



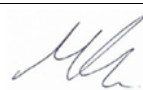
Net zero plan & climate report 2023

www.thriverenewables.co.uk

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, 2023

Signed:	
Date:	30/10/2024
Name:	Matthew Clayton
Position:	Managing Director

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 1 million tonnes of CO₂e through the generation of renewable electricity, delivering on our mission to put money to work building new sustainable energy projects and empower people to take action to address the climate emergency. Our positive contribution to avoiding UK CO₂ 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 second 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 2023 reporting year is now our second year to include emissions estimates across all the scope 3 areas identified as relevant to the business. Thrive's turnover in 2023 was £29 million and the company had 13.6 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'¹ and 'Scope 3' standards² as well as their technical calculation guidance³. 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 CO₂ equivalent (tCO₂e). 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

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

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

³ <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	1. Purchased goods and services	Yes
	2. Capital goods	Yes
	3. Fuel and energy related activities not included in scope 1 & 2	Yes
	4. Upstream transportation and distribution	No
	5. Waste generated in operations	Yes
	6. Business travel	Yes
	7. Employee commuting	Yes
	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
	15. Investments	Yes

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
- Office electricity and heating reported in our scopes 1 and 2. - Scope 3 category 1 includes office support services e.g., accounting and auditing, website hosting and IT support. - Business travel and staff commuting reported in scope 3 categories 6 and 7.	- Thrive owned (100%) and part-owned (joint venture) projects. - For fully owned projects, include 100% of emissions in scope 3 categories 1-5. - For joint ventures, include proportional share (based on ownership percentage) of emissions in our scope 3 categories 1-5. - 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.	- Loans provided by Thrive. - 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).

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 9-11). 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	Category 1 includes emissions associated with 'day to day' goods and services such as insurance, auditing, asset management, repairs, and maintenance. Boundary: cradle to gate (all upstream emissions).	As per GHG Protocol's scope 3 calculation guidance for category 1.
Category 2: Capital goods	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.	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	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. 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.	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	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. 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).	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	2023	2022	2021	2020	Comments
Scope 1	0	0	0	2.13	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
Scope 1 and 2 emissions (tCO₂e)	0	0	0	2.13	2019 is our base year for scopes 1 and 2 (2019: 2.87 tCO₂e)

Scope 3 category	2023	2022	2021	2020	Comments
Purchased goods and services	269.60	207.92			Includes the emissions associated with the day-to-day goods and services supporting our office, as well as Thrive's portfolio of operational, owned projects. Relatively low in 2023, given an increased number of operational projects. Major repairs in 2023 used second-hand and refurbished parts which minimised the emissions from this type of work.
Capital goods	0	3,046.0			All emission areas relating to construction of new Thrive-owned projects. There were no new Thrive-owned construction projects in 2023, compared to 2022 which included the construction of a 20MW battery storage project.
Fuel and energy activities not included in scopes 1 and 2	90.22	46.30			Includes emissions associated with the generation of electricity imported to, but not exported from Thrive-owned battery storage assets. Increased emissions reflects increased BESS operation.
Waste generated	0.02	0.02	0.02		Includes emissions associated with the waste generated by our office. In 2023 we recycled 71% of our office waste and overall waste volumes were low.
Business travel	4.27	3.46	0.09	0.35	Reduced during 2020/21 due to effects of pandemic and subsequently increased in 2022 and 2023 due to return to more normal travel year and a growing team. Comparing 2023 with 2022 the carbon intensity of our average business mile has reduced by 17% due to an increase in train travel and a reduced reliance on flights and ICE vehicles.
Staff commuting and homeworking	4.13	3.26	2.06		2023 figure (4.13 tonnes CO ₂ e) is comprised of 2.03 and 2.10 tonnes CO ₂ e for commuting and homeworking respectively. This absolute increase is primarily explained by a growing team, with 'per FTE' intensity increasing only slightly (+6%) between 2023 and 2022. Staff commuting was introduced in 2022.
Investments (financed emissions)	507.78	2,490.6			Includes our financed emissions from the current projects we are lending to. In addition to the lendee project's operational emissions, this includes their construction of new projects. In 2023 this included a 0.8MW solar rooftop whereas in 2022 this included a 4.2MW wind turbine and a 1MW solar rooftop.
Total scope 3 emissions (tCO₂e)	876.0	5,797.6**	2.2*	0.4*	2022 is our base year for operational scope 3 emissions (excluding construction emissions)

* Incomplete scope 3 figures for reporting years prior to 2022. Shaded areas show data deficiencies for each given year.

**2022 reported emissions have been revised from 5,764.8 to 5,797.6 following recalculation for Category 1: Purchased goods and services, based on availability of new and improved data.

Thrive's scope 1 and 2 emissions have decreased to zero from a baseline of 2.9 tCO₂e 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 2023. Note that as 2022 was 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. Despite 2023 being a low construction year compared to 2022, this explains why 'Capital Goods' and our 'financed emissions' together comprise 58% of our total footprint in 2023 (96% in 2022).

Intensity metrics

The below metrics show the different options available for tracking the 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 our climate-positive impact – specifically based on the size of our current 'impact portfolio'⁴. As we continue to gain additional years of scope 3 emissions data, this will be important in tracking progress against targets.

Intensity type	Scope	Intensity units	2023	2022	Trend	Comments
Economic intensity	E1: All emissions (including construction)	tCO ₂ e/£m revenue	30.2	331.3	-997%	Very large perceived decrease due to chance variation in construction activity, with fewer projects built in 2023.
	E2: 'Day to day' operational emissions only (excluding construction)	tCO ₂ e/£m revenue	13.1	15.5	-18%	Decrease is exaggerated by the effect of electricity prices contributing to an exceptional increase in Thrive's turnover from £17.5m in 2022 to £29m to 2023.
Impact intensity	I1: All emissions (including construction)	tCO ₂ e/MW of current 'impact portfolio' capacity	6.7	63.3	-840%	Very large perceived decrease due to chance variation in construction activity, with fewer projects built in 2023.
	I2: 'Day to day' operational emissions only (excluding construction)	tCO ₂ e/MW of current 'impact portfolio' capacity	2.9	3.0	-1%	Our preferred intensity metric, most indicative and least affected by volatile metrics such as revenue. Suggests a small decrease in the carbon intensity of running the existing operational projects.

⁴ Thrive's impact portfolio – total capacity of the sustainable energy portfolio adjusted for Thrive's proportion of ownership, plus the projects Thrive is funding. This was 91.5MW and 130MW in 2022 and 2023 respectively.

Our preferred intensity metric (I2) suggests that, whilst accounting for growth in our portfolio, the carbon intensity of our day-to-day services has decreased slightly (by 1%). The above intensity metrics that include construction emissions (E1 and I1) aren't particularly useful as a management tool because of the large effect of yearly variations in construction activity. For construction emissions, it is proposed that we compare like to like projects between years to see if we are reducing carbon intensity of building each clean energy technology. When comparing 2023 with 2022, the only comparable projects are the two rooftop solar projects. When comparing the carbon intensity of these two projects (tCO₂e per MW of constructed rooftop solar) we have noted that there was a small increase of 6% comparing 2023 with 2022. This was primarily explained by the use of a different solar module manufacturer, with higher reported embodied carbon.

4. Targets and actions

Thrive's commitment is to reach net zero by 2030 and halve emissions by 2030. As laid out in the SME Climate Hub guidance⁵, 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 for operational emissions. We have also set a shorter-term, interim target to aim for. We have set 2022 as our base year for all operational scope 3 emissions areas. For construction activities, we will continue to analyse carbon intensity against previous project build(s) as a basis for comparison.

Operational emissions targets			
Target type	Target level	Term	Target completion date
Absolute emissions (scopes 1 and 2 only).	100% reduction (market based)	Already achieved	2021 [2019 baseline]
Emissions intensity (all scopes) <u>excluding</u> construction activity	20% reduction in impact emissions intensity, i.e., CO ₂ e / MW of current 'impact portfolio capacity'	Medium term	2026 [2022 baseline]
Emissions intensity (all scopes) <u>excluding</u> construction activity	50% reduction in impact emissions intensity, i.e., CO ₂ e / MW of current 'impact portfolio capacity'	Long term	2030 [from 2022 baseline]
Construction emissions targets			
Target type	Target level	Term	Target completion date
Emissions intensity of newly constructed projects	20-50% reduction in emissions intensity per new MW built.	Medium to long term	The new project's construction year [baseline is previous project build(s) for that technology]

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. We will not claim to be net zero until that state is reached.

⁵ <https://faq.smeclimatehub.org/hc/en-us/articles/18549117010578-We-are-a-fast-growing-company-how-do-we-go-about-setting-near-term-2030-targets>

Actions to reduce emissions

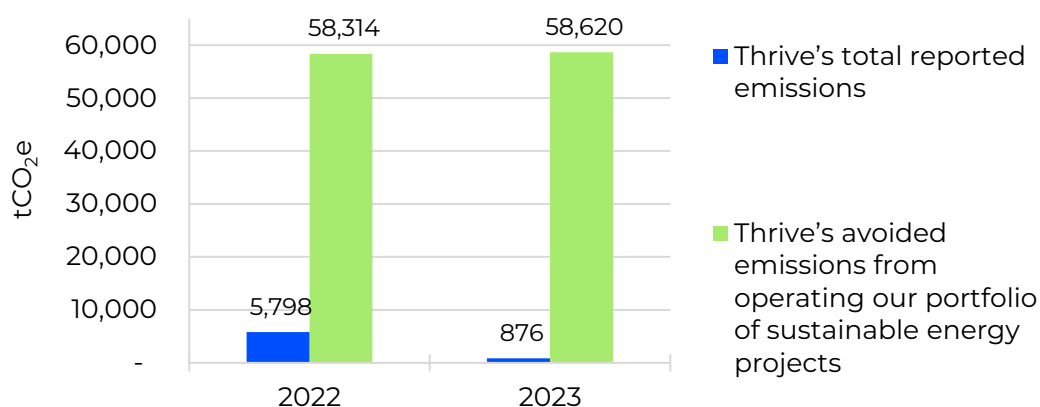
Scope	Emission area	Action identified
3	Capital goods	Incorporate embodied carbon assessment earlier in lifecycle of new projects and use carbon savings to inform the early procurement decisions around building materials. For example, green steel or green concrete manufactured using lower carbon energy 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.

5. Climate solutions

Our mission is to put money to work building new sustainable energy projects and empower people to take action to address the climate emergency. 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 1 million tonnes of CO₂e over the life of the business⁶, 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, 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 2023 and 2022, the scale of our full reported emissions versus our scope 4 emission reductions (as described above) can be illustrated as follows:

Reported vs avoided emisisions



⁶ 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).

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. By comparison in 2023, our reported emissions only include the construction of one small rooftop project. Despite this yearly variation in our highest emissions area, it is useful to see how much greater our avoided emissions are in either year. The footprint of newly constructed projects in any year represents a scope 4 carbon 'investment' with the project's 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.

6. 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 a second year. We have set 2022 as our base year for operational scope 3 emissions and report a 1% decrease in intensity in this area comparing 2023 to 2022. Whilst this is a modest decrease, we believe the intensity metric chosen is a fairer representation of reality than an economic intensity which exaggerates decarbonisation, due to the effect that electricity prices had on our revenue (see section 4 above).

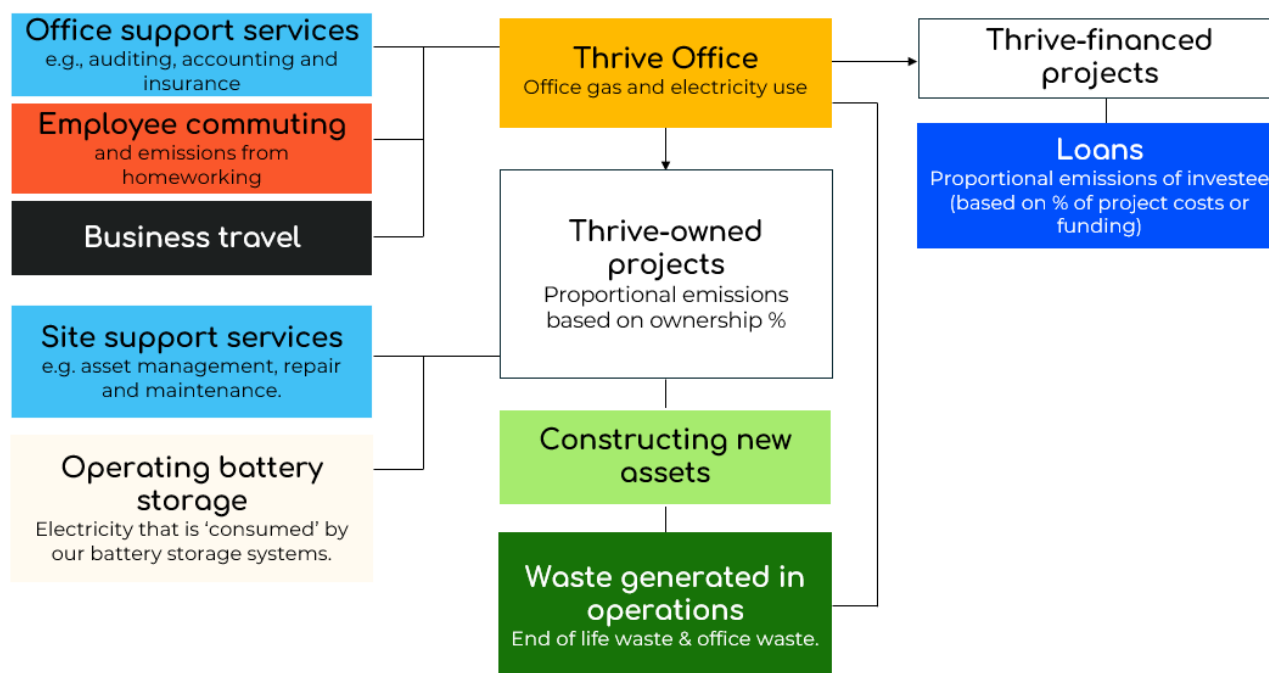
With construction activities being so variable year to year, it can make annual comparisons quite challenging and therefore we will continue to compare similar projects over time to get a more accurate understanding of these trends. We noted a small increase in carbon intensity (6%) for the rooftop project constructed in 2023, compared to a baseline of the previous rooftop project. This highlights the importance of designing new projects to implement carbon saving measures that align with our goals. We have made progress on this priority action since our last report – we are currently looking into specifications of low carbon concrete for new projects in our pipeline and expect this to reflect positively in terms of carbon intensity when these projects are constructed in the future.

Our current focus is now the 2024 reporting year, and we look forward to continually making year-on-year comparisons against our targets, to better understand our progress in the 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 are starting to include data sharing clauses into our contracts to increase the ease of collecting data from suppliers.