



FIRSTRAND

Carbon Footprint



Report to Management

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Prepared by

PRICEWATERHOUSECOOPERS 

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Executive Summary

FirstRand Ltd contracted the services of PricewaterhouseCoopers to calculate their carbon footprint and report to management, highlighting challenges and opportunities of the calculated footprint, and identifying emission reduction opportunities. The final scope of the carbon footprint was discussed and agreed with representatives of FirstRand during workshops held on 14 February 2008 and 03 March 2008. As per the requirements of ISO14064-1 and the Greenhouse Gas Protocol, the purpose of the scoping workshops was to define the organisational boundary, the operational boundary and the base year of FirstRand's inventory. For the purposes of the first round of the carbon footprint calculation the organisational boundary includes the following companies under FirstRand Ltd's control, namely:

- FirstRand Bank,
- First National Bank,
- Rand Merchant Bank,
- Momentum, and
- Wesbank.

The following emissions, as agreed with FirstRand, are accounted for in the inventory:

Scope 1 direct emissions:

- Emissions from the amount of diesel used in generators.
- Emissions from fuel used or kilometres travelled on business travel in vehicles owned by FirstRand, e.g. a fleet of vehicles.

Scope 2 indirect emissions:

- Emissions from electricity used in buildings owned or controlled by FirstRand.

Scope 3 indirect emissions:

- Emissions from electricity used in buildings leased by FirstRand; and
- Emissions related to the amount of paper used by the FirstRand group.

The table below provides the total greenhouse gas emissions as determined for the FirstRand Group in metric tonnes of CO₂e per business unit for the year January to December 2007.

Business Unit	CO ₂ e (Metric Tonnes)
FirstRand	33,391
First National Bank	264,808
Momentum	17,803
Wesbank	10,986
Rand Merchant Bank	17,149
Total	344,138

Considering this is the first year of its development, the carbon footprint figure of 344,138 Metric Tonnes of CO₂e represents a fair reflection of FirstRand Ltd's greenhouse gas emissions for the year January to December 2007. This can largely be attributed to the provision of good data on the electricity use in the First National

Bank buildings, as electricity use comprised 98% of the carbon footprint calculation. Of the business units, First National Bank was the largest contributor with a contribution of 77% of Group emissions.

If one were to equate the total FirstRand group greenhouse gas emissions profile of 344,138 metric tonnes of CO₂e per annum, it would equate to the same as 67,136 medium sized cars driving 25,000km in one year.

The FirstRand Group total electricity expenditure derived from available data was approximately R76,765,866.

The total equivalent monetary value of the 344,138 metric tonnes of CO₂e, if purchased on the European Union Emissions Trading Scheme as Certified Emissions Reductions, would cost R76,463,373.

In order to view greenhouse gas emissions more closely, the table below provides the total greenhouse gas emissions for the FirstRand Group in metric tonnes of CO₂e per source for the year January to December 2007.

Description	CO ₂ e (Metric Tonnes)
Travel (Scope1)	5,545
Electricity Use (Scope 2 & 3)	337,391
Fuel Use (Scope 1)	594
Paper Consumption (Scope 3)	608
Total	344,138

Electricity use from both owned and leased facilities, at 98%, was the biggest contributor to FirstRand's total carbon footprint.

Improvements to the carbon footprint calculation can be made in the following areas that will incrementally help in improving the accuracy and completeness of the carbon footprint over time:

- Increase the scope of the boundary of the carbon footprint. This will ensure that operations such as Outsurance, as well as the FNB operations in Botswana, Namibia and Lesotho are included in the calculation.
- Ensure that data for the current identified emission sources is generated for all business units.
- Identify and include all remaining buildings under FirstRand's control in the calculation.
- Include emissions from business travel in vehicles owned by employees, as well as business travel in aeroplanes (regarded as Scope 3 by the Greenhouse Gas Protocol) in the next round of calculations.

In order to leverage the work completed in the establishment of the carbon footprint it is recommended that FirstRand consider the development of a robust carbon management strategy. This will ensure that the recording and collection of data is done efficiently, roles and responsibilities for data collection and collation are defined, targets for effective mitigation strategies are set, and emission reduction projects are managed.

Emission reduction opportunities should be explored in the following areas:

1. **Engineered solutions** which involve the use of technology, including energy efficiency measures, to reduce personal and organizational energy use and resulting carbon emissions.
2. **Behavioural changes** which involves the use of education, including training and outreach, to encourage people to modify their personal actions to reduce energy use and resulting carbon emissions.
3. **Offsetting activities** which involve investing in activities such as reforestation projects that offset carbon emissions.

1 Introduction

1.1 Background

The validity of the science supporting climate change is no longer debated. The atmosphere is warming, and human activity is the primary cause. FirstRand recognise this as well as the importance of responding to this global issue. FirstRand is also a signatory member of the Carbon Disclosure Project and as such are required to submit, on an annual basis, its inventory of greenhouse gas emissions, also referred to as a “carbon footprint”.

Companies are discovering that climate change poses both challenges and opportunities. To understand these, a company must first understand its impact, and then implement adequate responses, where necessary. It has been clearly demonstrated that a well-managed climate change strategy within a company can:

- Lead to cost savings through improved energy management, the identification of energy saving technologies and potential emission reduction projects such as CDM projects.
- Increase revenues and open new markets through, for example, the positioning of low-carbon products and services, and
- Improve brand management and enhance stakeholder relations.

FirstRand wishes to develop its carbon footprint reporting practices in order to ensure alignment with best practice, and consequently provide assurance to management on the accuracy and reliability of the submitted information. To this end FirstRand contracted the services of PricewaterhouseCoopers to calculate a carbon footprint and report to management.

1.2 Objectives

The objective of the engagement is the calculation of FirstRand's carbon footprint and report to management, highlighting challenges and opportunities of the calculated footprint, and identification of emission reduction opportunities.

1.3 Scope

The final scope of the carbon footprint assessment was discussed and agreed with representatives of FirstRand during workshops held on 14 February 2008 and 03 March 2008. As per the requirements of ISO14064-1 and the Greenhouse Gas Protocol, the purpose of the scoping workshops was to define the organisational boundary, the operational boundary and the base year of FirstRand's inventory.

1.3.1 Timing

It was agreed that the base year for the calculation would be January to December 2007.

1.3.2 Organisational Boundary

The organisational boundary defines which of the company's business units are included in the inventory.

For the purposes of the first round of the carbon footprint calculation the organisational boundary includes the following companies under FirstRand Ltd's control:

- FirstRand Bank,
- First National Bank,
- Rand Merchant Bank,
- Momentum, and
- Wesbank.

Outsurance, a division of FirstRand, has been excluded for this calculation, but will be included in the next financial year.

For the first round of calculations, only those operations within each business unit that FirstRand has 100% operational and financial control over, were included.

It was agreed that a sample of the major buildings, based on their significant contribution to each division within FirstRand, would be assessed. Where information could be obtained for other buildings, these would be included in the scope of calculation. The following buildings selected and agreed upon were included in the scope.

Division	Facilities
FirstRand	<ul style="list-style-type: none"> • 4 Merchant Place
RMB	<ul style="list-style-type: none"> • 1 Merchant Place
Momentum	<ul style="list-style-type: none"> • Head Office
FNB	<ul style="list-style-type: none"> • Bank City • FNB Towers • Great Westerford • Sandton City Branch, • Eastgate Branch, • Two small branches, • Two medium sized branches, • ATM's, • Randburg Computer Centre, • Randburg Contact Centre, • Acacia House, • Sandown Computer Training Centre, • Cash Centres (26 Trump St Selby) • Fairyglen Computer Centre
Wesbank	<ul style="list-style-type: none"> • Constantia Park • Embassy building • N1 City Tiger Valley • Wesbank House Cape Town • Midrand, Bedfordview and Meintjies Plain Asset Remarketing Stores • Wesbank House Bloemfontein

1.3.3 Operational Boundary

The operational boundary is set by categorizing emission-causing activities into Scope 1 direct emissions, Scope 2 indirect emissions and Scope 3 indirect emissions as per the requirements of the Greenhouse Gas Protocol and ISO14064-1.

Direct emissions are emissions from sources owned or controlled by FirstRand. Indirect emissions are emissions that are a consequence of the activities of FirstRand, but occur from sources owned or controlled by another company.

The following emissions, as agreed with FirstRand, are accounted for in the inventory:

Scope 1 direct emissions:

- Emissions from the amount of diesel used in generators; and
- Emissions from fuel used or kilometres travelled from business travel in vehicles owned by FirstRand, e.g. a fleet of vehicles.

Scope 2 indirect emissions:

- Emissions from electricity used in buildings owned or controlled by FirstRand.

Scope 3 indirect emissions:

- Emissions from electricity used in buildings leased by FirstRand; and
- Emissions from the amount of paper consumed.

2 Work Performed

2.1 Project Team

Our core team was composed as follows:

Role	Team
Engagement Director	Alison Ramsden
Engagement Manager	Simon Clarke
Consultant	Robert Ashdown

2.2 Approach

The establishment of the carbon footprint was done in line with principles of good carbon reporting practice as contained in The Greenhouse Gas Reporting Protocol and ISO14064-1.

A phased approach was followed, as detailed below.

The first phase of the engagement involved conducting workshops with all of the relevant FirstRand stakeholders. The main purpose of the workshops was to explain the rationale and methodology of the carbon footprint development, and discuss and agree on issues such as:

- Defining the scope and organizational boundary of the greenhouse gas inventory,
- Defining the operational boundary of the greenhouse gas inventory through identification of relevant emissions sources, and
- Data collection responsibilities.

Questionnaires were developed and distributed to FirstRand representatives in order to gather the required information. The information was then collated and consolidated and the carbon footprint calculated.

3 Assessment Results

Section 3.1 provides a summary of the total FirstRand Ltd Group carbon footprint, split per emission source, namely electricity, travel, fuel use and paper. These emissions sources are then presented in individual sections, 3.2 to 3.5, and show the proportional contribution of each business unit. Sections 3.6 – 3.9 present the individual carbon footprints of each of the FirstRand business units.

Estimated data is used in cases where accurate or measured data is not available, and is documented below as such.

3.1 FirstRand Ltd Group Summary

3.1.1 Results

The graphic below provides an indication of the total greenhouse gas emissions associated with business operations of the FirstRand Ltd Group, split per source. It is evident that electricity use is the most significant contributor to FirstRand's total carbon footprint at 98% followed by business travel, paper and fuel use.

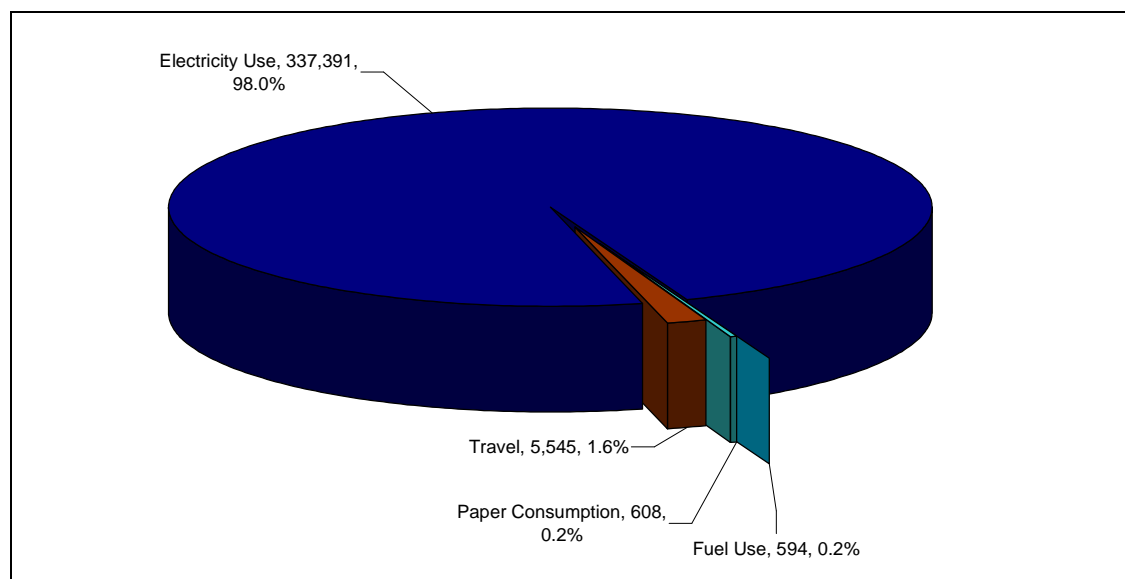


Figure 1 Total FirstRand Ltd Group greenhouse gas emissions in metric tonnes of CO₂e, split per source for the year January to December 2007.

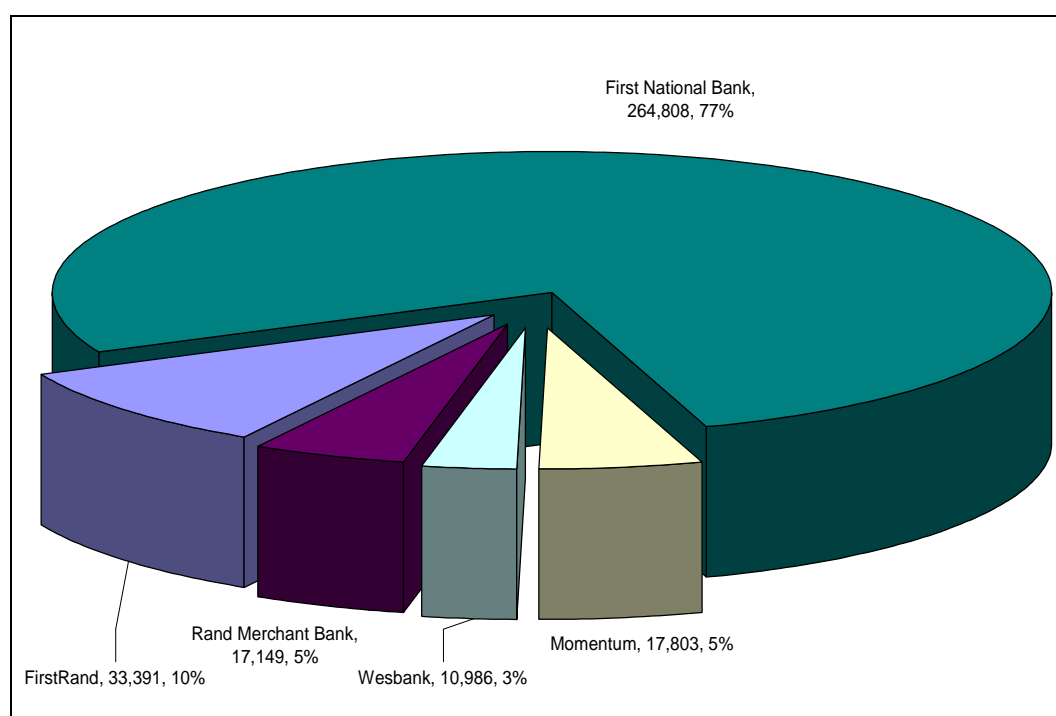


Figure 2 Total FirstRand Group greenhouse gas emissions in metric tonnes CO₂e, split per business unit for the year January to December 2007.

The table below illustrates the contribution per business unit to the FirstRand Ltd group emissions profile. The total carbon footprint of 344,138 metric tonnes of CO₂e for the FirstRand Group was assigned a monetary value based on the June 2008 average CDM CER carbon credit trading price of €19/tonne. This equates to a monetary value of R78, 463,373.

Table 1 Total greenhouse gas emissions associated with business operations per business unit in metric tonnes of CO₂e with relative equivalent monetary value if the equivalent amount of emissions were to be purchased on the EU ETS as Certified Emissions Reductions.¹

Business Unit	CO ₂ e (Metric Tonnes)	Cost/Tonne CO ₂ e (Rand)
FirstRand	33,391	R 7,613,232
First National Bank	264,808	R 60,376,312
Momentum	17,803	R 4,058,972
Wesbank	10,986	R 2,504,889
Rand Merchant Bank	17,149	R 3,909,968
Total	344,138	R 78,463,373

Furthermore, the total greenhouse gas emissions for the FirstRand group can be equated to the equivalent emissions generated by 67,136 medium sized cars with an engine capacity of between 1.4 to 2.1ℓ driving an average of 25,000 km/annum.

¹ The Rand value was derived from the Euro EU ETS CER €19 as of June 2008 and converted at R12 = €1.

3.2 Business Travel (Scope 1)

3.2.1 Definition and assumptions

Scope 1 emissions include emissions from business travel in vehicles such as company cars (fleets) or corporate jets that are owned or controlled by FirstRand.

For the purposes of this round of calculations only road transport from direct sources is recorded. Business travel, such as commercial air travel and road transport to meetings and employee travel to and from work, is not included, as this is categorised as Scope 3 indirect emissions as per ISO14064-1.

3.2.2 Data Calculation

Two different calculation approaches are used to calculate emissions from travel:

- The first approach calculates emissions based on the amount of **fuel consumed** (litres of diesel/petrol) and provides the most accurate emission information.
- The second approach calculates emissions based on **distance travelled**, i.e. vehicle kilometres travelled.

Emission factors used for the calculation of emissions from fuel consumed data were derived from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Emission factors used for the calculation of emissions from distance travelled data were obtained from fuel consumption by engine size and current international best practice, where national best practice guidelines were not available. Appendix 6.1 provides the consolidated data and emission factors used in the calculation of the Scope 1 business travel data.

3.2.3 Data Collected

The table below indicates which FirstRand divisions provided fuel consumed data or distance travelled data.

Table 2 FirstRand Group Scope 1 fuel consumption use and distance travelled data provided for the year January to December 2007.

Division	Data Collected		
	Petrol consumed (ℓ)	Diesel consumed (ℓ)	Distance travelled (km)
FirstRand	Data not provided	Data not provided	Data not provided
Rand Merchant Bank	16,884	10,351	214,207
Momentum	N/A (distance data provided)	N/A (distance data provided)	738,306
First National Bank	Data Combined with Wesbank	Data Combined with Wesbank	Data combined with Wesbank
Wesbank ²	2,135,502	107,349	24,054,256
Total	2,152,386	117,700	25,126,769

² This is possibly an over-estimate, as Wesbank travel data includes both First National Bank and client managed vehicles.

3.2.4 Results

The graphic below provides an indication of the total Scope 1 greenhouse gas emissions associated with business travel, split per business unit. It is evident from the results that the large vehicle fleet maintained by Wesbank is responsible for the majority of the emissions. It is also important to note that the Wesbank fleet includes vehicles used by First National Bank and therefore associated emissions allocated to Wesbank include First National Bank emissions as well.

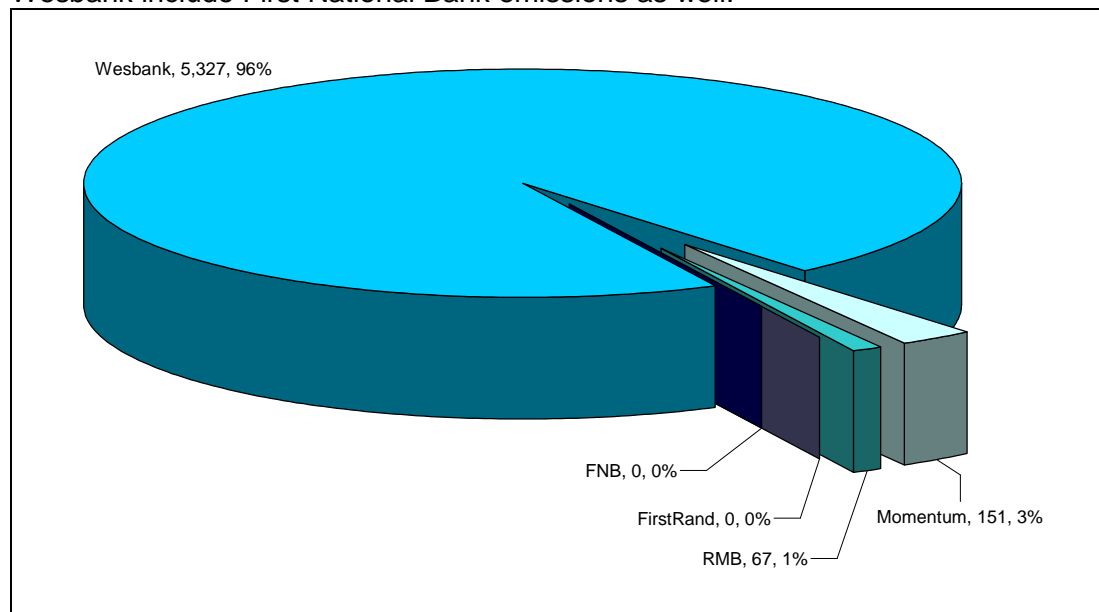


Figure 3 Total Group Scope 1 greenhouse gas emissions associated with business travel in metric tonnes of CO₂e for the year January to December 2007.

3.2.5 Interpretation and Recommendations

In order to draw a more accurate picture of business unit contribution to group emissions in further carbon footprint analyses it is recommended that the fuel use data is split for each business unit, i.e. the Wesbank and FNB data should be split. Furthermore, data from FirstRand must be provided in order to improve the accuracy of the travel data.

The contribution of business travel in vehicles owned by employees, as well as business travel in aeroplanes (regarded as Scope 3 by the Greenhouse Gas Protocol), must also be considered in the carbon footprint calculation going forward. Given the large number of employees travelling for business-related activities it is likely that the greenhouse gas contribution for business travel may be significant.

3.3 Fuel Use (Scope 1)

3.3.1 Definition and assumptions

Scope 1 emissions include emissions from the use of fuel in generators that are owned or controlled by FirstRand.

3.3.2 Data Calculation

The calculation of the emissions was done based on the total amount of fuel used in litres (e.g. diesel burned in a generator) in facilities owned or controlled by FirstRand.

The calculation of the total amount of GHG emissions from fuel use was done on a sample basis, i.e. direct fuel values were collected for a sample of buildings. In order to estimate the total fuel use for the group, fuel values were extrapolated across to all buildings, based on the existence of generators at other buildings.

Emission factors used for the calculation of emissions from fuel consumed data were derived from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Appendix 6.2 provides the consolidated data and emission factors used in the calculation of the Scope 1 fuel use data.

3.3.3 Data Collected

Out of the 581 leased and 301 owned buildings, where data was supplied by the FirstRand group, 99 leased and 83 owned buildings contain generators. Direct fuel use data was obtained from only 6 buildings. Consequently, an average value of diesel consumption for generators were calculated as 0.393 ℓ/m^2 of building space and extrapolated across to the other buildings, which did contain generators and did not provide data.

3.3.4 Results

The graphic below provides an indication of the total Scope 1 greenhouse gas emissions associated with fuel use, split per business unit.

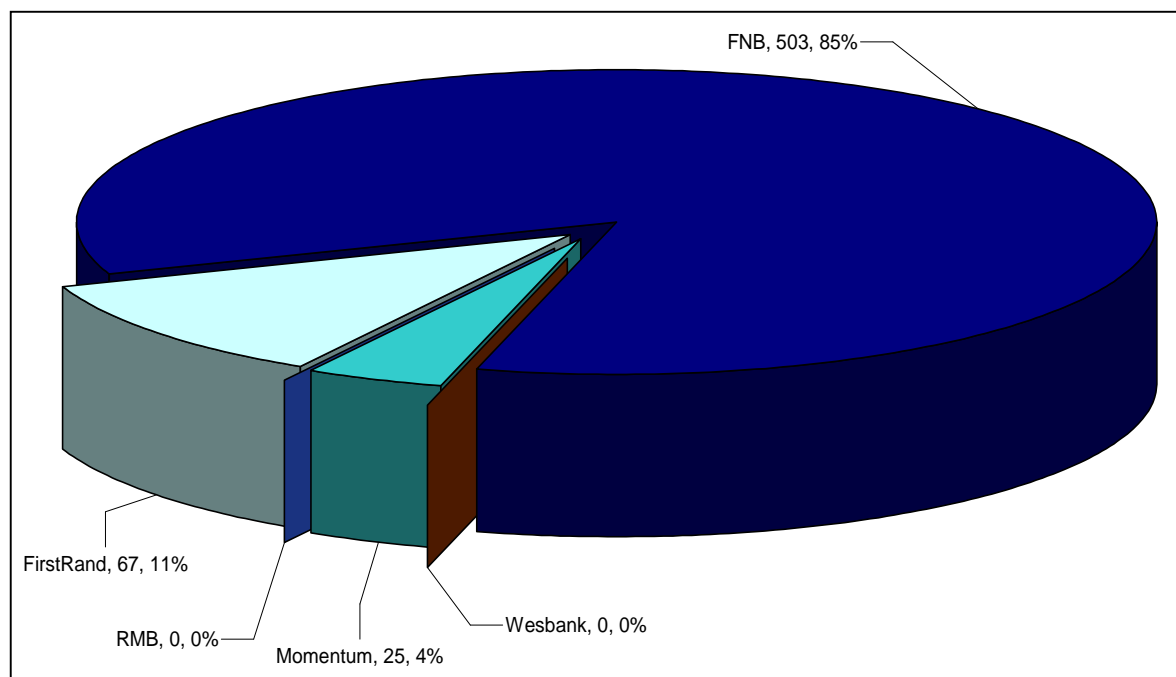


Figure 4 Total Group Scope 1 greenhouse gas emissions associated with fuel use in metric tonnes of CO₂e for the year January to December 2007.

3.3.5 Interpretation and Recommendations

The accuracy of the data collected from fuel used in generators is low as a result of the small sample size of buildings for which accurate data was supplied.

It is recommended that the relevant reporting systems are developed to ensure the fuel used in generators data is available.

3.4 Electricity Use (Scope 2 and 3)

3.4.1 Definition and assumptions

Scope 2 emissions include emissions from purchased electricity in buildings owned or controlled by FirstRand.

Scope 3 emissions include emissions from purchased electricity in buildings leased by FirstRand.

3.4.2 Data Calculation

The calculation of the total amount of GHG emissions was done on a sample of buildings extrapolated across to other buildings provided by FirstRand, based on the amount of space in the building in m².

Where only the Rand value of electricity consumed was supplied for buildings, the average electricity consumption factor in cents/kWh was calculated from buildings that supplied both kWh and cost data. This value of 0.29c/kWh was then extrapolated to those buildings where only the Rand value was supplied.

The Emission factor used for the calculation of emissions from electricity was derived from the Eskom grid factor. This was calculated by Eskom using the Clean Development Mechanism (CDM) approved methodology 0002³ and is 1.2 kg/kWh⁴. Appendix 6.3 provides the consolidated data and emission factors used in the calculation of the Scope 2 electricity use.

3.4.3 Data Collected

Table 3 List of number of buildings for which electricity data was received for the year January to December 2007

Business Unit	Number of buildings for which electricity data was received (kWh)		Number of buildings for which electricity data was received in Rand Value only	
	Leased	Owned	Leased	Owned
Rand Merchant Bank		1		
FirstRand		5		
First National Bank	18	7	563	270
Wesbank		17		
Momentum		1		
Total	18	31	563	270

3.4.4 Results

The graphic below provides an indication of the total Scope 2 and 3 greenhouse gas emissions associated with electricity use, split per business unit.

Electricity generation is one of the most significant contributors to greenhouse gas emissions on a national scale because coal plays a major part in the energy mix of South Africa's national grid. As a result South Africa is ranked in the top 15 polluters in the world. The figure below shows that First National Bank is the most significant contributor to greenhouse gas emissions from electricity consumption. The results show that it is not always the largest buildings that are the most significant contributors to greenhouse gases, but a collective effect of the large number of ATM's. ATM electricity consumption and resultant emissions constitute 28% of total FNB electricity emissions, with buildings constituting 72% of emissions.

³ The methodology can be found on the UNFCCC website: <http://cdm.unfccc.int>

⁴ Page 189 of the Eskom Annual Report 2007, footnote number 5 for table 3 "Environmental Implications of using/saving on kilowatt-hour of electricity"

Variations in electricity efficiency per m² of floor space also exist within the FirstRand group. For example, Momentum's electricity consumption per m² is 351kWh/m², whereas First National Bank has an average consumption of 336kWh/m². Within the First National Bank group the average electricity consumption for owned buildings is 302kWh/m², and for leased floor space it is 370kWh/m². This may indicate opportunities for energy efficiency projects within leased buildings.

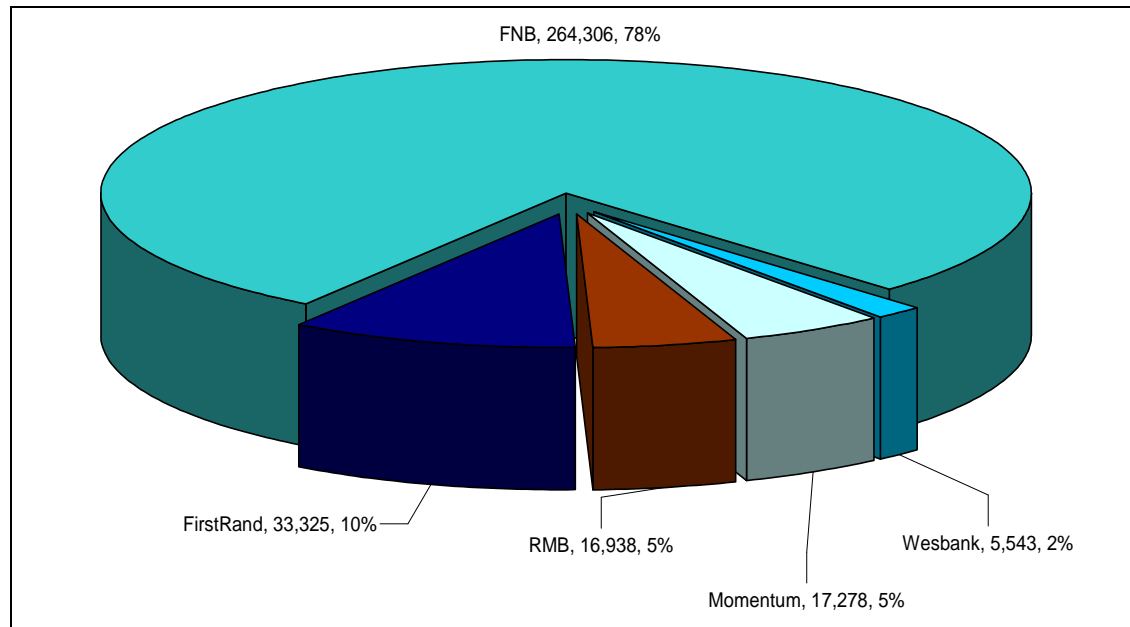


Figure 5 Total group Scope 2 and 3 greenhouse gas emissions associated with electricity consumption in metric tonnes of CO₂e for the year January to December 2007.

Figure 5 and table 6 below shows the split of Scope 2 (owned buildings) and Scope 3 (leased buildings) emissions associated with electricity consumption.

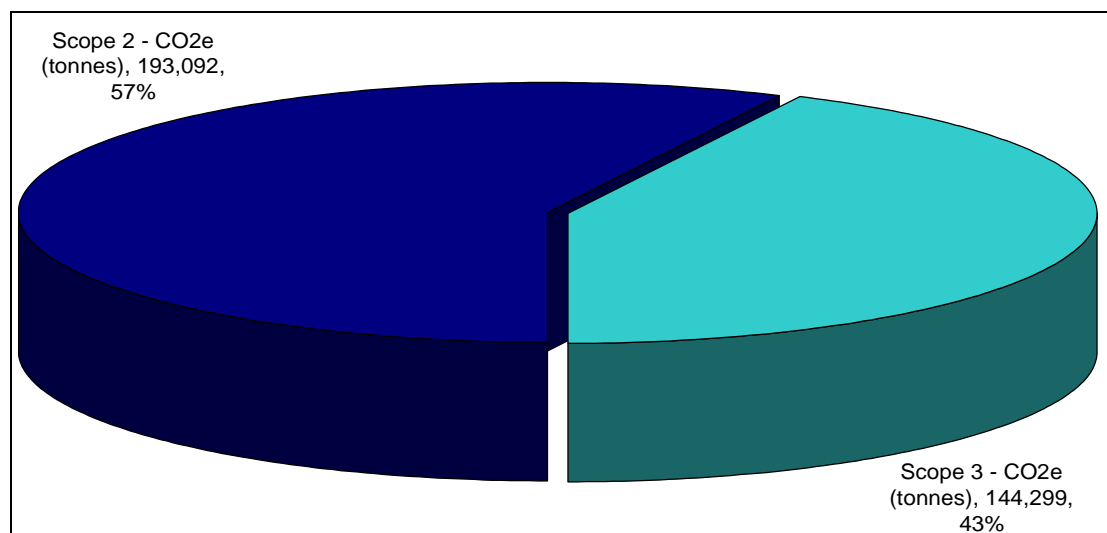


Figure 6 Total group greenhouse gas emissions for Scope 2 (Owned Buildings) and Scope 3 (leased Buildings) associated with electricity consumption in metric tonnes of CO₂e for the year January to December 2007.

Table 4 Total Scope 2 and Scope 3 greenhouse gas emissions associated with electricity consumption in metric tonnes CO₂e per business unit for the year January to December 2007.

Business Unit	Scope 2 - CO₂e (tonnes)	Scope 3 - CO₂e (tonnes)	Total CO₂e (tonnes)
Rand Merchant Bank	16,938	0	16,938
FirstRand	33,325	0	33,325
First National Bank	120,007	144,299	264,306
Wesbank	5,543	0	5,543
Momentum	17,278	0	17,278
Total	193,092	144,299	337,391

Table 5 Total Electricity cost for owned and leased buildings per business unit where cost data was available.

Business Unit	Owned Buildings	Leased Buildings	Total Cost
Rand Merchant Bank	R 2,283,620	R -	R 2,283,620
FirstRand	R 4,944,620	R -	R 4,944,620
First National Bank	R 24,791,747	R 38,595,988	R 63,387,735
Wesbank	R -	R -	R -
Momentum	R 6,149,891	R -	R 6,149,891
Total	R 38,169,877	R 38,595,988	R 76,765,866

3.4.5 Interpretation and Recommendations

Electricity use data in kWh was not available from all the buildings sampled. It is evident that out of the 882 buildings included in the footprint calculation, kWh data was available from only 49. This reduces the accuracy of the calculation as a c/kWh value needs to be extrapolated to the other buildings where only the Rand value was provided. It is recommended that a system is formalised at each business unit that records the kWh value of the electricity when the electricity account is paid and recorded at the buildings that FirstRand has direct control over.

Furthermore, not all buildings under FirstRand's control were included in the calculation. It is recommended that other buildings, for example, under RMB's and Momentum's control are included in the next round of calculations.

Utility use and costs at leased facilities are not always available. Accordingly, without visibility, it is difficult to manage these costs and identify opportunities to reduce utility consumption ("what gets measured gets managed"). This may also make it challenging to motivate FirstRand employees to reduce utility consumption. FirstRand should investigate its existing lease agreements and relations with lessors to determine if it can renegotiate and obtain more visibility to these utility costs.

3.5 Paper (Scope 3)

3.5.1 Definition and assumptions

Scope 3 emissions include emissions from the use of paper by FirstRand. No extrapolation was done and all results are based on direct amounts of paper supplied by FirstRand.

3.5.2 Data Calculation

The calculation of the emissions is done based on the total amount of paper consumed (e.g. total mass of paper) by the business unit.

Emission factors used for the calculation of emissions from paper consumption were derived from the environmental impact estimates using the Environmental Defence Fund Paper Calculator⁵. Appendix 6.4 provides the consolidated data and emission factors used in the calculation of the Scope 3 paper use.

3.5.3 Data Collected

Only A4 and A3 copier paper is included in calculation as well as the boxes used to store and carry the respective reams of paper. Table 7 provides an indication of the amount of paper consumed at the respective business units.

3.5.4 Results

The graphic below provides an indication of the total Scope 3 greenhouse gas emissions associated with paper use, split per business unit.

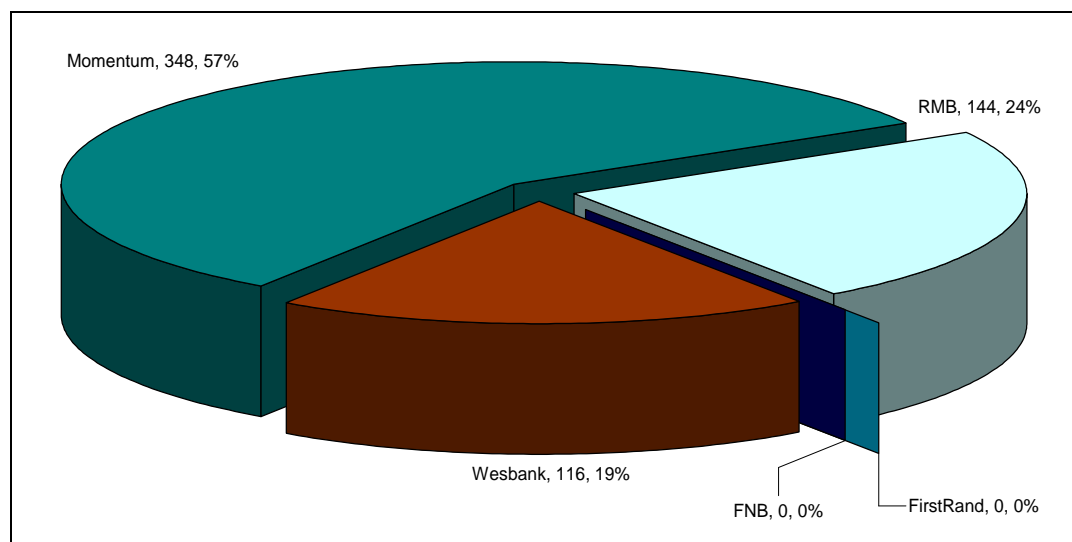


Figure 7 Total group Scope 3 greenhouse gas emissions associated with paper consumption in metric tonnes of CO₂e for the year January to December 2007.

At first glance it may appear that Momentum is the major contributor to the FirstRand Groups paper consumption related greenhouse gas emissions. However, First National Bank and FirstRand Bank paper consumption data were not included in this

⁵ <http://www.papercalculator.org>

year's overall calculation. Of the three data contributors it can be seen that Momentum has a more significant contribution to the total paper consumption related emissions.

Table 6 Total amount of paper used per division in kg and paper consumption related greenhouse gas emissions in metric tonnes of CO₂e and total waste water produced through the manufacturing of the paper for the year January to December 2007.

Description	CO ₂ e (Metric Tonnes)	Paper Total (kg)	Waste Water (ℓ)
Rand Merchant Bank	144	50,594	3,810,361
FirstRand	0	0	0
First National Bank	0	0	0
Wesbank	116	40,782	3,071,303
Momentum	348	122,403	9,218,118
Total	608	213,779	16,099,781

3.5.5 Interpretation and Recommendations

Banks and corporate operations are generally paper intensive. However, paper's contribution to greenhouse gases is only approximately 0.2% of the total carbon footprint for FirstRand. However, it must be noted that this is not the total reflection of paper consumption by the FirstRand group as the above figures include only A4 and A3 reams of printing paper and excludes any other type of paper and all marketing material that was generated and used by the group.

The accuracy of this information can be regarded as low as both FirstRand and First National Bank did not provide paper consumption data. In order to improve the accuracy of the carbon footprint it is recommended that all business units provide data on paper consumption. To further enhance the accuracy of this information other types of paper may be included in the calculation going forward.

3.6 FirstRand Bank

3.6.1 Results

The graphic below provides a breakdown of FirstRand Bank's emissions profile split per source.

In Figure 8 it can be seen that FirstRand Bank's electricity consumption is the major contributor to its total greenhouse gas profile. No data was available for analysis for paper consumption or business travel and hence was not included in this analysis.

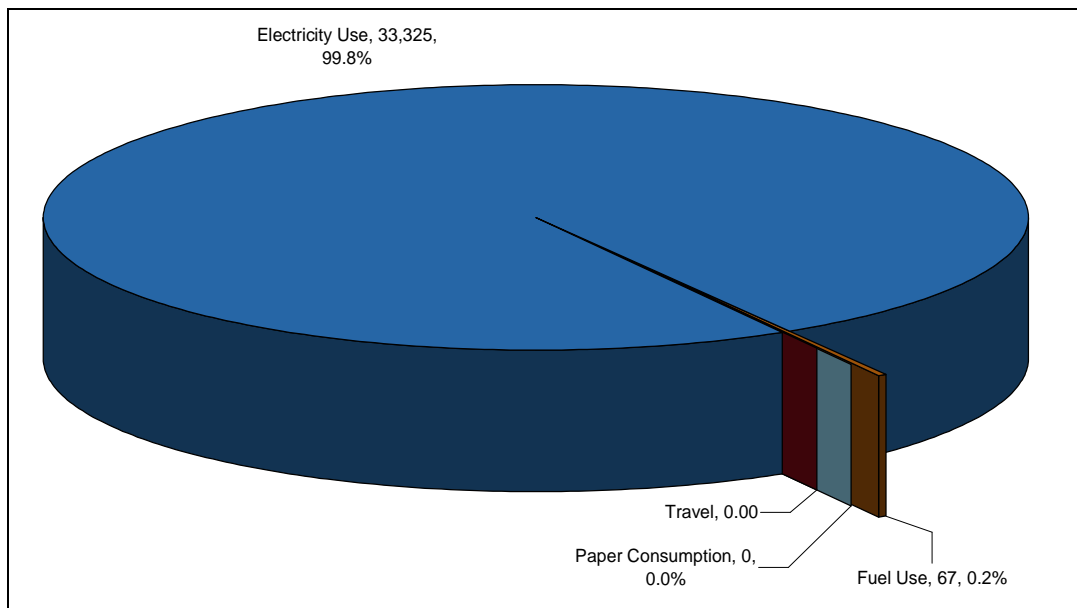


Figure 8 Total FirstRand Bank emissions profile for all Scope 1, 2 and 3 associated greenhouse gas emissions in metric tonnes of CO₂e and percentage contribution to total for the year January to December 2007

3.7 Rand Merchant Bank

3.7.1 Results

The graphic below provides a breakdown of Rand Merchant Bank's emissions profile split per source. In Figure 9 it can be seen that Rand Merchant Bank's electricity consumption is the major contributor to its total greenhouse gas profile. No data was available for analysis for fuel use and hence was not included in this analysis.

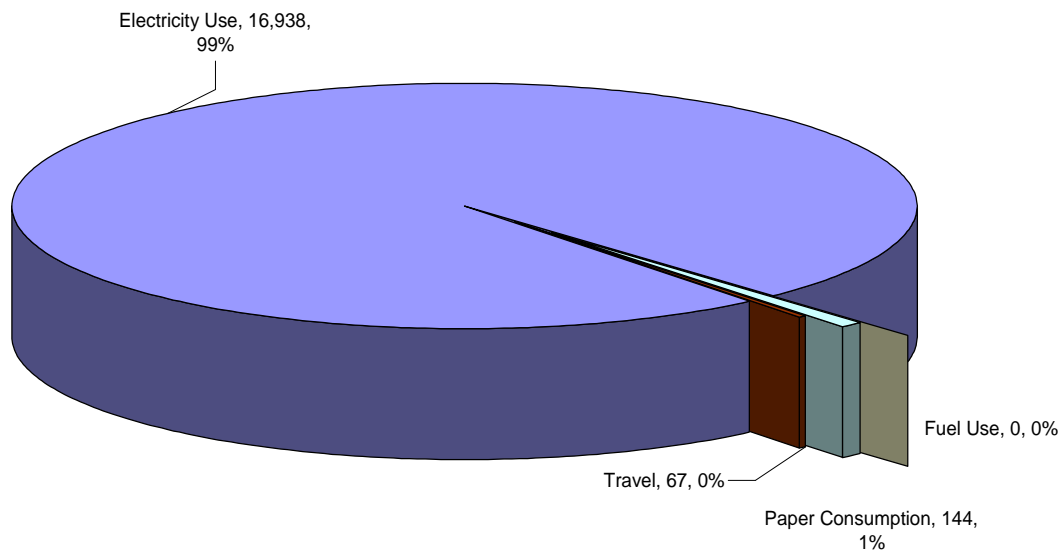


Figure 9 Total Rand Merchant Bank emissions profile for all Scope 1, 2 and 3 associated greenhouse gas emissions in metric tonnes of CO₂e and percentage contribution to total for the year January to December 2007

3.8 First National Bank

3.8.1 Results

The figure below provides a breakdown of First National Bank's emissions profile split per source. Similar to FirstRand Bank and Rand Merchant Bank, electricity consumption is the major contributor to the total greenhouse gas emissions. No data was available for analysis for paper consumption or business travel and hence was not included in this analysis. As previously noted, the FNB business travel data was included in Wesbank's travel data, and could not be allocated accordingly.

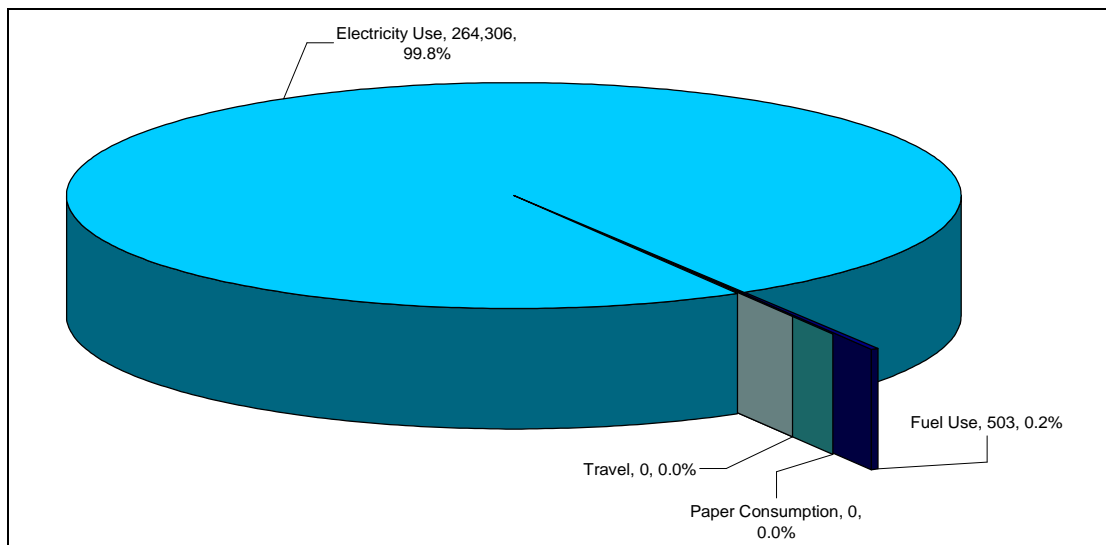


Figure 10 Total First National Bank emissions profile for all Scope 1, 2 and 3 associated greenhouse gas emissions in metric tonnes of CO₂e and percentage contribution to total for the year January to December 2007

3.9 Wesbank

3.9.1 Results

The graph below provide a breakdown of Wesbank's emissions profile split per source. Electricity use makes up the majority of the emissions closely followed by travel. It must be noted that business travel data is possibly an over-estimate as this data includes First National Bank vehicles.

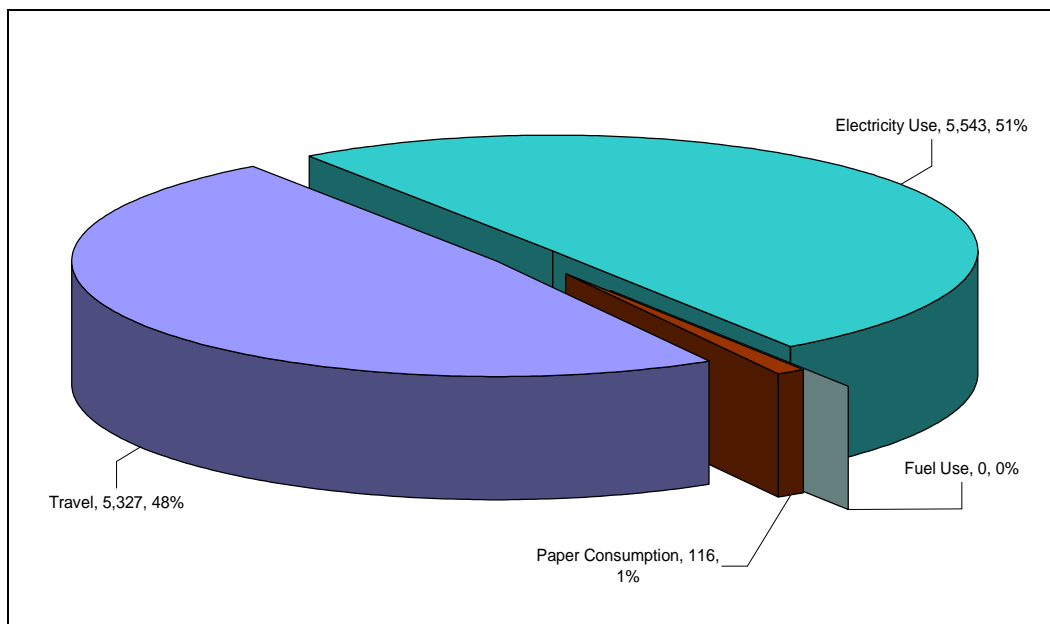


Figure 9 Total Wesbank emissions profile for all Scope 1, 2 and 3 associated greenhouse gas emissions in metric tonnes of CO₂e and percentage contribution to total for the year January to December 2007.

3.10 Momentum

3.10.1 Results

The table and graph below provide a breakdown of Momentum's emissions profile split per source. Electricity use is the most significant contribution to the Momentum emissions profile, followed by paper consumption, business travel and fuel use from generators.

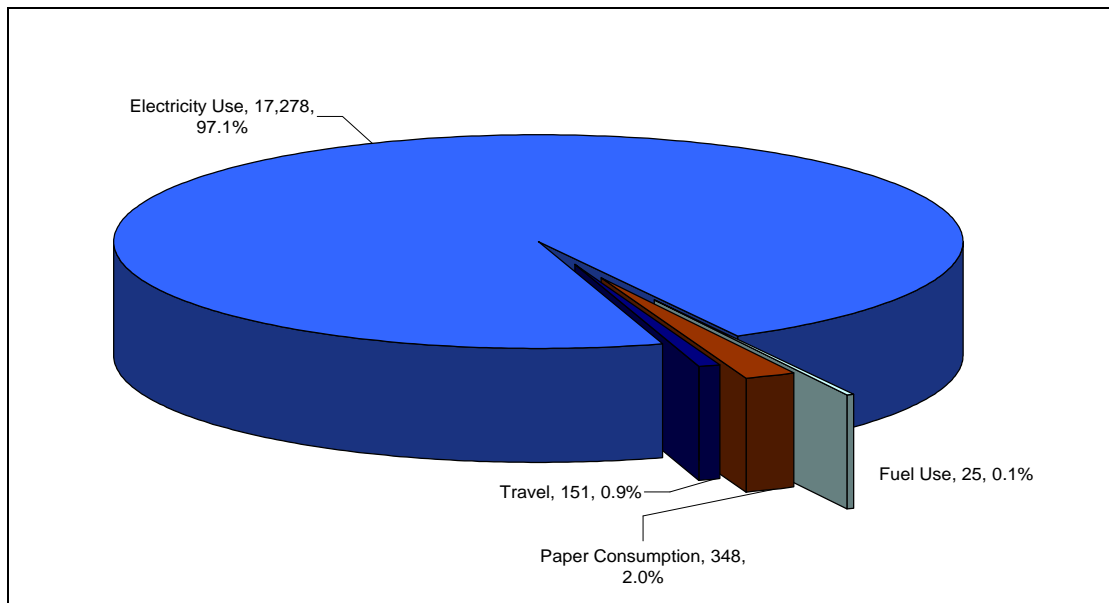


Figure 10 Total greenhouse gas emissions for Momentum associated with business processes in metric tonnes of CO₂e for the year January to December 2007.

4 Recommendations

4.1 Carbon Management Strategy

In order to leverage the work completed in the establishment of the carbon footprint it is recommended that FirstRand consider the development of a robust carbon management strategy. In this context, a company-wide carbon/sustainability reporting system/framework should be considered. This will not only assist FirstRand in the process of carbon footprint data collection, processing and reporting, but with other sustainability information used in the annual report as well. This will enable FirstRand to better manage the quality and usefulness of data.

A broad carbon/sustainability framework is presented below which can be developed over time to in order to strengthen reporting systems for the calculation of the carbon footprint, as well as with broader sustainability information, over time.

Reporting Policy

A management and reporting policy needs to be developed, or integrated with existing policies, by FirstRand Ltd providing direction and commitments to sustainable development and carbon reporting.

Planning

The existing reporting programme needs to be reviewed to fulfil the reporting policy. Strategic objectives must be set and all Business Units need to be tiered into the planning.

Implementation

Roles and responsibilities need to be assessed and formally documented at Business Unit level to ensure effective implementation of both internal and external carbon and sustainability reporting requirements.

To this end a carbon reporting “operating manual” can be compiled in order to achieve consistency in definition interpretation and laying the basis for establishing an audit trail by including a scope, units of measure, calculation factors, and methods of measurement, data monitoring methods and required internal controls. This will ensure robustness of data and a well-established audit trail.

Quarterly reporting of data will ensure the integration of sustainability into the business, and will ensure that the annual sustainability report and carbon development process runs effectively.

Monitoring and measurement

The monitoring and measurement of data must be formalised at Business Unit level, and must be consistent with the reporting manual requirements. Business Unit procedures should detail calculations and measurements, estimations, assumptions,

definitions, conversion factors etc. In the case of measurements this should include: the type and frequency of sampling; checks on the reliability of tests; corrective measures; instructions regarding missing data etc.

The development of adequate controls and audit trails will enhance the reliability and rigour of the data reported. It is recommended that guidance be obtained from the Internal Audit Department on the development of formal key internal controls to strengthen the internal control environment for reported carbon KPIs.

In future, the accuracy of the data used in calculating the carbon footprint should be verifiable to show it is consistent with the methodology. Accordingly, the staff preparing the information should retain worksheets or supporting documentation used to compile the carbon footprint.

Those FirstRand operations which have the formal ISO14001 management systems in place have an opportunity to integrate 'monitoring and reporting' of environmental data into the Environmental Management Systems (EMS) in terms of formalised procedures and controls. The monitoring and reporting of the full range of environmental parameters could be included and driven under the 'other requirements' clause of ISO 14001. It is recommended that duplication of systems is minimised and existing management systems be used as a 'vehicle' providing the framework of procedures (controls) and audit trails (documented evidence) required for reporting and auditing purposes.

Targets

Achievable and realistic targets to reduce carbon emissions must be set.

4.2 Emission Reduction Options

Emission reduction options should be considered and developed in the context of a broad carbon management strategy.

The development of effective climate change mitigation strategies can be grouped in the following three categories:

- **Engineered solutions** which involve the use of technology, including energy efficiency measures, to reduce personal and organizational energy use and resulting carbon emissions.
- **Behavioural changes** which involves the use of education, including training and outreach, to encourage people to modify their personal actions to reduce energy use and resulting carbon emissions.

- **Offsetting activities** which involve investing in offset activities such as reforestation projects, to offset carbon emissions.

4.2.1 Engineered Solutions

It is a common misconception that mitigation strategies are more costly than the “business-as-usual” scenarios. Given the spiralling costs of energy, the payback on energy efficiency projects is now becoming shorter and energy efficiency projects typically more attractive. Investigation into the following areas of operation can result in energy saving and carbon emission cutting opportunities:

a. Lighting

Typical Compact Fluorescent Lights (CFLs) can produce the same amount of light as incandescent globes but with approximately four to five times less energy required. Retrofitting existing buildings is an attractive option that can result in acceptable energy saving opportunities.

This can then be supplemented, if the payback period is acceptable, with the installation of motion sensors, which controls the lighting depending on whether people are occupying a room or not.

b. Heating, Ventilation and Air Conditioning (HVAC)

HVAC systems in older facilities are typically energy inefficient. Investigations into improving efficiency, through the use of an energy audit, can result in significant savings.

c. Computers

Desktop computers are in most cases energy inefficient as almost 35% of the electrical energy that is consumed is lost as heat energy from the power supply before it even reaches the computer. Furthermore, of the remainder of the electrical energy, further losses from processes and applications that are rarely used waste as much as 90% of the computers processing power. An example of a software package that addresses this problem is 1E’s Night Watchman. This power management software automatically shut’s down networked desktop computers in the evenings and weekends when they are not in use.

d. Servers

Servers are one of the biggest users of energy, and consequently represent potential in terms of energy saving. In the United States of America it was identified that servers and data centres (server rooms) constituted approximately 1.5% of national

electricity consumption or approximately 7 Gigawatts (GW), which is the equivalent to the load output of 15 base load power stations.

Similarly to desktop computers, the majority of the energy consumed in servers is lost through heat energy. Servers require large amounts of energy as they need to be operated at lower temperatures than a usual office.

Energy efficiency measures that reduce cost include directly feeding direct current (DC) power and removing AC/DC conversion and sizing for the right load (and providing ways to efficiently add on later) thereby improving system design and layout. By exploring energy efficiency options, it has been found that energy consumption can be reduced by up to 25%. Ensuring that the HVAC system is operating efficiently will also drive down energy costs for servers.

e. Paper

A few alternatives that could be explored by the FirstRand group in order to reduce paper consumptions include double-sided printing as a default for all office printing, increasing the recycled content of paper used and encouraging the use of electronic media rather than printed media. Email tag lines such as "Don't print unless needed" may be used, but must be accompanied by education and awareness initiatives.

f. Travel

The majority of emissions from travel were from the fleet managed by Wesbank. Potential mitigation options involve minimising repetitive trips and using more fuel efficient vehicles such as hybrids. Other options involve driver education and customer awareness campaigns with regards to servicing of vehicles and planning of trips.

Although business-related travel emissions were not quantified mitigation options in this area involve planning of business trips to reduce the amount of travel, such as unnecessary flights, the use of video conferencing facilities and the use of remote PC access as alternatives.

g. Alternative energy

As the price of energy continues to rise and the price of alternative energy sources drops, renewable or alternative energy sources such as gas, solar and wind become more attractive. The use of solar water geysers, for example, is becoming more of a commercially viable option. Furthermore, large scale applications of renewable energy have the advantage of economy of scale over small scale applications of renewable energy, one of which is the generation of tradable emission reductions contracts, such as carbon credits for either the compliance or voluntary markets.

4.2.2 Behavioural Change

In general, when one looks at mitigation strategies and energy efficiency projects, technology is the first option. However, behaviour of the occupants of a building can have as much of an impact on energy consumption as new technology and efficiency of equipment. Energy demand is governed by information or awareness of the full costs associated with energy consumption.

Behavioural changes to using energy more efficiently is difficult and cannot be achieved in the short term. It requires widespread changes in habits, and information and education in this regard are key to effecting this change into action. This may include turning off appliances when not in use, buying more energy efficient appliances, advertising campaigns on energy efficiency, energy labelling of appliances, advice on energy efficient equipment or behaviour and the use of information technology such as consumption meters.

Expert advice, through energy audits, may be necessary to help people become aware of possible energy savings and measure the impact of their behaviour.

Once an established carbon management strategy has been put in place FirstRand should then extend their efforts to cut costs and reduce carbon emissions throughout their supply chains. Carbon mandates and key performance indicators can be used in selecting and negotiating with their suppliers.

4.2.3 Offsetting activities

Offsetting emissions is an attractive option for an organisation to lower its emissions to more suitable levels or if desired become 'carbon neutral' or 'carbon positive'. An advantage of offsetting, without giving one license to pollute, is that it enables an organisation to cost effectively manage its net emissions as well as demonstrating clear environmental benefits through responsible investment in emission reduction projects.

The use of offsetting projects should be regarded as the final step when a company has done everything possible to reduce their own carbon footprint. In other words, once a company has implemented the most technically and economically feasible options to reduce their footprint, then offsetting should be considered.

When looking to purchase and use carbon credits, it is important to investigate each opportunity on a project by project basis, as irresponsible investing can have the opposite effect of the intended investment. For example, investing in a tree planting exercise that does not result in the intended carbon capture benefits. Therefore, investment in emission reduction projects, although encouraged, should be

conducted in a responsible manner that enables FirstRand to realise real, measurable, low risk and high quality verifiable emission reductions.

5 Conclusion

As this is the first year of its development, we consider the carbon footprint figure of 344,138 metric tonnes of CO₂e a fair reflection of FirstRand Ltd's greenhouse gas emissions for the year January to December 2007. This is due to the provision of good electricity use data for the First National Bank buildings, as electricity use makes up 98% of the carbon footprint calculation.

However, improvements can be made in the following areas that will incrementally help in improving the accuracy and completeness of the carbon footprint over time:

- Increase the **scope of the boundary** of the carbon footprint. This will ensure that operations such as Outsurance, as well as the FNB operations in Botswana, Namibia and Lesotho are included in the calculation.
- Ensure that **data for the current identified emission sources is completed** for all business units. In particular, paper use and fuel use data was not adequate from certain business units.
- Identify and include **all buildings under FirstRand's control** in the calculation. For example, the scope of the RMB carbon footprint could be extended to all their relevant buildings.
- Include emissions from **business travel in vehicles owned by employees, as well as business air travel** (regarded as Scope 3 by the Greenhouse Gas Protocol) in the next round of calculations.

The improvement of the carbon footprint should also be done in the context of a robust carbon management strategy. This will ensure that the recording and collection of data is done efficiently, roles and responsibilities for data collection and collation are defined, targets for effective mitigation strategies are set, and emission reduction projects are managed.

6 Appendix

6.1 Business Travel

6.1.1 Emissions Factors

Table 7 Business Travel Emission Factors by fuel type and vehicle type

Transport description	General (l/100km)	CO2e (g/km)	CO2 kg/l
Small Petrol Car (Max 1.4 litre engine)	7.99	185.92	2.36
Medium Petrol Car (From 1.4-2.1 litres)	8.80	205.04	2.36
Large Petrol Car (Above 2.1 litres)	13.87	323.12	2.36
Small Diesel Car (2.0 litres or under)	6.11	160.08	2.61
Large Diesel Car (over 2.0 litres)	7.46	195.50	2.61
Small Truck (<10 tonnes)	17.00	401.79	2.36
Diesel Truck (>10 tonnes)	35.00	913.50	2.61
Light motorcycle	4.55	107.30	2.36
Other	12.60	311.53	2.61

Table 8 Air Travel Emissions conversion factors

Transport description (assuming 80% occupancy)	Fuel (kg/km)	Fuel (l/km)	CO2/km (kg)	CO2e/km (kg)
Domestic Air Travel - Economy Class (<500km)	0.083	0.111	0.260	0.781
Domestic Air Travel - Business Class (<500km)	0.125	0.166	0.388	1.166
Short Haul Air Travel - Economy Class (>500km)	0.049	0.064	0.152	0.455
Short Haul Air Travel - Business Class (>500km)	0.073	0.096	0.227	0.455
Long Haul Travel - Economy Class (>2000km)	0.037	0.049	0.112	0.345
International Travel - Business Class (>2000km)	0.054	0.072	0.169	0.506

6.2 Fuel Use

6.2.1 Emission Factors

Table 9 Emission Factors for Fuel Use by Fuel Type

Emission Source	IPCC Emission Factor (kg/l)
Diesel	2.607
Petrol	2.363
LPG	1.610
Paraffin	2.267

6.3 Electricity Use

6.3.1 Emission Factor

Table 10 Eskom Grid Emission Factor 2007

Grid Emission factor (kg/kWh)	Year	Source
1.2	2007	Eskom

6.4 Paper Use

6.4.1 Emission Factors

Table 11 Emission Factor by Paper type, including other environmental impacts (0% Recycled Content)

Calculated per kg of paper						
Paper Type	Product (e.g.)	Wood Use (kg)	Total Energy Use (kwh)	Emissions - CO2e (kg)	Waste Water (ℓ)	Solid Waste (kg)
Uncoated Freesheet	copy paper	3.63	12.31	2.84	75.79	1.14
Coated Freesheet	high-end magazine	2.72	11.72	2.74	70.83	1.10
Uncoated Groundwood	newsprint	2.72	11.14	3.48	64.37	1.21
Coated Groundwood	Standard Magazine	1.81	10.26	3.16	61.79	1.14
Super Calendered	Newsprint Inserts	1.81	10.55	3.43	62.54	1.17
Corrugated: Unbleached		2.72	8.79	2.77	45.44	0.97
Corrugated: Semi-Bleached		3.63	9.67	2.83	52.38	1.00
Corrugated: Bleached		4.54	14.07	2.91	89.56	1.18
Paperboard: Solid-bleached Sulphate (SBS)		3.63	12.90	2.81	83.95	1.12
Paperboard: Coated unbleached Kraft (CUK)		2.72	9.09	2.54	46.21	0.95
Paperboard: Uncoated bleached Kraft		4.54	13.77	2.90	89.33	1.14
Paperboard: Uncoated unbleached Kraft		3.63	9.67	2.60	48.06	0.96
Paperboard: Coated Recycled		0.00	5.57	1.62	8.05	0.29

6.5 Data Tables

Table 12 Total greenhouse gas emissions associated with business operations per source in metric tonnes of CO₂e.

Description	CO ₂ e (Metric Tonnes)
Travel (Scope1)	5,545
Electricity Use (Scope 2 & 3)	337,391
Fuel Use (Scope 1)	594
Paper Consumption (Scope 3)	608
Total	344,138

Table 13 Total Group Scope 1 greenhouse gas emissions associated with business travel in metric tonnes CO₂e.

Description	CO ₂ e (Metric Tonnes)
Rand Merchant Bank	67
FirstRand	0
First National Bank	0
Wesbank	5,327
Momentum	151
Total	5,545

Table 14 Total Group Scope 1 greenhouse gas emissions associated with fuel use in metric tonnes of CO₂e.

Description	CO ₂ e (Metric Tonnes)
Rand Merchant Bank	0
FirstRand	67
First National Bank	503
Wesbank	0
Momentum	25
Total	594

Table 15 Total FirstRand Bank Scope 1, 2 and 3 associated emissions in metric tonnes of CO₂e.

Description	CO ₂ e (Metric Tonnes)
Travel (Scope 1)	0
Electricity Use (Scope 2 & 3)	33,325
Fuel Use (Scope 1)	67
Paper Consumption (Scope 3)	0
Total	33,391

Table 16 Total First National Bank Scope 1, 2 and 3 associated emissions in metric tonnes of CO₂e.

Description	CO ₂ e (Metric Tonnes)
Travel (Scope 1)	0.00
Electricity Use (Scope 2 & 3)	264,305.81
Fuel Use (Scope 1)	502.58
Paper Consumption (Scope 3)	0.00
Total	264,808.39

Table 17 Total Wesbank Scope 1, 2 and 3 associated emissions in metric tonnes of CO₂e.

Description	CO ₂ e (Metric Tonnes)
Travel (Scope 1)	5,327
Electricity Use (Scope 2 & 3)	5,543
Fuel Use (Scope 1)	0
Paper Consumption (Scope 3)	116
Total	10,986

Table 18 Total Momentum Scope 1, 2 and 3 associated emissions in metric tonnes of CO₂e

Description	CO ₂ e (Metric Tonnes)
Travel (Scope 1)	151
Electricity Use (Scope 2 & 3)	17,278
Fuel Use (Scope 1)	25
Paper Consumption (Scope 3)	348
Total	17,803