



Green Energy Partners

Verification of emissions reporting HEROts_c

Prepared by: Alexander Batten

July 2009

Verification statement

Green Energy Partners Ltd. have undertaken an independent verification of the greenhouse gas (GHG) emissions reporting of HEROtsc. The verification has been conducted in line with the GHG Reporting Protocol and its five principles:

- *Relevance*
- *Consistency*
- *Transparency*
- *Accuracy*
- *Completeness*

The emissions report is for the period from 1st April 2008 to 31st March 2009. The company has attempted to capture all Scope 1 and Scope 2 emissions and the major Scope 3 emissions (defined as optional by the GHG Protocol) pertinent to the company's operations including those from water consumption, employee commute, business travel and waste to landfill.

Since producing the first HEROtsc carbon footprint report in the previous year (the baseline year), HEROtsc have taken several important steps to improve the management of the carbon footprint and overall environmental impact of the company. This included creation of an Environmental Policy which commits to achieving specific environmental and carbon reduction targets and is signed off by the CEO. Oversight of the policy rests with the 'Green Team' which comprises a company Director and other key individuals from Operations, IT and Facilities management.

Additionally HEROtsc have appointed a new role of Environmental Coordinator who has responsibility for collating emissions data and producing the annual footprint report. This has led to improvements in the data capture process, delivering a more accurate and complete footprint report in comparison to the previous year e.g. through utilising half hourly electricity data and conducting an employee survey to improve the employee commute data. Other improvements have been made in line with recommendations made in the associated verification report of the baseline report.

There remain some issues with the quantification of the quantity and types of waste sent to landfill and employee business travel.

It is recommended HEROtsc consider expanding the Scope 3 reporting to include emissions associated with the supply chain in future reports.

It is concluded that the footprint report contains no material errors, and presents a sufficiently complete and accurate assessment of the emissions.

Contents

1. INTRODUCTION	4
2. SCOPE OF VERIFICATION	4
2.1. Scope of works.....	4
2.2. Data reviewed	4
3. RESPONSIBILITY FOR GHG REPORTING	4
3.1. Company structure	4
3.2. Environmental responsibility.....	5
4. DATA COLLECTION, RECORDING AND PROCESSING	5
5. ANALYSIS OF EMISSIONS CALCULATIONS	8
6. ANALYSIS OF METHODOLOGY	8
7. MATERIALITY THRESHOLD	10

1. Introduction

HEROtsc is a part of the Hero Group which comprises 20 companies worldwide and employs over 27,000 people. HEROtsc was originally formed in 1994 and now provides contact services via 8 UK-based call centres and 1 in India, employing over 2500 people with 2177 based in the UK. In accordance with development of HEROtsc's Environmental Policy the company has committed to monitoring and reporting its carbon footprint annually.

HEROtsc have commissioned Green Energy Partners Ltd. to verify the findings of the emissions report covering the period April 2008 to March 2009. This follows HEROtsc's first footprint report of the previous financial year which has been set as the footprint baseline.

The verification exercise was conducted in July 2009 in accordance with the guidelines and processes set out in the GHG Protocol. The aim of the verification process was to assess whether the emissions reported by HEROtsc presented a true reflection of the actual emissions or whether errors and/or omissions had resulted in a *material discrepancy*. This required making value judgements on the accuracy and completeness of the emissions data and efficacy of the methods used to gather and process emissions data.

2. Scope of verification

2.1. Scope of works

The verification process involved a thorough examination of the methods used to record, collate, calculate and audit GHG emissions reporting, including:

- Review of the environmental reporting structure
- Analysis of the process of recording and collating data on all company activities which contribute to GHG emissions
- Analysis of how GHG emissions are calculated from that data
- Establishment of a Materiality Threshold and determination of whether this was applicable to any aspect of the report
- Formulation of recommendations for improvements to the GHG reporting process
- Provision of a statement of verification

2.2. Data reviewed

HEROtsc have reported emissions on all three operational boundary classifications as per the GHG protocol:

Scope 1 - direct GHG emissions

Scope 2 - electricity indirect GHG emissions

Scope 3 - other indirect GHG emissions (optional)

The data reviewed was mostly contained in spreadsheets used for calculating GHG emissions. Some raw data e.g. scanned copies of utility bills and outputs from the finance database were also reviewed.

3. Responsibility for GHG reporting

The Chief Executive Officer has overall responsibility for delivering HEROtsc's Environmental Policy which includes a commitment to monitor and report GHG emissions annually. The Environmental Coordinator has sole responsibility for producing the annual GHG footprint report.

3.1. Company structure

The HEROtsc board consists of:

- David Turner - Chief Executive Officer

- Dean Hartley - Chief Financial Officer
- Harry Hogg - Commercial Director
- Mark R Beattie - Business Development Director
- Niall Gallacher - IT Director
- Jane Grey - Operations Director

The role of the board is to provide leadership and judgement on company strategy (including environmental policies), performance, resources and standards.

3.2. Environmental responsibility

The CEO has recognised the need to develop a robust environmental strategy and assigned overall responsibility for environmental management to the Commercial Director. Harry Hogg heads up the Green Team which includes the following members:

- Harry Hogg - Commercial Director
- Glyn Beech - Group H&S Manager
- Rob Campbell - Environmental Coordinator
- Richard Bradley - IT Manager
- David Robertson - Head of Facilities
- Jane Grey - Operations Director

The Green Team acts on behalf of board to set the company environmental policies and objectives, implement projects and initiatives to achieve those objectives and to ensure that the company meets all statutory requirements of applicable environmental legislation. The team currently meets on a monthly basis.

4. Data collection, recording and processing

This section describes the current procedures employed to record, collate and process the data used as the basis of the GHG report. The emissions sources as reported and are classified by the following symbols:



No significant errors found in the reported emissions



Significant likelihood of errors in the recording, processing or reporting of emissions



Emissions reported but the source data from which the emissions calculation is made is incomplete; or where an emission source exists but was not included in the reporting process



Gas and electricity

Rob Campbell (Environmental Coordinator) has access to Day+1 half hourly data from the electricity supplier for the six sites which are currently half hourly metered: Aviemore, Dunoon Caledonia House, Dunoon Waverley House, Dearne Valley, Falkirk and Rothesay. The consumption data used in the report was downloaded from the site in .csv format. Electricity consumption for the remaining sites (Kilmarnock, Greenock Holt Court and Livingston) and gas consumption (Dunoon Caledonia House, Dearne Valley, Falkirk, Greenock Holt Court) was compiled by the Rob Campbell based on utility bills, scanned and placed on a shared drive by Lex Elliot and Umair Tahir (junior financial analysts) in Falkirk.

As part of an initiative to improve energy consumption monitoring Rob Campbell began collating utility (gas, electricity and water) meter readings from all non-half hourly meters on a weekly basis since March 20th 2009, however this data was not used to validate the billing data.



Due to an administrative error on behalf of the energy supplier **Kilmarnock** was not invoiced for gas during the reporting period. The only gas appliance is a large warm air heater system mounted on the ceiling in the call hall which, according to the facilities officer at the site was used from November to March. From the 16th Jan 2009 the gas meter reading was checked and recorded on a daily basis. The consumption for the previous months was estimated based on the average usage during the recorded months.

HEROtsc have placed a request with their suppliers put Kilmarnock and Greenock Holt Court on HH metering.



The **Greenock Victory Court** office accommodates around 15 staff and is in a building which contains other company offices. The landlord pays for the gas and electricity consumption of the building and thus the gas and electricity emissions for this site have not been reported.

Recommendation: *A number of the non-HH utility bills were based on estimated readings so it is recommended that the weekly meter read data is used as the primary source for quantifying consumption and calculating emissions. HEROtsc should negotiate replacing the existing analogue gas meters with digital pulse meters with their suppliers to enable automated meter reading.*



Emergency power generators

Each site has a diesel generator which provides emergency power in the event of mains electricity failure. These are run for a short period (e.g. 15 mins) each month as part of the maintenance routine and during the reporting period only the Rothesay generator was required to provide power for a 4-hour period. The fuel level of each generator is topped up periodically but the quantities are currently not recorded. The consumption has been estimated based on the number on the hours of operation taken from the service record of each and an estimated rate of consumption.

Recommendation: *It is recommended that the quantity of fuel consumed by the generators is recorded in the service record of each.*



Company van

A single company van is used for logistical transport between sites, primarily by Pat Sludden, Facilities Officer, based in the Falkirk office.

A record of weekly mileage is recorded in the vehicle log book and since December 2008 the fuel cost and quantity was also recorded. The emissions have been calculated based on the mileage rather than actual fuel consumption

Recommendation: *for future reports it is recommended that fuel consumption is used as the basis for calculating the emissions from the van as this is more accurate than using vehicle mileage.*



Fugitive emissions

Refrigerant gasses are emitted from AC systems over time and require periodic recharging when the refrigerant levels fall below a certain level. The amount emitted depends on the age and condition of the system and the usage. Each AC system has an annual service check with ad hoc maintenance performed e.g. when systems develop a fault. The recharge quantity is stored in the service records of the AC service contractor Elyo. The service records for the emissions reporting period and were collated by the Rob Campbell.

As the emissions report uses the recharge quantities of those systems recharged during the emissions reporting period this does not consider the elapsed time since the last recharge nor capture the emissions of other systems.

Recommendation: For each AC system the time between recharging should be captured so that the quantity for the reporting period can be calculated on a pro rata basis. In cases where an AC system has not been recharged during the reporting period an estimate should be made based on the recharge history of that system.



Employee commute

HEROtsC have made considerable effort to quantify the employee commute. Niall Gallacher (IT Director) uses a management information software package to estimate the employee commute distances via the following:

- Employee post codes and weekly contract hours data is extracted from the HR database
- A mapping software tool is used to calculate the point to point distance from the employee post code to the place of work post code
- This is then increased by 20% to take into account the actual commute route (based on a sample of employees actual commute route) and multiplied by an algorithm to account for the curvature of the Earth
- Based on this data a total annual commute distance for each site was calculated and multiplied by a site-specific emissions factor

An online employee survey was launched from 1st-15th June 2009 to capture information on the mode of transport used by employees. This received a 30% response rate and the resulting proportion of employees travelling to work by car, bus, foot etc was used by Rob Campbell to estimate a per site emissions factor.

Recommendation: It is likely that staff travelling by forms of transport which produce emissions (car, train bus, etc) will travel proportionally a greater distance than those commuting by foot or bicycle however it appears that this sensitivity has not been accounted for in the site emissions factor calculation thus the emissions may be underestimated. It is recommended that future employee commute surveys attempt to capture the mode of transport and the commute distance to increase the validity of the data.



Employee travel

Employee travel whilst on HEROtsC business is recorded via a travel booking spreadsheet. The majority of travel is purchased in advance by secretarial staff at the Falkirk site. Some travel is paid for directly by staff e.g. at the time of travel and subsequently claimed back via expenses. The number of train journeys and flights is recorded in the finance system along with the cost but the journey details are currently entered in an ad-hoc and inconsistent manner in a spreadsheet cell. Rob Campbell went through a manual process of checking each entry in the spreadsheet for the reporting period and estimating the journey distance and calculating the emissions from this based on the mode of transport.

Journeys made by staff in their own vehicles are recorded by via the expenses system where an individual makes a claim for the number of miles travelled. The emissions were calculated based on the total miles claimed and using an average car emissions factor.

Taxi hire expenses are recorded in the finance database but journey details are not recorded. The emissions have been estimated based on the cost of the taxi fare.

Car hire expenses are also recorded in the finance database but mileage/fuel consumption is not currently recorded. Rob Campbell has estimated the emissions based on the car hire cost and the travel description in the booking spreadsheet.

Recommendation: journey details should be recorded in a standardised format e.g. there should be separate 'from' and 'to' columns. If possible the total journey distance should be recorded. A system of capturing the mileage covered in hire cars and vans should be implemented e.g. via the hire purchase

receipt or it may be possible to request this information from the car hire company. When claiming taxi journeys claimants should be asked to enter the approximate journey distance. As the majority of business travel is by a relatively small number of staff; the necessity for recording of individual business miles could be presented to staff in terms of fulfilling e.g. HEROtsc's carbon footprint reporting and CSR commitments.



Water

Scottish Water invoice quarterly for metered water usage at all HEROtsc's Scotland sites and Yorkshire Water invoice every two months for supply to Dearne Valley. The amounts for the reporting period were collated and transferred to a spreadsheet by Lex Elliot and Umair Tahir. As mentioned above the water meters are also now checked on a weekly basis and the figures collated by Rob Campbell (however note that two of the meters are inaccessible).

Recommendation: Water meter readings should be used as the primary source for quantifying consumption and calculating emissions where possible and cross referenced with bills. HEROtsc should request their water suppliers replace the existing analogue meters with digital pulse meters to enable automated meter reading.



Waste to landfill

Waste sent to landfill is collected by skip at each site. Each site has number of skips of a certain size and an uplift schedule agreed with the refuse contractor. The frequency of uplift and size of container(s) is included on the contract and was collated by Rob Campbell but there is no record of the weight or waste type. Rob Campbell undertook a survey to estimate the average fullness of each skip and also weighed a sample of waste in order to calculate the average density; however a detailed study of the types of waste was not conducted.

It was noted that HEROtsc are currently in the process of changing waste contractors and have plans in place to separate waste types at source.

Recommendation: HEROtsc should ensure the new supplier weighs the waste and makes this information available.

5. Analysis of emissions calculations

Data used to generate emissions totals is processed in a straightforward way in a spreadsheet thus there is only a small chance of incurring errors e.g. through entering incorrect formulae or incorrectly transcribing data from the source to calculation sheets. Ideally spreadsheets should use a consistent formatting with units included where appropriate and e.g. colour coding to distinguish between raw data, user inputs and calculated cells.

Currently all data worksheets pertaining to each emission source for the emissions period are transferred to a calculation spreadsheet which contains a summary emissions calculation page and detailed per scope and per site emission. On the calculation page each emission source is listed along with the relevant units and grouped by the protocol scope. A separate column shows the conversion factor used to convert the totals to kgCO₂ and tonnes CO₂ is also displayed. The total quantity for each emission source references the total in the corresponding source sheet.

6. Analysis of methodology

The reporting methodology used by HEROtsc is closely aligned to the requirements of the GHG Protocol and although there are several shortfalls with regards the coverage of the raw data, all principle sources of emissions appear to have been considered - including optional Scope 3 sources. Reasonable estimates have been made where raw data is incomplete or missing. This section gives advice on the requirements of the Protocol and also highlights where HEROtsc should improve their methodology.

A credible GHG emissions inventory appropriately reflects information that adheres to five guiding principles:

Relevance - Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves decision-making needs of the users - both internal and external to the company

Completeness - Account for and report on all GHG emission sources and activities within the chosen inventory boundary

Consistency - Use consistent methodologies to allow meaningful comparisons of emissions over time. Transparently document any changes to the data, inventory boundary, methods or any other relevant factors

Transparency - Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.

Accuracy - Ensure that the quantification of GHG emissions is systematically as close to the actual emissions as far as can be judged and uncertainties reduced as much as practicable.

The table below provides a summary of the key elements expected in an emissions report and reviews the extent to which HEROtsc are fulfilling each.

GHG Protocol required element		HEROtsc performance
1	Outline of organisational and operational boundaries	Clearly defined at the start of the report, however, it is recommended that explicit mention is made regarding staff at the Erskine site with a justification for omitting these
2	Reporting of all Scope 1 and Scope 2 emissions	Yes but accuracy of raw data needs improvement
3	Separate reporting for each scope	Yes
4	Reporting period covered	Yes
5	Confirmation of base year and emissions profile over time provided	Yes
6	List of specific exclusions	Yes
7	Methodologies for calculations and reference to calculation tools	Yes, however it is recommended that the methodologies are described in more detail than currently recorded in the <i>Comments</i> column in the "Assumptions and factors used in calculation of GHG emissions" table.
8	Clarification of reasons for any base year recalculation	N/A
9	Emissions from biomass/biofuels reported separately	N/A
10	Reporting of all six GHGs separately	Yes, all applicable GHGs have been reported on

7. Materiality threshold

The GHG Reporting Protocol principle of completeness requires that all relevant emissions sources within the chosen inventory boundary are accounted for. The Protocol suggests as a rule of thumb that any error exceeding 5% of the total inventory for the part of the organisation being verified should be considered materially misleading.

The conclusion of the emissions verification process is that there are no material errors in the emissions report.

- The total GHG emissions reported is 5929 tonnes CO₂e meaning that a material error would correspond to 296 tonnes CO₂
- The omission of the Greenock Victory utilities are likely to be well below this level
- There is significant uncertainty over the weight of the waste to landfill refuse however an error of 50% in this calculation would amount to 196 tonnes CO₂ and so it should not be considered to be material
- Emissions from car and taxi hire are calculated at 89 tonnes CO₂ so again a significant error in this calculation is unlikely to have resulted in a material error
- Electricity consumption which comprises 57% of all emissions and 89% of Scope 1 and 2 emissions are likely to be very accurate as all the main sites are half-hourly metered (except Kilmarnock and Greenock Holt Court)