

# Willerby

L A N D S C A P E S



## Willerby Landscapes Ltd. Carbon Footprint Report 2020

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**PURPOSE OF REPORT**

The purpose of this report is to highlight and detail the Carbon Footprint of Willerby Landscapes Ltd, for the year 2020. This report will be used as a comparison foundation for subsequent years and will analyse how Willerby Landscapes yearly carbon emissions have changed following the carbon reduction methods set out in this document. The reduction methods described in this document (Year 2020) are not exhaustive and are subject to change depending on success and available innovations and technologies.

Please note, this report has been written retrospectively, in December 2023 and published in March 2024.

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Signature 

Date 27<sup>th</sup> March 2024

Checked and authorised by MATT AINSCOW

Signature 

Date 27 March 2024

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## **INTRODUCTION**

Willerby Landscapes have committed to the following Science Based Target:

- 42% reduction of Scope 1 and Scope 2 emissions by 2030 from a 2020 baseline.
- Monitor and Reduce Scope 3 emissions.

Willerby Landscapes consider these targets to be a minimum requirement and strive to exceed the reduction target. Whilst the target states 42% reduction of Scope 1 and Scope 2 emissions combined, Willerby Landscapes have also targeted a 42% reduction of each scope individually as well to ensure that, although Scope 1 emissions will be the priority, Scope 2 emissions are not ignored.

In relation to this report, Willerby Landscapes also have an analysis document that is used to compare carbon emissions per year from 2020. The comparison document is an internal spreadsheet that is regularly reviewed and updated; the spreadsheet analyses overall carbon emissions as well as individual emission sources such as specific fuels and waste types.

Regular meetings are held with the directors of Willerby Landscapes to review carbon emission figures and discuss any successes or failures in regards to reduction techniques. These meetings will drive policy and procedure throughout the company, and highlights that the commitment to the Science Based Target starts at the top of the company.

Due to this report being written retrospectively, information pertinent to calculating Scope 3 emission figures is unavailable and therefore no figure is provided, this includes figures for sub-contractors and associated supply chain.

Willerby Landscapes are accredited to ISO14001:2015 and therefore have an effective Environmental Management System of which this report forms part of. Willerby Landscapes have set this target to demonstrate the commitment to reducing the associated carbon emissions and align to objectives set as part of the ISO14001:2015 accreditation. Willerby Landscapes want to be part of the solution to climate change and therefore transparency in reporting and commitment to emissions reduction in whatever manner is vital to success. Communication of carbon reduction targets and progress, not necessarily this report in its entirety, will be undertaken at regular periods; these periods have not yet been determined nor has the communication method.

This report has been written in accordance to the requirements set out in the government's "Environmental Reporting Guidelines 2019". This report has been written to include all emission figures that form part of the "Operational Control Boundary", which is defined as "...[an] organisation [that] has operational control over an operation if [the] organisation...has the full authority to introduce and implement its operating policies at the operation." (*Department for Environment, Food & Rural Affairs, 2019*). Additionally, this report has been aligned with the recommendation detailed in the "SBTi Corporate Manual". (*Science Based Targets, 2023*)

## **DEFINITIONS**

**Carbon Footprint**: a measure of the amount of carbon dioxide released into the atmosphere as a result of the activities of particular individual, organisation, or community. (*Oxford Dictionaries, 2023*)

**Scope 1**: ...(direct emissions) emissions are those from activities owned or controlled by your organisation. Examples of Scope 1 emissions include emissions from combustion in owned or controlled boilers, furnaces, and vehicles; and emissions from chemical production in owned or controlled process equipment. (*Department for Environment, Food & Rural Affairs, 2020*)

**Scope 2**: ...(energy indirect) emissions are those released into the atmosphere that are associated with your consumption of purchased electricity, heat, steam, and cooling. These indirect emissions are a consequence of your organisation's energy use, but occur at sources you do not own or control. (*Department for Environment, Food & Rural Affairs, 2020*)

**Scope 3**: ...(other indirect) emissions are a consequence of your actions that occur at sources you do not own or control and are not classed as Scope 2 emissions. Examples of Scope 3 emissions are business travel by means not owned or controlled by your organisation, waste disposal, materials or fuels your organisation purchases. Deciding if emissions from a vehicle, office, or factory that you use are Scope 1 or Scope 3 may depend on how you define your operational boundaries. Scope 3 emissions can be from activities that are upstream or downstream of your organisation. More information on Scope 3 and other aspects of reporting can be found in the Greenhouse Gas Protocol Corporate Standard (*Department for Environment, Food & Rural Affairs, 2020*)

**Outside of Scopes**: Outside of scopes includes biogenic CO<sub>2</sub> factors that should be used to account for the direct carbon dioxide (CO<sub>2</sub>) impact of burning biomass and biofuels, including when reporting emissions from electricity consumption. Biogenic CO<sub>2</sub> emissions are one of several activities labelled 'outside of scopes' by the GHG Protocol Corporate Accounting and Reporting Standard because the Scope 1 impact of these fuels has been determined to be a net '0' (since the fuel source itself absorbs an equivalent amount of CO<sub>2</sub> during the growth phase as the amount of CO<sub>2</sub> released through combustion). (*Department for Environment, Food & Rural Affairs, 2022*)

**ABBREVIATIONS**

<b><u>Abbreviation</u></b>	<b><u>Definition</u></b>
CO <sub>2</sub>	Carbon dioxide
kgCO <sub>2</sub> e	Kilograms of Carbon dioxide equivalent
tCO <sub>2</sub> e	Tonnes of Carbon dioxide equivalent
DERV	Diesel Engine Road Vehicle
ULSD	Ultra Low Sulphur Diesel
WTT	Well-to-Tank

## **METHODOLOGY**

Data was collected through invoices, delivery notes, utility bills and other similar documentation. These figures were then recorded on a spreadsheet and separated out to highlight the different sources of emissions. These different sources include the following:

- Bridge Nursery Fuels
- Fleet Fuel
- Site Fuel
- Jerry Can Fuel
- 55 Maltings Natural Gas
- Train Travel
- Other Travel
- Private Mileage

The data was then cross-examined and identical fuels were combined to create total figures. These total figures were then multiplied by the corresponding emissions factors derived from the 2020 DEFRA GHG Conversion Factors spreadsheet. The figures were calculated in kgCO<sub>2</sub>e units and then divided by 1000 to provide a tCO<sub>2</sub>e figure. This methodology follows the instructions detailed in the 2020 DEFRA GHG Conversion Factors spreadsheet.

Once each individual fuel type had been given a total figure, these were then added together to provide a total figure per Scope.

Once all scopes had a figure, these were then added together to provide a total figure for the year 2020.

Please note that Scope 3 emissions are not available for the year 2020 as information isn't as readily available as Scope 1 and Scope 2 emissions.

## **ASSUMPTIONS & INFORMATION**

### General

- Assumed that carbon footprint figures have been calculated correctly
- Assumed that carbon emissions figures have been calculated correctly
- Assumed no data is missing
- Electricity usage on site is not included in this report as usage figures are not available.
- Assumed that electricity usage on sites fall under Client's Scope 3 emissions
- Water usage on site is not included in this report as usage figures are not available.
- Assumed that water usage on sites fall under Client's Scope 3 emissions

### Scope 1

- Assumed DERV and Forecourt Diesel are the same fuel type
- Assumed Kerosene and Burning Oil are the same fuel type
- Assumed Jerry Can fuel is unleaded petrol
- Assumed Gasoil is Red Diesel
- Assumed Unleaded fuel is being used for power tools on site

### Scope 2

- N/A

### Scope 3

- N/A

**TABLES**

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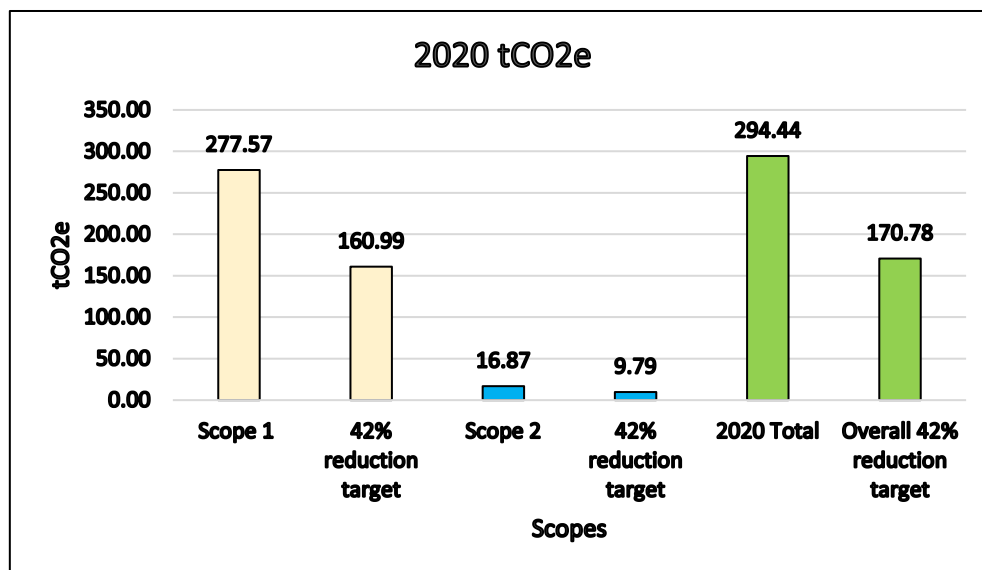
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## 2020 CARBON FOOTPRINT OVERVIEW

2020 tCO <sub>2</sub> e		
Scope 1	277.57tCO <sub>2</sub> e	94%
42% reduction target	160.99 tCO <sub>2</sub> e	
Scope 2	16.87 tCO <sub>2</sub> e	6%
42% reduction target		
2020 Total	294.44 tCO <sub>2</sub> e	100%
Overall 42% reduction target	170.78 tCO <sub>2</sub> e	58%

Table #1: Table showing Scope 1, Scope 2 and Total emissions figures for 2020



Graph #1: Bar graph showing Scope 1, Scope 2 and Total emissions figures for 2020

The above table and graph show the overall 2020 carbon emissions figures along with the respective reduction targets for both the specific scopes and overall.

From the above table, Scope 1 emissions contribute almost 95% to the company's targeted carbon footprint and therefore reducing Scope 1 emissions is the priority in order to achieve the validated Science Based Target.

Scope 1 figures have been taken from the following locations:

- Fuels supplied to Bridge Nurseries
- Fuels purchased at forecourts for use in fleet vehicles
- Fuels used on construction sites
- Fuels used in Operational Facilities (Bridge Nurseries/55 Maltings Place)

Scope 2 figures have been taken from the following locations:

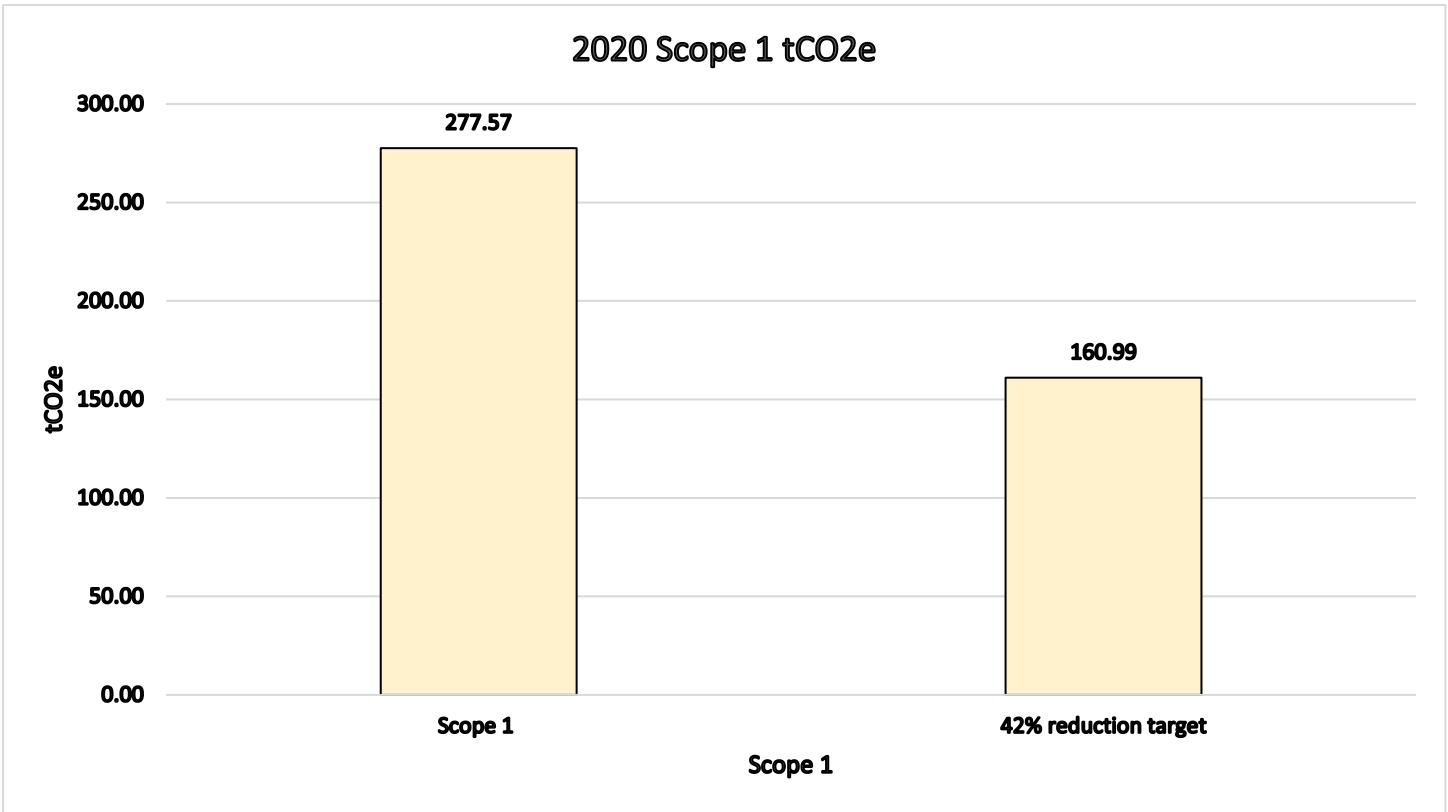
- Electricity used at Operational Facilities (Bridge Nurseries/55 Maltings Place)

Scope 3 elements have not been calculated for the year 2020.

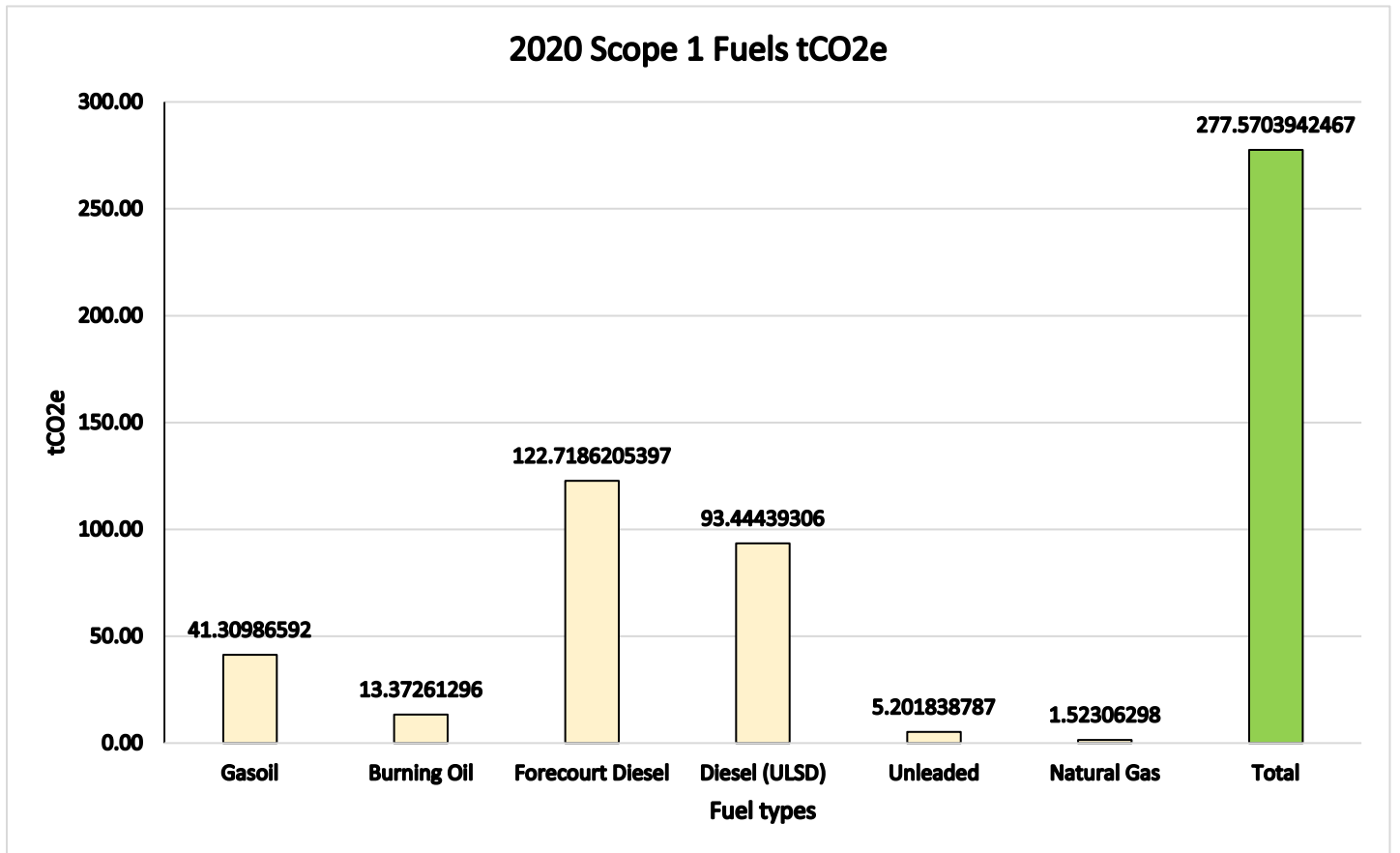
**SCOPE 1****RESULTS**

<b>SCOPE 1</b>					
Raw Data					
	<b>Fuel type</b>	<b>Litres</b>	<b>kgCO2e conversion factor</b>	<b>kgCO2e</b>	<b>tCO2e</b>
<b>Yard Fuels</b>	Gasoil	7467	2.75776	20592	20.59219392
	Kerosene	1264	2.54039	3211	3.21105296
	Burning Oil	3500	2.54039	8891	8.891365
	Derv	17626	2.54603	44876	44.87632478
	Diesel (ULSD)	19076	2.54603	48568	48.56806828
<b>Fleet Fuel</b>	Forecourt Diesel	48,199.99	2.54603	122719	122.7186205397
<b>Site Fuel</b>	Gasoil	7512.5	2.75776	20718	20.717672
	Burning Oil	500	2.54039	1270	1.270195
<b>Jerry Can Fuel</b>	Unleaded	2,399.35	2.16802	5202	5.201838787
<b>55 Maltings Gas</b>	Natural Gas	753	2.02266	1523	1.52306298
Adjusted Data					
	<b>Fuel type</b>	<b>Litres</b>	<b>kgCO2e conversion factor</b>	<b>kgCO2e</b>	<b>tCO2e</b>
	Gasoil	14979.5	2.75776	41309.87	41.30986592
	Burning Oil	5264	2.54039	13372.61	13.37261296
	Forecourt Diesel	48,199.99	2.54603	122718.62	122.7186205397
	Diesel (ULSD)	36702	2.54603	93444.39	93.44439306
	Unleaded	2,399.35	2.16802	5201.84	5.201838787
	Natural Gas	753.00	2.02266	1523.06	1.52306298
	<b>Total</b>				

Table #2: Table showing Scope 1 raw and adjusted data for 2020



Graph #2: Bar Chart showing overall Scope 1 data for 2020



Graph #3: Bar Chart showing individual fuel data for 2020

The above table and graphs highlight the overall Scope 1 emissions and emission contributors for Willerby Landscapes in 2020. Please note the below

- DERV, Forecourt Diesel and ULSD are considered the same fuel type, however, the fuels are separated at the “Raw Data” sections for two reasons; firstly, forecourt diesel is used as fleet fuel and is only sourced at forecourts; secondly, DERV and ULSD are separated because during the year 2020, different fuel suppliers were used and the names for the fuel were different for each company.
  - At the “Adjusted Data” section, DERV and ULSD are combined to form the “Diesel (ULSD)” fuel, this is because the term “ULSD” will be the only term for Diesel used at Bridge Nurseries going forward.
- Kerosene and Burning Oil are considered the same fuel type; however, the fuels are separated at the “Raw Data” section as different fuel suppliers were used and the names for the fuel were different for each company.
  - At the “Adjusted Data” section Kerosene and Burning Oil are combined to form the “Burning Oil” fuel, this is because the term “Burning Oil” will be the only term for Burning Oil and equivalent fuels.
- 55 Maltings is a secondary office located in London, England.

The Scope 1 fuels highlighted above are used in the following processes:

- Gasoil – Used for plant/machinery
- Burning Oil – Used for heating at Bridge Nurseries
- Diesel (ULSD) – Used in plant/machinery and the company HGV
- Forecourt Diesel – Used in fleet vehicles
- Unleaded – Used in fleet vehicles and site construction/maintenance tools
- Natural Gas – Used for heating at 55 Maltings office

## **ANALYSIS**

### **Overall**

From the data highlighted above, the largest source of Willerby Landscapes carbon emissions in 2020 was Diesel, contributing 77% of the overall tCO<sub>2</sub>e produced; of the Diesel used, Forecourt Diesel, used primarily as fuel for fleet vehicles, contributed to 44% of the overall tCO<sub>2</sub>e produced.

These figures are not unexpected as a majority of fleet vehicles and plant/machinery run on diesel and these vehicles are in use every day. The figures highlight an alternative, sustainable source of fuel to replace diesel and replacing vehicles with more energy efficient alternatives will significantly reduce the carbon emissions produced by Willerby Landscapes; these are the opportunities that Willerby Landscapes will focus on in order to achieve the 2030 target.

Gasoil produced just over 40tCO<sub>2</sub>e in 2020 as a result of fuelling the plant/machinery required for every day use. This emission source can be reduced by a replacement with a more sustainable fuel source or the use of zero emission plant/machinery.

Unleaded fuel was used for a few fleet vehicles but primarily for on-site tools. Zero emission vehicles can be sourced as replacements for fleet vehicles to mitigate the emissions and electric or battery powered tools can eliminate the need for unleaded on sites.

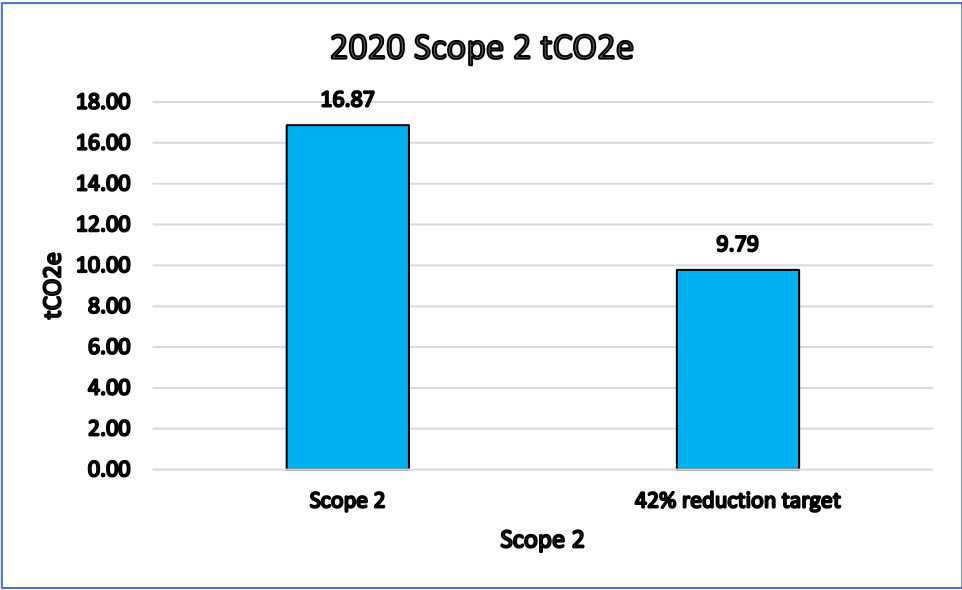
Burning Oil and Natural Gas is used in the heating of the offices at Bridge Nurseries and 55 Maltings respectively, and at present, contributes little to the overall emissions figure. Although the figures are minimal, there is still a contribution and a change in heat source may be required in order to eliminate the emissions; however, this is not considered a priority reduction target at present.

**SCOPE 2**

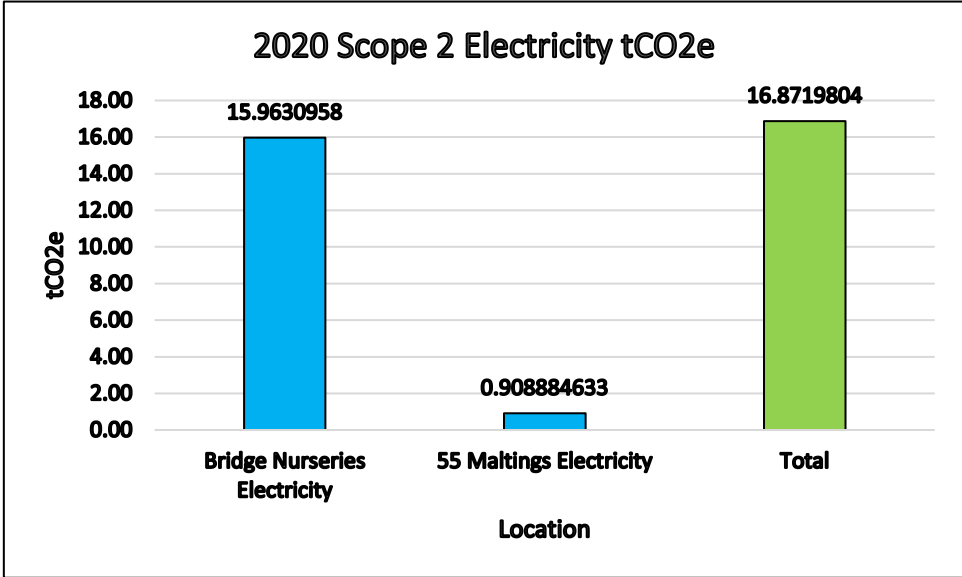
**RESULTS**

SCOPE 2				
	kWh	kgCO2e conversion factor	kgCO2e	tCO2e
Bridge Nurseries Electricity	68470	0.23314	15963	15.9630958
55 Maltings Electricity	3898	0.23314	909	0.908884633

Table #3: Table showing Scope 2 data for 2020



Graph #4: Bar Chart showing overall Scope 2 data for 2020



Graph #5: Bar Chart showing Scope 2 data at individual locations for 2020

The above table and graphs highlight the overall Scope 2 emissions and emission contributors for Willerby Landscapes in 2020. Please note the below

- Bridge Nurseries is the company head office and is in Kent, England.
- 55 Maltings is a secondary office located in London, England.

The Scope 2 fuels highlighted above are used in the following processes:

- Bridge Nurseries electricity – used for power to the main office building and the barn
- 55 Maltings electricity – used for power to the office.

## **ANALYSIS**

### **Overall**

From the data highlighted above, the major contributor is the electricity used in operations at Bridge Nurseries. This is not unexpected as the majority of the operations occurs at these locations. This will be the site that the reduction methods are focussed on.

### **SCOPE 3**

Due to this report being written retrospectively, information pertinent to calculating Scope 3 emission figures is unavailable and therefore no figure is available.

The figures that will be reported on in later reports are as follows:

- Sub-contractor emissions (overall emission totals)
- Transmission & Distribution
- Water Supply
- Water Treatment
- Material Use
- Waste Disposal
- Business Travel – Air
- Business Travel – Sea
- Business Travel – Land
- Freighting Goods
- Managed Assets – Vehicles
- Hotel Stays
- WTT – Fuels
- WTT – Bioenergy
- WTT – UK Electricity (T&D)
- WTT – UK Electricity (Generation)
- WTT – Air
- WTT – Sea
- WTT – Land
- WTT – Freighting Goods
- Managed Assets – Electricity
- Homeworking

## **OUTSIDE OF SCOPES**

Due to this report being written retrospectively, information pertinent to calculating Outside of Scopes emission figures is unavailable and therefore no figure is available.

The figures that will be reported on in later reports are as follows:

- Forecourt Fuels containing biofuel
- Biofuel
- Biomass
- Biogas
- Electricity generated

## **CONCLUSION**

In conclusion, this report highlights the key areas that Willerby Landscapes will be focussing on in order to achieve the reduction target. While this report does not specify reduction methodologies, the foundation has been set in order to report and effectively managing the reduction process in subsequent years.

Further reporting information for Scope 3 and Outside of Scopes emissions are expected in subsequent years, as well as reduction methods and respective effectiveness.

**END**

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