



# THRIVE RENEWABLES PLC NET ZERO PLAN & CLIMATE REPORT 2022




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Thrive Renewables plc is a public limited company, registered in England with registered office at Deanery Road, Bristol, BS1 5AS (registered number 02978651).



# Net Zero Plan and Climate Report – Thrive Renewables plc, 2022

Signed:	
Date:	13/11/2023
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## 1. Introduction

Thrive Renewables (Thrive) funds, constructs, and operates sustainable energy projects such as wind, solar and battery storage across the UK. To date, our projects have saved over 942,000 tonnes of CO<sub>2</sub>e through the generation of renewable electricity, delivering on our mission to further the UK’s transition to net zero carbon emissions. Our positive contribution to avoiding UK CO<sub>2</sub> emissions, based on our corporate mission, far outweighs our own footprint. However, despite the significant positive contribution our clean energy projects make to UK emissions reductions - we need to take responsibility for the emissions we make in the course of our operations.

This is the first climate report for Thrive since making our 2030 net zero commitment with the SME Climate Hub in 2022. Whilst we have reported greenhouse gas emissions from several sources since 2020, the year 2022 is our first reporting year to include emissions estimates across all the scope 3 areas identified as relevant to the business. Thrive’s turnover in 2022 was £17.5 million and the company had 11.4 FTE (full-time equivalent) average team size throughout the year. The main purpose of this report is to increase our understanding of the sources of Thrive’s greenhouse gas emissions, set targets to reduce them and demonstrate transparency on our journey towards net zero. Additionally, we also report the climate-positive impact of our business activities in Section 5: *Climate Solutions*.

## 2. Methodology

We base our GHG accounting approach on the guidance laid out in the GHG Protocol’s ‘Corporate’<sup>1</sup> and ‘Scope 3’ standards<sup>2</sup> as well as their technical calculation guidance<sup>3</sup>. However, since this guidance does not represent a ‘one size fits all’ approach, we have made our own interpretation and decisions on how best to apply it to our specific company structure and business goals. We disclose our absolute emissions (scopes 1,2 and 3 in tonnes CO<sub>2</sub> equivalent (tCO<sub>2</sub>e). The below table demonstrates which company emissions are defined by scope 1 and 2.

Scope 1 and 2		
Emission area	Description	Calculation
Office gas heating and electricity consumption	Emissions associated with our office gas heating, and electricity supply. Also includes electricity supply to Thrive’s project sites (excludes battery storage; see scope 3 category 3).	Units of consumption multiplied by relevant emission factor. We use the <i>market-based method</i> , meaning that emissions reflect the nature of our contracts with providers. Certified/renewable supply is counted as zero emissions.

We have been reporting emissions from scopes 1 and 2 since 2020 and we have consistent data starting from 2019. We therefore use 2019 as our base year for scope 1 and scope 2 emissions. For scope 3, We have identified 7 of the GHG Protocol’s 15 scope 3 categories as

<sup>1</sup> <https://ghgprotocol.org/corporate-standard>

<sup>2</sup> <https://ghgprotocol.org/standards/scope-3-standard>

<sup>3</sup> <https://ghgprotocol.org/scope-3-technical-calculation-guidance>



material and relevant to Thrive. The table below summarises these 7 scope 3 categories that are included in our inventory (in bold).

Upstream or downstream	Scope 3 category	Inventory inclusion
Upstream scope 3 emissions	<b>1. Purchased goods and services</b>	<b>Yes</b>
	<b>2. Capital goods</b>	<b>Yes</b>
	<b>3. Fuel and energy related activities not included in scope 1 &amp; 2</b>	<b>Yes</b>
	4. Upstream transportation and distribution	No
	<b>5. Waste generated in operations</b>	<b>Yes</b>
	<b>6. Business travel</b>	<b>Yes</b>
	<b>7. Employee commuting</b>	<b>Yes</b>
	8. Upstream leased assets	No
Downstream scope 3 emissions	9. Downstream transportation and distribution	No
	10. Processing of sold products	No
	11. Use of sold products	No
	12. End of life treatment of sold products	No
	13. Downstream leased assets	No
	14. Franchises	No
	<b>15. Investments</b>	<b>Yes</b>

We define our organisational boundary using the *equity share consolidation approach* as described in the GHG protocol's Scope 3 standard. This means that Thrive accounts for emissions from operations according to its level of ownership in the operation. The exception is category 15 which represents Thrive's financed emissions, relevant to those projects Thrive provides loans to. For our financed emissions we account for emissions by share of the project financing as opposed to ownership level. The table below shows the three main areas of the business and how they fit into the emission reporting scopes.

Thrive Renewables (parent company)	Thrive owned projects	Thrive financed projects
<ul style="list-style-type: none"> <li>Office electricity and heating reported in our scopes 1 and 2.</li> <li>Scope 3 category 1 includes office support services e.g., accounting and auditing, website hosting and IT support.</li> <li>Business travel and staff commuting reported in scope 3 categories 6 and 7.</li> </ul>	<ul style="list-style-type: none"> <li>Thrive owned (100%) and part-owned (joint venture) projects.</li> <li>For fully owned projects, include 100% of emissions in scope 3 categories 1-5.</li> <li>For joint ventures, include proportional share (based on ownership percentage) of emissions in our scope 3 categories 1-5.</li> <li>Scope 1 and scope 2 emissions of owned projects are considered as Thrive's own office emissions, as well as the electricity supply to each project site.</li> </ul>	<ul style="list-style-type: none"> <li>Loans provided by Thrive.</li> <li>For each current year in the terms of investment: include proportional share (based on percentage of overall project costs/funding) of investee's emissions in our scope 3, category 15 (investments).</li> </ul>

For a graphical overview of how the different areas of our business fit into the reporting scopes, and further details on GHG accounting see Appendices A-D (pages 8-10). The table below details the scope 3 categories identified as relevant to Thrive.

Scope 3 category descriptions		
Emission area	Description	Calculation
Category 1: Purchased goods and services	<p>Category 1 includes emissions associated with 'day to day' goods and services such as insurance, auditing, asset management, repairs, and maintenance.</p> <p>Boundary: cradle to gate (all upstream emissions).</p>	As per GHG Protocol's scope 3 calculation guidance for category 1.
Category 2: Capital goods	<p>Category 2 includes emissions from the goods and services that relate to the construction of any new Thrive-owned projects. E.g., constructing a new wind farm or battery storage project. Emissions associated with new builds are entirely reported in the relevant year, i.e., not amortised over the expected lifetime of the project. Therefore, it is useful for capital goods to be distinct from Category 1 (purchased goods) since there will be wide fluctuations year to year.</p>	As per GHG Protocol's scope 3 calculation guidance for category 2.
Category 3: Fuel and energy related activities not included in scope 1 & 2	<p>Category 3 includes the emissions associated from the roundtrip inefficiency associated with charging and discharging Thrive-owned battery storage (BESS) projects. This is the carbon content of the electricity 'consumed' by the battery and not exported back to the grid.</p> <p>The exported electricity is not included in our inventory. This is because we are an intermediary, and this electricity is available to a different end user via the national grid network.</p>	Based on the difference between units of electricity imported to, and exported from the battery, multiplied by relevant emission factor.
Category 5: Waste generated in operations	<p>Category 5 includes waste produced from our office. It also includes emissions from the waste treatment of projects if they reach end-of-life and are decommissioned in the reporting year.</p> <p>Waste produced from manufacturing purchased goods or services falls under either category 1 (for day-to-day repair and maintenance) or category 2 (for constructing new projects).</p>	Waste data from the whole office building is allocated to Thrive based on our share of office space. Waste data is to be collected in the event of any project decommissioning.
Category 6: Business travel	Category 6 includes emissions from the transportation of employees for business activities in vehicles not owned or operated by Thrive such as taxis and trains.	Data relating to journey distances and vehicle types collected through our expense system and relevant emission factors used.
Category 7: Employee commuting	Category 7 includes emissions from the transportation of Thrive's employees between their homes and our office. This category also includes emissions from staff homeworking (teleworking).	Data collected through staff survey. Our commuting model uses the distance-based method. Our homeworking model is based on EcoAct's 'Homeworking emissions whitepaper'.
Category 15: Investments	Category 15 includes 'financed emissions' from projects we provide loans to. For each year during the term of investment, we will account for our share of the projects' scope 1 and scope 2 emissions based on our proportional share of the project's funding. Where scope 3 emissions are significant compared to other sources, or otherwise deemed relevant we will also account for scope 3.	As per GHG Protocol's calculation guidance for category 15.

### 3. Reported company emissions

Scopes 1 and 2	2022	2021	2020	2019	Comments
Scope 1	0	0	2.13	2.87	Includes gas heating for our office which switched to certified green gas since 2021
Scope 2	0	0	0	0	All electricity is renewable supply
<b>Scope 1 and 2 emissions (tCO<sub>2</sub>e)</b>	<b>0</b>	<b>0</b>	<b>2.13</b>	<b>2.87</b>	<b>2019 is our base year for scopes 1 and 2</b>

Scope 3 category	2022	2021	2020	2019	Comments
Purchased goods and services	175.1				Includes the emissions associated with the day-to-day goods and services which support both our office, as well as Thrive's portfolio of operational, owned projects. Relatively low in 2022 as our owned projects had no major components (e.g., turbine rotors, gearboxes etc) replaced from brand new parts.
Capital goods	3,046.0				Includes all emission areas relating to construction of new Thrive-owned projects. In 2022 this includes the construction of our 20MW battery storage project.
Fuel and energy activities not included in scopes 1 and 2	46.30				Includes emissions associated with the generation of electricity imported to, but not exported from Thrive-owned battery storage assets.
Waste generated	0.02	0.02			Includes emissions associated with the waste generated by our office as well as the treatment of our office wastewater. In 2022 we recycled 73% of our office waste and overall waste volumes were very low.
Business travel	3.46	0.09	0.35	3.61	Reduced during 2020/21 due to effects of pandemic and subsequently increased in 2022 due to return to more normal travel year and a growing team. Comparing 2022 with 2019 (excluding covid years), the carbon intensity of our average business mile has reduced by 29% due to an increase in train travel and a reduction in flights.
Staff commuting and homeworking	3.26	2.06			2022 figure (3.26 tonnes CO <sub>2</sub> e) is comprised of 1.68 and 1.58 tonnes CO <sub>2</sub> e for commuting and homeworking respectively. Emissions from staff commuting was not included in 2021.
Investments (financed emissions)	2,490.6				This category includes our financed emissions from current projects we are lending to. In addition to the lendee project's operational emissions this includes lendee project's construction of new sustainable energy infrastructure if applicable that year. In 2022 this included a 4.2MW wind turbine and a 1MW rooftop solar project.
<b>Total scope 3 emissions (tCO<sub>2</sub>e)</b>	<b>5,764.8</b>	<b>2.2*</b>	<b>0.4*</b>	<b>3.6*</b>	<b>Base year not yet set for scope 3</b>

\* Incomplete scope 3 figures for reporting years 2019-2021. Shaded areas show data deficiencies for each given year.

Thrive's scope 1 and 2 emissions have decreased to zero from a baseline of 2.9 tCO<sub>2</sub>e in 2019. Due to the nature of our business, we have a small core team of staff that work office-based roles. However, all our more carbon-intensive activities are contracted through third parties, which explains why our footprint now comprises of 100% scope 3 in 2022. As 2022 is our first year with complete visibility over scope 3, there is significant perceived increase due to missing scope 3 data relating to years 2019-2021.

## Hotspots

We have identified construction activities as our overall emissions hotspot by a considerable margin. 2022 was a successful year in constructing new sustainable energy projects - namely Thrive's new battery storage system and Thrive financing an onshore wind turbine and rooftop solar project. This explains why 'Capital Goods' and our 'financed emissions' together comprise 96% of our total footprint in 2022.

## Intensity metrics

The below metrics will enable us to track carbon intensity of our business over time. The first two metrics look at carbon intensity in terms of revenue, both with and without construction activities included for analysis. The second two metrics relate our carbon footprint to the climate positive impact we deliver – specifically the quantities of clean electricity generation and new capacity of clean energy infrastructure delivered that year. As we gain additional years of scope 3 emissions data, this will be important in tracking progress against targets.

<b>Economic carbon intensities</b>	<b>2022</b>
Total tCO <sub>2</sub> e per £m revenue (all scopes, all sources)	329
Total tCO <sub>2</sub> e per £m revenue (all scopes, construction activities excluded)	14

<b>Impact carbon intensities</b>	<b>2022</b>
Total tCO <sub>2</sub> e per impact GWh generated (all scopes, all sources)	99
Total tCO <sub>2</sub> e per new MW capacity built (all scopes, all sources)	229

## 3. Targets and actions

Thrive's commitment is to reach net zero by 2030 and align with a +1.5-degree Celsius trajectory by halving emissions by 2030. As laid out in the SME Climate Hub guidance<sup>4</sup>, businesses providing climate solutions as a core business model (such as Thrive) are permitted to half their emissions on an intensity basis rather than absolute basis. This forms the basis of our main long-term target. We have also set a shorter-term, interim target to aim for. We have not yet set a base year for scope 3, but we are deciding internally if 2022 should be our scope 3 baseline as we gather and analyse data relating to 2023.

<sup>4</sup> <https://smeclimatehub.org/wp-content/uploads/2023/02/About-the-SME-Climate-Commitment-1.pdf>

Target type	Target level	Term	Target completion date
Absolute emissions (scopes 1 and 2 only).	100% reduction (market based)	Already achieved	2021
Emissions intensity (all scopes)	20% reduction in emissions intensity, i.e., CO <sub>2</sub> e / net revenue.	Medium term	2026
Emissions intensity (all scopes)	50% reduction in emissions intensity, i.e., CO <sub>2</sub> e / net revenue.	Long term	2030

We are currently researching our approach to how we might legitimately counterbalance our reported emissions in the near term. Any use of carbon credits would only be used to complement our efforts in halving our carbon intensity, and not used to substitute our reduction efforts. Furthermore, we acknowledge that by the time we reach 2030, the emissions that remain following our reduction efforts will need to be balanced with durable carbon removals as opposed to more traditional offsets. We will not claim to be net zero until that state is reached.

### Actions to reduce emissions

Scope	Emission area	Action identified
3	Capital goods	Incorporate embodied carbon assessment earlier in lifecycle of new projects and use carbon savings to inform the early procurement decisions around building materials. For example, green steel or green concrete manufactured using lower carbon energy sources.
3	Investments	Continue to engage with lendee organisations and improve data reporting. For construction projects we identify the same actions as for capital goods, only working with lendee organisations to achieve this, rather than first-hand.
3	Purchased goods and services	Continue to engage with our suppliers and increase the proportion of suppliers sharing data with Thrive. Encourage or enable emission reductions amongst suppliers.
3	Business travel	Continue to monitor travel by each mode, and the intensity of Thrive's 'average business mile'. Consider additional policy actions if carbon intensity increases disproportionately with team growth.
1 & 2	Office energy	Continue to use 100% certified renewable energy supply.

## 4. Climate solutions

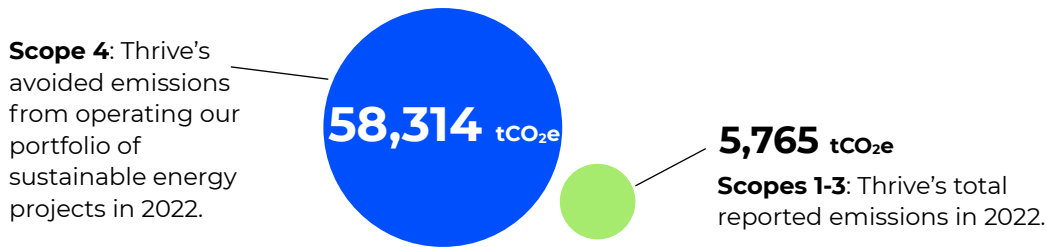
Our mission is to power the transition to a sustainable energy future by helping people meaningfully connect with clean energy projects. This means that our business proposition is our greatest contribution to mitigating climate change. Thrive funds, constructs, and operates clean energy projects which generate renewable electricity, leading to direct, measurable carbon emissions reductions. Our wind, solar and hydro sites have saved over 942,000 tonnes of CO<sub>2</sub>e over the life of the business<sup>5</sup>, so we are playing a significant part in the UK's net zero transition.

Emission reductions are the emissions 'avoided' from the operation of our portfolio of clean energy projects. Also referred to as scope 4, our emission reductions are not used to offset our reported emissions and are reported entirely separately from scope 1, scope 2,

<sup>5</sup> Carbon reduction is calculated by multiplying the total amount of renewable electricity generated by Thrive's impact portfolio each year by the number of tonnes of carbon which fossil fuels would have produced to generate the same amount of electricity ([www.renewableuk.com/page/UKWEExplained](http://www.renewableuk.com/page/UKWEExplained)).

and scope 3 emissions altogether. This is in line with the GHG Protocol standards. However, Thrive’s emission reductions serve as a key metric to illustrate the wider carbon impact of the business.

For 2022, the scale of our full reported emissions versus our scope 4 emission reductions (as described above) can be illustrated as follows:



It is important to note that 2022 was a very successful year for project construction and that our reported emissions include the full construction footprint of three new projects. Whilst construction of these projects took place during 2022, for operational reasons their contribution to our scope 4 (avoided) emissions will become significant from 2023 onwards. Therefore, the footprint of these newly constructed projects represents a scope 4 carbon ‘investment’ with their full climate benefits to be captured in subsequent reporting years.

Although not directly relevant to Thrive’s own reported emissions, we also encourage our employees to reduce their own personal greenhouse gas footprints. For example, Thrive offers the ‘Climate Perks’ benefit which rewards staff with paid journey days when opting for slower, greener options for their holiday travel.

## 5. Results, challenges, and outlook

As an organisation, our core business contributes towards sustainable development by providing solutions to climate change. Our goal is to continue to scale these climate solutions, and this is fundamentally dependent on growing the business by funding the construction of more wind, solar, hydro, geothermal and storage sites. This means that going forwards we will undoubtedly face some challenges. Hence it was not tangible to set reduction targets based on absolute emissions.

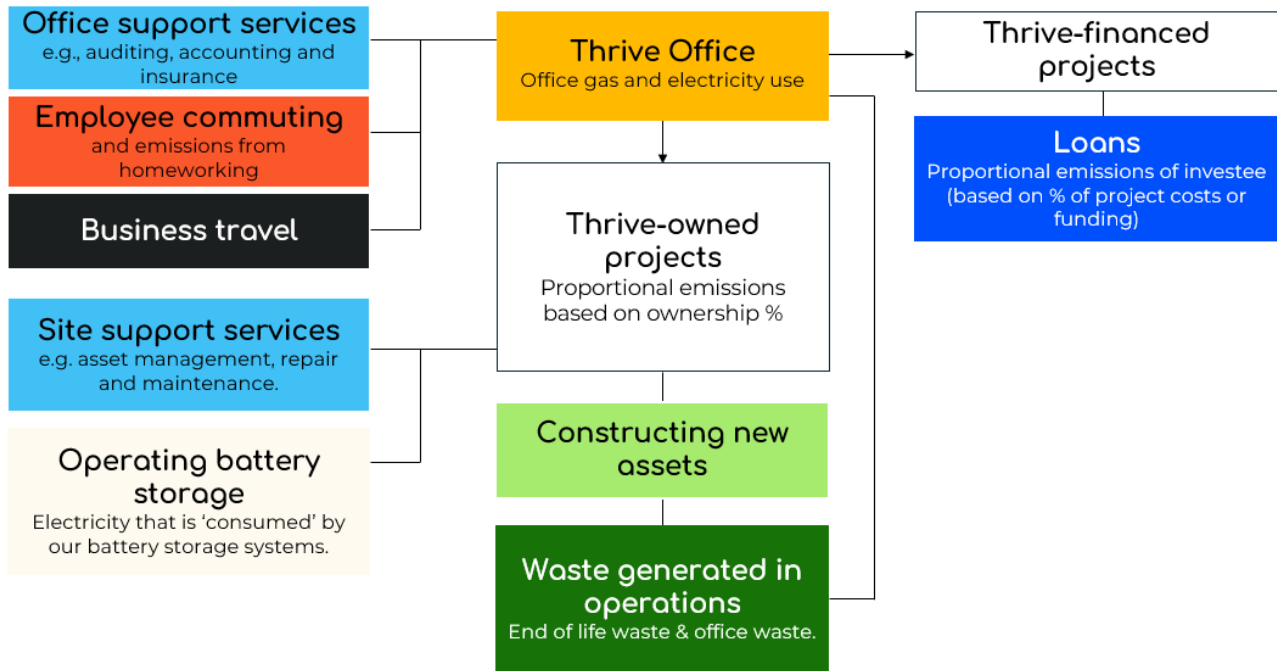
Overall, we are pleased to have achieved full scope 3 reporting for the first time with the 2022 reporting year. We will now consider setting 2022 as our base year for our scope 3 targets going forwards. Our current focus is now the 2023 reporting year, and we look forward to being able to make year-on-year comparisons against our targets, to better understand our progress in our journey to net zero. We commit to continue reporting our emissions and reviewing our strategy on an annual basis.



## Appendices

### Appendix A - Thrive's greenhouse gas inventory diagram

A graphical break down of Thrive's full GHG inventory is shown below. This includes activities relating to the parent company Thrive Renewables as well as our owned and financed projects. This includes all three emission scopes, and how each area of the business is categorised in relation to the Greenhouse Gas Protocol's standard.



## Legend

### GHG Protocol Scope 3 Categories



### Scope 1 & Scope 2



The above categories are intended to provide a systematic framework for organising and reporting on the diversity of activities in our value chain. As part of the Scope 3 standard, companies are required to report their scope 3 emissions by each category. The categories are mutually exclusive meaning there is no double counting of emissions between categories.

### Appendix B - Excluded scope 3 categories

Excluded category number	Excluded scope 3 category
4	Upstream transportation and distribution
8	Upstream leased assets
9	Downstream transportation and distribution
10	Processing of sold products
11	Use of sold products
12	End of life treatment of sold products
13	Downstream leased assets
14	Franchises

Our upstream emissions relating to transportation are included in either category 1 (day-to-day management and repairs) or category 2 (relating to new project construction) instead of category 4. This is because there is typically a tier (supply chain level) that sits between Thrive and a transportation provider. For example, purchase orders for parts and materials are typically made between our tier 1 suppliers (e.g., our O&M and EPC contractors) and our tier 2 suppliers, rather than by Thrive directly.

The justification for excluding the remaining categories is that they are not material or relevant to Thrive’s business activities. For example, Category 8 involves assets leased from third parties. Although our office is rented, we report our office emissions as part of our scope 1 and 2. Categories 9 to 12 are relevant to businesses that manufacture and transport physical goods, products that require energy to use by the end user, and products that will need to be disposed of or recycled. Therefore categories 9 to 12 do not apply to Thrive as we do not sell physical goods. Thrive do not lease assets to others or operate franchises, meaning that categories 13 and 14 are also not deemed relevant to our inventory.

## Appendix C – Additional GHG accounting information

### Baseline recalculation policy

Base year emissions may need to be recalculated if changes occur that have significant impact on the inventory such as:

- Changes in calculation methodology.
- Data accuracy improvements.
- Discovery of significant errors.
- Changes in the categories or activities included within the scope 3 boundary.
- Other changes deemed to have significant impact on the inventory.

### Data management and assurance

Emissions data are stored and managed in such a way that it is easy to check and review how calculations were made. For example, we maintain a trail of sources used for emissions factors, as well as documenting evidence of data sources provided by our suppliers. We will carry out first party assurance, to internally check and verify correct calculation of the inventory before it is published.

## Improving data quality over time

Improving data quality over time is an iterative process. Whilst we aim to use the highest possible quality data, in the initial phase of scope 3 data collection it is expected that we will need to use some data of relatively low quality due to limitations in availability. Over time, we will seek to replace lower quality data with higher quality data as it becomes available. We will prioritise data quality improvements for activities that are both:

- Relatively low-quality data
- Relatively high expected emissions

We intend to start integrating data sharing clauses into our contracts to increase the ease of collecting data from suppliers.