

# Greenhouse Gas Verification



**Client:** Credible Carbon  
**Project:** Reliance Compost  
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Report prepared by Carbon Calculated

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## Abbreviations and glossary of terms

CDM	Clean Development Mechanism (UNFCCC Kyoto Protocol)
CH <sub>4</sub>	Methane
CO <sub>2</sub> e	Carbon dioxide equivalent – standardisation of all greenhouse gases to reflect the global warming potential relative to carbon dioxide.
Defra	United Kingdom Department of Environment, Food and Rural Affairs
GHG	Greenhouse gases
IPCC	International Panel on Climate Change
SOPs	Standard Operating Procedures
SSRs	Sources, Sinks & Reservoirs (Greenhouse Gas)
WBCSD	World Business Council for Sustainable Development
WRI	World Resources Institute

## Acknowledgements

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Detlev Meyer  
Christo Bester  
Eddie Redelinghuys  
Anton Cartwright (Credible Carbon)

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## Section A: Introduction

The purpose of a Verification Report is to provide assurance to intended users that the organization's GHG assertions are complete, accurate, consistent, transparent, conservative and without material discrepancies.

Credible Carbon commissioned Carbon Calculated ("the Verifier") to verify the Reliance Group Trading (Pty) Ltd, trading as Reliance Compost, 2013 project emission reductions with the view to express an opinion on whether Reliance Compost's GHG assertions meets the requirements of the Credible Carbon Registry.

The Credible Carbon Registry requirements and the findings of the verification are summarised in the table below:

Credible Carbon Registry Requirement	Verifier Finding
i. The project is real.	✓
ii. The project's described technology is in place and functioning according to its design specifications.	✓
iii. The estimates of greenhouse gas emission reductions are reasonable in terms of accepted international standards and unbiased towards buyer or seller.	✓ 154 702 tonnes CO <sub>2</sub> e Jan – Dec 2013
iv. The project has a discernible impact on poverty.	✓

As an independent Carbon Consultancy offering a diverse range of services relating to carbon management and strategy according to international best practice in South Africa, there is no actual or potential conflict of interest between Carbon Calculated and Reliance Compost in performing the verification.

Karen van der Wath performed the verification as she is in possession of a certificate of proficiency issued by the GHG Management Institute for the verification of inventories and projects using the ISO 14064-3 (2006) verification standard.

## Section B: Background information

### 1. Project description

Reliance Compost entails composting of green waste (plant residues, garden waste, park waste) from the of Cape Town metropolitan municipality. The waste is taken from Green Waste Transfer Stations (GWTS) in Cape Town where it is sorted and the green waste is decontaminated if necessary and chipped to reduce the volume. The chipped material is brought to the composting site at Olyphantsfontein Farm in Klipheuwel where it is treated and accumulated in piles. A periodical turn-over of the waste with a mechanical turner ensures on-going aerobic decomposition and the production of high quality compost that can be used as organic fertilizer. The existing process has proven to be very successful and the tonnages of chipped waste composted annually has increased year on year to the current nearly 90 000 tons.

The baseline for the composted material assumes that it would have been transferred from the GWTS to one of two landfills in Cape Town. Under business as usual the waste would have been taken to one of the GWTS before being transferred to one of the landfill sites.

The carbon emission reductions are generated through a specially developed composting technology that helps to address some of the worlds' biggest environmental and agricultural problems (soil degradation, climate change through increased carbon dioxide emissions, the excessive use of water, and the increasing amount of waste).

Composted product is organically certified annually and used in a range of environmentally sustainable agricultural and gardening activities.

### 2. Verification objectives

The objectives of this verification are to ensure that the emission reduction project meets the requirements of the Credible Carbon Registry and quantified as per the guidance provided by the relevant CDM methodologies.

This verification is based on a PIN as there is no validated or registered PDD for the project.

The Credible Carbon Registry requirements that need to be verified are whether:

- ii. The project is real;
- iii. The project's described technology is in place and functioning according to its design specifications;
- iv. The estimates of greenhouse gas emission reductions are reasonable in terms of accepted international standards and unbiased towards buyer or seller;
- v. The project has a discernible impact on poverty.

### 3. Approach to verification

#### 3.1. Approach to calculation

Emissions are quantified according to the guidance provided by the Small-Scale CDM methodologies AMS III.E v. 7: "Avoidance of methane production from biomass decay through controlled combustion" and AMS III.F v. 5: "Avoidance of methane production from biomass decay through composting".

Baseline emissions are calculated taking into account the amount of processed material that would have been transferred to a landfill site.

Project emissions are generated by the transportation of input and output materials as well as electricity and fuel consumption on site.

### **3.2. Verification Standard**

The verification was performed in accordance with the ISO 14064-3 International Standard for GHG verifications (projects).

ISO 14064-3

The ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees.

ISO 14064-3 (2006) specifies principles and requirements and provides guidance for those conducting or managing the validation and/or verification of greenhouse gas (GHG) assertions. It can be applied to organizational or GHG project quantification, including GHG quantification, monitoring and reporting carried out in accordance with ISO 14064-1 or ISO 14064-2.

ISO 14064-3 specifies requirements for selecting GHG validators/verifiers, establishing the level of assurance, objectives, criteria and scope, determining the validation/verification approach, assessing GHG data, information, information systems and controls, evaluating GHG assertions and preparing validation/verification statements.

### **3.3. Reporting period**

The reporting period of the project being verified is from 1 January 2013 to 31 December 2013 (both days inclusive).

### **3.4. GHG Assertions**

Reliance Compost's GHG assertion is:

- that the project meets the requirements of the Credible Carbon Registry;
- the amount of emission reductions reported (174 460 tonnes CO<sub>2</sub>e) is correct to a 5% materiality threshold.

### **3.5. Project documentation**

Carbon Calculated reviewed the following project and background documentation about the project site and design, as well as data and controls to be assessed:

- Sixth Monitoring Reports Version 1 - 5, dated 4/6/2014, which provide a description of the project, SSRs and project emissions as well as provides the baseline scenario, SSRs and the quantification of GHG emission reductions. Further, it provides procedures for monitoring and data management.
- Quantification spreadsheets providing activity data and emission factors used in emission quantification of GHG reductions.
- Reports for incoming waste received and sales reports of compost sold with delivery distances during the period.
- Confirmation of shortest distances between drop off facilities in Cape Town and the Olyphantsfontein compost facility.
- Reports for electricity and diesel consumed during the 6<sup>th</sup> verification period.
- The monitoring data management/archiving policy together with monthly confirmation reports from the Lab Manager that no compost windrows were rejected due to non-compliance or deviations from the monitoring system for the 6<sup>th</sup> verification period.
- The stock assessment policy with the monthly quantification of stock at the end of each month.
- Calibration certificate no 7518 for the weighbridge, Type MASSAMATIC Dux SL, Serial No. 043154, dated 24/10/2013, expiry date 24/10/2015.
- Calibration certificate no 13J005 for the handheld digital thermometer, Type TCL, model DT 305 Range - 50-1300°C(K), Serial No. 7231133, dated 17/10/2013, expiry date October 2014.
- Ceres GmbH confirmation that the compost can be used as soil amendment or fertiliser in organic farming, dated 11/10/2013 and 4/12/2012, expiry dates 30/9/2014 and 30/11/2013 respectively. These inspections were carried out during 2013 and 14/9/2012 respectively.
- Approval from the City of Cape Town to operate a compost plant on portion 2 of the Olyphantsfontein Farm, dated 8/8/2012.
- Environmental Audit Report dated 19/11/2013 compiled by Jeffares & Green Engineering & Environmental Consultants with details of findings regarding the Reliance Composting Facility's compliance with S24 (G) Environmental Authorisation conditions.
- CSI report of upliftment activities with proof of financial donations made or product donated.
- Documentation of previous verifications.
- Credible Carbon Registry requirements (4 questions) and PIN.

## 4. Limitations and assumptions

### 4.1. General

Reliance Compost commissioned TÜV NORD to verify the project under the TÜV NORD Voluntary Emission Reduction Standard (TN-VO 001) applicable for VER project activities since inception – 1 May 2008 to 31 December 2011.

On the basis of this site visits and the reviewed project documentation it was confirmed that with regards to the realized technology, the project equipment, as well as the monitoring and metering equipment, the project has been implemented and operated as described in the PDD.

As a result of the verifications, TÜV NORD confirmed that:

- all operations of the project are implemented and installed as planned and described in the validated project design document.
- the monitoring plan is in accordance with the applied approved CDM methodology, i.e. AMS III.E v. 7 and AMS III.F v. 5.
- the monitoring system is in place and functional. The project has generated GHG emission reductions.

### 4.2. Specific

#### 4.2.1. – On-site weighting

Calibration certificate no 7518 for the weighbridge, Type MASSAMATIC Dux SL, Serial No. 043154, dated 24/10/2013, has an expiry date of 24/10/2015. The calibration certificate no. 2699 for the weighbridge dated 26/9/2011 had an expiry date of 26/9/2013.

Reliance compost operated without a valid calibration certificate for the weighbridge for the period 27/9/2013 to 24/10/2013 and incoming tons of biomass was reduced by 5% for this period.

Although the Standard Operating Procedures (SOP's) require that monitoring equipment must be calibrated at the frequency recommended by the manufacturer, but not less than once every 12 months, the test report was considered in order.

#### 4.2.2. – Turning of windrows

At Reliance Compost organic waste is aerobically degraded to generate high quality compost which can be used as organic fertilizer. The effect of this aerobic degradation is the avoidance of methane emissions (GWP of 21), because during the composting process only CO<sub>2</sub> (GWP of 1) will be emitted if aerobic conditions are ensured during the process.

To ensure the correct aerobic conditions the level of CO<sub>2</sub> and temperature of compost are measured daily. These measurements determine which windrows need turning to ensure aerobic conditions.

The monthly reports issued by the Lab Manager confirmed that the CO<sub>2</sub> levels and temperature of the compost were within acceptable levels during the verification period, hence there were no cancelled rows.

The handheld digital thermometer, Type TCL, model DT 305 Range -50-1300°C(K), Serial No. 7231133, has a calibration certificate no 13J005, dated 17/10/2013, expiry date October 2014.

#### 4.2.3. – Confirmation of Materials Used in Organic Agriculture

The compost produced by Reliance Compost is certified annually by CERES GmbH that it can be used as soil amendment or fertiliser in organic farming according to the EU Council Reg. (EC) 834/2007 (Annex I) standard.

This CERES seal of confirmation is based on an onsite verification and laboratory analysis. The inspections took place on during 2013 and 14/9/2012.

Document no. 18418 is dated 11/10/2013 and valid until 30/9/2014 while document no. 9859 is dated 4/12/2012 and valid until 30/11/2013.

- 4.2.4. – Environmental Audit Report  
Jeffares & Green Engineering & Environmental Consultants undertook an annual environmental audit for 2013 although this was not a requirement of the Environmental Authorisation in terms of NEMA which was granted in November 2009. The report dated 19/11/2013 illustrates good practice and describes the Reliance Composting Facility as a generally well-managed site with good house-keeping practices. Its findings indicate compliance with S24 (G) Environmental Authorisation conditions.
- 4.2.5. – 6<sup>th</sup> Verification Period  
The 6<sup>th</sup> Monitoring Report was prepared in accordance with the CDM-PDD with no changes from the project activity as described.
- 4.2.6. – Future operations  
Reliance Compost has proposed the expansion of its organic composting facility at Olyphantsfontein Farm.

The original proposal of Anaerobic Digestion with the inclusion of sewage sludge as one of the inputs as well as indoor composting facilities was negatively received by various stakeholders and no longer form part of the proposed expansion; hence sewage sludge will not be received on site.

Reliance Compost has received Environmental Authorisation and a Waste Management Licence dated 23/9/2013 from the Western Cape Government for the expansion of the facility just south of the current operating facility.

The proposed expansion of the green waste composting facility will include additional organic waste streams such as animal manure (40% cattle, 40% chicken, 10% pig, 10% horse), fruit and vegetables and seasonal grape pommage.

The future operations and expansion plans do not affect the verification of the current operations under review.

## Section C: Findings

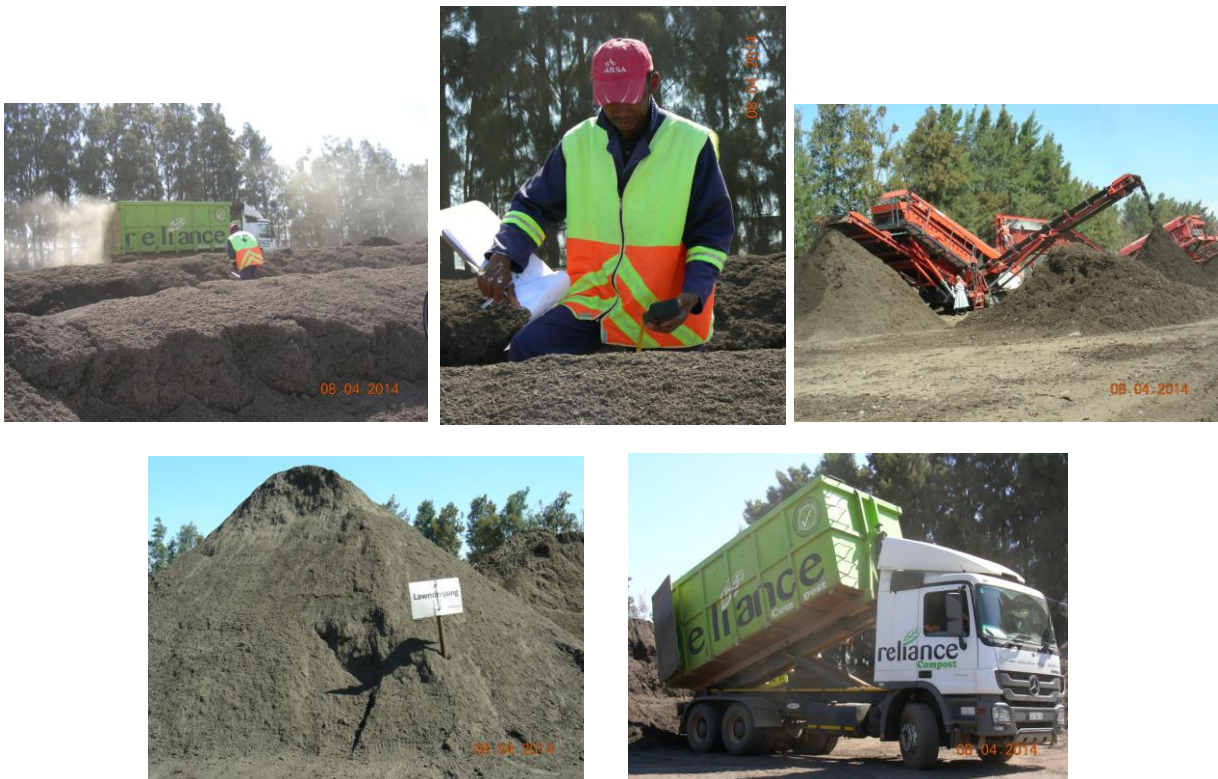
### 5. Verification of Credible Carbon Registry questions

#### 5.1. Is the project real?

Carbon Calculated visited Reliance Compost at Olyphantsfontein Farm, Slent Road, Klipheuwel on 8 April 2014 and can verify that the project is in existence.

#### 5.2. Is the described technology in place?

The site visit confirmed that composting activities are in existence and that weighing of the waste and compost through the means of a weighbridge is in operation. Mechanical turners turning the windrows as well as the lab operations confirmed that the technology for aerobic degradation is in place.



Windrows of compost with measurements being taken and sifting of compost

### 5.3. Are the greenhouse gas reductions reasonable in terms of accepted international standards and unbiased towards buyer or seller?

The following table is a summary of the re-computation performed to test if methodologies are being correctly applied and to verify the emission factors used and the accuracy of the original calculations, together with findings.

Reported emissions compared to Verifier calculations										
Description	Activity data	Variable	Reliance Compost Calculation			Verifier Calculation		Difference	Materiality %	Materiality % Revised
			Emissions Factor 2013	Metric tonnes CO <sub>2</sub> e	Metric tonnes CO <sub>2</sub> e Revised	Emissions Factor 2013	Metric tonnes CO <sub>2</sub> e			
<b>Baseline emissions: <math>BE_y = Q_{biomass} * CH4\_IPCCdecay * GWP\_CH4</math></b>										
Baseline emissions	Biomass tons	<del>99 270</del> 88 560	Various	181 922	162 295	Various	162 295	19 627	12.680%	0.000%
<b>Project emissions: <math>PE_y = PE_{y, transport} + PE_{y, power}</math></b>										
PE <sub>y</sub> , transport	Waste km/truck	107.38	0.001450	1 121	1 007	0.001450	1 007	114	0.074%	0.000%
	Compost km/truck	<del>124.36</del> 129.40	0.001450	1 650	1 894	0.001450	1 894	-244	-0.158%	0.000%
PE <sub>y</sub> , power	Electricity kWh	289 395	0.001221	354	354	1.00 Eskom 2013	289	65	0.042%	0.042%
	Diesel Tons	1 361.04 1 332.36	3.1863	4 337	4 337	3.1885 Defra 2013	4 248	89	0.058%	0.058%
	Petrol Tons	0 23.91	0,0000	0	0	3.1468 Defra 2013	75	-75	-0.048%	-0.048%
Total Project emissions				7 462	7 593		7 514	-52	-0.034%	0.052%
Total emission reductions				174 460	154 702		154 781	19 679	12.714%	0.052%

#### Findings giving rise to CARs as per clause 7.2:

- Baseline emissions
  - ✓ Carbon was calculated using an accepted emissions factor and formula per the CDM-PDD.
  - ✗ Tons of biomass received was used to calculate the carbon emissions resulting in an overstatement of 19 627 tCO<sub>2</sub>e as a result of using chips for ground enrichment for new vineyard areas on a sister farm. The gap in dates in the weighbridge calibration certificates necessitated a 5% reduction in volumes for the 28 day period.
  - ✓ This category is a major source of carbon emissions (100% of baseline emissions) and it could lead to material discrepancies if errors or omissions are present in the reported data.
- Project emissions - transport
  - ✓ Carbon was calculated using an accepted emissions factor and formula per the CDM-PDD.
  - ✗ The weight and incremental distance of the solid waste transported was used to calculate the carbon emissions resulting in an overstatement of 114 tCO<sub>2</sub>e.
  - ✓ The average truck capacity for waste transportation was overstated by truck net weight inaccuracies causing small discrepancies.
  - ✗ The weight and distance of compost delivered was used to calculate the carbon emissions resulting in an understatement of 244 tCO<sub>2</sub>e.
  - ✓ The average truck capacity and distance per truck travelled relating to compost transportation was understated causing small discrepancies.
  - ✓ The category relating to transport of compost is a major source of carbon emissions (25.2% of project emissions) and it could lead to material discrepancies if errors or omissions are present in the reported data.

- Project emissions – power: electricity
  - ✓ Carbon was calculated using an accepted emissions factor and formula per the CDM-PDD. However, the emissions factor from the Eskom 2013 Annual Report could be used for localisation.
  - ✓ The kilowatt hours consumed was used to calculate the carbon emissions with a small discrepancy (0.042% overstatement) due to the difference in emission factors.
- Project emissions – power: diesel and petrol
  - ✓ Carbon was calculated using an accepted emissions factor and formula per the CDM-PDD.
  - ✓ The total amount of petrol purchased and consumed was not separately disclosed in the calculation resulting in an understatement of -75 tCO<sub>2</sub>e.
  - ✓ Litres of diesel and petrol purchased was converted into tons of diesel and used to calculate the carbon emissions resulting in an overstatement of 89 tCO<sub>2</sub>e.
  - ✓ The category relating to diesel consumption in operations is a major source of carbon emissions (56.5% of project emissions) and it could lead to material discrepancies if errors or omissions are present in the reported data.
- Total emission reductions
  - ✗ Baseline emissions calculated and reported are overstated by 19 627 tCO<sub>2</sub>e (12.68%).
  - ✗ Project emissions: transport calculated and reported are understated by 130 tCO<sub>2</sub>e (-0.084%).
  - ✓ Project emissions: power calculated and reported are overstated by 78 tCO<sub>2</sub>e (0.052%).
  - ✗ Total emission reductions calculated and reported are overstated 19 679 tCO<sub>2</sub>e (12.714%).
  - ✗ Material discrepancies were discovered that could affect the decisions of the intended users.
  - ✗ The emission reductions are biased towards a buyer or seller.

#### **5.4. Is there a discernible impact on poverty?**

The Reliance Compost project makes a contribution to the alleviation of poverty or livelihood risk through the actions listed below.

The Company's mission, Growing Greener Generations, is made visible through its donation of compost to NGO's, schools in previously disadvantaged communities for educational purposes & projects, day carecenters, sport fields, etc. Trees are also planted at various schools to provide shade for playgrounds and overall beautifying the area.

Since 2008 Reliance Compost has grown from a staff compliment of 20 (5 office/admin staff and 15 production workers) to the current 228 (141 permanent and 40 casual workers). There are 47 additional external chipping site workers.

During 2013 a Reliance spent R300 000 to implement a Group Life Scheme to enhance its staff welfare and spent R250 000 on providing training and skills development for staff including drivers and mechanics.

The activities highlighted below took place during 2013, but there many other projects that benefitted from Reliance Compost's contributions which are not listed. A detailed listing of donations and sponsorships can be viewed in Appendix A. Where items are marked with "A" or "\*" the proof of payment or copy invoice was produced.

The Oranjezicht City Farm (OZCF) is a non-profit project celebrating local food, culture and Community. Using the tagline "From Bowling Green to Bowl of Greens" it is growing vegetables, holding public events and running education programmes to help educate Capetonians and their children about food, environmental and related issues, develop skills among the unemployed, build bridges across communities, and champion underutilised green spaces in the city.

The Farm was launched on 9 October 2012 and planting started during November 2012. In return for contributing to creating the vibrant, beautiful and nourishing city farm, volunteers were rewarded with a bag of Reliance Organic Compost. Reliance Compost donated tons of compost to the farm and is now giving back to the community members who have donated their time.

Learners from surrounding schools such as St Cyprians are brought to the farm, to teach them about sustainability, and the production of vegetables and herbs. Some of the crops planted at the OZCF are carrots, radishes, peas, broadbeans, buchu, granadilla, spekboom, comfrey, garlic, beetroot, herbs, lemons and limes.

An organic market has sprung up next to the farm and is flourishing with fresh, healthy produce. The OZCF Market Day held every Saturday morning is a community farmers-style market for independent local farmers and artisanal food producers. Mosima Pale of Malopo Urban Agriculture started farming by renting a 750 square metre piece of land in Wynberg and is now supplying organically grown veggies to the OZCF Market Day and is making a living out of it.

All farming at the OZCF is under the guidance of an experienced organic farmer. Much of the manual labour is provided through an agreement with the NGO Straatwerk, who pays R150 a day to one farm assistant, giving dignity to unemployed men and women by providing steady paying work and an apprenticeship programme to become organic farmers.

During 2013 Reliance Compost has donated product to the value of R50 247 to the project and is thus classified as an Asparagus Assortment donor. The OZCF project activities can be viewed at <http://www.ozcf.co.za>.

1 in 5 South African children suffer from chronic malnutrition. This can negatively affect concentration, ability to learn and school attendance. Greenpop, an NGO responsible for tree planting projects, greening of events and education, therefore plant indigenous and fruit trees at schools to aid with food security.

Planting indigenous trees at schools teach learners valuable environmental lessons and reconnects learners with nature. Tree planting also beautifies schools and communities instilling pride of place as well as creates shady spaces for children to play.

Planting fruit groves at schools provide fruit and nutrition for school children that aid concentration, uplift learning experiences and improve school attendance. Further, it provides children with the valuable experience of planting, growing and caring for something as well as seeing the positive results that come from this.

After a School Planting Day each student, three times a week, brings a 2-litre recycled plastic bottle with their used bath or dish water from home to water their specific trees. This saves the school's water, teaches recycling, empowers the learners to take responsibility for their trees and ensures the trees don't get thirsty.

During 2013 Reliance Compost provided Greenpop with rich and nutritious compost to the value of R6 287 for 28 schools where 1032 trees were planted.

Greenpop hosts annual Reforestation Festivals at Platbos Forest. In 2011 a total of 1324 trees were planted and 2001 trees in 2012. In 2013 a total of 5001 trees were planted during 2 consecutive weekends. Reliance Compost provided sponsorship of R34 950 to the Platbos reforestation project in 2013.

In 2012, Greenpop launched Trees for Zambia, a reforestation and eco-awareness project which began with a 3-week tree planting event and was followed by an ongoing campaign to inspire awareness about deforestation, climate change, tree planting, environmental sustainability and alternative energy sources. Each year in June/July thousands of trees are planted by passionate people from all over the world. Environmental workshops are hosted with school children, farmers and volunteers and many lessons are learned and shared. Trees for Zambia is a holistic awareness campaign based on getting people active about making sustainable changes. Reliance Compost provided sponsorship of R28 725 to the Trees for Zambia project in 2013.

Greenpop's operations can be viewed at <http://www.greenpop.org/projects/>.

The Miss Earth South Africa is a leadership programme that aims to empower young South African women with the knowledge and platform to create a sustainable difference in our plight to combat the destruction of our natural heritage. Its vision is to create a positive and lasting change in corporate and social behaviour by addressing environmental, water, energy, conservation and sustainability issues.

To ensure we build communities and networks based on the principles of sustainability and human development, Miss Earth South Africa support projects and initiatives relating to the planting of trees, adaptation and climate change mitigation, glass and recycling, water and energy, stationary for education, conservation of fauna and flora and marine initiatives.

The crowning of Miss Earth South Africa 2013 saw the 25 national semi-finalists jetting off to Cape Town to celebrate and join in the green spirit with Reliance Compost through a series of school projects, beach clean-ups, recycling initiatives as well as volunteer sessions at SANCCOB Marine Bird Rehabilitation Centre. On their return to Johannesburg the national semi-finalists, together with Reliance Compost, toured the Sappi's Enstrata Paper Mill aimed to educate the young women on the importance of responsible practices and sustainable farming methods in the paper manufacturing industry.

Additionally, a number of greening and community upliftment projects in the spirit of making every day a Mandela Day ahead of International Mandela Day on 18 July was completed. The Miss Earth South Africa together with Consol, Tsogo Sun, Reliance Compost, Fourways Farmers Market, Garnier and Imperial Toyota took hands in greening Solwazi Primary School in Orange Farm, where 95 indigenous trees were planted to honour the father of the nation, Tata Madiba.

Reliance Compost sponsored R250 000 for the greening events in Cape Town as well as some of the costs associated with the gala event.

Miss Earth South Africa's operations can be viewed at <http://www.missearthsouthafrica.co.za/>.

As a member of the 110% Green Flagship project, an initiative of the Western Cape Government who are calling on organizations to commit to the Green Economy, by committing to it, acting on it and making an impact.

Reliance Compost donated product to schools and projects throughout the province to 'green' their own environments, while educating students through recycling artwork projects and the development of food gardens. These schools and projects include, Kersboslaagte Primary, Ithemba Labantu Green Community Centre, Kayamandi High School, NID Worcester School of Deaf, Zenzeleni Waldorf School, Athlone House of Strength and Ambleside School of Hout Bay and 1 Million Trees Project to name a few.

Although Reliance Compost is fulfilling its mission of Growing Greener Generations through the donation of compost and sponsorships, the link and impact on alleviation of poverty or livelihood risk is not that clear.

## 6. GHG Saving Schedule

The following is a schedule of GHG savings and carbon credits issued for the project from inception to date. Carbon credits available for sale can be purchased through the Credible Carbon registry – see <http://www.crediblecarbon.com/>.

Vintage (calendar year)	Period	Carbon Credits Issued
2008	01/05/2008 – 31/10/2008	12 390
	01/11/2008 - 31/12/2008	<u>32 011</u> 44 401
2009	01/01/2009 – 31/12/2009	56 484
2010	01/01/2010 – 28/02/2010	12 813
	01/03/2010 – 31/12/2010	<u>47 187</u> 60 000
2011	01/01/2011 – 31/03/2011	17 409
	01/04/2011 – 31/12/2011	<u>68 932</u> 86 341
2012	01/01/2012 – 31/12/2012	142 376
2013	01/01/2013 – 31/12/2013	154 702
<b>Total</b>		<b>544 304</b>

## Section D: Conclusion and Way Forward

### 7. Conclusion

#### 7.1. Clarification requests

- None

#### 7.2. Corrective action requests

- CAR1 – Delivery (intake) report to be reduced with 10 000 tons of chips used for own consumption.
- CAR2 – Delivery (intake) report to be reduced by 5% for the period 27 September to 24 October 2013.
- CAR3 – Incremental distance for solid waste transportation to be calculated and updated in calculation sheets.
- CAR4 – Sales report to be adjusted to include 10 000 tons of compost used for own consumption.
- CAR5 – Sales report to be adjusted to reflect distances for all deliveries and update the calculation of average capacity and kilometres travelled per truck.

#### 7.3. Forward action requests

- FAR1 – Include the Data / Parameter for petrol consumption in the Monitoring Report.
- FAR2 – Include petrol consumption separately in project emissions calculation.
- FAR3 – Use updated annual emissions factor from Defra to calculate project emissions.
- FAR4 – Use updated annual emission factors from Eskom to calculate emissions for electricity.

#### 7.4. Opportunities for improvement

- OFI1 – Error checking routines for data transfer between different systems should be implemented to increase accuracy of quantification and ensure that data is correct, particularly the transport of waste (incoming chips report) and transport of compost (sales report).
- OFI2 – Include the date when signing off the monthly monitoring reports.

#### 7.5. Conclusion

Reliance Compost has revised and restated its GHG assertion to incorporate the Corrective Action Requests (CARs) and the outcome is as follows:

- Total emission reductions
  - ✓ Baseline emissions are accurately calculated and reported.
  - ✓ Project emissions: transport are accurately calculated and reported.
  - ✓ Project emissions: power are accurately calculated and reported (0.052% overstatement).
  - ✓ Total emission reductions are accurately calculated and reported (0.052% overstatement).
  - ✓ No material discrepancies were discovered that could affect the decisions of the intended users.
  - ✓ The emission reductions are unbiased towards a buyer or seller.

The Verifier opinion is based on the revised Monitoring Report Version 5 incorporating the CARs.

## 8. Verifier opinion

Credible Carbon commissioned Carbon Calculated to perform a verification of the Reliance Group Trading (Pty) Ltd, trading as Reliance Compost, 1 January 2013 to 31 December 2013 project emission reductions. The verification was performed between 8 April 2014 and 11 June 2014.

GHG Assertion #1: The Reliance Carbon project meets the requirements of the Credible Carbon Registry.

### *Verifier Opinion and Qualifications*

Based on the process and procedures conducted, the GHG assertion meets the requirements of the Credible Carbon Registry.

GHG Assertion #2: The amount of emission reductions reported (154 702 tonnes CO<sub>2</sub>e) is reasonable.

### *Verifier Opinion and Qualifications*

Based on the process and procedures conducted, the GHG assertion is materially correct and is a fair representation of the GHG data and information, with the following qualifications:

- All stipulated corrective action requests are addressed.

This verification statement is dated 11 June 2014.

## 9. Contacts

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## Appendix A: Reliance Compost Donations & Sponsorships

Below is a summary of the donations, sponsorships and social improvements effected by Reliance Compost during the period of verification. Where items are marked with “^” or “\*” the proof of payment or a copy invoice for product donated was produced.

### SUMMARY

	<b>Amount</b>
Product Donations	R 581 519
Greenpop	R 124 755
Miss Earth	R 250 000
Eco training	R 250 000
Community projects	R 10 000
Staff upliftment & welfare	R 550 000
<b>Total</b>	<b>R 1 766 274</b>

### Product Donations

<b>Date</b>	<b>Doc number</b>	<b>Client</b>	<b>Product value</b>
06/01/13	INA44495	Simply Organic, Noordhoek	R 4 920.00
15/01/13	INA44319	Breda Park City Farm, Oranjezicht	R 7 720.00
24/01/13	INA44493	Mosselbay Municipality, Grootbrak	* R 6 480.00
29/01/13	INA44492	Mosselbay Municipality, Schoemanswerf	* R 20 160.00
29/01/13	INA44494	Breda Park City Farm, Oranjezicht	* R 18 193.00
31/01/13	INA44534	Breda Park City Farm, Oranjezicht	* R 17 370.00
07/02/13	INA44587	Mosselbay Municipality, Schoemanswerf	* R 6 480.00
12/02/13	INA44681	Breda Park City Farm, Oranjezicht	* R 4 920.00
19/02/13	INA44732	Breda Park City Farm, Oranjezicht	* R 3 198.00
19/02/13	INA44734	Exhex Boerdery, De Doorns	R 32 400.00
23/02/13	INA44824	Green Communities, Atlantis	* R 9 650.00
28/02/13	INA44836	Malmesbury Municipality	* R 69 120.00
28/02/13	INA44837	Green Communities, Atlantis	* R 17 074.60
01/03/13	INA45176	Cape Green Forum, Stellenbosch	R 823.00
08/03/13	INA45134	Green Communities, Atlantis	* R 4 400.00
08/03/13	INA45173	Green Communities, Atlantis	* R 4 600.00
15/03/13	INA45174	Breda Park City Farm, Oranjezicht	* R 4 920.00
19/03/13	INA45025	Blue Downs Primary School, Blue Downs	R 1 230.00
19/03/13	INA45037	Slot van die Paarl Laerskool, Windmeul	R 2 460.00
20/03/13	INA45175	De Vrijezee School, Goodwood	R 1 230.00
28/03/13	INA45141	Courtrai Primary School, Paarl South	R 984.00
28/03/13	INA45177	Breda Park City Farm, Oranjezicht	* R 1 646.00
04/04/13	INA45246	Greenpop Nursery, Woodstock	R 1 930.00
09/04/13	INA45238	Cape Garden Centre, Joostenberg	R 8 400.00
11/04/13	INA45282	Drakenstein Kwekery, Paarl	* R 196 560.00

11/04/13	INA45283	P Machlachlan, Wynberg Drop-oof	R 2 469.00
11/04/13	INA45284	Boland Garden Supplies, Killarney site	R 1 646.00
11/04/13	INA45290	Cape Garden Centre, Somerset West	R 4 200.00
11/04/13	INA45296	Cape Garden Centre, Joostenberg	* R 10 500.00
12/04/13	INA45303	Goodwood Railway Station, Goodwood	R 965.00
13/04/13	INA45334	Cape Garden Centre – Joostenberg	R 4 200.00
15/04/13	INA45333	Cape Garden Centre – Joostenberg	R 8 400.00
16/04/13	INA45326	Bien Donne Youth Conference, Simondium	R 492.00
16/04/13	INA45329	Superplants – Bothasig	R 4 400.00
17/04/13	INA45341	Superplants – Parklands	R 2 640.00
17/04/13	INA45381	NID College for the Death, Worcester	R 1 930.00
30/04/13	INA45459	Seed Org Rocklands, Cape town	R 1 930.00
31/05/13	INA45763	Ithemba Labantu Green Community, Philippi	R 965.00
31/05/13	INA45764	Zenzeleni Waldorf School, Khayelitsha	R 1 230.00
31/05/13	INA45765	De Vrijezee School, Goodwood	R 1 870.00
28/06/13	INA45989	Greenpop Nursery, Woodstock	R 1 600.00
04/07/13	INA46046	Paarl Nursery, Paarl	R 164.60
16/07/13	INA46191	Potter's Yard – prize	R 82.30
16/07/13	INA46192	Brackenfell Steel	R 823.00
17/07/13	INA46193	Gege Creche, Langa	R 735.00
17/07/13	INA46194	Athlone House of Strength, Paarl	R 1 530.00
18/07/13	INA46195	Greenpop Nursery, Woodstock	R 1 547.00
19/07/13	INA46196	Mark Kaufman - Bloemfontein samples	R 329.20
22/07/13	INA46190	Vanessa - FB prize winner	R 115.00
25/07/13	INA46207	NID College for the Death, Worcester	* R 6 540.00
27/07/13	INA46189	Spirit of Grace Halfway House	* R 6 040.00
31/07/13	INA46242	Jan Louw, Nieuwoudtville	* R 8 610.00
08/08/13	INA46351	The Green Merchant, Kuilsrivier	* R 7 880.00
12/08/13	INA46360	Project Eden	R 92.00
14/08/13	INA46390	Bird & Butterfly Garden, Cape Town	R 1 250.00
20/08/13	INA46437	Hendrik Louw Primary School, Strand	R 1 270.00
26/08/13	INA46587	Trade Show	R 382.50
28/08/13	INA46585	Million Trees Gala Dinner	R 1 492.50
28/08/13	INA46588	Seed Org Rocklands, Cape town	R 4 631.00
28/08/13	INA46589	Carole Llewellyn, prize	R 355.80
28/08/13	INA46590	Juliette Murfin, prize	R 298.30
28/08/13	INA46591	Daniel van Rensburg, prize	R 298.30
29/08/13	INA46586	Daniel, Malmesbury	R 30.00
03/09/13	INA46644	Kayamandi High School, Stellenbosch	R 172.50
03/09/13	INA46645	Weber Gedenk Primary School, Jamestown	R 345.00
13/09/13	INA46993	Nolungile Safe House, Khayelitsha	R 1 150.00
26/09/13	INA46997	Rhino Ride	R 3 135.00
26/09/13	INA47002	Pierre Retief, Welgemoed	R 411.50
27/09/13	INA46965	Greenpop Nursery, Woodstock	R 1 210.00
01/10/13	INA47040	Rocking the Daisies, Darling	R 2 302.50

10/10/13	INA47181	Charly's Bakery, Cape Town	R 1 150.00
15/10/13	INA47313	Project Eden	R 391.00
15/10/13	INA47314	Juhlene Wagner-Moller	R 1 725.00
17/10/13	INA47350	Greenpop	R 1 150.00
28/10/13	INA47527	Binnekant Straat Parkie	R 1 280.00
29/10/13	INA47526	Zip Zap Circus	R 1 125.00
30/10/13	INA47587	Dongola	R 1 810.00
06/11/13	INA47667	Zion Plants	R 690.00
07/11/13	INA47988	Oranjezicht	R 438.50
15/11/13	INA47991	VGK	R 345.00
21/11/13	INA47908	Tree Preneurs	R 935.00
21/11/13	INA47977	Ambleside School	R 2 651.00
21/11/13	INA47987	Oranjezicht	R 682.50
22/11/13	INA47965	Cape Green Forum	* R 1 730.00
27/11/13	INA47998	Khanyisa Waldorf	* R 2 705.00
27/11/13	INA48036	Greenpop	R 1 817.00
28/11/13	INA48034	Ceder House	R 1 535.00
28/11/13	INA48087	Oranjezicht	R 2 350.00
09/12/13	INA48195	Trees Sa	R 1 750.00
20/12/13	INA48368	Sheryl Ozinsky	R 955.00
20/12/13	INA48369	Jan Louw	R 2 625.00
20/12/13	INA48370	Oranjezicht	R 2 150.00
		<b>TOTAL DONATIONS</b>	<b>R 581 518.60</b>

\* Copy invoice presented

### Greenpop

<u>Client</u>	<u>Value</u>
Trees for Zambia	^ R28 725.00
Up The Creek Festival (financial contribution towards green villiage)	^ R18 840.00
Rocking the Daisies (financial contribution towards hosting of Green villiage)	^ R35 000.00
Trees for travel (financial contribution inviting tavel and tourism to create awareness about carbon footprint/carbon credits and presentation)	^ R6 400.00
Platbos reforestation project sponsorship	^ R34 950.00
Clothing sponsorship	R840.00
	<b>R 124 755.00</b>

^ Proof of payment presented

### Miss Earth

<u>Client</u>	<u>Value</u>
Miss Earth & Reliance CT greening week (various)	R170 000.00
Reliance attending Miss Earth Gala event (financial sponsorship)	R30 000.00
Reliance attending Miss Earth Gala event (various costs associated with event)	R50 000.00
	<b>^^ R 250 000.00</b>

^^ Proof of payment for various amounts presented

### Eco Training

<u>Client</u>	<u>Value</u>
Daniel Garbaccio (student doing thesis on organic composting)	R5 000.00
SALI (sponsorship)	R5 000.00
Greenpop Overlander Truck for tree planting days and Zambia	^^ R140 000.00
Environmental training (time & materials marketing)	R100 000.00
	<b>R 250 000.00</b>

^^ Proof of payment for various amounts presented

### Community Projects

<u>Item</u>	<u>Value</u>
Santa Shoebox Project	R10 000.00
<b>Total</b>	<b>R 10 000.00</b>

### Staff Welfare

<u>Item</u>	<u>Value</u>
Group Life Scheme	R300 000.00
Staff training (both locally and abroad , drivers and mechanics)	R250 000.00
<b>Total</b>	<b>R550 000.00</b>

## Appendix B: About Carbon Calculated

Carbon Calculated is a specialist carbon analysis and advisory company founded in 2008 by Alex Hetherington and Nici Palmer. A selection of clients follows:



Carbon Calculated sets aside ten per cent of all turnover to support social and environmental development projects in South Africa. For more information, please visit [www.carboncalculated.co.za](http://www.carboncalculated.co.za).