

# One Carbon World



## Report

Presented to:

Ribble Valley Borough Council

2020/21

July 2022



# One Carbon World

## Ribble Valley Borough Council CO2e Report July 2022

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*Please consider the environment before printing this report.*



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## **Introduction**

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Ribble Valley Borough Council have been awarded the One Carbon World Carbon Neutral International Standard grant.

This report details the carbon footprint of Ribble Valley Borough Council and provides recommendations to reduce and off-set its footprint.

The activities included in the carbon footprint measurement were agreed in consultation between One Carbon World and Ribble Valley Borough Council. The calculation of the footprint was undertaken by One Carbon World after a desk-top review of data provided by Ribble Valley Borough Council.

This report meets the reporting requirements of the Green House Gas (GHG) Protocol Corporate Standard and is compatible with international standards ISO 14064 and PAS 2060.

One Carbon World have taken all reasonable measures to ensure the accuracy of this report. Any omissions or errors in data are the responsibility of the grant recipient named in this report.



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## Carbon Footprint Report

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**Name: Ribble Valley Borough Council**

Address: Council Offices, Church Walk, Clitheroe, Lancashire, BB7 2RA

Description: Borough Council

Footprint boundary: All activities under operational control, covered under Scopes 1, 2 and 3 of the Green House Gas (GHG) Protocol Corporate Standard as detailed within this report.

Footprint Period: 01/04/2020 to 31/03/2021

### Activities/Emissions included in footprint:

- Energy,
- Fuel,
- Water,
- Waste Management,
- Business Travel,
- Materials Use, and
- Purchasing Goods & Services.



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The GHG Protocol Corporate Standard requires reporting a minimum of scope 1 and scope 2 emissions.

## **Scope 1 - Direct Green House Gas (GHG) Emissions:**

Scope 1 (direct emissions) emissions are those from activities owned or controlled by an organisation. Direct emissions are principally the result of the following types of activities:

- Generation of electricity, heat, or steam. These emissions result from combustion of fuels in stationary sources, e.g. boilers, furnaces, turbines
- Transportation of materials, products, waste, and employees. These emissions result from the combustion of fuels in company owned/controlled mobile combustion sources (e.g. trucks, trains, ships, airplanes, buses and cars)
- Fugitive emissions. These emissions result from intentional or unintentional releases, e.g., equipment leaks from joints, seals, packing, and gaskets; methane emissions from coal mines and venting; hydrofluorocarbon (HFC) emissions during the use of refrigeration and air conditioning equipment; and methane leakages from gas transport
- Physical or chemical processing. Most of these emissions result from manufacture or processing of chemicals and materials, e.g. cement, aluminium, and waste processing

## **Scope 1 Emissions data supplied and included in footprint:**

- Total Fuels : Liquid fuels : Petrol (average biofuel blend) litres : Volume
- Total Fuels : Liquid fuels : Diesel (average biofuel blend) litres : Volume
- Total Fuels : Gaseous fuels : Natural gas kWh (Gross CV) : Energy - Gross CV



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## Scope 2 - Indirect GHG Emissions:

Scope 2 (indirect) emissions are those released into the atmosphere that are associated with the consumption of purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of an organisation's energy use, but occur at sources not owned or controlled.

### Scope 2 Emissions data supplied and included in footprint:

- Total UK electricity : Electricity generated : Electricity: UK kWh :

## Scope 3 - Other Indirect GHG Emissions:

Scope 3 (other indirect) emissions are a consequence of actions that occur at sources not owned or controlled and not classed as Scope 2 emissions. Examples of Scope 3 emissions are business travel by means not owned or controlled by an organisation, waste disposal, or materials or fuels an organisation purchases. Deciding if emissions from a vehicle, office or factory are Scope 1 or Scope 3 may depend on how operational boundaries are defined.

### Scope 3 Emissions data supplied and included in footprint:

- Total WTT- UK & overseas elec : WTT- UK electricity (T&D) : Electricity: UK kWh :
- Total WTT- UK & overseas elec : WTT- UK electricity (generation) : Electricity: UK kWh :
- Total WTT- fuels : WTT- liquid fuels : Petrol (average biofuel blend) litres : Volume
- Total WTT- fuels : WTT- liquid fuels : Diesel (average biofuel blend) litres : Volume
- Total WTT- fuels : WTT- gaseous fuels : Natural gas kWh (Gross CV) : Energy - Gross CV
- Total WTT- business travel- land : WTT- cars (by size) : Average car km : Unknown
- Total WTT- business travel- land : WTT- cars (by size) : Average car km : Petrol
- Total WTT- business travel- land : WTT- cars (by size) : Average car km : Hybrid



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- Total Water treatment : Water treatment : Water treatment cubic metres :
- Total Water supply : Water supply : Water supply cubic metres :
- Total Waste disposal : Refuse : Organic: garden waste tonnes : Composting
- Total Waste disposal : Refuse : Commercial and industrial waste tonnes : Landfill
- Total Waste disposal : Refuse : Commercial and industrial waste tonnes : Closed-loop
- Total Waste disposal : Paper : Paper and board: mixed tonnes : Closed-loop
- Total Waste disposal : Other : Clothing tonnes : Re-use
- Total Waste disposal : Other : Books tonnes : Closed-loop
- Total Waste disposal : Metal : Metal: scrap metal tonnes : Closed-loop
- Total Waste disposal : Electrical Items : Batteries tonnes : Open-loop
- Total Transmission and distribution : T&D- UK electricity : Electricity: UK kWh :
- Total Money Value to CO2e : Wearing apparel : Wearing apparel costs :
- Total Money Value to CO2e : Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations : Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparation costs :
- Total Money Value to CO2e : Rubber and plastic products : Rubber and plastic product costs :
- Total Money Value to CO2e : Rail Transport : Rail Transport costs :
- Total Money Value to CO2e : Postal and courier services : Postal and courier service costs :
- Total Money Value to CO2e : Paper and paper products : Paper and paper product costs :
- Total Money Value to CO2e : Other food products : Other food product costs :
- Total Money Value to CO2e : Dairy products : Dairy product costs :
- Total Money Value to CO2e : Computer, electronic and optical products : Computer, electronic and optical product costs :
- Total Business travel- land : Cars (by size) : Average car km : Unknown
- Total Business travel- land : Cars (by size) : Average car km : Petrol
- Total Business travel- land : Cars (by size) : Average car km : Hybrid

## Footprint Calculation Method:

The most common approach for calculating GHG emissions is through the application of documented and approved GHG emissions conversion factors. These factors are calculated ratios that relate GHG emissions to a proxy measure of activity at an emissions source.

Further detail on emissions factors and the methodology behind them can be found at <https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>

The activity data or amount of 'resources' used are multiplied by the relevant emissions factors to calculate total Greenhouse Gas equivalent (CO<sub>2</sub>e) emissions.

$$\text{GHG emissions} = \text{activity data} \times \text{emission conversion factor}$$

There are seven main GHGs that contribute to climate change, as covered by the Kyoto Protocol: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>). Different activities emit different gases and an organisation should report on the Kyoto Protocol GHG gases produced by its activities.

CO<sub>2</sub>e is the universal unit of measurement to indicate the global warming potential (GWP) of GHGs, expressed in terms of the GWP of one unit of CO<sub>2</sub>. The GWPs used in the calculation of CO<sub>2</sub>e are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) over a 100-year period (this is a requirement for inventory/national reporting purposes).

All conversion factors used in this report are in units of kilograms of carbon dioxide equivalent (kg CO<sub>2</sub>e).



## Emissions factors used in footprint calculation:

| Activity Type                 | Emissions Factor   | Source  |
|-------------------------------|--|---|
| WTT- UK & overseas elec       | Total WTT- UK & overseas elec : WTT- UK electricity (generation) : Electricity: UK kWh : | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| WTT- UK & overseas elec       | Total WTT- UK & overseas elec : WTT- UK electricity (T&D) : Electricity: UK kWh :        | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| WTT- fuels                    | Total WTT- fuels : WTT- gaseous fuels : Natural gas kWh (Gross CV) : Energy - Gross CV   | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| WTT- fuels                    | Total WTT- fuels : WTT- liquid fuels : Petrol (average biofuel blend) litres : Volume    | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| WTT- fuels                    | Total WTT- fuels : WTT- liquid fuels : Diesel (average biofuel blend) litres : Volume    | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| WTT- business travel-land     | Total WTT- business travel- land : WTT- cars (by size) : Average car km : Unknown        | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| WTT- business travel-land     | Total WTT- business travel- land : WTT- cars (by size) : Average car km : Hybrid         | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| WTT- business travel-land     | Total WTT- business travel- land : WTT- cars (by size) : Average car km : Petrol         | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Water treatment               | Total Water treatment : Water treatment : Water treatment cubic metres :                 | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Water supply                  | Total Water supply : Water supply : Water supply cubic metres :                          | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Waste disposal                | Total Waste disposal : Refuse : Commercial and industrial waste tonnes : Landfill        | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Waste disposal                | Total Waste disposal : Refuse : Commercial and industrial waste tonnes : Closed-loop     | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Waste disposal                | Total Waste disposal : Refuse : Organic: garden waste tonnes : Composting                | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Waste disposal                | Total Waste disposal : Paper : Paper and board: mixed tonnes : Closed-loop               | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Waste disposal                | Total Waste disposal : Metal : Metal: scrap metal tonnes : Closed-loop                   | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Waste disposal                | Total Waste disposal : Other : Books tonnes : Closed-loop                                | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Waste disposal                | Total Waste disposal : Electrical Items : Batteries tonnes : Open-loop                   | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Waste disposal                | Total Waste disposal : Other : Clothing tonnes : Re-use                                  | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| UK electricity                | Total UK electricity : Electricity generated : Electricity: UK kWh :                     | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Transmission and distribution | Total Transmission and distribution : T&D- UK electricity : Electricity: UK kWh :        | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Money Value to CO2e           | Total Money Value to CO2e : Dairy products : Dairy product costs :                       | Defra / OCW   |
| Money Value to CO2e           | Total Money Value to CO2e : Other food products : Other food product costs :             | Defra / OCW   |

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|                       |  |   |
|-----------------------|--|---|
| Money Value to CO2e   | Total Money Value to CO2e : Wearing apparel : Wearing apparel costs :  | Defra / OCW   |
| Money Value to CO2e   | Total Money Value to CO2e : Paper and paper products : Paper and paper product costs :   | Defra / OCW   |
| Money Value to CO2e   | Total Money Value to CO2e : Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations : Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparation costs : | Defra / OCW   |
| Money Value to CO2e   | Total Money Value to CO2e : Computer, electronic and optical products : Computer, electronic and optical product costs :   | Defra / OCW   |
| Money Value to CO2e   | Total Money Value to CO2e : Rubber and plastic products : Rubber and plastic product costs :   | Defra / OCW   |
| Money Value to CO2e   | Total Money Value to CO2e : Postal and courier services : Postal and courier service costs :   | Defra / OCW   |
| Money Value to CO2e   | Total Money Value to CO2e : Rail Transport : Rail Transport costs :  | Defra / OCW   |
| Fuels                 | Total Fuels : Gaseous fuels : Natural gas kWh (Gross CV) : Energy - Gross CV   | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Fuels                 | Total Fuels : Liquid fuels : Petrol (average biofuel blend) litres : Volume  | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Fuels                 | Total Fuels : Liquid fuels : Diesel (average biofuel blend) litres : Volume  | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Business travel- land | Total Business travel- land : Cars (by size) : Average car km : Unknown  | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Business travel- land | Total Business travel- land : Cars (by size) : Average car km : Hybrid   | DEFRA Conversion Factors Full Set for Advanced Users 2020 |
| Business travel- land | Total Business travel- land : Cars (by size) : Average car km : Petrol   | DEFRA Conversion Factors Full Set for Advanced Users 2020 |



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## **Assumptions and/or Omissions:**

- Electricity spend to kWh conversion take from referenced source<sup>1</sup>.
- Data shared in 'Vehicle Fuels' tab and 'Business Travel' tab are assumed not to have been double counted as no diesel vehicles are listed.
- No commuting data included in this period due to COVID impact on working habits.
- Well to Tank Scope 3 emissions associated with extraction, refining and transportation of raw fuels and Transmission and distribution (T&D) Scope 3 emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the organisations that purchase it), are included in the footprint calculations.

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<sup>1</sup> *Converted from UK Gov av p/kWh paper chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/1064828/quarterly-energy-prices-march-2022.pdf*

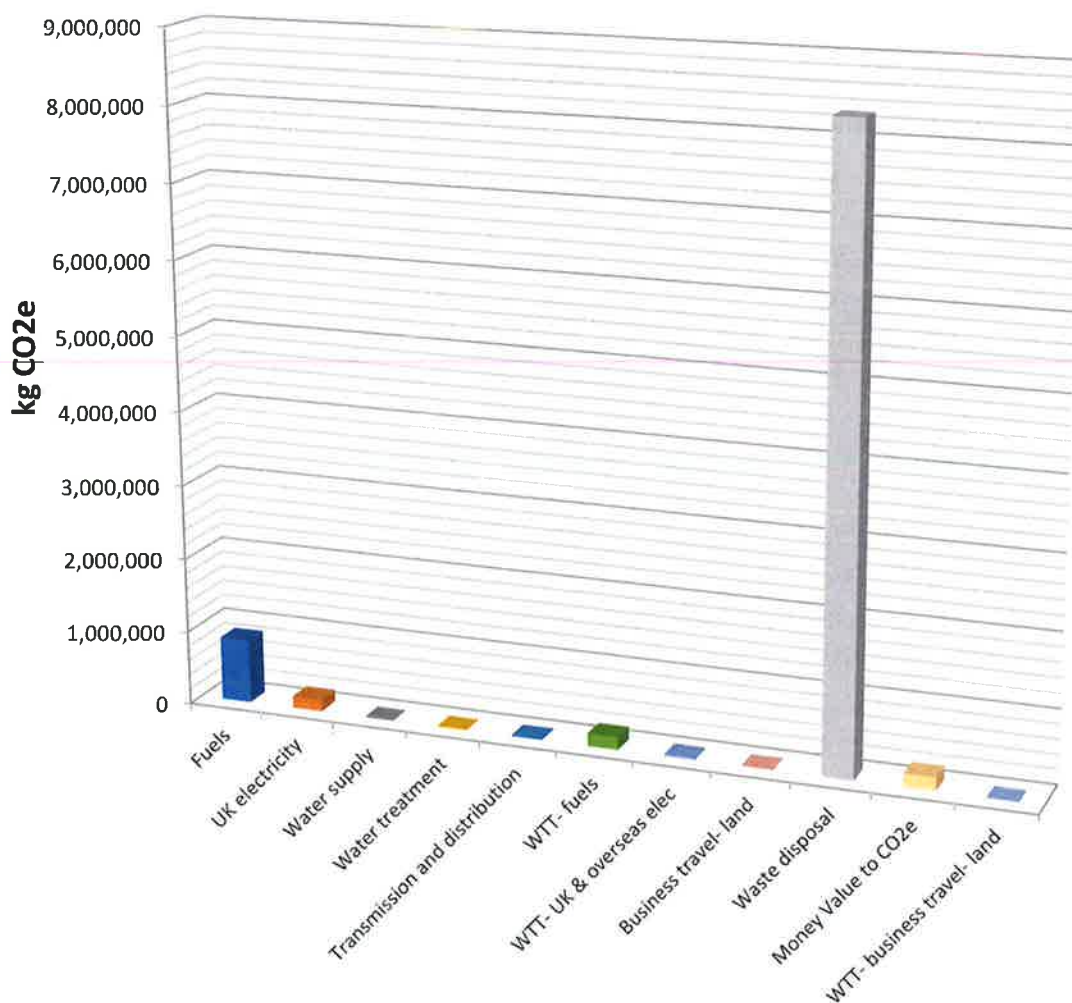
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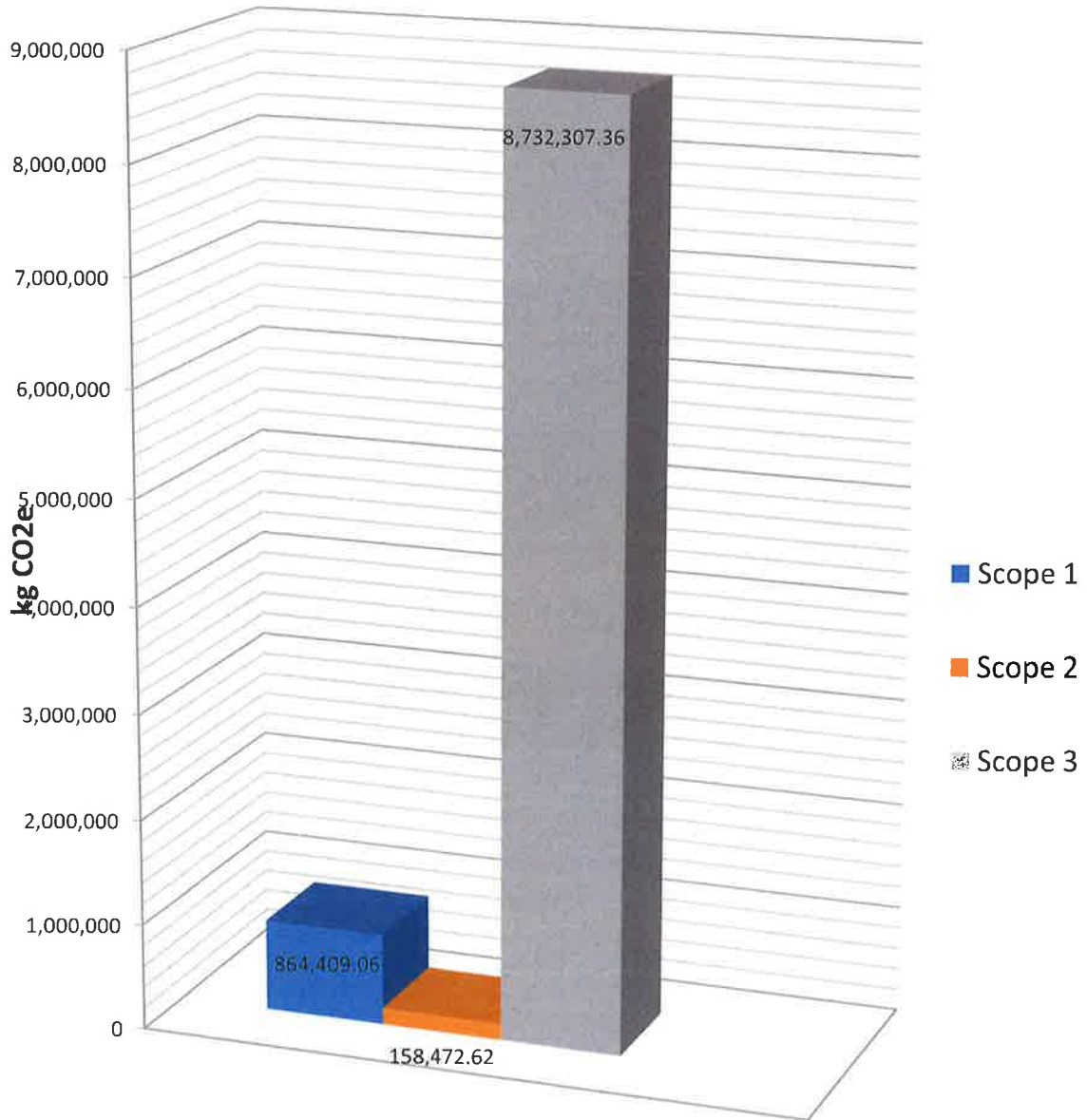
## Carbon Footprint:

The Total Carbon Footprint of the activities measured = **9,755.19 tonnes CO<sub>2</sub>e**.

## Sources of CO<sub>2</sub>e by emission activity

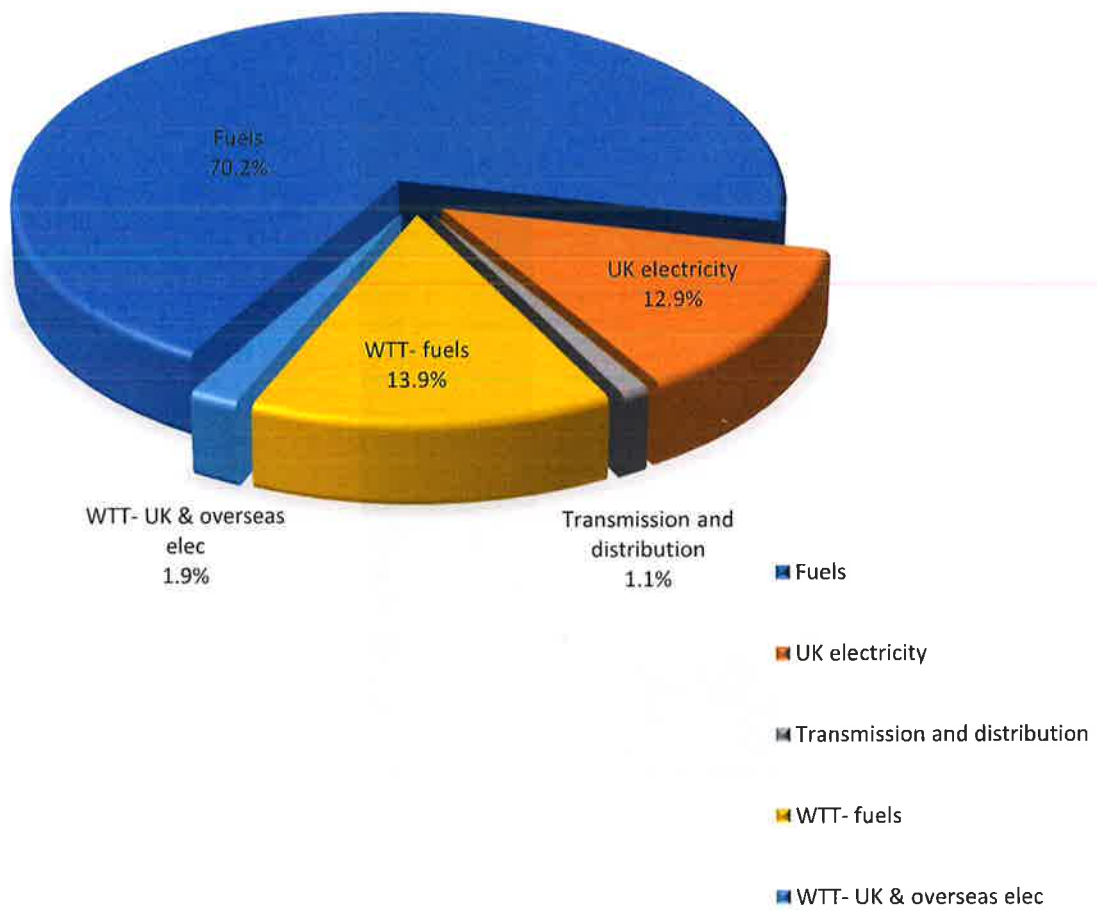


## Sources of CO<sub>2</sub>e emissions by GHG Protocol Scope

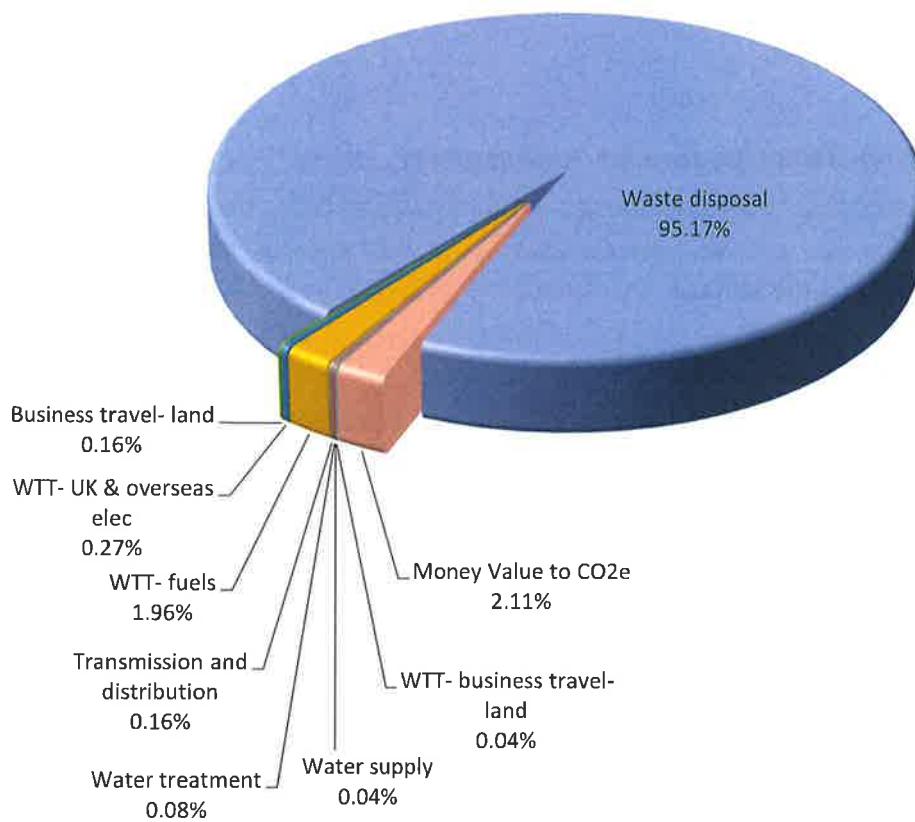


**Footprint detail**

**Sources of CO2e emissions by Energy & Fuel Use**



## Sources of CO2e by Indirect Emissions (Scope 3)



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## **Part 1 – Carbon Footprint Reduction Recommendations**

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The most significant sources of CO<sub>2</sub>e emissions identified are:

- Emissions arising from electricity use and fuel use (13%)
- Emissions arising from waste management (85%) – *please note that this was not previously included within the 2020 carbon footprint scope.*

To effectively monitor the Carbon Footprint of Ribble Valley Borough Council over time, it is also recommended that a relevant performance indicator is chosen e.g. tonnes CO<sub>2</sub>e per Employee.

### **Footprint Period: 2020 Like-for-Like Assessment**

9,755.19 tonnes CO<sub>2</sub>e / 236 employees = 41.34 tonnes of CO<sub>2</sub>e per Employee per year.

*Please note that this is a revised baseline as it now includes the waste management services provided by the council.*

### **Footprint Period: 2019 Like-for-Like Assessment**

5,655.06 tonnes CO<sub>2</sub>e / 250 employees = 22.62 tonnes of CO<sub>2</sub>e per Employee per year.

*Please note that this does not include the waste management services provided by the council as in 2020.*

Other performance indicators could also be used, such as those based on financial data e.g., KgCO<sub>2</sub>e per £, with the cost indicator linked to financial turnover and/or profit.





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## **Setting Emissions Reduction Targets:**

Following the new baseline calculation of the Ribble Valley carbon footprint, the next steps should include the development of reduction targets and strategy in line with UN recommendations. To guide the next steps, under the UN Climate Neutral Now framework the following are recommended to ensure organisations align with global goals of limiting temperature increases to 1.5°C above pre-industrial levels:

- Set a Net Zero target by 2050 or earlier.
- Set interim reduction targets aligning with the science - for example, reduce emissions by 50% of your baseline by 2030 meaning **between 5-8% per year target**.
- Develop and implement a strategy to achieve short – mid- and long-term targets.
- On-going review of emissions against targets to track progress and ensure continued alignment with the climate science.
- It is accepted that reduction targets can be set against the Ribble Valley relative emissions e.g., tonnes CO<sub>2e</sub>/employee (see above).

## **To reduce emissions from energy and fuel use we would recommend:**

- Improve consumption visibility by setting up a central platform for monitoring and targeting of building energy use.
- Ensure out of hours energy consumption is minimised where possible.
- Develop and implement a staff energy and environmental awareness programme, consider introducing a web based tailored staff awareness training solution.
- Where relevant review the Ribble Valley Borough Council Energy Performance of Buildings Directive (EPBD) reports (DECs/EPCs/TM44) covering the Councils buildings. Assess and roll out recommendations where appropriate.
- Opportunities may include improvements to building fabric, higher efficiency heating systems, use of alternative/renewable energy sources for heating for example Air Source Heat Pumps (ASHPs) Ground Source Heat Pumps (GSHPs), solar PV or biomass.
- Ensure roll out of high efficiency LED lighting with integrated lighting sensors and controls where appropriate.
- Ensure all PCs and ancillary equipment is switched off out of hours, consider introducing a site wide script to isolate all equipment outside of business hours.

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### Transport

- Improvements to fuel and mileage monitoring and management and development of a transport policy and objectives.
- As more electric vehicles are available in the marketplace, a transition to low/no carbon vehicles should be planned and will mean that Ribble Valley Borough Council will be able to further reduce the carbon footprint of its operations as well as costs.

It is understood that staff are required to travel during day-to-day activities however a travel hierarchy could be implemented:

- Is the travel necessary – can the required meeting be undertaken virtually/ using electronic communication (zero emissions for travel)?
- If the travel is necessary is it local and can 'active travel' be used (zero or very low emissions for travel)?
- If the travel is necessary and not local can public transport be used (low emissions)?
- If not practical utilise pool cars, car clubs or hire cars, making sure they are low emission and hire cars are used for more than 100-mile trips only (prioritize low emission vehicles).
- If the above are not practical or available ensure the grey fleet expenses policy rewards use of low emission vehicles and enables coordinated car share (low emission vehicles).
- Only use air travel where this is necessary (High emissions).

The use of travel will need to reflect cost, availability, convenience, time & emissions.

### Opportunities to Minimise the Impacts of Waste Could Include:

There are limitations as to the level of control Ribble Valley Borough Council have on waste minimization however data should be tracked closely on an annual basis. Focus on waste minimization in the first instance should be enhanced – with a main focus on diverting waste from landfill through waste minimization, recycling, composting, donations, or reuse wherever possible. Set targets to reduce, reuse and recycle and carry out periodic waste reviews and audits. Opportunities for improvement may include increased recycling rates and other waste diversion methods.



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## **Environmental Awareness can be enhanced through the following actions:**

- Communicate results of this report and make use of marketing recommendations.
- Consider the development and roll-out of a staff energy and environmental awareness.
- Implement signage to encourage staff to switch off equipment at work and at home.
- Encourage employees to reduce energy consumption by turning off lights and other energy-consuming devices aided by clearly visible signs.
- Discuss with staff a travel hierarchy so they understand low carbon travel options.
- Provide bicycle racks for employees and visitors.
- Demonstrate achievement of workplace de-carbonisation objectives.
- Provide new employees and visitors with sustainability goals and objectives.
- Communicate ways key stakeholders can support or add to the sustainability initiatives.
- Share the information above around ways in which emissions can be reduced.

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### **Purchasing of Goods and Services**

Procurement of products used in the operation is an important support mechanism in delivering the Ribble Valley Borough Council decarbonisation objectives. This can be achieved through further engagement with key stakeholders as early as possible to identify the outcome required and determining, in conjunction with the market, the best way of delivering this. This may involve challenging the norm and capturing and embracing innovative solutions. Agreed sustainability objectives and requirements can then be embedded through the procurement processes (specification, tender, evaluation criteria & contract management).

If Ribble Valley Borough Council have an extensive supply chain a prioritisation exercise could highlight services providers which represent the highest balance of, empirically assessed, categories according to spend or carbon impact as relevant to Ribble Valley Borough Council.

The outcome of this exercise can then ensure effort is focused where needed and prioritises market engagement requirements as well as who internally needs to be engaged and aware of key issues. This then helps the prioritisation of expenditure on sustainability resource, which in turn informs the focus on priority suppliers and categories and internal stakeholders.

Support, tools and other resources will be required over the coming years to help organisations such as Ribble Valley Borough Council drive change across their supply chain including from UK Government. Some sustainable procurement tools and guidance are already in place:

- <https://www.gov.uk/guidance/sustainable-procurement-tools>

The most important stage within the procurement process is always to undertake a review of the need for procurement in the first instance and to question if alternative procurement routes should be considered.

These recommendations are non-exhaustive and are designed to provide guidance only.



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## **Part 2 – Carbon Neutrality Achievement Support Scope 1 – 2**

OCW work with organisations to support verified GHG emission projects around the world that reduce global GHG emissions. The OCW GHG offsetting program ensures that all the emissions offset within the Carbon Neutral International Standard coincide to real, quantifiable, and permanent project-based emission reductions, providing integrity to the voluntary carbon market.

### **Ribble Valley Borough Council Projected Cost of Achieving Carbon Neutrality**

In addition to reducing its own emissions through action targeted reduction strategies, Ribble Valley Borough Council can off-set its unavoidable CO2e emissions now. This can be achieved through investing in verified projects that support reduction of CO2e emissions even further. In doing so, Ribble Valley Borough Council will be provided with time to develop effective emissions reduction strategies. Based on a recent report submitted by University College London (UCL) it has been projected that the average price of carbon credits should rise from \$3-5 to \$20-50/tCO2e by 2030 driving real investment in new projects to reduce emissions. Based on this to offset the balance of its 01/04/2020-31/03/2021 Scope 1 and 2 Carbon Footprint of 1,023 tCO2e would equate to  $1,023 \times \text{£}30 = \text{£}30,690$ .

The One Carbon World customer services team will be happy to share a proposal with you to support you with the options in offsetting your Scope 1 and 2 emissions covering the period 01/04/2020-31/03/2021.

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## Scope kg CO2e Summary Table

| Activity          | Total kg CO2e       | Total Tons CO2e |
|-------------------|---------------------|-----------------|
| Scope 1           | 864,409.06          | 864.41          |
| Scope 2           | 158,472.62          | 158.47          |
| Scope 3           | 8,732,307.36        | 8,732.31        |
| Outside of Scopes | 0.00                | 0.00            |
| <b>Total</b>      | <b>9,755,189.04</b> | <b>9,755.19</b> |

## Activity Type kg CO2e Summary Table

| Activity Type                 | Total kg CO2e       | Total Tons CO2e |
|-------------------------------|---------------------|-----------------|
| Fuels                         | 864,409.06          | 864.41          |
| UK electricity                | 158,472.62          | 158.47          |
| Water supply                  | 3,594.46            | 3.59            |
| Water treatment               | 7,397.89            | 7.40            |
| Transmission and distribution | 13,628.62           | 13.63           |
| WTT- fuels                    | 171,226.17          | 171.23          |
| WTT- UK & overseas elec       | 23,749.82           | 23.75           |
| Business travel- land         | 14,249.21           | 14.25           |
| Waste disposal                | 8,310,375.57        | 8,310.38        |
| Money Value to CO2e           | 184,400.96          | 184.40          |
| WTT- business travel- land    | 3,684.66            | 3.68            |
| <b>Total</b>                  | <b>9,755,189.04</b> | <b>9,755.19</b> |

## Type kg CO2e Summary Table

| Type   | Total kg CO2e       | Total Tons CO2e |
|--|---------------------|-----------------|
| Gaseous fuels  | 337,682.59          | 337.68          |
| Liquid fuels   | 526,726.47          | 526.73          |
| Electricity generated  | 158,472.62          | 158.47          |
| Water supply   | 3,594.46            | 3.59            |
| Water treatment  | 7,397.89            | 7.40            |
| Electrical items   | 9.29                | 0.01            |
| Metal  | 453.41              | 0.45            |
| Paper  | 28,254.86           | 28.25           |
| Postal and courier services - Money Value  | 32,878.95           | 32.88           |
| Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations - Money Value | 23,409.25           | 23.41           |
| Paper and paper products - Money Value   | 15,676.34           | 15.68           |
| Other food products - Money Value  | 124.08              | 0.12            |
| Rail Transport - Money Value   | 105.62              | 0.11            |
| Computer, electronic and optical products - Money Value  | 16,082.38           | 16.08           |
| Rubber and plastic products - Money Value  | 76,162.75           | 76.16           |
| Wearing apparel - Money Value  | 15,358.16           | 15.36           |
| Dairy products - Money Value   | 4,603.43            | 4.60            |
| T&D- UK electricity  | 13,628.62           | 13.63           |
| Cars (by size)   | 14,249.21           | 14.25           |
| WTT- gaseous fuels   | 43,911.41           | 43.91           |
| WTT- liquid fuels  | 127,314.76          | 127.31          |
| WTT- UK electricity (generation)   | 21,866.96           | 21.87           |
| WTT- UK electricity (T&D)  | 1,882.86            | 1.88            |
| WTT- cars (by size)  | 3,684.66            | 3.68            |
| Refuse   | 8,281,658.01        | 8,281.66        |
| <b>Total</b>   | <b>9,755,189.04</b> | <b>9,755.19</b> |



## Class & UOM kg CO2e Summary Table

| Class & UOM   | Total kg CO2e       | Total Tons CO2e |
|---|---------------------|-----------------|
| Natural gas kWh (Gross CV)  | 337,682.59          | 337.68          |
| Diesel (average biofuel blend) litres   | 494,856.57          | 494.86          |
| Petrol (average biofuel blend) litres   | 31,869.89           | 31.87           |
| Electricity: UK kWh   | 158,472.62          | 158.47          |
| Water supply cubic metres   | 3,594.46            | 3.59            |
| Water treatment cubic metres  | 7,397.89            | 7.40            |
| Batteries tonnes  | 9.29                | 0.01            |
| Metal: scrap metal tonnes   | 453.41              | 0.45            |
| Paper and board: mixed tonnes   | 28,254.86           | 28.25           |
| Postal and courier service costs - Money Value  | 32,878.95           | 32.88           |
| Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparation costs - Money Value | 23,409.25           | 23.41           |
| Paper and paper product costs - Money Value   | 15,676.34           | 15.68           |
| Other food product costs - Money Value  | 124.08              | 0.12            |
| Rail Transport costs - Money Value  | 105.62              | 0.11            |
| Computer, electronic and optical product costs - Money Value  | 16,082.38           | 16.08           |
| Rubber and plastic product costs - Money Value  | 76,162.75           | 76.16           |
| Wearing apparel costs - Money Value   | 15,358.16           | 15.36           |
| Dairy product costs - Money Value   | 4,603.43            | 4.60            |
| Electricity: UK kWh   | 37,378.44           | 37.38           |
| Average car km  | 17,933.87           | 17.93           |
| Natural Gas kWh (Gross CV)  | 43,911.41           | 43.91           |
| Diesel (average biofuel blend) litres   | 118,591.19          | 118.59          |
| Petrol (average biofuel blend) litres   | 8,723.57            | 8.72            |
| Organic: garden waste tonnes  | 46,843.86           | 46.84           |
| Commercial and industrial waste tonnes  | 8,234,814.15        | 8,234.81        |
| <b>Total</b>  | <b>9,755,189.04</b> | <b>9,755.19</b> |

## Client Reference kg CO2e Summary Table

| Scope        | Reference  | Total kg CO2e       | Total Tons CO2e |
|--------------|--|---------------------|-----------------|
| Scope 1      | Company Cars - Fuel  | 526,726.47          | 526.73          |
| Scope 1      | Gas  | 337,682.59          | 337.68          |
| Scope 2      | Electricity  | 158,472.62          | 158.47          |
| Scope 3      | Batteries  | 9.29                | 0.01            |
| Scope 3      | Books  | 0.00                | 0.00            |
| Scope 3      | Co-mingled plastics, glass and cans  | 75,803.04           | 75.80           |
| Scope 3      | Commercial and industrial waste  | 463,037.55          | 463.04          |
| Scope 3      | Company Cars   | 1,139.84            | 1.14            |
| Scope 3      | Company Cars - Fuel  | 127,314.76          | 127.31          |
| Scope 3      | Dairy products   | 4,603.43            | 4.60            |
| Scope 3      | Electricity  | 37,378.44           | 37.38           |
| Scope 3      | Fly tipped waste   | 55,998.31           | 56.00           |
| Scope 3      | Footwear   | 0.00                | 0.00            |
| Scope 3      | Gas  | 43,911.41           | 43.91           |
| Scope 3      | Grey Fleet Cars  | 16,794.03           | 16.79           |
| Scope 3      | Household residual waste   | 7,639,975.26        | 7,639.98        |
| Scope 3      | ICT Purchases  | 16,082.38           | 16.08           |
| Scope 3      | Materials - Other Plastic  | 76,162.75           | 76.16           |
| Scope 3      | Materials - SSTOR  | 3,895.89            | 3.90            |
| Scope 3      | Metal: scrap metal   | 453.41              | 0.45            |
| Scope 3      | Newspapers   | 3,616.50            | 3.62            |
| Scope 3      | Organic: street sweepings  | 6,158.87            | 6.16            |
| Scope 3      | Organic: garden waste  | 40,684.99           | 40.68           |
| Scope 3      | Other food products  | 124.08              | 0.12            |
| Scope 3      | Other Publications   | 595.12              | 0.60            |
| Scope 3      | Paper and board: mixed   | 28,254.86           | 28.25           |
| Scope 3      | Paper and paper products   | 7,093.93            | 7.09            |
| Scope 3      | Postage & Courier  | 32,878.95           | 32.88           |
| Scope 3      | Rail - Business Travel   | 105.62              | 0.11            |
| Scope 3      | Reference Books  | 474.90              | 0.47            |
| Scope 3      | Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations | 23,409.25           | 23.41           |
| Scope 3      | Textiles   | 0.00                | 0.00            |
| Scope 3      | Water Supply   | 3,594.46            | 3.59            |
| Scope 3      | Water Treatment  | 7,397.89            | 7.40            |
| Scope 3      | Wearing apparel  | 15,358.16           | 15.36           |
| <b>Total</b> |  | <b>9,755,189.04</b> | <b>9,755.19</b> |