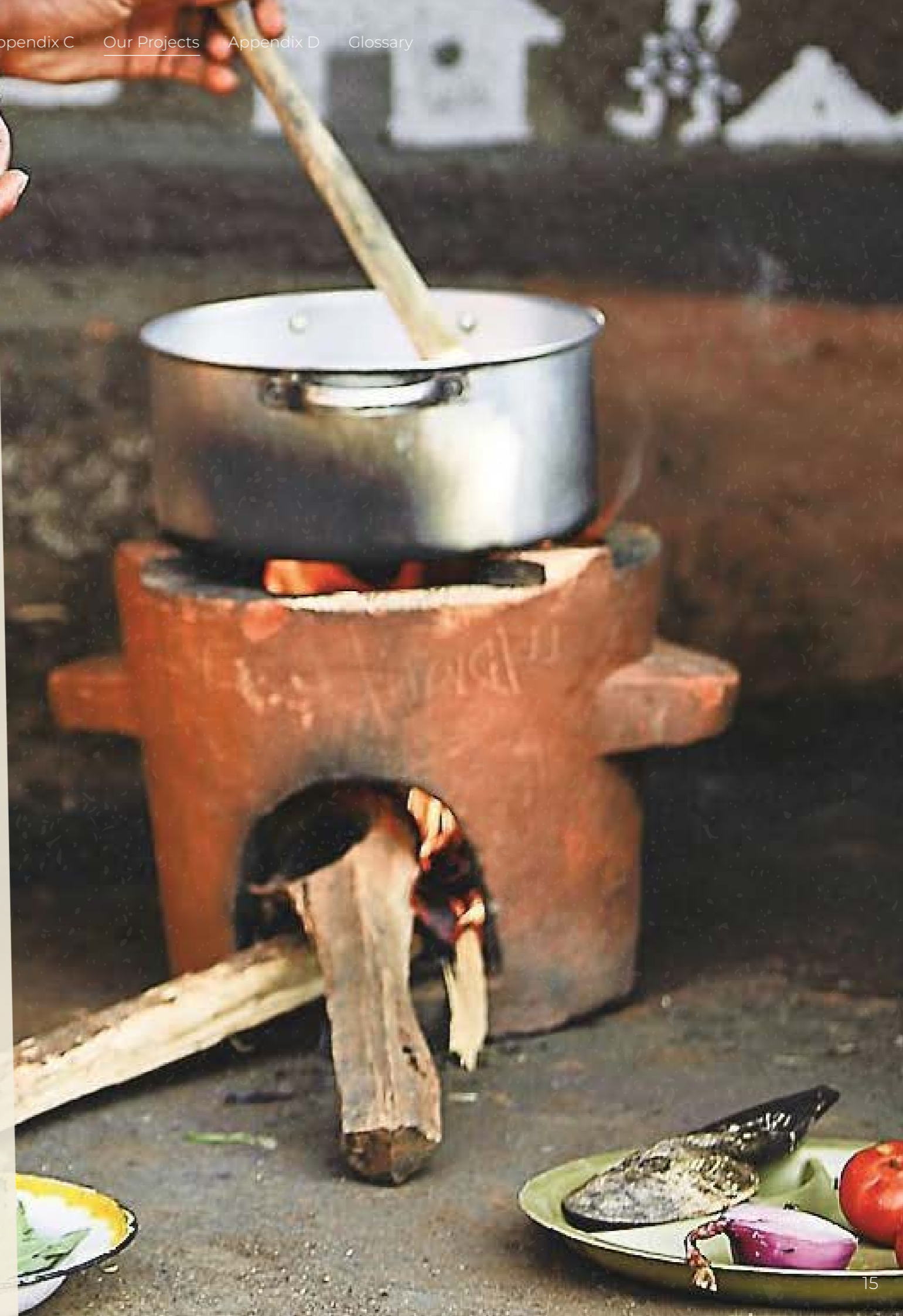
## ENVIRONMENTAL

- A reduction in deforestation throughout the country as the Chitetezo Mbaula stoves provide higher efficiency than the traditional three-stone fire, meaning less wood is needed
- Better air quality inside homes due to a reduction in harmful emissions



## SOCIAL

- Supporting women in business and reducing health issues in women and children (who are predominantly around the household through the day)





## APPENDIX D

# Our Future Plans

At Murphy and Son, we are proud of our early efforts to work towards becoming a fully sustainable net-zero business, but we know that there is a lot more we can do.

To document our progress, we are committed to producing a yearly public sustainability report. We will also continue to report our emissions data with a view to producing more detailed figures for Scope 3, including understanding emissions for our suppliers and customers.

For the next fiscal year, we have set the following carbon reduction initiatives that we will aim to implement. Details of our implementation and success will be included in our next sustainability report for the fiscal year 2022/2023.

### Carbon Reduction Initiatives to be carried out year 22/23



**Nottinghamshire**  
Wildlife Trust

#### PARTNERSHIP WITH NOTTINGHAMSHIRE WILDLIFE TRUST

- Build a relationship with the Trust to help support on their projects and work within the community. Also explore opportunities for re-wilding on site to improve biodiversity.



#### EXPANSION OF ELECTRIC VEHICLE SCHEME

- Aim to increase roll-out of the scheme to staff, encouraging higher uptake and more use of electric vehicles for business-related travel. Also plans to increase number of electric chargers on site.







## APPENDIX D CONTINUED



### INCREASE UNDERSTANDING OF SCOPE 3 EMISSIONS

- Implement supplier surveys to collect carbon data and get a better understanding of our associated emissions in the supply chain. Also begin measurement of water usage on site and put in to place relevant water saving initiatives.



### CARBON LITERACY TRAINING

- Train several staff in Carbon Literacy to further increase carbon awareness and empower staff to make improvements in their own work areas.



### COLLABORATE ON AND DEVELOP CIRCULAYO DRUM TRACKING SYSTEM

- Aim is to increase the number of fills per drum and reduce waste by working with Circulayo who will help us track the drums.



### REFURBISH AND RENOVATE ON-SITE SOLAR PANELS

- Aim is to increase generation from panels by 15% through maintenance works and renovation.



### PARTNERSHIP WITH ZELLAR

- Work with the online platform to record and track our emissions data and provide advice on next steps to take with sustainability plans.

To ensure new targets set are met ahead of the end of the period declared, quarterly reviews shall be carried out between the Head of Technical, Sustainability Coordinator, Managing Director and any other relevant stake holders.





# Glossary

**CARBON NEUTRAL (BUSINESS)** – No net release of carbon emissions into the atmosphere. Any emissions are offset through schemes such as carbon credits

**CARBON OFFSETTING** – Investing in projects that either reduce, avoid, or remove GHG emissions from the atmosphere. The carbon emission equivalent is then calculated which can be reduced from a business's emissions

**GREENHOUSE GAS EMISSIONS (GHGS)** – Gases in the Earth's atmosphere that trap heat and contribute to climate change. They include gases such as carbon dioxide, methane and nitrous oxide

**NET ZERO (BUSINESS)** – No net release of any greenhouse gas emissions into the atmosphere

**SCOPE 1 EMISSIONS (DIRECT)** – Greenhouse gas emissions from sources that are owned or controlled by the business, e.g., burning fuel in vehicles we own

**SCOPE 2 EMISSIONS (INDIRECT)** – Greenhouse gas emissions relating to energy that we purchase, e.g., the emissions from the generation of electricity that is supplied to us

**SCOPE 3 EMISSIONS** – All other greenhouse gas emissions that do not come under scopes 1 or 2 and occur in the value chain. This can include carbon emissions associated with customers using our products, or the emissions used in sourcing or producing products we purchase from suppliers

**SUSTAINABILITY** – Meeting the needs of the present without compromising the needs of future generations to meet their own needs (Brundtland Commission, 1987)





Quality, Consistency & Support

**WANT TO KNOW MORE? GET IN TOUCH**

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