



Carbon Footprint Verification Report for IPU Group Ltd

Assessment Date: February 2016

Executive Summary

Carbon Footprint Ltd has audited IPU Group's annual carbon footprint calculation through a review of the following areas:

- Scope of calculation, including appraisal boundaries and exclusions
- Data collection process & quality control procedures
- Input data sets, any missing data, estimations made and assumptions
- Calculation methodology and conversion factors used
- Results
- Interpretations of results

Key points raised in the review:

- Flight calculations need to take account of the Defra emissions factors and have been updated accordingly. Flight class should also be included in the 2016 footprint.
- A focus on Scope 3 emission for 2016- grey fleet separated from the vehicles calculation; purchased electricity transmission and distribution and air conditioning.

In our opinion, appropriate methodologies have been used (we have made minor amendments) and the carbon footprint assessment results are satisfactory accurate subject to the boundary conditions that we have assessed.

Verification Details

| | |
|---------------------------------------|--|
| Customer organisation: | IPU Group |
| Customer representative: | Keith Box, Group HSEQ Manager |
| Date of verification: | 18 th February |
| Carbon Footprint verifier: | Katie Elmer Environmental Consultant, Carbon Footprint Ltd Contact: 01256 345645 katie.elmer@carbonfootprint.com |
| Period the carbon footprint covers: | 1 st January 2014 to 31 st December 2014 |
| Methodology used for the calculation: | Defra, 2013. Environmental Reporting Guidelines: Including mandatory greenhouse gas emissions guidance. Defra/DECC UK Government conversion factors for Company Reporting. |

Quality Control

| | |
|----------------------|------------------|
| Report issue number: | 1.0 |
| Date: | 23 February 2016 |
| Report produced by: | Katie Elmer |
| Report reviewed by: | Iain Forsyth |
| Director approval: | John Buckley |

Boundary Assessment

| ITEM | RESULTS | COMMENTS |
|----------------------------------|--|--|
| Scope of carbon footprint | One site and associated transport | <p>One site (ca 74 employees, around 40/50 on site permanently)- carbon footprint likely to go down since:</p> <ul style="list-style-type: none"> • Ground care division was sold (January). • 3 Nissan Navarra Vans have left the fleet. <p>The actual verified footprint based on the data given is 379.4 CO₂e (slightly lower than IPU's: 402.3- but due to a few minor points explained below).</p> |
| Boundary Approach | Operational | |
| Scope 1 | <p>Includes:</p> <ul style="list-style-type: none"> • Gas (central heating and paint room) • Company owned vehicles (cars and vabns) | <p>Gas figures are fairly accurate.</p> <p>Vehicles are higher than the verified calculations (it is most likely due to the fact that grey fleet, scope 3, has been calculated as scope 1 and perhaps a need to double check engine size etc- this should be rectified going forward).</p> <p>Refrigerants are onsite (2 air conditioning units). It is recommended that these are included going forward (obtain top-up records).</p> |
| Scope 2 | <p>Includes:</p> <p>Purchased electricity</p> | <p>This is accurate, however the verified results are slightly higher- electricity transmission and distribution (scope 3) has not been accounted for here. (It is recommended in the next assessment that transmission and distribution is included with the overall electricity figure).</p> |
| Scope 3 | <p>Includes:</p> <p>Flights</p> <p>Excludes:</p> <p>Taxis and rail Grey fleet (as discussed) Electricity transmission and distribution (as discussed).</p> | <p>The original flight calculation was lower than the verified figure- this has now been rectified- it is recommended that the latest Defra emissions factors are used for flights and the destination analysis is accurate. Furthermore, the flight class should also be obtained, since this has an impact on the overall emissions (this was recorded and assessed as unknown for the 2015 assessment).</p> |

| ITEM | RESULTS | COMMENTS |
|------|---------|---|
| | | Taxis/rail (e.g. to and from airports, could also be assessed going forward). |

Overall Comments on Boundaries

The results of IPU's calculation and the verified (adjusted) calculation are presented in the table below:

| IPU Calculation | | | | | Verified/Actual | | | | | | |
|-----------------|------|---------|--------|--------------|-----------------|------|------|------|------|--------|--------------|
| Electricity | Gas | Vehicle | Flight | Total | Electricity | Gas | Van | Car | Grey | Flight | Total |
| 115.6 | 62.8 | 191.5 | 32.4 | 402.3 | 125.3 | 61.2 | 77.4 | 45.9 | 16.0 | 53.6 | 379.4 |

IPU have captured scope 1 and 2 data associated with their operations and is fairly accurate. The verified and adjusted footprint is slightly smaller, this is as a result of Key observations and recommendations:

- Electricity needs to include transmission and distribution.
- Grey fleet should be considered separately (scope 3) under vehicles. Need to check the size etc of cars and vans too.
- Flights- use latest emission factors; double check destinations; obtain the class of flight.
- Include air conditioning under scope 1.
- Consider rail and taxi journeys.

Data collection process & quality control

Data has been obtained from meter readings, service records, invoices, expenses; reports from travel agents.

Data Source and Accuracy Assessment

| Data | Source | Materiality (% of overall emissions) | Accuracy |
|-----------------------------|----------------------------------|--------------------------------------|-----------|
| Other freight (van & lorry) | Internal records | 37% | Good |
| Electricity | Meter readings | 33% | Excellent |
| Gas | Meter readings | 16% | Excellent |
| Flights | Report provided by Flight Centre | 14% | Good |

Comments on the overall accuracy of the data used in the assessment

The input datasets for these are all quite accurate. As discussed previously, accuracy can be improved through the following measures:

- Electricity needs to include transmission and distribution.
- Grey fleet should be considered separately (scope 3) under vehicles. Need to check the size etc of cars and vans too.
- Flights- use latest emission factors; double check destinations (www.airportdistance.com); obtain the class of flight from your travel operator.

Overall, the assumptions made were reasonable and estimations were satisfactorily accurate.

Emissions Factors Used

All the emission factors used related to carbon dioxide equivalent. Where possible the most accurate emission factors should be used (latest flight for example and to include class of flight).

Calculation Review

| System / Software used |
|------------------------|
| Excel spreadsheets |

| Checks of individual data calculations |
|--|
| All Calculation methodology and excel formulas were checked for electricity transmission & distribution, gas, vehicles and air freight. These were recalculated where necessary. |

Summary of Results: IPU

| Element | tCO ₂ e |
|--------------|--------------------|
| Scope 1 | 254.3 |
| Scope 2 | 115.6 |
| Scope 3 | 32.4 |
| TOTAL | 402.3 |

Summary of Results: Verified/Recalculated

| Element | tCO ₂ e |
|--------------|--------------------|
| Scope 1 | 184.5 |
| Scope 2 | 125.3 |
| Scope 3 | 69.6 |
| TOTAL | 379.4 |

Intensity

| Intensity Metric | Value |
|--------------------------------|--------------------|
| tCO ₂ e/£million TO | To be recalculated |
| tCO ₂ e/employee | Not calculated |

| Summary comments on the calculation accuracy |
|--|
| Through discussion on the calculation methodology and spot checks of the calculations, some minor recalculation were made. |

Conclusions

IPU has a good system for collating and monitoring their data. Appropriate emission factors and methodologies were used to calculate the carbon footprint.

Based on the results of our verification process, Carbon Footprint Ltd has found no evidence to suggest that the GHG emissions assertion:

- is not materially correct;
- is not a fair representation of the GHG emissions data and information; and
- is not prepared in accordance with the Defra guidelines.

Recommendations for future improvements

- Flight calculations need to take account of the Defra emissions factors and have been updated accordingly. Flight class should also be included in the 2016 footprint.
- A focus on Scope 3 emission for 2016- grey fleet separated from the vehicles calculation; purchased electricity transmission and distribution and air conditioning.