

The Wildlife Trusts'

Greenhouse Gas Inventory

2020-2021 Financial Year

Introduction

We are amid two escalating and inextricably linked crises in nature and climate. We cannot solve one without addressing the other. The world's response to the climate crisis, both on mitigation and adaptation, will define our ability to restore nature, which is core to The Wildlife Trusts' mission to bring nature back ([Strategy 2030](#)).

We are therefore taking transformative action to tackle both crises together; in reducing our own emissions, maximising and increasing our carbon sequestration and adapting to the impacts of climate change, in a way that supports nature recovery; inspiring and empowering others to do the same. Thanks to funding raised by players of People's Postcode Lottery, we've been able to accelerate this action over the last two years.

A synthesis of The Wildlife Trusts' collective response to climate change can be found in our Position Statement. This mitigation report sits under that statement of intent as one of two parts to the work we are undertaking, the other being our adaptation report, 'Changing Nature'.

The detail in the Position Statement, our adaptation report and this report covers The Wildlife Trusts across England, Wales and Northern Ireland. Scottish Wildlife Trust is exploring opportunities to produce their own detailed statement and assessments in due course, but all Trusts have signed up to our headline goals as set out in the position statement. The GHG Inventory reported here includes Scottish Wildlife Trust's GHG emissions.

As a grassroots movement working across every part of the UK, on Alderney and the Isle of Man, The Wildlife Trusts are major landowners, habitat managers, energy users, consumers of water, venue and event providers, educators, vehicle fleet operators, and employers (to name just a few). Whilst these elements all contribute to achieving our charitable objectives, we recognise that our activities have environmental impacts that we want to minimise.

Our net zero commitment

The Wildlife Trusts will work together towards a goal of net zero greenhouse gas emissions by 2030, as well as putting in place robust adaptation measures across all our work.

Our major priority to get to net zero will be to cut greenhouse gas (GHG) emissions right across the work we do, and free ourselves from fossil fuel use and dependencies.

We will publicly report our greenhouse gas emissions on a frequent basis to transparently share and explain our progress and challenges on this journey.

Our Position Statement 'climate change – our collective response' provides more detail on this target in the context of our approach to addressing both climate mitigation and adaptation, for the benefit of nature's recovery.

Our Greenhouse Gas Inventory

The Wildlife Trusts are taking an evidence-led approach to understand, reduce, and report our GHG emissions across our value chain, and to report against our net zero 2030 target.

The Wildlife Trusts calculate their greenhouse gas emissions annually across Scopes 1, 2 and 3, in line with best practice guidelines from the Greenhouse Gas Protocol. This is done using a consistent method (see Appendix 1) right across the federation, which permits us to generate a collective inventory of GHG emissions for The Wildlife Trusts as a whole. This work was enabled thanks to support from players of People's Postcode Lottery.

Carbon Account FY 2020-2021

In the Financial Year (FY) 6 April 2020 – 5 April 2021, our GHG emissions across The Wildlife Trusts collectively were 24,996 tCO₂e.

See Table 1 and Figure 1 for a breakdown of emissions by activity category.

In FY 2020/21, of our total GHG emissions:

- Our direct (Scope 1) and indirect electrical (Scope 2) GHG emissions accounted for 13.25% of the total. This covers emissions occurring from heating, fuels used for fleet, tools and agriculture, electricity use and emissions from the generation and distribution of our purchased electricity.
- Diesel fuel use is the highest source of emissions from Scopes 1 and 2, contributing 7.60% of the total. We use diesel fuels in some of our multi-terrain vehicles/4x4s, agricultural vehicles, and boats, to access more rural sites and aid habitat management. Petrol fuels are a much less significant constituent of our scope 1 emissions (0.31% of total emissions). They are used in hand-held tools, such as chainsaws, as well as in some all-purpose fleet vehicles that have not already been replaced by an alternative electric vehicle.
- Electricity use (scope 2) for lighting, heating and energy across our offices, visitor centres and reserves accounted for 3.61% of our total emissions. When combined with energy use in electricity generation, transmission and distribution, this increases to 3.91%.
- Like many organisations, the majority of our greenhouse gas emissions (86.75%) are in scope 3. These emissions are a consequence of the activities that occur from sources not directly controlled by Wildlife Trusts.
- The grazing of livestock (scope 3) to deliver our nature conservation objectives accounted for 68.33% of our total collective emissions.
- Estimates of staff commute and working from home emissions are almost balanced (4.74% and 4.65% respectively), noting that this Inventory relates to a year within the COVID-19 pandemic when national restrictions were in place on travel across all devolved nations.

Future research and improvements

We are still in the early years of producing a GHG Inventory. Over the next few years, we will develop and evolve our operational boundary, data collection methods and reporting tool to ensure our GHG Inventory is accurate and upholds best practice Greenhouse Gas Protocol principles and standards.

This includes improving our approach to calculating emissions from our livestock grazing activities, to reflect more accurately Wildlife Trusts' use of conservation grazing regimes with traditional breeds (see Appendix 1).

We will also develop new data collection methods to integrate further scope 3 emissions categories into the Inventory boundary (see Appendix 1, Table 2). We will focus on incorporating emissions associated with our investments and supply chain of procured goods and services, in addition to the upstream and downstream impacts of our retail, catering and publications. Therein we will review emission factors and calculation methods to ensure we uphold best practice standards and reflect best available evidence.

It is possible that these scope 3 additions will increase our reported emissions in the short term, as the inventory more comprehensively encapsulates our wider value chain GHG emissions. Once the operational boundary of our inventory is stabilised, we will re-baseline our progress as necessary.

Land-based GHG emissions and removals

We have not yet incorporated land-based emissions and removals from our landholdings into our inventory. We are working with the Greenhouse Gas Protocol in their [development of international guidance on accounting for land-based emissions and removals](#). We are also working to calculate a baseline estimate of our land-based GHG emissions and removals. Any calculation and reporting will remain separate to those of our anthropogenic GHG emissions reported here.

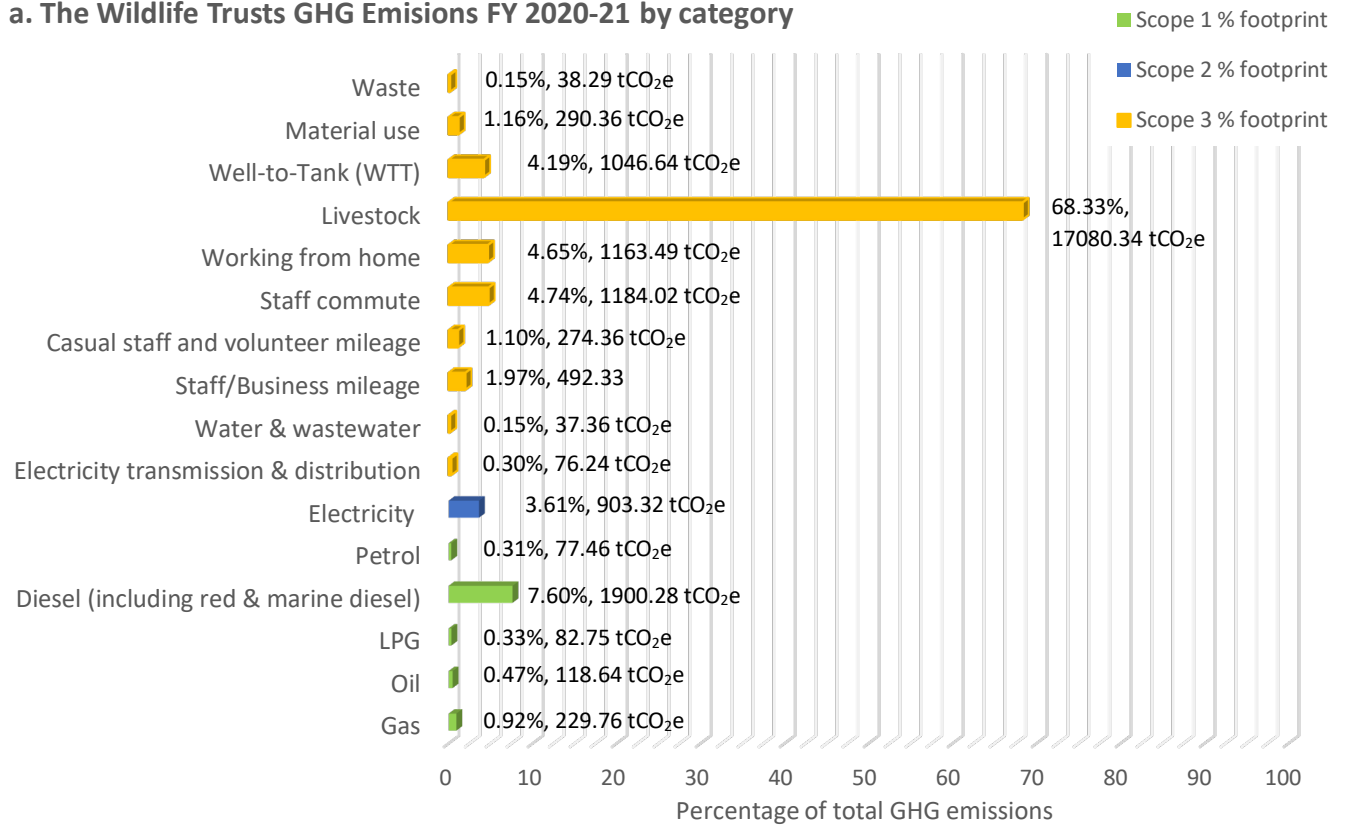
Table 1. The Wildlife Trusts Greenhouse Gas Inventory 2020/21[^] by scope and emissions category

Scope	Category	GHG Emissions t CO ₂ e	Category % footprint	Scope % of footprint
1	Gas	229.76	0.92	9.64
	Oil	118.64	0.47	
	LPG	82.75	0.33	
	Diesel (including red & marine diesel)	1,900.28	7.60	
	Petrol	77.46	0.31	
2	Electricity	903.32	3.61	3.61
3	Electricity transmission & distribution	76.24	0.30	86.75
	Water & wastewater	37.36	0.15	
	Staff/Business mileage	492.33	1.97	
	Casual staff and volunteer mileage	274.36	1.10	
	Staff commute	1,184.02	4.74	
	Working from home	1,163.49	4.65	
	Livestock	17,080.34	68.33	
	Well-to-Tank (WTT)	1,047.64	4.19	
	Material use*	290.36	1.16	
	Waste*	38.29	0.15	
All	Total	24,996.63	100.00	100.00
Out of scopes	Biogenic emissions - Biomass	15.91		
	Biogenic emissions - Biodiesel	0		

[^]For Gwent, Norfolk and Manx Wildlife Trusts only 2019 data is available, and these are used in the 2020/21 account.

*Waste and material use data relates to 32 and 23 Trusts respectively. These categories were newly introduced to the scope for the FY 2020-21 account, and data collection was challenging, resource intensive and inconsistent. As such, these values should be treated with low confidence.

a. The Wildlife Trusts GHG Emissions FY 2020-21 by category



b. The Wildlife Trusts GHG Emissions FY 2020-21 by category, excluding livestock

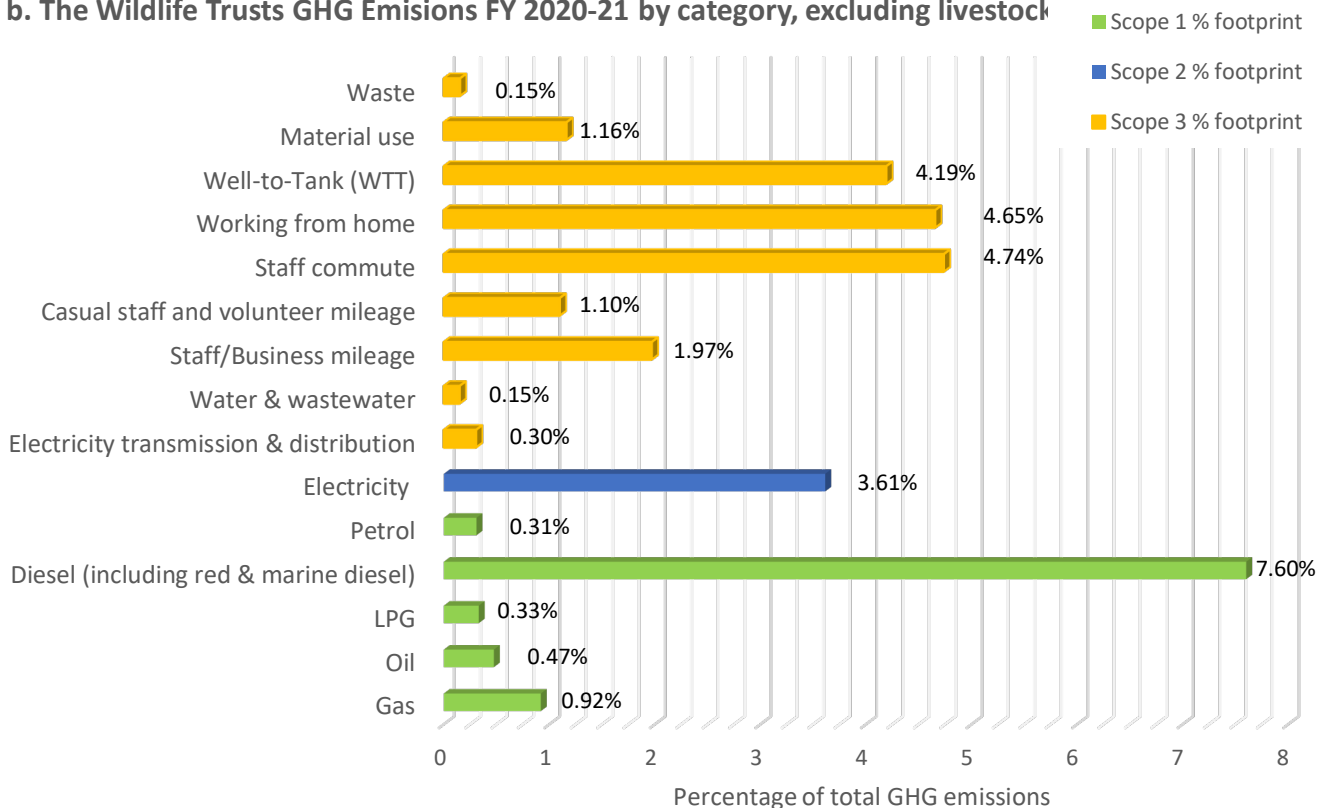


Figure 1. The Wildlife Trusts greenhouse gas emissions 2020-21 FY by category. Figure 1a shows emissions by category as a percentage of total GHG emissions (24,996 tCO₂e.) Figure 1b provides greater resolution of contributing categories (accounting for 7,916.29 tCO₂e) beyond livestock; percentages stated are of the total GHG emissions.

Progress in action

Fundamentals

Every Wildlife Trust:

- has an active Carbon Reduction Strategy and is implementing a comprehensive programme of carbon reduction activities towards this;
- calculates its GHG emissions annually to monitor and evaluate their carbon reduction progress and inform future action; and
- has a carbon reduction champion responsible for driving forward this action for their Wildlife Trust.

Buildings

Across The Wildlife Trusts, we're working to reduce resource consumption and increase our efficiency in renewable, low carbon resource use.

For example:

- Montgomeryshire Wildlife Trust's [Dyfi Wildlife Centre](#) is a flagship example of our carbon reduction ambitions in action. This building is powered by two on-site renewable solar array systems (total 80kWh) and has battery storage to harvest energy generated for later use. The renewable energy installations generate approximately 35 Megawatts of surplus clean energy per annum which is fed back into the grid. According to Ofgem figures, that is enough electrical energy to run a whole terrace of 12 houses with 2.4 people living in each of them for a whole year.
- The Wildlife Trust for Birmingham and Black Country's new [EcoPark](#) building is powered by solar energy and is certified to be highly energy efficient. This renewably powered urban oasis provides opportunities for families, schools and local residents of all ages to get hands on and feel inspired by nature on their doorstep.
- Heat and energy efficiency programmes are underway right across the federation to reduce our energy consumption. This includes installing LED lighting and thermal insulation.



Above and below: Dyfi Wildlife Centre, and solar panels on its roof



Below: example new LED lighting installation in a Wildlife Trust





- Many Wildlife Trusts are installing air source heat pumps to reduce reliance on fossil fuel powered heating, such as at Devon Wildlife Trust's headquarters at [Cricklepit Mill](#) and their [Woodah Farm rural skills centre](#). Devon Wildlife Trust's ambition is to have at least one renewable energy system powering every one of their buildings.

Travel and equipment fuels



Above:
Cricklepit Mill, Devon Wildlife Trust

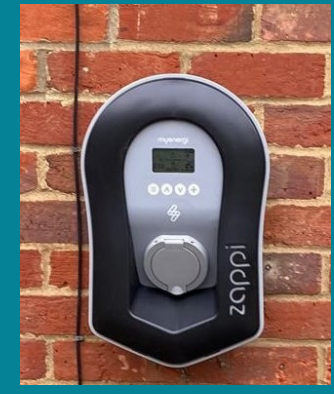
- Wildlife Trusts are working to reduce and rationalise the volume of staff business and commuting travel through various policy, practical and technological routes; including our policies to minimise staff travel by car and air, improving our digital systems, and facilitate hybrid working.

We are working hard to decarbonise, as well as reduce, our travel and equipment use by adopting alternates to fossil fuels:



Left: Air source heat pump at Cricklepit Mill, Devon

- Switching from petrol to battery-operated habitat management tools, including chainsaws and brush cutters, has been a [sweeping success](#) across the federation. These tools are fit for purpose, as well as being safer, quieter and less polluting than petrol-powered tools.



Above: electric chainsaw

- Wildlife Trusts now use more than 38 electric vehicles (EVs) to carry out their activities. For example, Cornwall Wildlife Trust recently purchased a second-hand electric minibus this year to facilitate their volunteer and corporate wild workdays.

Left: Electric vehicle charging points,

- Many Wildlife Trusts have already installed EV charging points at their sites to facilitate EV use. There are plans and ambition to upscale this to provide greater EV charging capability to staff and visitors across a number of sites, and to supply the energy for these through on-site solar energy generation.

Conservation grazing

- We are exploring as a network the best way to minimise our GHG emissions from our livestock grazing activity, while still achieving our primary purpose in managing land to protect, create and restore native habitats and natural processes.

You can see some of the ways Wildlife Trusts are reducing their emissions in this [video](#).

Challenges and priorities

- The grazing of livestock to deliver our nature conservation objectives constitutes a significant proportion of our GHG emissions. We have commissioned research into the relationship between GHG emissions and the use of grazing animals to deliver benefits for biodiversity, and alternative approaches to land and livestock management that may help to reduce associated GHG emissions.
- Many Wildlife Trusts own or work in older buildings and we are exploring how to sensitively decarbonise our activities in these instances.
- Decarbonising our 4x4 and agricultural vehicles is more challenging at present because EV technologies are not yet able to provide a viable alternative for these off-road vehicles at scale. We are building relationships with businesses in this sector to inform our decarbonisation efforts.

Conclusions

We recognise that The Wildlife Trusts' GHG emissions are very small on a national scale. We will still reduce them as close to zero as possible and balance any remaining emissions through natural carbon removals on land that we own to achieve net zero greenhouse gas emissions by 2030.

We will publicly report our greenhouse gas emissions on a frequent basis to transparently share and evidence our progress and challenges on this journey. Analysing and harnessing the insights from our GHG Inventory will be critical to better direct, prioritise and accelerate The Wildlife Trusts' efforts to drive our emissions down to as close to zero as possible, as part of and alongside achieving our nature conservation objectives.

References

The Wildlife Trusts (2022) Changing Nature. A climate adaptation report by The Wildlife Trusts.

The Wildlife Trusts (2022) Climate change – our collective response. Position Statement.

World Resources Institute and World Business Council for Sustainable Development (2004) [Greenhouse Gas Protocol. A corporate accounting and reporting standard. Revised edition.](#)

World Resources Institute and World Business Council for Sustainable Development (2011) [Greenhouse Gas Protocol Corporate Value Chain \(Scope 3\) Accounting and Reporting. Supplement to the GHG Protocol Corporate Accounting and reporting Standard](#)

Glossary

Greenhouse gases – gases in the atmosphere, both of natural and anthropogenic origin, that contribute to the greenhouse gas effect. These include, but are not limited to, carbon dioxide, methane, nitrous oxide, water vapour, ozone and several types of entirely human-made GHGs. ([IPCC](#))

Net zero greenhouse gas emissions – achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals (including by biological sinks of carbon dioxide) over a specified period ([IPCC](#)). It means cutting greenhouse gas emissions as close to zero as possible, and counter-balancing any remaining emissions with carbon removals from the atmosphere ([UN Net Zero coalition](#)), by natural habitats for instance.

Operational Boundary – defines the scope of direct and indirect emissions for operations that are included within an organisation’s GHG Inventory ([GHG Protocol](#))

tCO₂e – tonnes of carbon dioxide equivalent – a unit of measurement used to standardise the climate effects of various greenhouse gases ([myclimate.org](#))

Scope 1 emissions – direct GHG emissions from sources an organisation owns or controls ([GHG Protocol](#))

Scope 2 emissions – indirect GHG emissions from the generation of purchased electricity that is consumed in an organisation’s owned or controlled equipment or operations ([GHG Protocol](#))

Scope 3 emissions – emissions that are a consequence of the activities an organisation undertakes but occur from sources not owned or controlled by that organisation. A company or organisation may account and report on such indirect emissions from activities that are relevant to their organisation and goals. In the voluntary GHG emissions reporting sector, reporting scope 3 is optional, though best practice, and an organisation chooses which Scope 3 elements or activities to account and report. ([GHG Protocol](#))

Decarbonise – to stop or reduce the amount of gaseous carbon compounds being released into the atmosphere as a result of an activity or process, such as burning fossil fuels ([Cambridge Dictionary](#))

Appendix 1 – GHG Inventory calculation

The Wildlife Trusts calculate our GHG Inventory in accordance with best practice set out by the Greenhouse Gas Protocol. Every Wildlife Trust and the Royal Society of Wildlife Trusts (RSWT) use a consistent operational boundary and bespoke GHG accounting tool to do this. Our operational boundary includes both Wildlife Trust activities and those of our subsidiaries.

The categories included within the scope of The Wildlife Trusts' GHG Inventory for FY 2020-2021, and indicative data sources can be found in Table 1 below. Where primary data was not available to calculate emissions, sensible estimates were employed.

Evolution

The Wildlife Trusts are still in the early stages of calculating and reporting our GHG Inventory. As such, we are committed to continue the development and evolution of our operational boundary, data collection methods and reporting tool to ensure our GHG Inventory is comprehensive, robust, transparent and upholds best practice standards. Ultimately, we want to accurately record and have confidence in our progress to reduce our GHG emissions in line with our net zero 2030 target.

There are still several scope 3 emissions categories that are beyond the current scope of our GHG Inventory; these are detailed in Table 2 below. Some of these are to be developed and integrated into our Inventory in future, but currently our data collection method is not yet mature enough. We will focus on incorporating emissions associated with our investments and our supply chain procured goods and services, in addition to the upstream and downstream impacts of retail, catering and publications.

We will review the calculation methods and emissions factors annually to ensure we are holding ourselves to account against best practice standards.

Emissions Factors

The majority of emissions factors used in our GHG Inventory calculations are taken from the [publicly available](#) list produced by the Department for Business, Energy and Industrial Strategy (BEIS) each year.

For livestock emissions, the tool relies on the conversion factors used in the [Farm Carbon Toolkit](#). This Toolkit uses conversion factors available for commercial livestock grazing regimes and breeds, rather than conservation grazing regimes and traditional breeds. We'd like to improve on this in future. In using this Toolkit, we have defaulted to the lowest conversion factor for all animal types regardless of the manure management system employed. The Wildlife Trusts have commissioned research, underway, to review livestock emissions and explore the implications of conservation grazing for livestock GHG emissions, as opposed to more commercial systems which the Farm Carbon Tool covers.

A basic function is also included in the tool to calculate emissions generated from staff working at home. There was a rapid shift to this working pattern in 2020-2021 owing to the COVID-19 pandemic. It was estimated using EcoAct's [methodology](#), summarised in this [blog](#).

Table 1. Description of categories within The Wildlife Trusts GHG Inventory FY 2020-2021

Category	Description
Scope 1	
Gas	Use for heating and cooking in kWh
Oil	Use for heating and cooking in litres
LPG	Use for heating and cooking in litres
Diesel (including red & marine diesel)	In Wildlife Trust vehicles and equipment, including agricultural vehicles and boats, recorded in litres
Petrol	In Wildlife Trust vehicles and equipment, in litres
Out of Scope biogenic emissions [^] : 1. Biomass 2. Biodiesel	Logs, chips, pellets, grass/straw for heating, in tonnes Biodiesel ME or HVO fuel for vehicles, litres
Scope 2	
Purchased electricity	Used for energy and heating in kWh
Scope 3	
Electricity transmission & distribution (Location-based)	Indirect emissions from the generation of purchased electricity, steam, heating and cooling consumed by the reporting company, kWh
Water & wastewater	Mains or private water supply and wastewater treatment, in cubic meters (m ³)
Staff/Business mileage	Mileage incurred by employees to deliver organisations' operations
Casual staff and volunteer mileage	Mileage incurred by casual staff (non-permanent, contract) and volunteers deployed to deliver Wildlife Trust activities
Staff commute	Mileage incurred by employees' commuting from their homes to their registered place of work
Working from home	Fuel and energy emissions associated with staff working from home
Livestock	All animals, both owned and third-party, that are used to deliver The Wildlife Trusts' objectives
Well-to-Tank (WTT)	Production and distribution of resources and products (Well-to-tank), covering heat, travel, bioenergy, travel mileage and public transport emissions covered by the Inventory
Material use	In 2020/21, this included: construction materials, compost, plastics, wood, paper and board. Low confidence and comprehensiveness in FY 2020-21 account
Waste	Treatment and disposal of waste generated by The Wildlife Trusts. In 2020/21, this included general and residual (not landfilled), commercial (mixed recyclables), metals, plastic, paper and cardboard recycled, and composted organics (food & green). Landfill will be included in FY 2021/22. Low confidence and comprehensiveness in FY 2020-21 account

[^]Out of scope: CO₂ (and not CO₂e) emissions associated with the use of bioenergy (whether it be direct from the use of biodiesel or solid biofuels, or indirect from the use of biofuels in the generation of grid electricity or gas). These emissions are not included in Scope 1, 2 or 3, do not need to be reported (GHG Protocol), and are excluded from the total footprint.

Table 2. Scope 3 categories out of FY 2020-21 scope

Category	Comment
<p>Processing, use and end-of-life treatment of sold products e.g. emissions associated with the assumed post-sale third-party processing of publications and retail products sold by The Wildlife Trusts or a Wildlife Trust</p>	<p>Intended evolution of tool and data collection methods to include areas of this category of relative significance to Wildlife Trusts – including online and shop retail, catering and our publications</p>
<p>Downstream transportation and distribution e.g. emissions associated with the distribution of publications and retail products from retailer to consumer</p>	<p>Intended evolution of tool and data collection methods to include areas of this category of relative significance to Wildlife Trusts – including online and shop retail, catering and our publications</p>
<p>Upstream leased assets e.g. office spaces, vehicles and infrastructure</p>	<p>Energy use of these leased assets covered sufficiently within the existing boundary of The Wildlife Trusts inventory</p>
<p>Downstream leased assets</p>	<p>The Wildlife Trusts activity not considered to be of scale for this to be sufficiently relevant.</p>
<p>Investments emissions associated with the business activities of the companies in which The Wildlife Trusts or Wildlife Trust has invested.</p>	<p>To be included within scope of FY 2021-22 Inventory</p>
<p>Franchises</p>	<p>Not applicable, though subsidiary companies of Wildlife Trusts are included within the inventory boundary.</p>