



**ORGANISATIONAL  
CARBON FOOTPRINT**

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**Verification Report**

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**Taylor Wimpey plc**

**Taylor  
Wimpey**

23/02/2023

## Executive Summary

This project covers the verification of the emissions from anthropogenic sources of greenhouse gases, included within the organisation's boundary and meeting the requirements set out in ISO 14064-3: *Specification with guidance for the validation and verification of greenhouse gas assertions*.

- Organisational boundary: All UK and Spanish operations
- Control approach: Financial control
- Reporting period: 01/01/2022 - 31/12/2022
- GHG sources included:
  - Scope 3 Category 1
  - Scope 3 Category 3 (location-based method)
  - Scope 3 Category 11

Based on the work we have undertaken and the evidence provided by Taylor Wimpey plc, nothing has come to our attention that leads us to believe that the organisation's footprint has not been properly prepared, in all material respects. This is in accordance with the criteria defined in the GHG Protocol.

The total verified footprint was 2,358,197 tCO<sub>2</sub>e, according to the location-based method. The breakdown by scope is:

- Scope 3: 2,358,197 tCO<sub>2</sub>e

During this project, the verification team identified several different recommendations that Taylor Wimpey plc should act upon. More details about these can be found under the Conclusions section of this report.



# Contents

<b>Executive Summary</b> .....	<b>2</b>
<b>Project Summary</b> .....	<b>4</b>
<b>Project Team</b> .....	<b>5</b>
<b>Verification team</b> .....	<b>5</b>
<b>Client's team</b> .....	<b>5</b>
<b>Footprint Analysis</b> .....	<b>6</b>
<b>Footprint breakdown</b> .....	<b>6</b>
<b>Data quality analysis</b> .....	<b>7</b>
<b>Site Visit</b> .....	<b>9</b>
<b>Materiality Assessment</b> .....	<b>11</b>
<b>Non-conformities log</b> .....	<b>13</b>
<b>Correction action requests log</b> .....	<b>14</b>
<b>Clarification requests log</b> .....	<b>15</b>
<b>Conclusions</b> .....	<b>34</b>
<b>Recommendations</b> .....	<b>34</b>

## Project Summary

Project name	Taylor Wimpey plc – Reporting & Verification Services 2022
Client	Taylor Wimpey plc
Reporting criteria	GHG Protocol
Verification criteria	ISO 14064-3 : 2019 – Specification with guidance for the verification and validation of greenhouse gas statements
Verification period	01/01/2022 - 31/12/2022
Level of assurance	Limited
Communication channel	Annual Report
Organisational boundary	All UK and Spanish operations
Control approach	Financial control
Operational boundary	Scope 3 Category 1, 3 and 11 (Scope 1 and 2 are being verified in a separate document)
Excluded emissions (if applicable)	NA
Materiality	5% materiality threshold per scope or source when reported separately

## Project Team

### Verification team

Lead Auditor	Sarah Jardine
Auditor(s)	Charlotte Kirkman, Conor Ryan
Peer Reviewer	Ruaridh Welsh

### Client's team

Main Contact	Anthony Lavers
Other team members	Lizzie Eyre

## Footprint Analysis

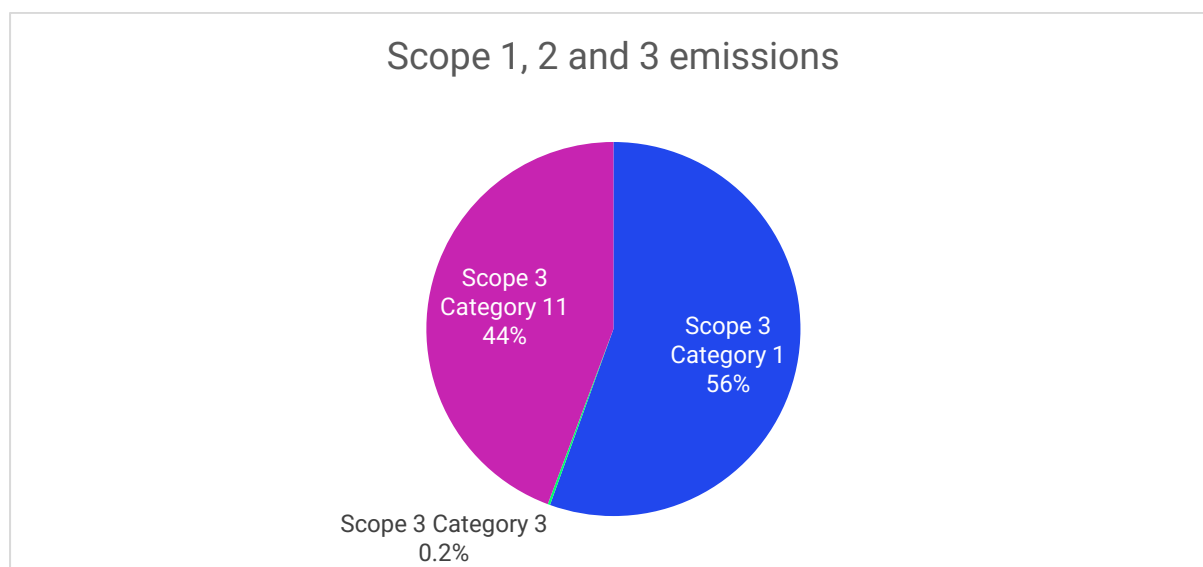
The total verified carbon footprint of Taylor Wimpey plc’s operations from 01/01/2022 - 31/12/2022 amounted to 2,358,197 tCO<sub>2</sub>e, according to the location-based method. This footprint includes the following:

- Scope 3 Category 1
- Scope 3 Category 3 (location-based method)
- Scope 3 Category 11

### Footprint breakdown

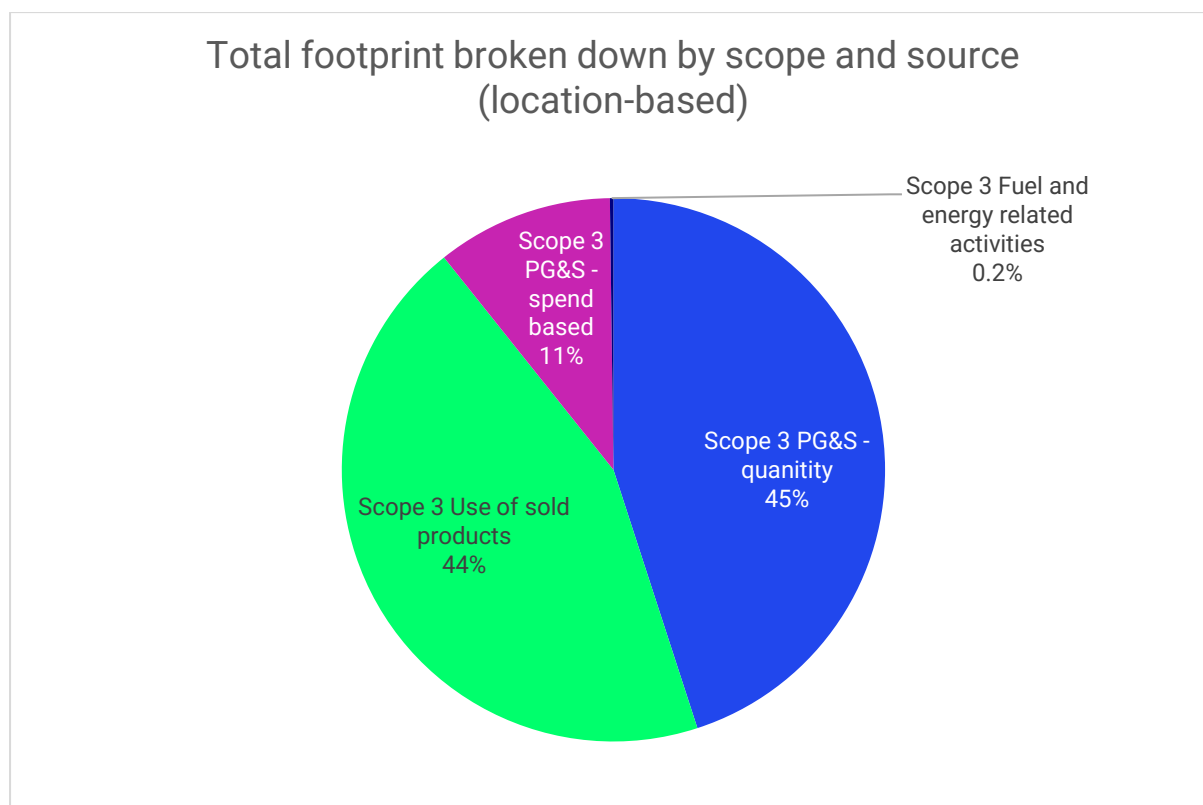
The graphs below show how the organisation’s footprint is broken down by scope and by emissions source.

**Figure 1. Total footprint broken down by category**



The largest part of Taylor Wimpey plc’s footprint results from Category 1 Purchased Goods & Services emissions, which constitute 56% of the total footprint, according to the location-based method.

**Figure 2. Total footprint broken down by source**



The graphs below show the breakdown of total footprint by scope and source. The largest contributor is Purchased goods and services - quantity (45%), followed by Use of sold products (44%), according to the location-based method.

## Data quality analysis

An important step to calculate a verifiable footprint, is the access to data of good quality, preferably deriving from primary sources. Table 1 presents the data source, for each source of emissions.

**Table 1. Data quality evaluation by emissions source**

<b>Emissions Source</b>	<b>Data Source</b>	<b>Data Quality</b>
Category 1 - Purchased Goods and Services - Spend based	A download is taken from the procurement system	Adequate
Category 1 - Purchased Goods and Services - Known Quantities	Suppliers are emailed to ask for the quantities sold to TW in the year and these are collated manually into a spreadsheet	Good
Category 1 - Purchased Goods and Services - Average Quantities	Groundworkers were emailed and asked what their average price per unit on each material was and their responses were manually collated into a spreadsheet and averaged. This average price was applied to procurement spend on groundworkers	Good
Category 1 - Purchased Goods and Services - Calculated Quantities	Building drawings of typical houses were used to estimate how much of certain materials were used in the year	Good
Category 3 - Fuel and energy related activities	S1 and S2 data collected by third party AJR was used	Good
Category 11 - Use of sold products (house)	Emissions per dwelling were collected from DER reports filled out by third party consultants Stroma, and manually collated into a spreadsheet	Good
Category 11 - Use of sold products (appliances)	Data on the standard appliances sold with each house type were obtained internally from TW and third party data was used for average appliance energy usage	Adequate



## Site Visit

Location	Taylor Wimpey plc - Shaw Valley site
Address	Woodlark Road, Newbury, Berkshire, RG142FN
Date	03/03/2023
Auditor(s)	Sarah Jardine, Ed Smith, Matt Randall, Christina Iona
Client members interviewed	Jack Preston, Shaw Valley Site Manager

### Summary of the site visit

During the site visit we inspected the following:

- site cabins
- cement and asphalt silos
- materials storage units
- a few houses at different stages of completion
- Show house
- Model house where each floor showed the house at different stages of completion
  - Construction of Sub structure and super structure
  - Instillation of cavity wall insulation
  - First fix
  - Second fix

#### Category 1

During the tour of the material store, the site manager, Jack, confirmed that list of most material items is consistent with what he would expect. He mentioned that concrete

blocks previously used for partition walls have now been replaced with asphalt blocks. These are now used in the majority of properties. Jack also confirmed that he would expect to see a break in orders from mid-December as sites scale down. This ties in well with what we have seen in the footprint data.

Within the footprint quantities of materials for windows are estimated based on house drawings. To check this we viewed a 'Gosford' house and compared to the drawings used in the calculations.

### **Category 11**

JSP calculate the EPC ratings of the Taylor Wimpey plc properties. They contract air test consultants BSRIA, who will come on site to complete the readings when a house is bought.

There are different packages that can be bought with the property. As standard, houses will come with the following appliances:

Sink, taps, oven, hob and integrated hood.

## Materiality Assessment

The verification team created a sampling plan in order to provide limited assurance for the verification. This sampling plan was based on a Risk Assessment, which evaluated each emissions source against its contribution to the footprint, the quality of the data, the data collection and monitoring processes, as well as their effectiveness.

As seen in Figure 2 above, according to the location-based method, use of sold products is the largest contributor to the total footprint, constituting 45%. The next largest contributor is pg&s - quantity, which constitutes 44% of the total footprint.

**Table 2. Risk Assessment**

Emissions Source	Value (tCO <sub>2</sub> e)	% of total footprint	Risk: High, Medium, Low
Category 1 - Purchased Goods and Services - Spend based	247,913	10.5%	HIGH – Any errors in data collection and aggregation could lead to a material misstatement
Category 1 - Purchased Goods and Services - Known Quantities	292,872	12.4%	HIGH – Any errors in data collection and aggregation could lead to a material misstatement
Category 1 - Purchased Goods and Services - Average Quantities	754,356	32.0%	HIGH – Any errors in data collection and aggregation could lead to a material misstatement
Category 1 - Purchased Goods and Services - Calculated Quantities	13,876	0.6%	LOW - misstatement will not impact the footprint in a material way
Category 3 - Fuel and energy related activities	4,886	0.2%	LOW - misstatement will not impact the footprint in a material way
Category 11 - Use of sold products (house)	1,007,367	42.7%	HIGH – Any errors in data collection and aggregation could lead to a material misstatement
Category 11 - Use of sold products (appliances)	36,927	1.6%	MEDIUM - misstatement will not impact materiality

The sampling plan is shown in the table below.

**Table 3. Sites included in the sampling**

Scope	Site	Emissions source(s)
3	London & Central London	Category 1 (spend-based)
3	South Midlands	Category 1 (spend-based)
3	West Scotland	Category 1 (spend-based)
3	North Yorkshire	Category 1 (spend-based)
3	Oxfordshire	Category 1 (spend-based)
3	All BUs	Category 1 (quantity-based)
3	All BUs	Category 3
3	West Midlands	Category 11

The sampling plan remained unchanged during the verification process as a large part of the non-conformities were closed by updating the calculations according to the auditor's feedback, by presenting the requested evidence, or by presenting additional evidence to confirm the numbers reported.

## Non-conformities log

This section provides the details of all non-conformities that have been raised and closed during the verification process.

Non-conformities have been logged in accordance to two types of classification. The type of non-conformity:

- **Correction Action Requests (CAR)** when we have identified an issue with your data or analysis that needs action on your part to be corrected.
- **Clarification Requests (CL)** when we need further information to evaluate the correctness/completeness of your data and calculation.
- **Opportunity for Improvement (OFI)** when we identify an opportunity for you to improve your data collection processes or calculation, despite the fact that the one currently in play is not materially at risk of misstatement or incorrect.

And the severity of the non-conformity:

- **Minor non-conformities** are expected to have a small impact in the results of the footprint (<1% impact)
- **Major non-conformities** are expected to have a significant impact in the results of the footprint (>1% impact). All of these issues should be resolved by the end of the Verification Process

## Correction action requests log

Reference	Scope	Emissions source	Reference file	Finding	Severity	Clarification/Action taken	Date opened	Date closed
CAR 0.1	3	Cat 1	Groundworker Survey Summary_10.22	Incorrect data entry on tab "Plot Drives", with the contents of Cells J53 and J55 and K53 and K55 needing to be swapped according to Underhill and Crowe's groundworker survey	Major	This has been corrected in Groundworker Survey Summary_v1_24.01	20/01/2023	30/01/23
CAR 0.2	3	Cat 1	Groundworker Survey Summary_10.22	Incorrect data entry on tab "Plot Drives", with the contents of Cell L53 needing to be swapped with M53 according to Underhill and Crowe's groundworker survey	Major	This has been corrected in Groundworker Survey Summary_v1_24.01	20/01/2023	30/01/23
CAR 0.3	3	Cat 1	Groundworker Survey Summary_10.22	Incorrect data entry on tab "Plot Drives", with the contents of Cell L55 needing to be swapped with N55 according to Underhill and Crowe's groundworker survey	Major	This has been corrected in Groundworker Survey Summary_v1_24.01	20/01/2023	30/01/23

## Clarification requests log

Ref	Scope	Emissions source	Reference file	Finding	Severity	Clarification/Action taken	Date opened	Date closed
CL 0.1	3	Cat 11	2021 model	<p>Will a new gas/electricity split for 2022 be calculated or will you be relying on the 2021 split? Will the variables identified in 2021 but not factored in then (e.g. impact of the orientation of the house) be factored in this time? Either way, can we see evidence of how this split was calculated?</p> <p>Also, in the 2021 model there are DERs for a number of different regions but why was only the Exeter one used, rather than an average?</p>	Major	<p>The DER data and the gas/electricity split is provided by our regional business units. In turn, the business units receive the DER data from consultants who carry out 'Standard Assessment Procedure (SAP)' calculations on Taylor Wimpey plc's behalf. SAP is the method defined by the UK government for assessing and comparing the energy and environmental performance of buildings. We are not aware of any changes to the SAP assessment procedure and therefore the key variables of interest in the 2021 dataset will be the same as the key variables in the 2022 data.</p> <p>TW West Midlands have provided documents that show how the gas/electricity split was calculated.</p> <p>The data provided by TW Exeter was the first time we had DER data with a gas/electricity split included, whereas in previous years the data were limited to DER rates only. The Exeter dataset therefore may have been used because it was the only source of gas/electricity split information.</p>	20/01/2023	02/03/2023
CL 0.2	3	Cat 11	2021 model	What is the % split between gas and electricity based on, is it based on kwh, or CO2e?	Major	Our understanding is that the gas/electricity split shows what percentage of the dwelling emission rate in kgCO2e is attributable to burning gas and what percentage is attributable to using electricity.	20/01/2023	02/03/2023
CL 0.4	3	Cat 1	Underhill and Crowe groundworker survey	In the "Roads" tab, "Binder course asphalt", "Surface course asphalt" and "Sand" all have an "average material price" but no "% of total cost" value, is there a specific reason for this? Does that mean that this did not comprise part of the spend on Taylor Wimpey plc projects?	Minor	This may be because the groundworker was concerned this information was commercially sensitive and therefore decided not to disclose it.	20/01/2023	02/03/2023
CL 0.5	3	Cat 1	Underhill and Crowe groundworker survey	In the "Roads" tab, "Haunching" has a "% of total cost" value but no "average material price" value, do we know why this is?	Minor	This may be because the groundworker was concerned this information was commercially sensitive and therefore decided not to disclose it.	20/01/2023	02/03/2023

CL 0.6	3	Cat 1	Underhill and Crowe groundworker survey	In the "Roads" tab, "Diesel" has an "average material price" of £79.00 per litre, which seems extremely high. Do we know if this is an error?	Minor	We assumed this was an error and we presume this should have been £0.79 per litre. Due to the uncertainty around this figure, it was excluded from the average cost calculations.	20/01/2023	02/03/2023
CL 0.7	3	Cat 1	Underhill and Crowe groundworker survey	In the "Foundations" tab, "concrete blocks below DPC" and "foundation insulation" have a "% of total cost" value, but no "average material price" value, do we know why this is?	Minor	This may be because the groundworker was concerned this information was commercially sensitive and therefore decided not to disclose it.	20/01/2023	02/03/2023
CL 0.8	3	Cat 1	Underhill and Crowe groundworker survey	In the "Public Sewer" tab, "Plastic sewer pipes and gullies" and "Ironworks" have a "% of total cost" value, but no "average material price" value, do we know why this is?	Minor	This may be because the groundworker was concerned this information was commercially sensitive and therefore decided not to disclose it.	20/01/2023	02/03/2023
CL 0.9	3	Cat 1	Underhill and Crowe groundworker survey	In the "Plot Drives" tab, "Concrete block paving" has an "average material price" value but no "% of total cost" value, do we know why this is?	Minor	This may be because the groundworker was concerned this information was commercially sensitive and therefore decided not to disclose it.	20/01/2023	02/03/2023
CL 1.0	3	Cat 1	Underhill and Crowe groundworker survey	In the "Plot Drives" tab, "Red Diesel" has a "% of total cost" value, but no "average material price" value, do we know why this is?	Minor	This may be because the groundworker was concerned this information was commercially sensitive and therefore decided not to disclose it.	20/01/2023	02/03/2023
CL 1.1	3	Cat 1	Underhill and Crowe groundworker survey	In the "Plot Drives" tab, "Base course asphalt", "Surface course asphalt" and "Concrete block paving" are missing the "material unit of measurement" data. Is there a specific reason for this?	Minor	The UoM was not provided by the groundworker. Due to the uncertainty around the UoM, the values have not been used to calculate the average cost.	20/01/2023	02/03/2023
CL 1.2	3	Cat 1	Elan Civil Engineering groundworker survey	In the "Roads" tab, "Base course asphalt", "Binder course asphalt", "Surface course asphalt" and "Haunching" have a "% of total cost" value but no "average material price" value, do we know why this is?	Minor	This may be because the groundworker was concerned this information was commercially sensitive and therefore decided not to disclose it.	20/01/2023	02/03/2023
CL 1.3	3	Cat 1	Elan Civil Engineering groundworker survey	In the "Foundations" tab, "Mortar", "Concrete beams and lintels", "Foundation insulation" and "Diesel" all have a "% of	Minor	This may be because the groundworker was concerned this information was commercially sensitive and therefore decided not to disclose it.	20/01/2023	02/03/2023



				total cost" value but no "average material price" value, do we know why this is?				
CL 1.4	3	Cat 1	Elan Civil Engineering groundworker survey	In the "Public Sewers" tab, all the materials have a "% of total cost" value but none have a "average material price" value, do we know why this is?	Minor	This may be because the groundworker was concerned this information was commercially sensitive and therefore decided not to disclose it.	20/01/2023	02/03/2023
CL 1.5	3	Cat 1	Elan Civil Engineering groundworker survey	In the "Plot Drainage" tab, "Plastic drainage pipes" and "Diesel" have a "% of total cost" value but no "average material price" value, do we know why this is?	Minor	This may be because the groundworker was concerned this information was commercially sensitive and therefore decided not to disclose it.	20/01/2023	02/03/2023
CL 1.6	3	Cat 1	Elan Civil Engineering groundworker survey	In the "Plot Drives" tab, all the materials have a "% of total cost" value but none have a "average material price" value, do we know why this is?	Minor	This may be because the groundworker was concerned this information was commercially sensitive and therefore decided not to disclose it.	20/01/2023	02/03/2023
CL 1.7	3	Cat 1	Groundworker Survey Summary_10.22	Across all tabs regarding the "average material price" for "Diesel", formula excludes specific values which are exceptionally large e.g. the "Roads" tab excluding Cells P8 and P48 (£75.00 and £79.00 respectively). Is this because you believe these to be errors in the surveys being filled out? Was this something you contacted the groundwork companies about, and what is the impact on the quality of the remaining data in the survey?	Minor	In the average price calculations, we removed the outliers from the formula because we believed these were errors. Although we did not query anomalous results with our groundworkers, we believe the quality of other areas of the survey is good as there were not large data outliers in other sections.	20/01/2023	02/03/2023
CL 1.8	3	Cat 1	Groundworker Survey Summary_10.22	On the "Roads" tab, the "average material price" for "Diesel" formula includes Cell P18 which utilises a different material measurement of unit (metres) compared to that determined to gain the average for this material (Litres). Is this an error in unit measurement recorded or is the unit of	Minor	This is a mistake and the values in P18 and P19 should have been in Q18 and Q19. This has been modified in Groundworker Survey Summary_v1_24.01	20/01/2023	30/01/23

				measurement correct and therefore needs to be converted to litres in order to be included in the average?				
CL 1.9	3	Cat 1	Groundworker Survey Summary_10.22	On the "Plot Drainage" tab, Cells D13 and G53 have been excluded from the "average material price" formula despite utilising the correct material unit of measurement (metres) to be included in the calculation. Cell D13's value is comparatively large compared to the others included in the formula, as above has this been excluded as an anomaly?	Minor	This value has been excluded as it was seen as an anomalous result.	20/01/2023	02/03/2023
CL 2.1	3	Cat 1	Groundworker Survey Summary_10.22	On the "Foundations" tab, Cell E13 has been included in the "average material price" formula despite utilising a different material unit of measurement (m2) compared to that determined to gain the average for this material (m3). Is this a data entry error or is there a specific reason for its inclusion i.e a mistake on the survey?	Minor	This is a data entry error and this value should not have been included in the formula. I have modified this in Groundworker Survey Summary_v1_24.01	20/01/2023	30/01/23
CL 2.2	3	Cat 1	Known quantity approach	Asked in email 23/1/23: I'm discussing with our technical team how we might be able to verify the quantity based approach in the absence of supplier confirmations, and to help us could you explain where you are obtaining your quantity data from – does it come from a certain system, what is the raw data source and how is it entered into that system, any quality controls in place to ensure accuracy, etc?	Major	As discussed at the call on 25/01/2023, the quantity data has been collated by Category Managers in the TW Group Procurement team. These Category Managers manage Taylor Wimpey plc's relationship with key suppliers. Each Category Manager will have received quantity data directly from the suppliers they manage. Although there is no formal quality control process in place, each Category Manager has sense-checked the data provided by suppliers to ensure that it is commensurate with what they (the Category Managers) have experienced over the course of the year. In addition, Group Procurement's sustainability lead will have double-checked the completed dataset before submission to TW Group Sustainability.	23/01/2023	



CL 2.3	3	Cat 11	DER reports	I've tried to match some of the key figures (floor area and CO2 per property) and the floor area matches pretty closely for most with the exception of the Q2 East Scotland sample, and the CO2 per property from the England and Scotland gov websites has quite different figures - do you know why this is and how your figures were arrived at versus the government figures? See the work I've done on the next tab	Major	The discrepancy may be due to errors on Taylor Wimpey plc's side. Alternatively, it may be because the figures on the government website are for the 'as designed' performance of the homes whereas the figures in the data we have submitted are for the 'as built' performance of the homes.	23/01/2023	
CL 2.4	3	Cat 11	DER reports	Where does the % split between gas and electricity come from for each property? Is this a source we can assess the accuracy of	Major	Email from Matthew Price showing the calculation methodology for the % gas/electricity split provided on 25/01/23.	23/01/2023	
CL 2.5	3	Cat 1	ECL Civils_W Groundworkers Survey (final)_08.22	On the ECL Civils Groundworker Survey, there are no answers input in the "Other Questions" tab of the survey. Do we know why this is?	Major	There are no answers in the 'Other questions' tab just because ECL Civils did not complete this section, probably because the questions were not relevant to them (e.g. ECL Civils do not measure their carbon footprint).	30/01/23	



<p><b>CL 2.6</b></p>	<p>3</p>	<p>Cat 1</p>	<p>Known quantity approach</p>	<p>Evidence provided for Bison Precast concrete is missing any data for December, can this be estimated if there is no primary data available?</p>	<p><b>Major</b></p>	<p>My main thought is that it might be possible to calculate a monthly or weekly average for each pre-cast concrete product (beam jetfloor, hollowcore and stairs) and then apply this average to the first three weeks of December?</p> <p>We do not have a more robust method than the above for estimating pre-cast concrete volumes at this stage.</p> <p><b>CT update:</b> please estimate the missing data and then we can decide whether it is material and we need to include in the calc</p> <p><b>TW update 13/02/23:</b> calculations for each product (beam jetfloor, hollowcore and stairs) for the first three weeks of December outlined below:</p> <p><b>Beam jetfloor:</b></p> <ul style="list-style-type: none"> <li>- Weekly average = <math>1,053,892/48 = 21,956.1</math></li> <li>- Estimated quantity for three weeks of December = <math>21,956.1*3 = 65,868.2</math> linear metres</li> </ul> <p><b>Hollowcore:</b></p> <ul style="list-style-type: none"> <li>- Weekly average = <math>51,322/48 = 1,069.2</math></li> <li>- Estimated quantity for three weeks of December = <math>1,069.2*3 = 3,207.6m^2</math></li> </ul> <p><b>Stairs:</b></p> <ul style="list-style-type: none"> <li>- Weekly average = <math>872/48 = 18.2</math></li> <li>- Estimated quantity for three weeks of December = <math>18.2*3 = 54.5m^3</math></li> </ul> <p><b>CT update:</b> We have requested that the calculation be updated for these figures</p>	<p>31/01/2023</p>	<p>13/02/2023</p>
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CL 2.7	3	Cat 1	Known quantity approach	CCF evidence provided: 1) what unit is the quantity data provided in, 2) as estimation has been done for the missing 0.5 month but when I try and reperform this as described I get quite a different answer, please see next tab	Major	<p>The quantity data is provided in sheets of plasterboard, with an average plasterboard sheet measuring 2.4m x 1.2m (see page 4 of the hybrid modelling method statement). Forecast plasterboard sheet deliveries for 2022 from CCF have been calculated using a straightline extrapolation, as outlined below. Note that the forecast is based on the plasterboard total provided in version 1 of the supplier quantity data spreadsheet (662,833 sheets). This total was updated in version 2 of the supplier quantity data spreadsheet to include directly procured plasterboard (new total = 674,588).</p> <p>Step 1. Total plasterboard sheets delivered to the end of November divided by 11 months of the year =</p> $662,833/11 = 60,257.5 \text{ sheets per month}$ <p>Step 2. Monthly average sheet deliveries multiplied by 11.5 months (missing two weeks for Christmas) =</p> $60,257.5 * 11.5 = 692,961$ <p>Note that this forecast figure has been in calculating the PG&amp;S footprint.</p> <p><b>CT update:</b> We have confirmed this difference is immaterial in the context of the overall footprint to if the calculation has been calculated using the 674k figure and therefore no update requested, however we have raised an OFI to ensure that all calculations are done based on latest available information</p>	31/01/2023	08/02/2023
CL 2.9	3	Cat 1	Known quantity approach	Evidence for Redland roof tiles is missing data for final few weeks of December	Major	<p>It is very likely that no roof tiles were ordered for the final few weeks of December because Taylor Wimpey plc's construction sites close over the Christmas period. Orders of building materials in December therefore are limited typically to the first three weeks of December.</p> <p><b>CT update:</b> On our site visit we confirmed this with the site manager that this is typical of sites, however OFI raised to confirm this with suppliers</p>	31/01/2023	08/02/2023

CL 2.10	3	Cat 1	Known quantity approach	Ideal Logic - I will wait to see how material the boiler element of the footprint is before I determine if we need to do any further work on this	Minor	As no EF is available these are calculated under the EEIO approach	31/01/2023	13/02/2023
CL 2.11	3	Cat 11	SAP DER reports	To calculate the DER, please can you explain which emission factors have been used for electricity and gas	Major	<p>The emission factors in the Regulations Compliance Report are from SAP version 9.92, which are appropriate for calculations under Part L of Building Regulations 2013. Part L 2013 applies where the building was registered with Building Control prior to 15 June 2022 as long as construction of the building commences before 15 June 2023.</p> <p>Updated emission factors will be used in SAP version 10.2, which will be appropriate for calculations under Part L of Building Regulations 2021. Part L 2021 will take effect for any buildings not registered prior to 15 June 2022 or where construction commences after 15 June 2023.</p>	31/01/2023	14/02/2023
CL 2.12	3	Cat 11	SAP DER reports	How has the number of legal completions been calculated and where do all the numbers come from? Same question for the legal sq ft figures	Minor	Both legal completions and square footage data are provided by Taylor Wimpey plc Group Finance. For direct completions, the data are drawn from a business intelligence system called inQUIRE. For completions at joint ventures (JVs), the data are drawn from a separate system called OneStream. We cross-referenced the legal completions data against our full year trading statement to the City (issued 13/01/2023) to ensure that the numbers aligned.	31/01/2023	14/02/2023
CL 2.13	3	Cat 11	SAP DER reports	Where does the gas / electricity split come from?	Minor	See answer to CL2.4 and 'Annual totals' section in the Regulations Compliance Report provided for the sampled TW West Midlands plots. The 'Annual totals' provide a breakdown of gas and electricity consumption in the plot per annum, from which a percentage split is calculated.	31/01/2023	14/02/2023



<p>CL 2.14</p>	<p>3</p>	<p>Cat 1</p>	<p>COINS transaction report</p>	<p>How are all the payroll journal treated, are these all excluded? For West Scotland 11617 all the postings seems to be payroll journals which is not the case for the other BUs, is this correct?</p>	<p><b>Major</b></p>	<p>TW West Scotland have directly employed carpenters rather than sub-contracted carpenters. These directly employed carpenters are paid directly through TW West Scotland's payroll. The sums paid through payroll then are journaled by TW West Scotland's Finance team and therefore appear as postings in the COINS transaction report under cost head 11617-Carpentry. Other BUs have fewer or no directly employed carpenters and therefore do not have payroll journals in their COINS transaction report postings for cost head 11617-Carpentry.</p> <p><b>CT Update:</b> and are these payroll journals treated the same was as sub-contracted carpenters, e.g. it is expected that a portion relates to labour and a portion to materials?</p> <p><b>TW update 08/02/23:</b> Payroll journals for directly employed tradespeople (e.g. carpenters in TW West Scotland) should not have a portion related to labour and a portion related to materials - instead, the spend is entirely for the labour the tradesperson provides. The materials that directly employed tradespeople use are purchased by the BU and then costed to the relevant cost head, so spend on these materials should appear elsewhere in the procurement spend data. Conversely, sub-contracted carpenters will purchase materials themselves and therefore TW's spend on them can be split between labour and materials.</p> <p><b>CT update:</b> Thank you for the confirmation, I have confirmed in the calculation that for these categories the labour spend is excluded and therefore these payroll values are not being incorrectly included in the emissions calc</p>	<p>08/02/2023</p>	<p>13/02/2023</p>
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<p><b>CL 2.15</b></p>	<p>3</p>	<p>Cat 1</p>	<p>COINS transaction report</p>	<p>How are the VAT postings treated, are these excluded or are these correcting for errors and therefore should be included? Cost head 11613 and highlighted yellow in original COINS report provided - VAT should always be excluded for carbon accounting as the emission factors used assume no VAT</p>	<p><b>Major</b></p>	<p>Most transactions in the COINS transaction report will exclude VAT as VAT is recoverable for most elements of new build housing. For work where appliances, carpets and wardrobes are fitted, VAT is non-recoverable and therefore VAT will be included in the cost.</p> <p><b>CT:</b> as discussed, the recoverability of VAT is not relevant from a carbon accounting perspective so all VAT should be excluded, please can you take a look at the most material VAT postings and then we can review if these need removing</p> <p><b>TW update 13/02/23:</b> TW West Scotland have explained the VAT posting under cost head 11613 as follows: 'this was in connection with a historic VAT connection agreed with TW Group Tax where we had to reverse payments and re-raise the payment certificate including the recoverable VAT. There is a corresponding negative figure to give a net zero effect. Please note the actual cost on the print is net of VAT'. VAT is therefore excluded from the amount posted on the COINS transaction report.</p>	<p>08/02/2023</p>	<p>13/02/2023</p>
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CL 2.16	3	Cat 1	COINS transaction report	About 10% of the total value is negative spend, are you confident that these are refunds or corrections as previously discussed, or should the negative values be excluded to ensure we are not artificially decreasing the spend values being entered into our emissions calculation?	Major	<p>We have discussed negative spend values with our Commercial colleagues - generally, negative values appear for the following reasons:</p> <ul style="list-style-type: none"> <li>- Contracharges;</li> <li>- Reimbursements against plot budgets - these typically appear where e.g. a plot budget is prepared for connecting a plot to the water mains - once the plot is connected to the mains, the water utility will reimburse Taylor Wimpey plc a sum equal to what was budgeted for making the connection in the first place. Either way, both the original budgeted amount and the reimbursement will sum to zero, so there is no impact on overall spend.</li> <li>- Infrastructure cost transfer - this is where there is an overarching pot of monies for the development of site infrastructure (e.g. roads, sewers) on multi-phase sites. As the infrastructure at each phase is developed, the relevant sum is drawn from the overarching pot. These 'drawdowns' will appear as negative spend but will be cancelled out by actual spend on the infrastructure elsewhere. Again, there is no impact on overall spend.</li> <li>- Incorrectly allocated journals - e.g. a journal entry allocated to the wrong cost head - these are corrected elsewhere by a corresponding and equivalent amount.</li> </ul> <p>Overall, we are confident that we are not decreasing spend values artificially in the procurement spend data we have provided. In most cases any negative spend is cancelled out by a corresponding equivalent amount elsewhere in the dataset, leading to no overall impact on spend values.</p>	31/01/2023	14/02/2023
CL 3.1	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Foundations" tab under the "Foundations Insulation" column, there is a large spread of values ranging from £3.50 (Cell I13) to £27 (I43) for the same unit size of insulation. Is this spread in price between different suppliers normal, or are some of these values outliers that should be	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023

				excluded from the average calculation?				
CL 3.2	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Roads" tab under the "6F2/5 (crushed and imported)" column, there is a large spread of values ranging from £6 (J53) to £18 (J33) for the same unit size. Is this spread in price between different suppliers normal, or are some of these values outliers that should be excluded from the average calculation?	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023
CL 3.3	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Roads" tab under the "Kerbs (groundworker) column, there is an outlying value; where the rest of the values range from between £5-£5.81, N48's value is £12.50. Is this value an outlier that shouldn't be included in the average calculation, or is this value indicative of the potential spread in this category's price?	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023
CL 3.4	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Roads" tab under the "Concrete block paving" column, there is a large spread of values ranging from £14 (K28) to £50 (K33) for the same unit size. Is this spread in price between different suppliers normal, or are some of these values outliers that should be excluded from the average calculation?	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023

CL 3.5	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Foundations" tab under the "Ready-mix concrete for slab" column, there is a wide range of prices for the same unit of measurement, some more than double others. Is this spread in price indicative of different costs between suppliers, or should some of these be excluded from the average calculation as outliers?	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023
CL 3.6	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Foundations" tab under the "Mortar" column, there is a wide range of prices for the same unit of measurement, some more than triple others. Is this spread in price indicative of different costs between suppliers, or should some of these be excluded from the average calculation as outliers?	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023
CL 3.7	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Foundations" tab under the "Concrete blocks below DPC" column, there is a wide range of prices for the same unit of measurement, ranging from £11 (G33) to £38.95 (G3). Is this spread in price indicative of different costs between suppliers, or should some of these be excluded from the average calculation as outliers?	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023
CL 3.8	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Foundations" tab under the "Concrete floor beams and lintels" column, there is a large spread of values for the same unit of measurement, ranging from £14.50 (H8) to £45 (H13). Is this spread in price indicative of the different costs between suppliers normal or should some of these values	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023

				be excluded from the average calculation as outliers?				
CL 3.9	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Public Sewers" tab under the "Concrete sewer pipes and gullies" column, there is an outlying measurement compared to the others included in the average calculation, with D23 having a value of £19.60 whereas the others all more than double it. Do you think this figure is an outlying value that needs to be excluded from the average calculation, or are all these prices indicative of the potential variance that can be found when pricing this category and can remain in the calculation?	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023
CL 3.10	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Public Sewers" tab under the "Plastic sewer pipes and gullies" column, there is a potential outlying value; where all the other values range from between £6.50-£10, cell E38's value is £35 for the same unit of measurement. Is this result an outlier that should be removed from the average calculation, or is this value indicative of the potential spread in this category's price?	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023
CL 3.11	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Public Sewers" tab under the "Pipe-bedding aggregate" column there is a large spread of values for the same unit of measurement, ranging from £16.15 (F53) to £40 (F8). Is this spread in price indicative of costs between	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023

				different suppliers normal or should some of these values be excluded from the average calculation as outliers				
CL 3.12	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Public Sewers" tab under the "Concrete manholes" column there is a large spread of values for the same unit of measurement, ranging from £675 (G38) to £2500 (G43). Is this spread in price indicative of costs between different suppliers normal or should some of these values be excluded from the average calculation as outliers	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023
CL 3.13	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Public Sewers" tab under the "Ironworks" column there is a large spread of values for the same unit of measurement, ranging from £41 (H53) to £175 (H33). Is this spread in price indicative of costs between different suppliers normal or should some of these values be excluded from the average calculation as outliers	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023
CL 3.14	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Plot Drives" tab under the "Concrete block paving" column, there is a potential outlying value; where all the other values range from between £14.71-£19.47, cell K38's value is £50. Do you think this figure is an outlying value that needs to be excluded from the average calculation, or are all these prices indicative of the potential variance that can be found pricing this category and can remain in the calculation?	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023

CL 3.15	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Plot Drives" tab under the "Concrete edgings" column, there is a potential outlying value; where all the other values range from between £2-£2.50, cell M38's value is £12. Do you think this figure is an outlying value that needs to be excluded from the average calculation, or are all these prices indicative of the potential variance that can be found pricing this category and can remain in the calculation?	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023
CL 3.16	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Plot Drives" tab under the "6F5 (crushed and imported elsewhere)" column, there is a potential outlying value; where all the other values range from between £10-£18, cell J58's value is £6. Do you think this figure is an outlying value that needs to be excluded from the average calculation, or are all these prices indicative of the potential variance that can be found pricing this category and can remain in the calculation?	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023
CL 3.17	3	Cat 1	Groundworker Summary Survey_v4_30.1.23	On the "Plot Drainage" tab under the "Pipe-bedding aggregate" column there is a large spread of values for the same unit of measurement, ranging from £16.15 (E58) to £40 (E13). Is this spread in price indicative of costs between different suppliers normal or should some of these values be excluded from the average calculation as outliers	Minor	We believe the prices supplied to us by groundworkers are indicative of the variance of prices in this product category. Further to this, the product value is generally inexpensive and the variance in prices are within a reasonable range with no outliers being obviously erroneous. This has led us to retain these values in the average price calculation.	02/03/2023	08/02/2023

CL 3.18	3	Cat 11	Differences between TW DER and government website	Why are the figures on the government website lower than the DER?	<b>Major</b>	<p>The figures stated on the government’s website are sourced from the Energy Performance Certificate (EPC) worksheet, whereas our figures are sourced from the DER worksheet. Compliance with Part L Building Regulations is demonstrated through the DER and DFEE worksheets, which is why we have to use these worksheets rather than the EPC worksheet. (DFEE = Dwelling Fabric Energy Efficiency Rate.)</p> <p>The difference between the EPC worksheet and the DER worksheet can be traced to table 5 of the SAP Manual – see below. Table 5 models internal heat gains in a dwelling – internal heat gains are essentially the quantity of heat inside a dwelling measured in kWh. The EPC worksheet models ‘typical gains’, whereas the DER worksheet models ‘reduced gains’.</p> <p>‘Typical gains’ result in additional beneficial heating gains in a dwelling from appliances, cooking, metabolic gains and so on. This reduces the demand for heat that must be satisfied by the boiler. Reduced gains are a more conservative modelling approach because they result in a higher forecasted space heating requirement, which then leads to a higher emission rate.</p> <p>This explains why the government’s DER figures are consistently lower than our figures.</p>	02/03/2023	08/02/2023
CL 3.19	3	Cat 1	1.0	Two of the procurement samples that we selected to test have a date on the screenshot of 2021 (see next tab for which these are) - these should have been recorded in 2021 so can you confirm 1) whether they were also recorded in 2021 and therefore are being double counted 2) if not included in 2021 why have	<b>Minor</b>	The selected transactions would not have been recorded in the 2021 procurement spend data and so there is no double-counting. They have been included in the 2022 data because of the date that the payments have been processed through the COINS system. For the selected transaction in TW North Yorkshire, the transaction date and financial period end date are both in 2022 and therefore appeared in the 2022 numbers when we pulled the procurement spend data from COINS. For TW London, I am unable to find the transaction but it is likely that the transaction has fallen into the January 2022 reporting period.	13/02/2023	13/02/2023



				they been included in 2022 and how are you comfortable the 2022 data is not materially inflated by including 2021 figures?		We anticipate that transactions from the previous December will appear in the procurement spend data for the footprinting year on a rolling basis - i.e. our 2023 procurement spend data will include some transactions from December 2022, and our 2024 procurement spend data will include some transactions from December 2023, and so on. We therefore are confident that the spend is being captured. In addition, we do not anticipate that this 'residual' December spend will inflate our overall spend figures materially - these transactions are typically year-end transactions where invoices are received just before or during the Christmas break and are very unlikely to amount to more than 0.5% of our overall procurement spend (i.e. approximately £12,500,000). We note that the transactions sampled total £11,044 or 0.00044% of our overall 2022 procurement spend.		
CL 3.20	3	Cat 11		In the Cat 11 calculations the JVs and a TW central BU - why is this? Does the procurement data given include JVs?	Minor	Four JVs (Auden and Chobham Manor are run by BUs and TW has operational and financial responsibility), the two others are in London (Greenwich MV and Winstanley YR, and are legacy TW central London - TW central London did not act as principle contractor but appointed another company - this has been excluded from these sites as they are not principle contractors on this site ) - can't practically collect data - not included in S1 and S2 either - some spend will be in the procurement data but it is immaterial Do have financial control of the sites but not operational control In terms of sq footage of completed properties they are 0.5% of sq ft completions and so are immaterial - to add OFI about understanding control approach and collecting data - OFI has been raised in relation to this.	14/02/2023	15/02/2023
CL 3.21	3	Cat 1		I have been performing sensitivity analyses and it is unfortunately not as straight forward as hoped due to difficult identifying average prices -	Major	We are confident that the DER data are representative of Taylor Wimpey plc's housebuilding activities for three reasons: - the BUs selected (TW East Scotland, TW West Midlands and TW Yorkshire) are all out and out volume housebuilding businesses with a large proportion of 'standard' Taylor Wimpey plc build - i.e. houses that are finished to Taylor Wimpey plc's national house type specification; - the corollary of the above is that a small proportion of the completions built by our selected BUs are 'bespoke product' that deviate from our standard specification; and - TW East Scotland builds all its houses in timber frame and so the DER data from East Scotland is a good representation of the energy use profile of the timber frames homes TW builds.	14/02/2023	22/02/2023



## Opportunities for improvement log

Reference	Scope	Emissions source	Reference file	Finding	Severity	Date opened
OFI 0.1	3	1.0	Known quantity approach	When an extrapolation is being done due to missing data, ensure that the extrapolation is done based on the latest available information and is updated if the underlying data is updated	Minor	15/02/2023
OFI 0.2	3.0	1.0	Known quantity approach	Data for the final weeks of December has not been collected on the grounds that minimal orders are made and therefore any potentially missing data is expected to be immaterial, however best practice would be to confirm the quantities in the final weeks of December to ensure there were no material orders	Minor	15/02/2023
OFI 0.3	3.0	11.0	Energy usage from appliances	In the appliance energy usage calculation it has been assumed that all houses have the same appliance fit out as a standard 1-2 bedroom house without any additional appliances, however it is known that the 30% of houses which have 3-4 bedrooms have additional appliances fitted as standard, and also that house buyers can choose to add on additional appliances when they purchase their house. It has been assumed that the impact of both of these is immaterial, however a more accurate calculation of appliance emissions would quantify and factor in both of these scenarios using the best available data	Minor	15/02/2023
OFI 0.4	3.0	All	NA	Central London is now considered within the Taylor Wimpey Plc Group organisational boundary due to the merger between the Central London and London business units during 2021. As this is the case emissions from Central London and its associated joint ventures should be included with the group S1, 2 and 3 emissions for Taylor Wimpey Plc Group. Some expenses have been included within the procurement spend data for Cat 1 however this is minimal, however Taylor Wimpey have been unable to gather much data from these sites as they are not the principal contractor (despite having financial control). In terms of sq ft of completed properties, these BUs contribute to 0.5% of total completions in the year and so are likely to be immaterial across all categories, however it would be best practice to collect and quantify the data to determine if it is material enough to be included.	Minor	15/02/2023

See recommendations below.

## Conclusions

Based on the work undertaken and the evidence provided by Taylor Wimpey plc, it was confirmed with Limited Assurance that nothing has come to our attention that leads us to believe that the organisation's CO<sub>2</sub>e emissions have not been properly prepared, in all material respects, in accordance with the criteria defined in the GHG Protocol.

- Scope 3: 2,358,197 tCO<sub>2</sub>e

## Recommendations

The following recommendations have been identified from the suspended Corrective Action Requests, Clarification Requests and Opportunities for Improvement listed above. These should be acted upon and/or resolved by the time of the next GHG emissions verification audit.

Reference	Scope	Recommendation
R1	3, Category 1	When an extrapolation is being done due to missing data, ensure that the extrapolation is done based on the latest available information and is updated if the underlying data is updated.
R2	3, Category 1	Data for the final weeks of December has not been collected on the grounds that minimal orders are made and therefore any potentially missing data is expected to be immaterial, however best practice would be to confirm the quantities in the final weeks of December to ensure there were no material orders.
R3	3, Category 11	In the appliance energy usage calculation it has been assumed that all houses have the same appliance fit out as a standard 1-2 bedroom house without any additional appliances, however it is known that the 30% of houses which have 3-4 bedrooms have additional appliances fitted as standard, and also that house buyers can choose to add on additional appliances when they purchase their house. It has been assumed that the impact of both of these is immaterial, however a more accurate calculation of appliance emissions would quantify and factor in both of these scenarios using the best available data.
R4	3	Central London is now considered within the Taylor Wimpey plc Group organisational boundary due to the merger between the Central London and London business units during 2021. As this is the case emissions from Central London and its associated joint ventures should be included with the group S1, 2 and 3 emissions for Taylor Wimpey plc

		<p>Group. Some expenses have been included within the procurement spend data for Category 1 (which are minimal), however Taylor Wimpey plc have been unable to gather much data from these sites as they are not the principal contractor (despite having financial control). In terms of sq ft of completed properties, these BUs contribute to 0.5% of total completions in the year and so are likely to be immaterial across all categories, however it would be best practice to collect and quantify the data to determine if it is material enough to be included.</p>
R5	3, Category 3	<p>Ensure completeness of Scope 1 and 2 consumption data such that the activity data used to calculate Scope 3 Category 3 is complete.</p>
R6	3, Category 3	<p>In order to improve the completeness and accuracy of the fuel activity data used as an input into Category 3, the following recommendations were raised as part of the Carbon Trust's Scope 1 and 2 Verification which are pertinent to the Scope 3 Verification. Please refer to the Scope 1 and 2 Verification Report for a full list, however key recommendations are as follows:</p> <ol style="list-style-type: none"> <li>1) To reduce the proportion of estimated data within the footprint, consider connecting all offices which are currently unmetered to metered electricity and gas supplies such that consumption at each office can be more accurately monitored and recorded.</li> <li>2) The evidence that has been provided to corroborate the category B electricity and gas consumption (i.e. consumption that occurs at plots between connection to the grid and house transfer of ownership) needs to be improved for future verifications. The consumption entered into TW's reporting is dependent on the process of a sales executive taking a reading and emailing the reading for record. This process is liable to human error.</li> <li>3) Taylor Wimpey plc should consider improving the recording of fleet emissions data by considering transitioning to processes that record actual fuel consumption/mileage.</li> <li>4) As a result of the site visit to Shaw Valley Newbury, it was discovered that butane and propane were being purchased and burnt on site but these fuels were not being reported in the footprint due an error in logging the fuels purchased. Taylor Wimpey plc should make sure that all staff are aware of how to record fuel purchases at each site such that AJR have full visibility of what is being used and can ensure that</li> </ol>

		<p>there are no omissions from the footprint which could lead to material misstatement.</p> <p>5) Taylor Wimpey plc should consider having members of each site team take photos of the plot electricity and gas meter readings at the end of each quarter such that consumption can be tracked throughout the year rather than just upon handover.</p>
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