

Reunert Limited

**Greenhouse Gas Assessment for the financial year ending 30 September  
2014**

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24<sup>th</sup> November 2014

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# Greenhouse Gas Assessment 1 October 2013 to 30 September 2014

## Executive Summary

The Reunert group manages a diversified portfolio of businesses in the fields of electrical engineering, information and communication technologies and defence and allied technologies.

Established in 1888 and first listed on the JSE in 1948, Reunert Limited is a leading South African company. The group is listed in the industrial goods and services (electronic and electrical equipment) sector of the JSE. The group operates mainly in South Africa with minor operations situated in Australia, Lesotho, Sweden, USA and Zimbabwe.

Reunert currently manages three main operating segments: CBI-electric, Nashua and Reutech.

This report reflects the greenhouse gas emissions of Reunert Limited for the financial year ending 30 September 2014 based on the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard<sup>1</sup> (herein referred to as the GHG Protocol).

In summary, Reunert Limited's 2013/2014 greenhouse gas emissions, by scope are recorded below:

**Table 1: Total greenhouse gas emissions by Scope**

| GHG Emissions by Scope          | metric tonnes CO <sub>2</sub> e | % increase/decrease from PFY |
|---------------------------------|---------------------------------|------------------------------|
| Scope 1                         | 7 598.51                        | -29%                         |
| Reunert Limited <sup>2</sup>    | 7 436.20                        |                              |
| Joint venture <sup>3</sup>      | 162.31                          |                              |
| Scope 2                         | 51 337.34                       | -2%                          |
| Reunert Limited <sup>2</sup>    | 46 912.73                       |                              |
| Joint venture <sup>3</sup>      | 4 424.61                        |                              |
| <b>Total Scope 1 &amp; 2</b>    | <b>58 935.85</b>                | <b>-7%</b>                   |
| Reunert Limited <sup>2</sup>    | 54 348.93                       |                              |
| Joint venture <sup>3</sup>      | 4 586.93                        |                              |
| Scope 3                         | 88 075.00                       | -14%                         |
| <b>Total Scope 1, 2 &amp; 3</b> | <b>147 010.85</b>               | <b>-11%</b>                  |

<sup>1</sup> See Appendix A.

<sup>2</sup> Includes Reunert parent company and subsidiaries under financial control

<sup>3</sup> Includes joint venture CBI-electric: Aberdare ATC Telecom Cables (Pty) Limited

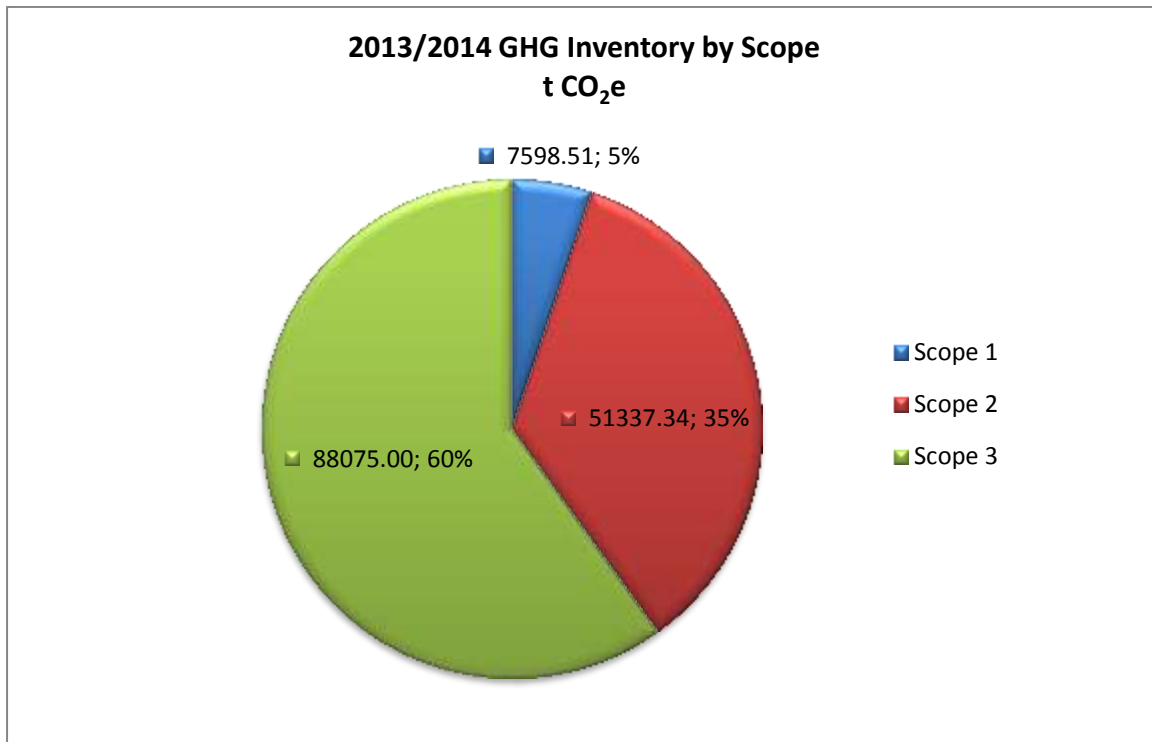


Figure 1: Graph illustrating distribution of total greenhouse gas emissions by scope

**Table 2: Greenhouse gas emissions by Scope by entity**

| GHG Emissions by entity by Scope | metric tonnes CO <sub>2</sub> e |                  |                  |                   |
|----------------------------------|---------------------------------|------------------|------------------|-------------------|
|                                  | Scope 1                         | Scope 2          | Scope 3          | Total             |
| CBI-electric                     | 4 911.63                        | 36 801.64        | 85 208.07        | 126 921.33        |
| Nashua                           | 2 173.91                        | 8 275.85         | 469.02           | 10 918.78         |
| Reutech                          | 497.51                          | 5 980.31         | 2 342.58         | 8 820.40          |
| Group Services                   | 15.47                           | 279.54           | 55.33            | 350.34            |
| <b>Reunert Limited</b>           | <b>7 598.51</b>                 | <b>51 337.34</b> | <b>88 075.00</b> | <b>147 010.85</b> |
| Percentage of scope 1 + 2        | 13%                             | 87%              |                  |                   |
| Percentage of total              | 5%                              | 35%              | 40%              |                   |

**Table 3: Total greenhouse gas emissions by emissions source**

| <b>GHG Emissions by Scope</b>   | <b>metric tonnes CO<sub>2</sub>e</b> | <b>% increase/decrease from PFY</b> |
|---------------------------------|--------------------------------------|-------------------------------------|
| Direct Scope 1 (5%)             | 7 598.51                             | -29%                                |
| Stationary fuel combustion      | 3 771.49                             | -7%                                 |
| Stationary fuel non energy use  | 14.29                                | -43%                                |
| Mobile fuel combustion          | 3 812.74                             | -43%                                |
| Indirect Scope 2 (35%)          | 51 337.34                            | -2%                                 |
| Purchased electricity           | 51 337.34                            | -2%                                 |
| <b>Total Scope 1 &amp; 2</b>    | <b>58 935.85</b>                     | <b>-7%</b>                          |
| Indirect Scope 3 (40%)          | 88 075.00                            | -14%                                |
| Material use                    | 84 481.80                            | -11%                                |
| Water supply                    | 126.66                               | +11%                                |
| Water treatment                 | 366.06                               | -21%                                |
| Waste disposal                  | 272.04                               | -30%                                |
| Business travel                 | 2 828.44                             | -52%                                |
| <b>Total Scope 1, 2 &amp; 3</b> | <b>147 010.85</b>                    | <b>-11%</b>                         |

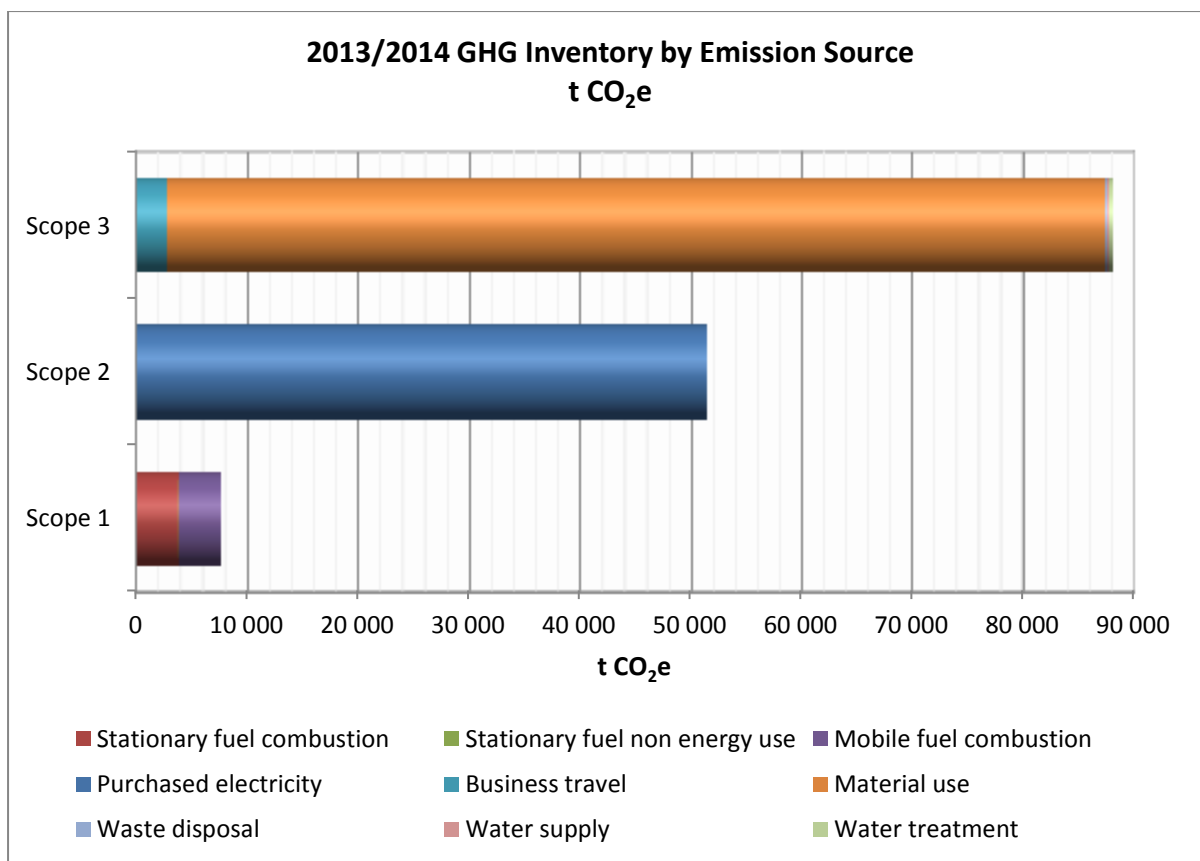


Figure 2: Greenhouse gas emissions by emission source

**Table 4: Greenhouse gas emissions intensities**

| GHG Emissions Intensities by Entity | metric tonnes CO <sub>2</sub> e |                               |                                |                    |                                |                                    |
|-------------------------------------|---------------------------------|-------------------------------|--------------------------------|--------------------|--------------------------------|------------------------------------|
|                                     | Gross emissions                 | Emissions per m <sup>24</sup> | Emissions per FTE <sup>5</sup> | Kwh/m <sup>2</sup> | Total emissions per Rm revenue | Scope 1+2 emissions per Rm revenue |
| CBI-electric                        | 126 921.33                      | 0.25                          | 56.51                          | 237.12             | 35.15                          | 11.55                              |
| Nashua                              | 10 918.78                       | 0.15                          | 4.28                           | 154.97             | 1.61                           | 1.54                               |
| Reutech                             | 8 820.40                        | 0.20                          | 11.22                          | 203.75             | 8.82                           | 6.48                               |
| Group Services                      | 350.34                          | 0.15                          | 5.94                           | 156.96             | 21.90                          | 18.44                              |
| <b>Reunert Limited</b>              | <b>147 010.85</b>               | <b>0.22</b>                   | <b>26.05</b>                   | <b>213.78</b>      | <b>12.88</b>                   | <b>5.16</b>                        |

<sup>4</sup> Square meterage intensity includes stationary fuel combustion, stationary non energy fuel use and purchased electricity only.

<sup>5</sup> FTE made up of permanent employees only.

**Table 5: Greenhouse gas emissions totals by greenhouse gas<sup>6</sup>**

| <b>Emissions by greenhouse gas</b>     | <b>metric tonnes CO<sub>2</sub>e</b> |                       |                       |
|--|--------------------------------------|-----------------------|-----------------------|
|  | <b>CO<sub>2</sub></b>                | <b>CH<sub>4</sub></b> | <b>N<sub>2</sub>O</b> |
| Scope 1 direct emissions               | 7 572.02                             | 9.83                  | 16.67                 |
| Scope 2 indirect emissions             | 51 337.34                            |                       |                       |
| <b>Total Scope 1 &amp; 2 emissions</b> | <b>58 909.36</b>                     | <b>9.83</b>           | <b>16.67</b>          |

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<sup>6</sup> Individual greenhouse gas factors not universally available for scope 3 emission sources.

## Inventory boundary and scope of assessment

In accordance with the GHG Protocol, the organisational boundary and operational scope of the assessment are defined in the tables below.

### Organisational boundary

**Table 6: Organisational boundary**

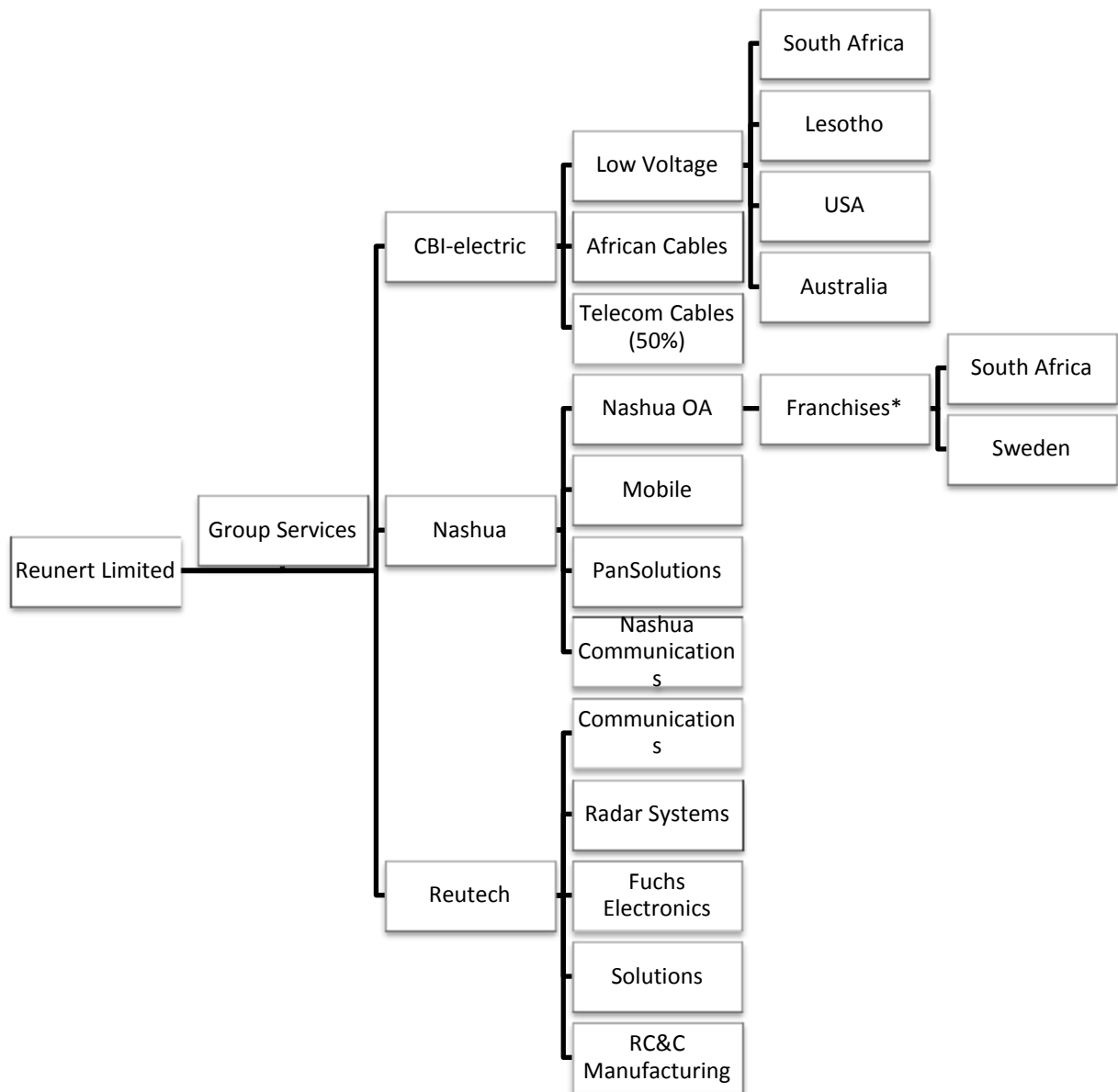
|                                |  |
|--------------------------------|--|
| <b>Methodology</b>             | Greenhouse Gas Protocol Corporate Accounting and Reporting Standard <sup>7</sup>   |
| <b>Reporting period</b>        | 1 October 2013 to 30 September 2014  |
| <b>Organisational Entity</b>   | Reunert Limited  |
| <b>Organisational Boundary</b> | Financial Control  |
| <b>Financial Control</b>       | <p>Reunert Limited has 100% financial control over all operations and entities unless specified. An exception to this applies to the joint venture CBI-electric: Aberdare ATC Telecom Cables (Pty) Limited of which it has 50% financial control.</p> <p>Only franchises in which Reunert holds a majority share have been included in the scope. Franchises over which Reunert have no financial control are excluded from the scope of this assessment</p> <p>Emissions reported reflect the percentage of financial control.</p> <p>Reunert Limited is in the process of disposing of Nashua Mobile. This entity falls within the scope of this assessment, however it will be omitted in future assessments.</p> |
| <b>Base year</b>               | Not fixed at date of report, no reduction targets in place <sup>8</sup>  |
| <b>Number of FTE employees</b> | 5 643 <sup>9</sup>   |
| <b>Area of facilities</b>      | 248 827 m <sup>2</sup>   |
| <b>Verification</b>            | No third party verification  |

<sup>7</sup> See Appendix A.

<sup>8</sup> See Appendix B.

<sup>9</sup> Number of employees is calculated based on the average number of full time equivalent employees.





\* Franchise operations over which Reunert Limited have ownership and financial control.

Figure 3: Organisational structure of Reunert Limited

### Facilities included in assessment

#### CBI-electric

- Johannesburg: Low Voltage - Head Office
- Cape Town: Industrial Controls and Automation
- Cape Town: Low Voltage
- HVAC - Cape Town
- Durban: Low Voltage

Johannesburg: Medium Voltage  
Lesotho  
Solutions - Centurion  
Australia  
America  
Johannesburg: Industrial Controls and Automation  
Port Elizabeth: Low Voltage Eastern Cape  
Bloemfontein: Low Voltage Free State  
Durban: Industrial Controls and Automation  
Solutions - Boksburg  
Vereeniging - Factory  
Power Installations (Parow)  
Brits (Joint Venture: 50% contribution)

### **Nashua**

Woodmead: Nashua Limited  
Midrand: Nashua Kopano  
Port Elizabeth: Nashua Ltd Algoa Grahamstown  
Port Elizabeth: Nashua Ltd Algoa  
Brooklyn: Nashua Tswane 1  
Lyttleton Manor: Nashua Tswane 2  
Weltevreden Park: Nashua WestRand  
Johannesburg: Nashua Central  
Tygerberg: Nashua Ltd Tygerberg - Kiepersol  
Tygerberg: Nashua Ltd Tygerberg - Rosenpark  
Tygerberg: Nashua Ltd Tygerberg - Brackengate  
Paarl: Nashua Ltd Paarl and West Coast  
Cape Town - Nashua Ltd Cape Town  
Durban: Nashua Ltd Pinetown  
Durban: Nashua Ltd  
Durban: Nashua Ltd Copy Shop  
Durban: Nashua Ltd Warehouse  
Nashua North: Ferndale  
Nashua Prodoc: Sweden  
Belville: Nashua Mobile  
Midrand: Nashua Mobile Building 3&4  
Midrand: Nashua Mobile Building 6: Sales  
Bloemfontein: Nashua Mobile Call Centre  
Durban: Nashua Mobile  
Design Square Shop in Brooklyn  
Vodaworld Shop  
Cape Gate Shop  
Hillcrest Shop  
Pinecrest Shop  
Gateway Shop

UFS Campus Shop  
Victorian Square Shop  
Nedcor Shop in Sandton  
Sandton City Shop  
Canal Walk Shop  
Maponya Mall  
Chatsworth Shop  
Parow: PanSolutions  
Midrand: Pansolutions Warehouse  
Midrand: Pansolutions Holdings  
Parow: Nashua Communications  
Midrand: Nashua Communications  
Nelspruit: Nashua Communications  
Sandton: ECN Regional POP  
Riverhorse Valley: ECN Durban POP  
Randburg: ECN Regional POP  
Isando: ECN Regional POP  
Centurion: ECN Regional POP  
Midrand: ECN Nashua Mobile POP  
Port Elizabeth: ECN Port Elizabeth POP  
Bloemfontein: ECN Bloemfonten POP  
Rondebosch: ECN Teraco Cape Town POP  
Greenstone: ECN Greenstone POP

### **Reutech**

New Germany: Reutech Communications  
Reutech Communications North  
Stellenbosch: Reutech Radar Systems  
RCC Manufacturing Factory  
Midrand: Reutech Solutions  
Alrode: Fuchs

### **Group Services**

Boksburg: Reunert College  
Mabula, Bela-Bela  
Sterkspruit, Lydenburg  
Woodmead: Reunert Ltd

## Operational scope

The activities listed in the table below form the operational scope of the assessment.

**Table 7: Operational scope**

|  |   |
|--|---|
| Greenhouse gases present in boundary         | Carbon dioxide (CO <sub>2</sub> )<br>Methane (CH <sub>4</sub> )<br>Nitrous oxide (N <sub>2</sub> O)<br>Hydro fluorocarbons (HFCs) <sup>10</sup> |
| Immateriality guideline                      | Emission source activities believed to make up less than 2.5% of total emissions are believed to be immaterial.                                 |
| GHG emissions sources included in assessment |   |
| <b>Direct emissions</b>                      | Stationary fuel combustion in assets over which Reunert Limited has financial control   |
|  | Stationary fuel non-energy use in assets over which Reunert Limited has financial control   |
|  | Mobile fuel combustion in vehicles over which Reunert Limited has financial control <sup>11</sup>   |
| <b>Indirect emissions</b>                    | Purchased electricity   |
|  | Purchased goods and services, including:<br>Material use of input materials<br>Water supply   |
|  | Waste disposal, including:<br>Waste disposal of materials<br>Water treatment  |
|  | Business travel including :<br>Air travel in commercial airlines<br>Land travel in rental vehicles  |

<sup>10</sup> Fugitive HFC emissions from air conditioning are present but excluded due to immateriality and lack of available data.

<sup>11</sup> Fuel usage in employee owned and operated vehicles are included in the Scope 1 mobile fuel category as activity data has not allowed for this split.

## Exclusions

### **HFC fugitive emissions**

Scope 1 fugitive emissions from air conditioning equipment have been excluded due to immateriality and lack of available data.

### **Purchased electricity**

Purchased electricity excluded at the two sites HVAC Cape Town and Low Voltage Eastern Cape Port Elizabeth due to lack of available data.

## Clarification

### **Scope 1 mobile fuel combustion**

Included in Scope 1 mobile fuel combustion is fuel usage in employee owned and operated vehicles. Fuel usage in these vehicles has not been reported as Scope 3 as separated activity data is not available. Scope 1 mobile fuel combustion emissions are therefore over reported.

### **Scope 2 purchased electricity**

Purchased electricity reported as Scope 2 includes a number of sites occupied under an operational lease. Technically this electricity usage should be separated and reported as Scope 3 however as the contribution of kWh in these sites to total electricity usage is marginal it has been included and reported as Scope 2. Scope 2 purchased electricity emissions are therefore marginally over reported.

### **Scope 3 material use**

Within material use paper and packaging is part reported and therefore emissions associated with packaging materials are believed to be underestimated.

### **Scope 3 water supply and treatment**

Water supply and treatment are part reported and therefore emissions associated with water supply and treatment are believed to be underestimated.

### **Scope 3 waste disposal**

Waste disposal is part reported and therefore emissions associated with this waste disposal is believed to be underestimated.

## Greenhouse gas emission inventory detail with calculations

### Summary

**Table 8: Emissions by emission source by company**

| Emission sources                   | t CO <sub>2</sub> e |                  |                 |                | Total            |
|------------------------------------|---------------------|------------------|-----------------|----------------|------------------|
|                                    | CBI-electric        | Nashua           | Reutech         | Group Services |                  |
| <b>Total Scope 1</b>               | <b>4 911.63</b>     | <b>2 173.91</b>  | <b>497.51</b>   | <b>15.47</b>   | <b>7 598.51</b>  |
| Stationary fuel combustion         | 3 728.54            | 24.88            | 17.46           | 0.60           | <b>3 771.49</b>  |
| Stationary fuel non energy use     | 14.29               |                  |                 |                | <b>14.29</b>     |
| Mobile fuel combustion             | 1 168.79            | 2 149.03         | 480.05          | 14.86          | <b>3 812.74</b>  |
| <b>Total Scope 2</b>               | <b>36 801.64</b>    | <b>8 275.85</b>  | <b>5 980.31</b> | <b>279.54</b>  | <b>51 337.34</b> |
| Purchased electricity              | 36 801.64           | 8 275.85         | 5 980.31        | 279.54         | <b>51 337.34</b> |
| <b>Total Scope 1 &amp; Scope 2</b> | <b>41 713.26</b>    | <b>10 449.76</b> | <b>6 477.82</b> | <b>295.01</b>  | <b>58 935.85</b> |
| <b>Total Scope 3</b>               | <b>85 208.07</b>    | <b>469.02</b>    | <b>2 342.58</b> | <b>55.33</b>   | <b>88 075.00</b> |
| Material use                       | 84 421.50           | 25.81            | 28.85           | 5.64           | <b>84 481.80</b> |
| Water supply                       | 85.06               | 23.09            | 18.05           | 0.46           | <b>126.66</b>    |
| Water treatment                    | 182.15              | 31.77            | 151.20          | 0.94           | <b>366.06</b>    |
| Waste disposal                     | 254.73              | 8.31             | 8.94            | 0.07           | <b>272.04</b>    |
| Business travel                    | 264.64              | 380.04           | 2 135.54        | 48.22          | <b>2 828.44</b>  |

## Direct emissions

**Table 9: Scope 1 emissions by emission source by company**

|                                | t CO <sub>2</sub> e |                 |               |                |                 |
|--------------------------------|---------------------|-----------------|---------------|----------------|-----------------|
| Emission sources               | CBI-electric        | Nashua          | Reutech       | Group Services | Total           |
| <b>Total Scope 1</b>           | <b>4 911.63</b>     | <b>2 173.91</b> | <b>497.51</b> | <b>15.47</b>   | <b>7 598.51</b> |
| Stationary fuel combustion     | 3 728.54            | 24.88           | 17.46         | 0.60           | <b>3 771.49</b> |
| Stationary fuel non energy use | 14.29               |                 |               |                | <b>14.29</b>    |
| Mobile fuel combustion         | 1 168.79            | 2 149.03        | 480.05        | 14.86          | <b>3 812.74</b> |
| <b>Percentage of scope 1</b>   | <b>65%</b>          | <b>29%</b>      | <b>7%</b>     | <b>0.2%</b>    |                 |

**Table 10: Calculation of stationary fuel combustion emissions**

| Emissions Source                  | UOM | Quantity / Annum | kg CO <sub>2</sub> e per unit <sup>12</sup> | t CO <sub>2</sub> e |
|-----------------------------------|-----|------------------|---|---------------------|
| <b>Stationary fuel combustion</b> |     |                  |   |                     |
| <b>CBI-electric</b>               |     |                  |   | <b>3 728.54</b>     |
| Diesel (100% mineral diesel)      | lt  | 61 730           | 2.66914                                     | 164.77              |
| Natural gas <sup>13</sup>         | kWh | 18 282 237       | 0.18497                                     | 3 381.72            |
| LPG                               | kg  | 57 551           | 3.16338                                     | 182.06              |
| <b>Nashua</b>                     |     |                  |   | <b>24.88</b>        |
| Diesel (100% mineral diesel)      | lt  | 8 721            | 2.66914                                     | 23.28               |
| Petrol (100% mineral petrol)      | lt  | 697              | 2.29990                                     | 1.60                |
| <b>Reutech</b>                    |     |                  |   | <b>17.46</b>        |
| Diesel (100% mineral diesel)      | lt  | 3 943            | 2.66914                                     | 10.52               |
| Petrol (100% mineral petrol)      | lt  | 21               | 2.29990                                     | 0.05                |
| Natural gas <sup>14</sup>         | kwh | 33 333           | 0.18497                                     | 6.17                |
| LPG                               | kg  | 228              | 3.16338                                     | 0.72                |
| <b>Group Services</b>             |     |                  |   | <b>0.60</b>         |
| LPG                               | kg  | 191              | 3.16338                                     | 0.60                |
| <b>Total</b>                      |     |                  |   | <b>3 771.49</b>     |

<sup>12</sup> UK Government conversion factors for Company Reporting, version 1.0, 2014

<sup>13</sup> Conversion from GJ to kWh based on a factor of 277.78 kWh/GJ. Gross CV factor applied to kWh. Source: UK Government conversion factors for Company Reporting, version 1.0, 2014

<sup>14</sup> Conversion from GJ to kWh based on a factor of 277.78 kWh/GJ. Gross CV factor applied to kWh. Source: UK Government conversion factors for Company Reporting, version 1.0, 2014

**Table 11: Calculation of stationary fuel non-energy use emissions**

| Emissions Source                  | UOM | Quantity / Annum | C/TJ <sup>15</sup> | ODU <sup>16</sup> | CO <sub>2</sub> /C <sup>17</sup> | t CO <sub>2</sub> e |
|-----------------------------------|-----|------------------|--------------------|-------------------|----------------------------------|---------------------|
| <b>Stationary fuel combustion</b> |     |                  |                    |                   |                                  |                     |
| <b>CBI-electric</b>               |     |                  |                    |                   |                                  | <b>14.29</b>        |
| Lubricant oil                     | TJ  | 0.974            | 20.00              | 0.200             | 3.66667                          | 14.29               |
| <b>Total</b>                      |     |                  |                    |                   |                                  | <b>14.29</b>        |

**Table 12: Calculation of mobile fuel combustion emissions**

| Emissions Source              | UOM | Quantity / Annum | kg CO <sub>2</sub> e per unit <sup>18</sup> | t CO <sub>2</sub> e |
|-------------------------------|-----|------------------|---|---------------------|
| <b>Mobile fuel combustion</b> |     |                  |   |                     |
| <b>CBI-electric</b>           |     |                  |   | <b>1 168.79</b>     |
| Diesel (100% mineral diesel)  | lt  | 116 130          | 2.66914                                     | 309.97              |
| Petrol (100% mineral petrol)  | lt  | 361 744          | 2.29990                                     | 831.98              |
| LPG <sup>19</sup>             | kWh | 125 167          | 0.21451                                     | 26.85               |
| <b>Nashua</b>                 |     |                  |   | <b>2 149.03</b>     |
| Diesel (100% mineral diesel)  | lt  | 100 677          | 2.66914                                     | 268.72              |
| Petrol (100% mineral petrol)  | lt  | 817 559          | 2.29990                                     | 1 880.31            |
| <b>Reutech</b>                |     |                  |   | <b>480.05</b>       |
| Diesel (100% mineral diesel)  | lt  | 81 070           | 2.66914                                     | 216.39              |
| Petrol (100% mineral petrol)  | lt  | 106 765          | 2.29990                                     | 245.55              |
| LPG <sup>20</sup>             | kWh | 84 444           | 0.21451                                     | 18.11               |
| <b>Group Services</b>         |     |                  |   | <b>14.86</b>        |
| Diesel (100% mineral diesel)  | lt  | 1 481            | 2.66914                                     | 3.95                |
| Petrol (100% mineral petrol)  | lt  | 4 744            | 2.29990                                     | 10.91               |
| <b>Total</b>                  |     |                  |   | <b>3 812.74</b>     |

<sup>15</sup> Carbon content factor. Source: IPCC Guidelines Chapter 1 of Volume 2 on Energy

<sup>16</sup> Oxidised during use factor. Source: IPCC Guidelines Chapter 1 of Volume 2 on Energy

<sup>17</sup> Source: IPCC Guidelines Chapter 1 of Volume 2 on Energy

<sup>18</sup> UK Government conversion factors for Company Reporting, version 1.0, 2014

<sup>19</sup> Conversion from GJ to kWh based on a factor of 277.78 kWh/GJ. Gross CV factor applied to kWh. Source: UK Government conversion factors for Company Reporting, version 1.0, 2014

<sup>20</sup> Conversion from GJ to kWh based on a factor of 277.78 kWh/GJ. Gross CV factor applied to kWh. Source: UK Government conversion factors for Company Reporting, version 1.0, 2014



## Note on mobile fuel combustion

Included in Scope 1 mobile fuel combustion is fuel usage in employee owned and operated vehicles. Fuel usage in these vehicles has not been reported as Scope 3 as separated activity data is not available. Scope 1 mobile fuel combustion emissions are therefore over reported.

## Indirect emissions

### Scope 2

**Table 13: Scope 2 emissions by emission source by company**

| Emission sources             | t CO <sub>2</sub> e |                 |                 |                | Total            |
|------------------------------|---------------------|-----------------|-----------------|----------------|------------------|
|                              | CBI-electric        | Nashua          | Reutech         | Group Services |                  |
| <b>Total Scope 2</b>         | <b>36 801.64</b>    | <b>8 275.85</b> | <b>5 980.31</b> | <b>279.54</b>  | <b>51 337.34</b> |
| Purchased electricity        | 36 801.64           | 8 275.85        | 5 980.31        | 279.54         | <b>51 337.34</b> |
| <b>Percentage of scope 2</b> | <b>72%</b>          | <b>16%</b>      | <b>12%</b>      | <b>1%</b>      |                  |

**Table 14: Calculation of purchased electricity emissions**

| Emissions Source                 | UOM | Quantity / Annum | kg CO <sub>2</sub> e per unit <sup>21</sup> | t CO <sub>2</sub> e |
|----------------------------------|-----|------------------|---|---------------------|
| <b>Purchased electricity</b>     |     |                  |   |                     |
| <b>CBI-electric</b>              |     |                  |   | <b>36 801.64</b>    |
| Purchased electricity            | kWh | 36 081 304       | 0.97000                                     | 34 998.86           |
| Purchased electricity: Lesotho   | kWh | 1 738 301        | 0.97000                                     | 1 686.15            |
| Purchased electricity: Australia | kWh | 128 966          | 0.82300                                     | 106.14              |
| Purchased electricity: USA       | kWh | 20 835           | 0.50300                                     | 10.48               |
| <b>Nashua</b>                    |     |                  |   | <b>8 275.85</b>     |
| Purchased electricity            | kWh | 8 527 527        | 0.97000                                     | 8 271.70            |
| Purchased electricity: Sweden    | kWh | 244 324          | 0.01700                                     | 4.15                |
| <b>Reutech</b>                   |     |                  |   | <b>5 980.31</b>     |
| Purchased electricity            | kWh | 6 165 269        | 0.97000                                     | 5 980.31            |
| <b>Group Services</b>            |     |                  |   | <b>279.54</b>       |
| Purchased electricity            | kWh | 288 184          | 0.97000                                     | 279.54              |
| <b>Total</b>                     |     |                  |   | <b>51 337.34</b>    |

<sup>21</sup> South African grid emission factor calculated using NBI's proposed methodology and applying updated figures sourced from Eskom's Annual Integrated Report, 2014. The South African grid emission factor has been applied to Lesotho. Australia, USA and Sweden emission factors sourced from UK Government conversion factors for Company Reporting, version 1.0, 2014.

### Notes on purchased electricity consumption

Excludes purchased electricity at the two CBI-electric sites HVAC Cape Town and Low Voltage Eastern Cape Port Elizabeth due to lack of available data.

Nashua Lyttleton Manor site electricity usage was estimated based on rand value spend and an assumed electricity cost of ZAR1.44 per kWh. Electricity usage for the 5 Nashua stores Brooklyn Design Square, Gateway, UFS Campus, Victorian Square and Sandton Nedcor Shop in Sandton was estimated using an average kWh/m<sup>2</sup> intensity of 35 kWh/m<sup>2</sup>, calculated from like stores.

Purchased electricity reported as Scope 2 includes a number of sites occupied under an operational lease. Technically this electricity usage should be separated and reported as Scope 3 Leased Assets however as the contribution of kWh in these sites to total electricity usage is marginal it has been included and reported as Scope 2. Scope 2 purchased electricity emissions are therefore marginally over reported.

### Scope 3

**Table 15: Scope 3 emissions by emission source by company**

| Emission sources             | t CO <sub>2</sub> e |               |                 |                | Total            |
|------------------------------|---------------------|---------------|-----------------|----------------|------------------|
|                              | CBI-electric        | Nashua        | Reutech         | Group Services |                  |
| <b>Total Scope 3</b>         | <b>85 208.07</b>    | <b>469.02</b> | <b>2 342.58</b> | <b>55.33</b>   | <b>88 075.00</b> |
| Material use                 | 84 421.50           | 25.81         | 28.85           | 5.64           | <b>84 481.80</b> |
| Water supply                 | 85.06               | 23.09         | 18.05           | 0.46           | <b>126.66</b>    |
| Water treatment              | 182.15              | 31.77         | 151.20          | 0.94           | <b>366.06</b>    |
| Waste disposal               | 254.73              | 8.31          | 8.94            | 0.07           | <b>272.04</b>    |
| Business travel              | 264.64              | 380.04        | 2 135.54        | 48.22          | <b>2 828.44</b>  |
| <b>Percentage of scope 3</b> | <b>97%</b>          | <b>1%</b>     | <b>3%</b>       | <b>0.1%</b>    |                  |

**Table 16: Calculation of material use emissions**

| Emissions Source      | UOM | Quantity / Annum | kg CO <sub>2</sub> e per unit <sup>22</sup> | t CO <sub>2</sub> e |
|-----------------------|-----|------------------|---|---------------------|
| <b>Material use</b>   |     |                  |   |                     |
| <b>CBI-electric</b>   |     |                  |   | <b>84 421.50</b>    |
| Paper                 | tn  | 256.68           | 956.00000                                   | 245.38              |
| Copper                | tn  | 11 095.64        | 3 126.00000                                 | 34 684.97           |
| Aluminum              | tn  | 2 295.99         | 3 126.00000                                 | 7 177.27            |
| Steel                 | tn  | 932.13           | 3 126.00000                                 | 2 913.85            |
| Galvanised Steel      | tn  | 8 186.95         | 3 126.00000                                 | 25 592.42           |
| PVC                   | tn  | 3 882.65         | 3 136.22856                                 | 12 176.89           |
| Brass                 | tn  | 57.68            | 3 126.00000                                 | 180.30              |
| Recycled PVC          | tn  | 641.21           | 2 262.00000                                 | 1 450.42            |
| <b>Nashua</b>         |     |                  |   | <b>25.81</b>        |
| Paper                 | tn  | 24.82            | 956.00000                                   | 23.72               |
| Recycled Paper        | tn  | 2.48             | 680.00000                                   | 1.68                |
| Recycled Aluminum     | tn  | 0.42             | 963.00000                                   | 0.40                |
| <b>Reutech</b>        |     |                  |   | <b>28.85</b>        |
| Paper                 | tn  | 4.14             | 956.00000                                   | 3.96                |
| Copper                | tn  | 1.19             | 3 126.00000                                 | 3.73                |
| Steel                 | tn  | 5.90             | 3 126.00000                                 | 18.44               |
| PVC                   | tn  | 0.02             | 3 136.22856                                 | 0.07                |
| Brass                 | tn  | 0.02             | 3 126.00000                                 | 0.06                |
| Nickel                | tn  | 0.25             | 3 126.00000                                 | 0.78                |
| Recycled Paper        | tn  | 2.67             | 680.00000                                   | 1.82                |
| <b>Group Services</b> |     |                  |   | <b>5.64</b>         |
| Paper                 | tn  | 5.90             | 956.00000                                   | 5.64                |
| <b>Total</b>          |     |                  |   | <b>84 481.80</b>    |

**Note on material use**

Within material use paper and packaging is part reported and therefore emissions associated with packaging materials are believed to be underreported.

<sup>22</sup> Materials sourced from primary material production. Recycled materials sourced from closed loop recycling. UK Government conversion factors for Company Reporting, version 1.0, 2014.

**Table 17: Calculation of water supply emissions**

| Emissions Source       | UOM | Quantity / Annum | kg CO <sub>2</sub> e per unit <sup>23</sup> | t CO <sub>2</sub> e |
|------------------------|-----|------------------|---|---------------------|
| <b>Water supply</b>    |     |                  |   |                     |
| <b>CBI-electric</b>    |     |                  |   | <b>85.06</b>        |
| Municipal water supply | kl  | 247 186          | 0.34410                                     | 85.06               |
| <b>Nashua</b>          |     |                  |   | <b>23.09</b>        |
| Municipal water supply | kl  | 67 107           | 0.34410                                     | 23.09               |
| <b>Reutech</b>         |     |                  |   | <b>18.05</b>        |
| Municipal water supply | kl  | 52 466           | 0.34410                                     | 18.05               |
| <b>Group Services</b>  |     |                  |   | <b>0.46</b>         |
| Municipal water supply | kl  | 1 332            | 0.34410                                     | 0.46                |
| <b>Total</b>           |     |                  |   | <b>126.66</b>       |

**Note on water consumption**

With the exception of Reutech, water supply was part reported and therefore emissions are believed to be underreported.

**Table 18: Calculation of water treatment emissions**

| Emissions Source       | UOM | Quantity / Annum | kg CO <sub>2</sub> e per unit <sup>24</sup> | t CO <sub>2</sub> e |
|------------------------|-----|------------------|---|---------------------|
| <b>Water treatment</b> |     |                  |   |                     |
| <b>CBI-electric</b>    |     |                  |   | <b>182.15</b>       |
| Municipal effluent     | kl  | 257 086          | 0.70850                                     | 182.15              |
| <b>Nashua</b>          |     |                  |   | <b>31.77</b>        |
| Municipal effluent     | kl  | 44 845           | 0.70850                                     | 31.77               |
| <b>Reutech</b>         |     |                  |   | <b>151.20</b>       |
| Municipal effluent     | kl  | 213 411          | 0.70850                                     | 151.20              |
| <b>Group Services</b>  |     |                  |   | <b>0.94</b>         |
| Municipal effluent     | kl  | 1 332            | 0.70850                                     | 0.94                |
| <b>Total</b>           |     |                  |   | <b>366.06</b>       |

**Notes on water treatment**

With the exception of Reutech, water treatment was part reported and therefore emissions are believed to be underreported.

In a number of sites water supply data was available while effluent data was lacking. In these cases effluent was estimated at 50% of water supply<sup>25</sup>.

<sup>23</sup> UK Government conversion factors for Company Reporting, version 1.0, 2014

<sup>24</sup> UK Government conversion factors for Company Reporting, version 1.0, 2014

<sup>25</sup> Approximately 50% of urban and industrial drainage is returned for reuse. CSIR referencing DEAT, 2006.

**Table 19: Calculation of waste disposal emissions**

| Emissions Source                                  | UOM | Quantity / Annum | kg CO <sub>2</sub> e per unit <sup>26</sup> | t CO <sub>2</sub> e |
|---|-----|------------------|---|---------------------|
| <b>Waste disposal</b>                             |     |                  |   |                     |
| <b>CBI-electric</b>                               |     |                  |   | <b>254.73</b>       |
| <b>General Waste</b>                              |     |                  |   |                     |
| Commercial and Industrial Waste                   | tn  | 792.5680         | 199.00000                                   | 157.72              |
| Waste of Electric and Electronic Equipment (WEEE) | tn  | 0.4085           | 21.00000                                    | 0.01                |
| Brown Grades (incl. Carboard)                     | tn  | 47.0440          | 21.00000                                    | 0.99                |
| Mixed Grades                                      | tn  | 55.1157          | 21.00000                                    | 1.16                |
| Other plastics                                    | tn  | 984.5778         | 21.00000                                    | 20.68               |
| Glass   | tn  | 0.0790           | 21.00000                                    | 0.00                |
| Ferrous   | tn  | 551.7590         | 21.00000                                    | 11.59               |
| Non-ferrous                                       | tn  | 2596.4505        | 21.00000                                    | 54.53               |
| Other   | tn  | 26.2600          | 199.00000                                   | 5.23                |
| <b>Hazardous Waste</b>                            |     |                  |   |                     |
| Solid Waste containing Mercury                    | tn  | 0.6300           | 199.00000                                   | 0.13                |
| Waste Oils  | tn  | 104.4883         | 21.00000                                    | 2.19                |
| Solvents without halogens and Sulphur             | tn  | 1.8900           | 199.00000                                   | 0.38                |
| Mixed WEEE  | tn  | 0.5640           | 21.00000                                    | 0.01                |
| Contaminated Scrap Metal Waste                    | tn  | 0.0790           | 20.23975                                    | 0.00                |
| Infectious Waste and Sharps                       | tn  | 0.2136           | 199.00000                                   | 0.04                |
| Chemical Waste                                    | tn  | 0.4200           | 199.00000                                   | 0.08                |
| <b>Nashua</b>                                     |     |                  |   | <b>8.31</b>         |
| <b>General Waste</b>                              |     |                  |   |                     |
| Commercial and Industrial Waste                   | tn  | 19.4300          | 199.00000                                   | 3.87                |
| Waste of Electric and Electronic Equipment (WEEE) | tn  | 54.7140          | 21.00000                                    | 1.15                |
| Newsprint and Magazines                           | tn  | 1.4820           | 21.00000                                    | 0.03                |
| Brown Grades (incl. Carboard)                     | tn  | 4.3510           | 21.00000                                    | 0.09                |
| White Grades                                      | tn  | 5.3140           | 21.00000                                    | 0.11                |
| Other plastics                                    | tn  | 0.6105           | 21.00000                                    | 0.01                |
| Glass   | tn  | 0.1600           | 21.00000                                    | 0.00                |
| Non-ferrous                                       | tn  | 0.2280           | 21.00000                                    | 0.00                |
| Other   | tn  | 9.2500           | 199.00000                                   | 1.84                |
| <b>Hazardous Waste</b>                            |     |                  |   |                     |
| Miscellaneous (kg)                                | tn  | 6.0000           | 199.00000                                   | 1.19                |
| <b>Reutech</b>                                    |     |                  |   | <b>8.94</b>         |
| <b>General Waste</b>                              |     |                  |   |                     |
| Commercial and Industrial Waste                   | tn  | 42.8400          | 199.00000                                   | 8.53                |
| Waste of Electric and Electronic Equipment (WEEE) | tn  | 0.1030           | 21.00000                                    | 0.00                |

<sup>26</sup> Materials sourced from primary material production. Recycled materials sourced from closed loop recycling. UK Government conversion factors for Company Reporting, version 1.0, 2014

|                                   |    |        |           |               |
|-----------------------------------|----|--------|-----------|---------------|
| Brown Grades (incl. Carboard)     | tn | 1.8120 | 21.00000  | 0.04          |
| White Grades                      | tn | 3.8760 | 21.00000  | 0.08          |
| Mixed Grades                      | tn | 1.2860 | 21.00000  | 0.03          |
| Polyethylene terephthalate (PETE) | tn | 0.0800 | 21.00000  | 0.00          |
| Other plastics                    | tn | 1.0910 | 21.00000  | 0.02          |
| Glass                             | tn | 0.9000 | 21.00000  | 0.02          |
| Ferrous                           | tn | 1.4180 | 21.00000  | 0.03          |
| Non-ferrous                       | tn | 1.7485 | 21.00000  | 0.04          |
| Other                             | tn | 0.0245 | 199.00000 | 0.00          |
| <b>Hazardous Waste</b>            |    |        |           |               |
| Lead Batteries                    | tn | 2.0955 | 65.00000  | 0.14          |
| Mixed WEEE                        | tn | 0.4325 | 21.00000  | 0.01          |
| Pathological Waste                | tn | 0.0025 | 199.00000 | 0.00          |
| Infectious Waste and Sharps       | tn | 0.0040 | 199.00000 | 0.00          |
| <b>Group Services</b>             |    |        |           | <b>0.07</b>   |
| <b>General Waste</b>              |    |        |           |               |
| Newsprint and Magazines           | tn | 0.3750 | 21.00000  | 0.01          |
| White Grades                      | tn | 2.9950 | 21.00000  | 0.06          |
| <b>Hazardous Waste</b>            |    |        |           |               |
| Mixed Batteries                   | tn | 0.0052 | 65.00000  | 0.00          |
| <b>Total</b>                      |    |        |           | <b>272.04</b> |

#### Note on waste disposal

Waste disposal is part reported and therefore emissions are believed to be underestimated.

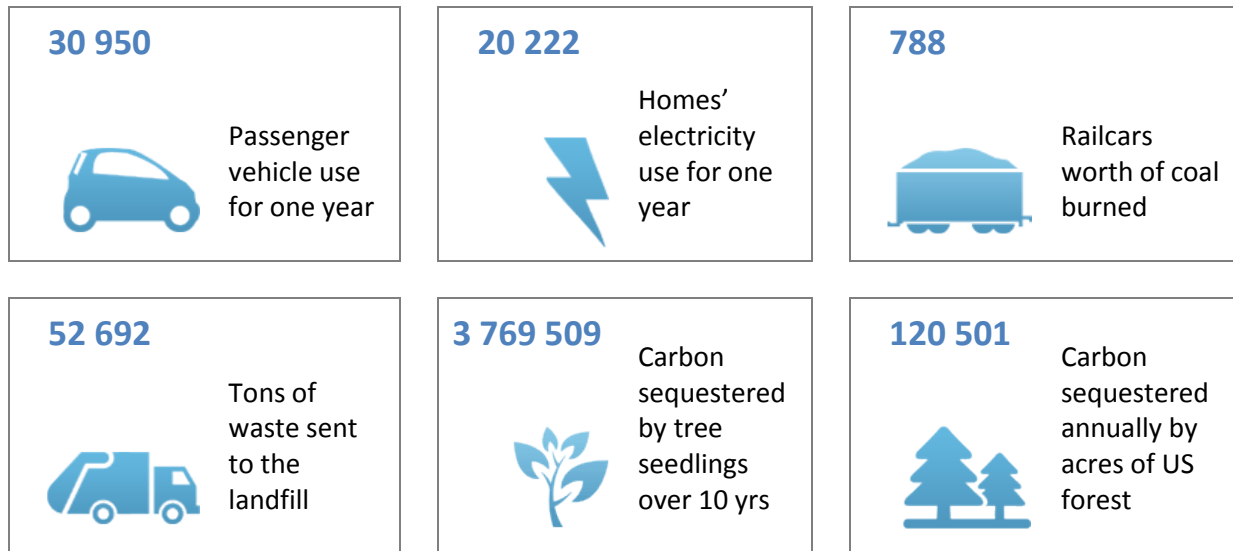
**Table 20: Calculation of business travel emissions**

| Emissions Source                                   | UOM  | Quantity / Annum | kg CO <sub>2</sub> e per unit <sup>27</sup> | t CO <sub>2</sub> e |
|--|------|------------------|---|---------------------|
| <b>Business travel in non-company owned assets</b> |      |                  |   |                     |
| <b>CBI-electric</b>                                |      |                  |   | <b>264.64</b>       |
| Vehicle rental CO <sub>2</sub> e                   | gm   | 1 774 883        |   | 1.77                |
| Domestic economy class                             | p.km | 894 433          | 0.15504                                     | 138.67              |
| Domestic business/first class                      | p.km | 7 617            | 0.15504                                     | 1.18                |
| Short-haul economy class                           | p.km | 108 939          | 0.08373                                     | 9.12                |
| Short-haul first/business class                    | p.km | 2 122            | 0.12560                                     | 0.27                |
| Long-haul economy class                            | p.km | 1 003 165        | 0.07960                                     | 79.85               |
| Long-haul business class                           | p.km | 146 297          | 0.23082                                     | 33.77               |
| <b>Nashua</b>                                      |      |                  |   | <b>380.04</b>       |
| Vehicle rental CO <sub>2</sub> e                   | gm   | 8 331 505        |   | 8.33                |
| Flight CO <sub>2</sub> e                           | gm   | 9 140 328        |   | 9.14                |
| Domestic economy class                             | p.km | 1 681 928        | 0.15504                                     | 260.77              |
| Short-haul economy class                           | p.km | 84 727           | 0.08373                                     | 7.09                |
| Long-haul economy class                            | p.km | 1 100 079        | 0.07960                                     | 87.57               |
| Long-haul business class                           | p.km | 30 954           | 0.23082                                     | 7.14                |
| <b>Reutech</b>                                     |      |                  |   | <b>2 135.54</b>     |
| Vehicle rental CO <sub>2</sub> e                   | gm   | 9 384 975        |   | 9.38                |
| Flight CO <sub>2</sub> e                           | gm   | 1 386 506 396    |   | 1 386.51            |
| Domestic economy class                             | p.km | 1 373 172        | 0.15504                                     | 212.90              |
| Domestic business/first class                      | p.km | 192 964          | 0.15504                                     | 29.92               |
| Short-haul economy class                           | p.km | 302 025          | 0.08373                                     | 25.29               |
| Short-haul first/business class                    | p.km | 15 324           | 0.12560                                     | 1.92                |
| Long-haul economy class                            | p.km | 5 445 620        | 0.07960                                     | 433.47              |
| Long-haul economy+ class                           | p.km | 8 732            | 0.12735                                     | 1.11                |
| Long-haul business class                           | p.km | 151 798          | 0.23082                                     | 35.04               |
| <b>Group Services</b>                              |      |                  |   | <b>48.22</b>        |
| Vehicle rental CO <sub>2</sub> e                   | gm   | 1 557 579        |   | 1.56                |
| Flight CO <sub>2</sub> e                           | gm   | 4 420 000        |   | 4.42                |
| Domestic economy class                             | p.km | 143 280          | 0.15504                                     | 22.21               |
| Domestic business/first class                      | p.km | 2 539            | 0.15504                                     | 0.39                |
| Short-haul economy class                           | p.km | 7 302            | 0.08373                                     | 0.61                |
| Long-haul economy class                            | p.km | 75 874           | 0.07960                                     | 6.04                |
| Long-haul business class                           | p.km | 56 247           | 0.23082                                     | 12.98               |
| <b>Total</b>                                       |      |                  |   | <b>2 828.44</b>     |

<sup>27</sup> Air travel factors provide for a distance uplift of 8% to compensate for uplift and planes not flying using the most direct route however do not account for radiative forcing. UK Government conversion factors for Company Reporting, version 1.0, 2014.

## Greenhouse Gas Equivalencies

Reunert Limited's total footprint is equivalent to each of the following statements<sup>28</sup>:



## Exposure to proposed carbon taxation

Based on the proposed South African carbon tax policy submitted in May 2013<sup>29</sup>, the individual entities held by Reunert Limited are unlikely<sup>30</sup> to be subject to direct carbon taxation as the paper alludes to a 100,000 tonne CO<sub>2</sub>e threshold<sup>31</sup> under which companies need not report emissions.

The effect of carbon tax on the electricity price is estimated to be between 1c and 5c/kWh. A prudent estimation on financial exposure across all entities would therefore be approximately ZAR2,660,000 per annum with likely year-on-year increases of around 10%. Companies would need to reduce electricity consumption by approximately 5% in the first 5 year phase to ensure zero bottom line exposure.

<sup>28</sup> Source: EPA Equivalencies Calculator <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

<sup>29</sup> Carbon Tax Policy Paper, Reducing greenhouse gas emissions and facilitating the transition to a green economy, National Treasury, May 2013.  
<http://www.treasury.gov.za/public%20comments/Carbon%20Tax%20Policy%20Paper%202013.pdf>

<sup>30</sup> Whilst mandatory reporting may not be required the policy is unclear on whether a floor to the tax base based on a threshold of 100,000 tCO<sub>2</sub>e will apply. To be prudent, we recommend companies prepare for this risk until such time there is clarity on a bottom limit to the tax base.

<sup>31</sup> Mandatory reporting requirement for companies exceeding emissions of 100,000 tCO<sub>2</sub>e, either as direct (scope 1) emissions or through the consumption of electricity.



## Understanding uncertainty and disclaimer

There are uncertainties associated with greenhouse gas inventories which can be broadly categorised into scientific uncertainty and estimation uncertainty.

### Scientific Uncertainty

Scientific uncertainty arises when the science of the actual emission and/or sequestration process is not sufficiently understood and the emission factor is uncertain. For example, many of the direct and indirect emissions factors associated with global warming potential for emission estimates involve scientific uncertainty. Analysing and quantifying such scientific uncertainty is extremely problematic and is beyond the scope of most company's inventory efforts. The emissions factors used in this report are based on reliable sources and all are referenced throughout the document, however, all are subject to scientific uncertainty.

### Estimation Uncertainty

Estimation uncertainty arises any time greenhouse gas emissions are quantified. Therefore all emission or removal estimates are associated with estimation uncertainty. Estimation uncertainty can be further classified into two types: model uncertainty and parameter uncertainty.

- *Model uncertainty* refers to the uncertainty associated with the mathematical equations (i.e. models) used to characterise the relationships between various parameters and emission processes. For example, model uncertainty may arise either due to the use of an incorrect mathematical model or inappropriate parameters (i.e. inputs) in the model. Like scientific uncertainty, estimating model uncertainty is beyond the scope of most company's inventory efforts. Any model uncertainty is beyond the scope of this report.
- *Parameter uncertainty* refers to the uncertainty associated with quantifying the parameters used as inputs (e.g. activity data, emission factors, or other parameters) to estimation models. Parameter uncertainties can be evaluated through statistical analysis, measurement equipment precision determinations, and expert judgment.

This report is based on activity data gathered by the client. sustainableIT bears no responsibility for the accuracy of the primary data provided by Reunert Limited. The primary data that this report has been based on has not been verified.

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## Abbreviations

|                        |   |
|------------------------|---|
| <b>CH<sub>4</sub></b>  | Methane   |
| <b>CC</b>              | Carbon content  |
| <b>CO<sub>2</sub></b>  | Carbon dioxide  |
| <b>CO<sub>2</sub>e</b> | Carbon dioxide equivalent                             |
| <b>DEFRA</b>           | UK Department for Environment, Food and Rural Affairs |
| <b>FTE</b>             | Full time employee                                    |
| <b>GHG</b>             | Greenhouse gases                                      |
| <b>GWP</b>             | Global warming potential                              |
| <b>HCFC</b>            | Hydro chlorofluorocarbon                              |
| <b>HFC</b>             | Hydro fluorocarbon                                    |
| <b>HVAC</b>            | Heating, ventilation and air conditioning             |
| <b>IPCC</b>            | Intergovernmental Panel on Climate Change             |
| <b>N<sub>2</sub>O</b>  | Nitrous oxide   |
| <b>NF<sub>3</sub></b>  | Nitrogen trifluoride                                  |
| <b>NGO</b>             | Non-governmental organisation                         |
| <b>ODU</b>             | Oxidised during use                                   |
| <b>PFC</b>             | Perfluorocarbons                                      |
| <b>SF<sub>6</sub></b>  | Sulphur hexafluoride                                  |
| <b>UOM</b>             | Unit of measure                                       |
| <b>WBCSD</b>           | World Business Council for Sustainable Development    |
| <b>WRI</b>             | World Resources Institute                             |

## Glossary of terms

**Boundaries** – The inventory boundaries to determine which emissions are accounted for and reported. Boundaries include organisational, operational and geographic.

**Carbon Footprint** – The total greenhouse gas emissions caused directly and indirectly by an organisation, typically over a period of 12 months.

**CO<sub>2</sub>e** – Carbon dioxide equivalent – standardisation of all measured greenhouse gases to reflect its warming equivalent to carbon dioxide (CO<sub>2</sub>). This is used to evaluate different greenhouse gases against a common basis.

**Direct emissions** – GHG emissions from facilities or sources owned or controlled by the reporting company, e.g. generator, company owned vehicles, etc.

**Emissions** – The release of greenhouse gases into the atmosphere.

**Emission factor** – Conversion factor to translate activity data, e.g. tonnes of fuel consumed, into emission data.

**GHG** – Greenhouse gases. Under the GHG Protocol standard seven gases are accounted for, namely carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride.

**GHG offset** – Offsets are GHG reductions used to compensate for GHG emissions elsewhere.

**GHG Inventory** – A listing of the GHG emissions and sources that are attributable to the company.

**GHG Protocol** – GHG Protocol Corporate Accounting and Reporting Standard.

**Global warming potential** – GWP is used to compare the impact of the emission of equivalent masses of different greenhouse gases relative to carbon dioxide.

**Indirect emissions** – emissions that are a consequence of the operations of the reporting company, but occur at sources owned or controlled by another company.

**Operational boundary** – The boundary to establish the operations and sources of emissions included in the GHG Inventory.

**Organisational boundary** – The boundary to establish business units or entities of an organisation included in the GHG Inventory. An equity or control approach can be taken.

**Reporting Period** – the period of time, typically a calendar or financial year for which the report covers.

**Scope 1 emission** – Direct emission from company-owned or controlled equipment, vehicles or corporate jets.

**Scope 2 emission** – Indirect emission from the consumption of purchased electricity.

**Scope 3 emission** – Indirect emission from other activities associated with the activities of the company, e.g. commuting travel, business air travel and paper consumption.

**Sequestration** – The uptake of CO<sub>2</sub> and storage of carbon in biological sinks.

## References

**UK Government, 2014.** *UK Government conversion factors for Company Reporting, version 1.0, 2014.*

**Environmental Protection Agency (US).** *Greenhouse Gas Equivalencies calculator.*  
<http://www.epa.gov/RDEE/energy-resources/calculator.html>.

**Eskom, 2014.** *Eskom Annual Integrated Report 2014.*

**Intergovernmental Panel on Climate Change.** *IPCC Synthesis Report. Valencia, Spain: IPCC, 2007.*

**NBI, March 2013.** *South Africa's Grid Emission Factor.*

**World Resources Institute and World Business Council for Sustainable Development.** *The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard.*

**World Resources Institute.** *GHG Protocol guidance on uncertainty assessment in GHG inventories and calculating statistical parameter uncertainty.*

## Appendix A: Methodology

The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (herein referred to as the GHG Protocol) has directed the greenhouse gas emissions measurement and reporting process.

### Greenhouse Gas Protocol Corporate Accounting and Reporting Standard

The Greenhouse Gas Protocol Initiative is a multi-stakeholder partnership of businesses, non-governmental organisations (NGOs), governments, and others convened by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). Launched in 1998 the initiative's mission is to develop internationally accepted greenhouse gas accounting and reporting standards for business and to promote their broad adoption worldwide.

The GHG Protocol is widely regarded as the standard for corporate GHG accounting and company reporting. The protocol is analogous to the generally accepted financial accounting standards for companies' consistent accounting and reporting practices.

#### Organisational scope

Organisational boundaries determine which facilities or operations, owned or controlled by the reporting company, are included in the GHG emission calculation. These boundaries are important for clear definition and scope of an inventory calculation.

The GHG Protocol allows reporting companies to report on the basis of operational control, financial control or equity. The GHG Protocol does not dictate which organisational boundary should be used for reporting purposes.

#### Operational Scope

Operational boundaries determine which activities of the reporting company generate emissions, which of these activities should be included in the calculation, and how these activities should be classified (i.e. as Scope 1, Scope 2, Scope 3).

The established organisational and operational boundaries together constitute a company's inventory boundary.

The compulsory reporting requirements of the GHG Protocol necessitate inclusion of emissions that are categorised as Scope 1 and Scope 2. Scope 1 and Scope 2 emissions that are present but not included must be disclosed with a justification for exclusion. Scope 3 emissions are not compulsory but recommended where material.

#### Greenhouse Gases

All emissions calculated are accounted for in terms of carbon dioxide equivalent gases (CO<sub>2</sub>e) as required by the GHG Protocol. Due to the varying ability of greenhouse gases to trap heat in the atmosphere, some are more harmful to the climate than others. Each greenhouse gas has a global warming potential (GWP), which refers to its heat trapping potential relative to that of CO<sub>2</sub>.

Greenhouse gas emissions are therefore typically reported as CO<sub>2</sub> equivalents (CO<sub>2</sub>e) for consistency, allowing like for like comparisons.

The seven main greenhouse gases covered by the GHG Protocol and reported as CO<sub>2</sub>e are:

- Carbon dioxide (CO<sub>2</sub>)
- Methane (CH<sub>4</sub>)
- Nitrous oxide (N<sub>2</sub>O)
- Hydro fluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF<sub>6</sub>)
- Nitrogen trifluoride (NF<sub>3</sub>)

In accordance with the GHG Protocol, greenhouse gas emissions are categorised as direct and indirect; and grouped into Scopes for accounting and reporting.

### **Direct Emissions – Scope 1**

Emissions are categorised as ‘direct’ when they are generated from activities or sources within the reporting company’s organisational boundary and which the company owns or controls. Under the protocol these are called Scope 1 emissions and are accounted for as such. These largely include fuel burned in company owned assets and fugitive emissions.

### **Indirect Emissions – Scope 2 and Scope 3**

‘Indirect’ sources are those emissions related to the company’s activities, but that are emitted from sources owned or controlled by a third party company. These are categorised as either Scope 2 emissions for purchased electricity or as Scope 3 for other non-owned or controlled emissions e.g. travel on commercial airlines and paper use.

## **Guiding Principles**

Assessments are produced under the following guiding principles of the GHG Protocol:

### **Accuracy**

The quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and uncertainties are reduced as far as practicable. Where we believe accuracy has been compromised it is documented in the report.

### **Transparency**

All relevant issues have been addressed in a factual and coherent manner, and are based on a clear audit trail. Relevant assumptions are disclosed and appropriate references to the accounting and calculation methodologies and data sources used are made.

### **Consistency**

Consistent methodologies are applied and allow for meaningful comparisons of emissions over time. Any changes to the data, inventory boundary, methods, or any other relevant factors in the time series are transparently documented.

### **Completeness**

All GHG emission sources and activities within the chosen inventory boundary are accounted for and reported. Exclusions are disclosed and justified.

### **Relevance**

The GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.



## Appendix B: Base year and base year recalculation/adjustment policies

### Selection of base year

The following needs to be considered in selecting and reporting a base year for future emissions tracking:

- The availability of verifiable emissions data.
- Choosing a single year or an average of annual emissions over several consecutive years. A multi-year average levels out unusual fluctuations in GHG emissions that would make a single year's data unrepresentative of the company's typical emissions profile.
- Can the base year be used as a basis for setting and tracking progress towards a GHG target?

### Base year adjustments

When tracking an organisation's emissions over time, it is important to compare like with like. Therefore, in the event of structural or other changes the base year emissions may need to be recalculated.

In accordance with the GHG Protocol, The Carbon Report recommends that base year emissions are adjusted in the event of:

- Structural changes such as mergers, acquisition and divestments; where the facility existed in the base year.
- Outsourcing and in-sourcing of emitting activities where activities were not reported in the base year under scope 2 or 3.
- Changes in calculation methodology or improvements in the accuracy of emissions factors or activity data; where significant.
- Discovery of significant errors.

Organic growth or organic decline does not necessitate adjustments to the baseline.

The Carbon Report recommends the following readjustment policies:

#### Structural changes

A company that acquires, merges with or divests of another company should include; or exclude in the case of divestment; the emission sources from the acquired, merged or divested company in the acquiring/divesting company's base year inventory (and current year inventory) where the base year falls prior to the structural change.

Where a structural change occurs in the middle of a reporting year, the GHG Protocol recommend that emissions are not pro-rated, and total annual emissions are applied to the full base year and the full reporting year.

## **Methodology Changes**

For a change in calculation methodology, we recommend that the GHG Inventory from the base year forward is updated.

Changes due to an updated emissions factor will become necessary when the emission factor data becomes available. A change in an emission factor will cause an update to the year the emission factor applies to.

If an error has occurred, and its impact on emissions is significant, we recommend it is corrected and the change noted.

## Appendix C: CDP

### CDP Climate: Question response relevant to GHG emission calculation

#### Q# Question

- 7.2 Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

- 7.3 Please give the source for the global warming potentials you have used

|     |  |
|-----|--|
| CO2 | IPCC Second Assessment Report (SAR - 100 year) |
| CH4 | IPCC Second Assessment Report (SAR - 100 year) |
| N2O | IPCC Second Assessment Report (SAR - 100 year) |

- 7.4 Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data

| Fuel/Material/Energy          | Emission Factor | Unit                       | Reference   |
|-------------------------------|-----------------|----------------------------|---|
| Diesel/Gas oil                | 2.66914         | kg CO2e per litre          | UK Government conversion factors for Company Reporting, 2014  |
| Motor gasoline                | 2.29990         | kg CO2e per litre          | UK Government conversion factors for Company Reporting, 2014  |
| Liquefied petroleum gas (LPG) | 3.16338         | kg CO2e per kg             | UK Government conversion factors for Company Reporting, 2014  |
| Liquefied petroleum gas (LPG) | 0.21451         | Other: kg CO2e per kWh     | UK Government conversion factors for Company Reporting, 2014  |
| Natural gas                   | 0.18497         | Other: kg CO2e per kWh     | UK Government conversion factors for Company Reporting, 2014  |
| Electricity (RSA and Lesotho) | 0.97000         | metric tonnes CO2e per MWh | NBI Proposed Grid Emissions Factor methodology. GEF calculated using Eskom Annual Integrated Report 2014 data |
| Electricity (Australia)       | 0.82300         | metric tonnes CO2e per MWh | UK Government conversion factors for Company Reporting, 2014  |
| Electricity (Sweden)          | 0.01700         | metric tonnes CO2e per MWh | UK Government conversion factors for Company Reporting, 2014  |
| Electricity (US)              | 0.50300         | metric tonnes CO2 per MWh  | UK Government conversion factors for Company Reporting, 2014  |

- 8.2 Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

7 598.51

- 8.3 Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

51 337.34

- 8.4 Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Scope 1 HVAC fugitive emissions excluded on the basis of immateriality

9.2 Please indicate which other Scope 1 emissions breakdowns you are able to provide

9.2a By business division

| <b>Business division</b> | <b>Scope 1 emissions (metric tonnes CO2e)</b> |
|--------------------------|---|
| CBI-electric             | 4 911.63                                      |
| Nashua                   | 2 173.91                                      |
| Reutech                  | 497.51  |
| Other                    | 15.47   |

10.1 Do you have Scope 2 emissions sources in more than one country or region?

yes

**Note:** Green electricity generated has been excluded. CDP guidance: "For Scope 2 emissions the following cases will not be accounted for in the energy figures provided in this question. Electricity consumed and generated from own sources either for example, by using combined heat and power facilities or by renewable sources. In this case, this electricity is only consumed and is part of the energy intensity of the company, but is not bought and as such, should not be accounted under Scope 2."

| <b>Country/Region</b>    | <b>Scope 2 metric tonnes CO2e</b> | <b>Purchased and consumed electricity, heat, steam or cooling (MWh)</b> | <b>Purchased and consumed low carbon electricity, heat, steam or cooling (MWh)</b> |
|--------------------------|-----------------------------------|---|--|
| South Africa             | 51 216.57                         | 52 800.58   | 0.00   |
| Australia                | 106.14                            | 128.97  | 0.00   |
| Sweden                   | 4.15                              | 244.32  | 0.00   |
| United States of America | 10.48                             | 20.83   | 0.00   |

10.2 Please indicate which other Scope 2 emissions breakdowns you are able to provide

10.2

a By business division

| <b>Business division</b> | <b>Scope 2 emissions (metric tonnes CO2e)</b> |
|--------------------------|---|
| CBI-electric             | 36 801.64                                     |
| Nashua                   | 8 275.85                                      |
| Reutech                  | 5 980.31                                      |
| Other                    | 279.54  |

11.2 Please state how much fuel, electricity, heat, steam, and cooling in MWh your organization has consumed during the reporting year

**Note:** Scope 1 non energy fuel use has been excluded. CDP guidance: "For Scope 1 emissions, a company will account all energy activities that lead to the consumption of fossil fuels for energy purposes."

| Energy type | MWh       |
|-------------|-----------|
| Fuel        | 34 837.74 |
| Electricity | 53 194.71 |
| Heat        | 0.00      |
| Steam       | 0.00      |
| Cooling     | 0.00      |

11.3 Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

| Fuels                         | MWh       |
|-------------------------------|-----------|
| Diesel/Gas oil                | 3 749.98  |
| Motor gasoline                | 11 760.82 |
| Liquefied petroleum gas (LPG) | 1 011.37  |
| Natural gas                   | 18 315.57 |

11.4 Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor

| Basis for applying a low carbon emission factor                                   | MWh associated with low carbon electricity, heat, steam or cooling | Comments |
|---|--|----------|
| Non-grid connected low carbon heat, steam or cooling, generation owned by company | 71.74  |          |

14.1 Please provide data on sources of Scope 3 emissions that are relevant to your organization

| Sources of Scope 3 emissions                                      | Evaluation status    | metric tonnes CO2e | Methodology  |
|---|----------------------|--------------------|--|
| Purchased goods and services                                      | Relevant, calculated | 84 608.46          | Includes 'cradle to gate' emissions in consumption of procured materials and supply of municipal water. Mass of materials such as paper, aluminium, steel, galvanised steel and PVC were recorded in kilograms and converted to tonnes to apply the relevant emission factor from the UK Government conversion factors for Company Reporting, 2014. Material use conversion factors are based on their origin i.e. comprised of primary material or recycled materials. For primary materials these factors cover the extraction, primary processing, manufacture and transportation of materials to the point of sale. For secondary materials, the factors cover sorting, processing, manufacture and transportation to the point of sale. Municipal water supply sourced from municipal accounts was recorded in kilolitres and an emission factor from UK Government conversion factors for Company Reporting, 2014 was applied. |
| Capital goods   |                      |                    |  |
| Fuel-and-energy-related activities (not included in Scope 1 or 2) |                      |                    |  |
| Upstream transportation and distribution                          |                      |                    |  |

|  |                                    |          |   |
|--|------------------------------------|----------|---|
| Waste generated in operations              | Relevant, calculated               | 638.10   | Includes waste disposal emissions of end of life disposal of different materials using a variety of different disposal methods, and treatment of municipal water. Various waste types are recorded in kgs and converted to tonnes to apply the relevant emission factor. Waste emission factors were sourced from the UK Government conversion factors for Company Reporting, 2014, and applied according to open loop recycling, closed loop recycling or landfill waste disposal method. Municipal water effluent sourced from municipal accounts was recorded in kilolitres and an emission factor from UK Government conversion factors for Company Reporting, 2014 was applied.  |
| Business travel                            | Relevant, calculated               | 2 828.44 | Business Travel includes emissions from rental vehicles and air travel. Rental vehicle emissions were provided by the car rental agency in grams of CO <sub>2</sub> e. Air travel activity was provided by the travel agency in a combination of grams of CO <sub>2</sub> e and passenger kilometers flown. Where passenger kilometers were provided flights were grouped by length and class to apply the appropriate emission factor, sourced from the UK Government conversion factors for Company Reporting, 2014. Domestic flights were categorised as domestic regardless of distance. Flights less than 3700 km were categorised as short haul, and flights above 3700 km were categorised as long haul. The emission factors apply an 8% uplift factor. The factors applied exclude the influence of non-CO <sub>2</sub> climate change effects of aviation (water vapour, contrails, NO <sub>x</sub> etc). |
| Employee commuting                         | Relevant, not yet calculated       |          |   |
| Upstream leased assets                     | Not relevant, explanation provided |          | Leased assets (buildings) where included in Scope 1 and 2   |
| Investments                                |                                    |          |   |
| Downstream transportation and distribution |                                    |          |   |
| Processing of sold                         |                                    |          |   |

|  |  |  |  |
|--|--|--|--|
| products                               |  |  |  |
| Use of sold products                   |  |  |  |
| End of life treatment of sold products |  |  |  |
| Downstream leased assets               |  |  |  |
| Franchises                             |  |  |  |
| Other (upstream)                       |  |  |  |
| Other (downstream)                     |  |  |  |



## Appendix D: GRI G4

### G4 Sustainability Reporting Guidelines: Question response relevant to GHG emission calculation

Q# Question

G4-  
EN3

#### ENERGY CONSUMPTION WITHIN THE ORGANIZATION

Report total fuel consumption from non-renewable sources in joules or multiples, including fuel types used.

a

|              | TJ            |
|--------------|---------------|
| Diesel       | 13.50         |
| Petrol       | 42.34         |
| Natural gas  | 65.94         |
| LPG          | 3.64          |
| <b>Total</b> | <b>125.42</b> |

c Report in joules, watt-hours or multiples, the total: Y

|                         | kwh        |
|-------------------------|------------|
| Electricity consumption | 53 266 453 |

e Report total energy consumption in joules or multiples.

|              | TJ     |
|--------------|--------|
| Total energy | 317.18 |

f Report standards, methodologies, and assumptions used.

Carbon Disclosure Project Technical note: Conversion of fuel data to MWh

g Report the source of the conversion factors used.

World Resources Institute (2008). GHG Protocol tool for stationary combustion. Version 4.0.

G4-  
EN5

#### ENERGY INTENSITY

a Report the energy intensity ratio.

| Business unit            | TJ per Rm revenue |
|--------------------------|-------------------|
|                          | TJ                |
| CBI Electric             | 0.06              |
| Nashua                   | 0.01              |
| Reutech                  | 0.03              |
| Group Services           | 0.08              |
| <b>Total Reunert Ltd</b> | <b>0.03</b>       |

b Report the organization-specific metric (the ratio denominator) chosen to calculate the ratio.

|        | TJ energy per Rm revenue |
|--------|--------------------------|
| Metric | Rm revenue               |

Report the types of energy included in the intensity ratio: fuel, electricity, heating, cooling, steam, or all.

Fuel, electricity

Report whether the ratio uses energy consumed within the organization, outside of it or both.

Within the organisation

G4-EN15

**DIRECT GREENHOUSE GAS (GHG) EMISSIONS (SCOPE 1)**

Report gross direct (Scope 1) GHG emissions in metric tons of CO2 equivalent, independent of any GHG trades, such as purchases, sales, or transfers of offsets or allowances.

|                   | <b>Metric tonnes CO2e</b> |
|-------------------|---------------------------|
| Scope 1 emissions | 7 598.51                  |

| <b>Business unit</b>      | <b>Stationary fuel combustion</b> | <b>Mobile fuel combustion</b> | <b>Stationary fuel non-energy use</b> | <b>Total</b> |
|---------------------------|-----------------------------------|-------------------------------|---------------------------------------|--------------|
| <b>Metric tonnes CO2e</b> |                                   |                               |                                       |              |
| CBI Electric              | 3 728.54                          | 1 168.79                      | 14.29                                 | 4 911.63     |
| Nashua                    | 24.88                             | 2 149.03                      |                                       | 2 173.91     |
| Reutech                   | 17.46                             | 480.05                        |                                       | 497.51       |
| Group Services            | 0.60                              | 14.86                         |                                       | 15.47        |
| Total Reunert Ltd         | 3 771.49                          | 3 812.74                      | 14.29                                 | 7 598.51     |

Report gases included in the calculation (whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all).

| <b>Gases</b> |
|--------------|
| CO2          |
| CH4          |
| N2O          |

Report biogenic CO2 emissions in metric tons of CO2 equivalent separately from the gross direct (Scope 1) GHG emissions.

not applicable / 0

Report standards, methodologies, and assumptions used.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)  
 Calculations based on published factors including:  
 Liquid fuel: kg CO2e per litre fuel  
 Gaseous fuel: kg CO2e per kwh  
 Gaseous fuel: kg CO2e per kg

f Report the source of the emission factors used and the global warming potential (GWP) rates used or a reference to the GWP source.

|  |
|--|
| UK Government conversion factors for Company Reporting, 2014.<br>GWP rates based on IPCC Second Assessment Report (SAR - 100 year) |
|--|

g Report the chosen consolidation approach for emissions (equity share, financial control, operational control).

|                   |
|-------------------|
| Financial control |
|-------------------|

G4-  
EN16

**ENERGY INDIRECT GREENHOUSE GAS (GHG) EMISSIONS (SCOPE 2)**

a Report gross energy indirect (Scope 2) GHG emissions in metric tons of CO2 equivalent, independent of any GHG trades, such as purchases, sales, or transfers of offsets or allowances.

|                   | <b>Metric tonnes CO2e</b> |
|-------------------|---------------------------|
| Scope 2 emissions | 51 337.34                 |

| <b>Business unit</b>      | <b>Purchased electricity</b> |
|---------------------------|------------------------------|
| <b>Metric tonnes CO2e</b> |                              |
| CBI Electric              | 36 801.64                    |
| Nashua                    | 8 275.85                     |
| Reutech                   | 5 980.31                     |
| Group Services            | 279.54                       |
| Total Reunert Ltd         | 51 337.34                    |

b Report gases included in the calculation, if available.

|              |
|--------------|
| <b>Gases</b> |
| CO2          |

e Report standards, methodologies, and assumptions used.

|   |
|---|
| The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)<br>Calculations based on published kg CO2e per kwh factors by country. |
|---|

f Report the source of the emission factors used and the global warming potential (GWP) rates used or a reference to the GWP source.

|  |
|--|
| South African grid emission factor calculated using NBI's proposed methodology and applying updated figures sourced from Eskom's Annual Integrated Report, 2014. The South African grid emission factor has been applied to Lesotho. Australia, Sweden and USA emission factors sourced from UK Government conversion factors for Company Reporting, 2014. |
|--|

g Report the chosen consolidation approach for emissions (equity share, financial control, operational control).

|                   |
|-------------------|
| Financial control |
|-------------------|

G4-  
EN17

**OTHER INDIRECT GREENHOUSE GAS (GHG) EMISSIONS (SCOPE 3)**

Report gross other indirect (Scope 3) GHG emissions in metric tons of CO2 equivalent. Exclude any GHG trades, such as purchases, sales, or transfers of offsets or allowances.

a

|                   | <b>Metric tonnes CO2e</b> |
|-------------------|---------------------------|
| Scope 3 emissions | 88 075.00                 |

| <b>Business unit</b>      | <b>Purchased goods and services</b> | <b>Waste generated in operations</b> | <b>Business travel</b> | <b>Total</b> |
|---------------------------|-------------------------------------|--------------------------------------|------------------------|--------------|
| <b>Metric tonnes CO2e</b> |                                     |                                      |                        |              |
| CBI Electric              | 84 506.56                           | 436.87                               | 264.64                 | 85 208.07    |
| Nashua                    | 48.90                               | 40.08                                | 380.04                 | 469.02       |
| Reutech                   | 46.90                               | 160.14                               | 2 135.54               | 2 342.58     |
| Group Services            | 6.10                                | 1.01                                 | 48.22                  | 55.33        |
| Total Reunert Ltd         | 84 608.46                           | 638.10                               | 2 828.44               | 88 075.00    |

b Report gases included in the calculation, if available.

|              |
|--------------|
| <b>Gases</b> |
| CO2          |
| CH4          |
| N2O          |

d Report other indirect (Scope 3) emissions categories and activities included in the calculation.

|                               |  |
|-------------------------------|--|
| Purchased goods and services  | Material use of paper, metals and plastics and municipal water supply  |
| Waste generated in operations | Waste disposal of commercial and industrial waste, paper, glass, metals, oils, electric and electronic equipment, batteries and plastics and treatment of effluent |
| Business travel               | Business travel in rental motor vehicles and commercial airlines   |

f Report standards, methodologies, and assumptions used.

|  |
|--|
| <p>The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)<br/>           Calculations based on a combination of emissions data supplied and published factors including:<br/>           Material use: kg CO2e per tonne product used by source of material<br/>           Water supply: kg CO2e per kl of water supplied<br/>           Waste disposal: kg CO2e per tonne waste disposed of by material and disposal method<br/>           Water treatment: kg CO2e per kl of effluent<br/>           Air travel: kg CO2e per pkm travelled (excluding radiative forcing) by distance category and class</p> |
|--|

g Report the source of the emission factors used and the global warming potential (GWP) rates used or a reference to the GWP source, if available.

|   |
|---|
| <p>UK Government conversion factors for Company Reporting, 2014.<br/>           GWP rates based on IPCC Second Assessment Report (SAR - 100 year)</p> |
|---|

**GREENHOUSE GAS (GHG) EMISSIONS INTENSITY**

a Report the GHG emissions intensity ratio.

| Business unit                        | Metric tonnes CO <sub>2</sub> e per m <sup>2</sup> | kWh per m <sup>2</sup> | Metric tonnes CO <sub>2</sub> e per FTE | Metric tonnes CO <sub>2</sub> e per Rm revenue | Scope 1 + 2 Metric tonnes CO <sub>2</sub> e per Rm revenue |
|--------------------------------------|--|------------------------|---|--|--|
| <b>Metric tonnes CO<sub>2</sub>e</b> |  |                        |   |  |  |
| CBI Electric                         | 0.25   | 237.12                 | 56.51                                   | 35.15  | 11.55  |
| Nashua                               | 0.15   | 154.97                 | 4.28                                    | 1.61   | 1.54   |
| Reutech                              | 0.20   | 203.75                 | 11.22                                   | 8.82   | 6.48   |
| Group Services                       | 0.15   | 156.96                 | 5.94                                    | 21.90  | 18.44  |
| Total Reunert Ltd                    | 0.22   | 213.78                 | 26.05                                   | 12.88  | 5.16   |

b Report the organization-specific metric (the ratio denominator) chosen to calculate the ratio.

|        | Metric tonnes CO <sub>2</sub> e per m <sup>2</sup> | kWh per m <sup>2</sup> | Metric tonnes CO <sub>2</sub> e per FTE | Metric tonnes CO <sub>2</sub> e per Rm revenue | Scope 1 + 2 Metric tonnes CO <sub>2</sub> e per Rm revenue |
|--------|--|------------------------|---|--|--|
| Metric | m <sup>2</sup>                                     | m <sup>2</sup>         | FTE (permanent employees)               | Rm revenue                                     | Rm revenue   |

Report the types of GHG emissions included in the intensity ratio: direct (Scope 1), energy indirect (Scope 2), other indirect (Scope 3).

c

|               | Metric tonnes CO <sub>2</sub> e per m <sup>2</sup> | kWh per m <sup>2</sup> | Metric tonnes CO <sub>2</sub> e per FTE | Metric tonnes CO <sub>2</sub> e per Rm revenue | Scope 1 + 2 Metric tonnes CO <sub>2</sub> e per Rm revenue |
|---------------|--|------------------------|---|--|--|
| GHG emissions | Direct stationary fuel combustion + Scope 2        | n/a                    | Scope 1 + Scope 2 + Scope 3             | Scope 1 + Scope 2 + Scope 3                    | Scope 1 + Scope 2  |

d Report gases included in the calculation.

| Gases            |
|------------------|
| CO <sub>2</sub>  |
| CH <sub>4</sub>  |
| N <sub>2</sub> O |