PROMETHIUM CARBON

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Sanlam Carbon Footprint

FY2022

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1. Introduction

This report covers the Sanlam Group's FY2022 greenhouse gas (GHG) inventory[1] of facilities based in South Africa. The inventory includes the company's material direct and indirect emissions and emission sources across numerous Sanlam and Santam sites. The calculations in this report are contained in an accompanying Excel spreadsheet which also contain inputs, assumptions and emission factors.

The purpose of this assessment is to compile Sanlam's South African facility based GHG emissions inventory, specifically for corporate reporting. The intended audience of this report includes company executives, shareholders, customers and other interested or affected parties.

2. Approach and Methodology

The Sanlam GHG inventory for FY2022 was compiled in accordance with:

- ISO 14064 Part 1 (2006): 'Specification with guidance at the organization level for quantification and reporting of GHG emissions and removals';
- ISO 14064-1 (2018): 'Specification with guidance at the organization level for quantification and reporting of GHG emissions and removals'; and
- The GHG Protocol's 'A Corporate Accounting and Reporting Standard (Revised Edition)'.

2.1. Reporting Boundary

The first step in the quantification of a corporate GHG inventory is the selection of reporting boundaries. FY2022 Sanlam's carbon footprint, similar to the previous footprint, was calculated according to an operational control approach, related to the group's South African facilities. The facilities included within the GHG footprint calculation are as follows:

Santam

1. Santam Head Office
2. Santam Auckland Park
3. Santam Alice Lane
4. Santam Glacier

Sanlam

5. Sanlam Head Office
6. Sanlam Sky/Houghton

[1] A GHG inventory is a comprehensive report of greenhouse gas emissions by an organization, industry sector, or country. It categorizes emissions into three Scopes: Scope 1 for direct emissions, Scope 2 for indirect emissions from purchased energy, and Scope 3 for other indirect emissions associated with the organization's activities. It is used for measuring, tracking, and reporting emissions.

7. Sanlam Investments
8. Sanlam Sanlynn
9. Sanlam Glacier
10. Sanlam Alice Lane
11. Sanlam West End

There were some exclusions in this carbon footprint:

1. Only the 11 facilities located in South Africa are included within the reporting boundary as indicated above, which accounted for approximately 80% of the Group's operation. The Group also operates numerous smaller offices around South Africa, but due to data availability and the significant reporting burden relative to their GHG contribution, these sites were excluded from the reporting boundary. A significance and justification process should be conducted for exclusions as part of a formal target setting procedure in order to identify the underlying reasons for exclusion. Such boundary is likely to change in the future as a more extensive footprint, which includes all facilities, is advised for Sanlam.
2. Total employees excluded international employees as they were outside the reporting boundary.
3. Emissions associated with Sanlam's value chain, such as capital goods and investments, have not been included in the boundary of this report.

2.2. Methodology

The methodology used to calculate the GHG inventory is based on GHG activity data multiplied by an appropriate emission factor.

Activity data x Emission Factor = Quantity of GHG Emissions

The appropriateness of emissions factors is discussed in Section 2.6 below. Thereafter, the various quantities of GHG emissions (calculated according to the abovementioned equation, per activity data source) are then summed together to provide the total GHG emissions produced by Sanlam Group annually.

The ISO corporate standard for quantifying and reporting GHG emissions, ISO14064-1: 2006, was updated by the ISO in 2018 (ISO14064-1:2018). The latest edition of the ISO standard was adopted and published by the South African Bureau of Standards in 2021 as SANS 14064-1:2021. A comparison between the old standard, ISO14064-1:2006 (which is also aligned with the GHG Protocol's standard) and the new ISO14064-1:2018 categories is provided in the Appendix 3: GHG reporting for ISO 14064:2018 and ISO 14064:2006.

2.3. Data Sources

The activity data sets for the FY2022 GHG inventory related to South African facilities was provided by Sanlam. Apart from a high-level sanity check, no verification or assurance of the data sources or results was conducted by Promethium Carbon.

The following activity data sets were received from Sanlam for FY2022:

- Diesel consumed in company owned vehicles and pool cars and machinery such as stationary back-up generators;
- Petrol consumed in company owned vehicles and machinery;
- Liquid petroleum gas (LPG) used in kitchens;
- Refrigerant gases such R410A, R22 and 134A;
- Electricity purchased from Eskom;
- Acquired energy (Landlord Generator)
- Water readings;
- Paper and stationary consumed;
- Recyclable and landfill waste totals;
- Courier transportation distances;
- Number of full-time employees;
- Business travels in terms of method of transportation;
- Accommodation in terms of number of nights.

Reporting on other indirect (scope 3) emissions is a voluntary process as per the GHG Protocol and the ISO 14064:2006 standards. However, in relation to the new ISO 14064-1:2018, significance criteria (Table 2) should be used to distinguish what activities should be disclosed within a company's Scope 3 emissions. The relevant scope 3 categories, related to Sanlam's South African operations, include production of purchased fuels and products, the waste generated by the operations, upstream transportation and distribution, the commuting of Sanlam's employees and other business travel for company activities. With the publication of the new ISO 14064-1:2018 standard, these indirect emissions are reclassified according to four main categories. Sanlam's significant indirect emissions are provided in Table 3 below.

2.4. Significance Criteria

Whilst it is evident that the Sanlam group report their carbon footprint according to the old ISO: 14064-1:2006 standard, Promethium Carbon believe it is important to show the Sanlam Group the most material sources of emissions arising from the facilities in South Africa by applying the significance assessment as prescribed by the ISO14064-1:2018 standard. The identified emissions should be used as a guideline for what should be included in future carbon footprints for Sanlam.

Companies are required to define and explain their own pre-determined criteria for the significance of indirect emissions, considering the intended use of the GHG inventory.

The criteria for the selection of significant emissions include:

- **Magnitude**: The indirect emissions or removals that are assumed to be quantitatively substantial.

- **Level of influence**: The extent to which the organization can monitor and reduce emission and removals (e.g., energy efficiency, eco-design, customer engagement, terms of reference).
- **Risk or opportunity**: The indirect emissions or removals that contribute to the organization's exposure to risk (e.g. climate-related risks such as financial, regulatory, supply chain, product and customer, litigation, reputational risks) or its opportunity for business (e.g. new market, new business model).
- **Sector-specific guidance**: The GHG emissions deemed as significant by the business sector, as provided by sector-specific guidance.
- **Outsourcing**: The indirect emissions and removals resulting from outsourced activities that are typically core business activities.
- **Employee engagement**: The indirect emissions that could motivate employees to reduce energy use or that federate team spirit around climate change (e.g. energy conservation incentives, carpooling).

The respective framework for assessing significance, and therefore the inclusion of emissions sources in Sanlam's GHG inventory, is detailed in the table below.

Table 1: Significance criteria and thresholds for inclusion

Significance criteria	Definition
1. Magnitude	**Significant if** emissions >1% of Sanlam's total emissions.
2. Level of influence	**Significant if** Sanlam can influence the emissions source by 2.5% per annum through supply chain agreements or similar mechanisms.
3. Outsourcing	**Significant if** emissions associated with outsourcing are relevant for Sanlam. For example, working from home emissions (electricity consumption from computers, heaters and air conditioners)
4. Employee engagement	**Significant if** employees' activities (e.g. travel/commuting) result in the influence of Sanlam's indirect emissions
5. Risk and opportunity	**Significant if** there are risks or opportunities that Sanlam is exposed to as a result of indirect emissions such as the markets Sanlam may invest in.
6. Sector-specific guidance	**Significant if** there are sector-specific guidance, benchmarks or targets for indirect emissions that are relevant to Sanlam. Developments in Sanlam Group and related sector will be monitored, and the relevance of this significance criteria must be re-evaluated.

The significance criteria above are applied to the Sanlam emission sources in the following section of this report.

2.5. Emission Sources

The sources of emissions are presented in the following tables, according to the formats of both the ISO14064-1:2006 standard and the updated ISO14064-1:2018 standard.

The following table outlines the emission sources which are considered to be significant as per the ISO14064-1:2018 standard, based on the relevant criteria outlined in the table above.

Table 2: Emissions categories and sources in Sanlam's FY2022 GHG inventory

ISO 14064:2018		ISO 14064:2006		Emission Sources	Inclusion in GHG Inventory
Category	Description	Category	Description		
1	Direct GHG emissions and removals	Scope 1	Energy direct emissions	Emissions that occur from sources that are controlled or owned by Sanlam such as: • Stationary Diesel Combustion • Mobile Diesel Combustion • Mobile Petrol Combustion • Stationary LPG • Refrigerants	**Included:** as required by ISO14064-1:2018 and ISO14064-1:2006.
.2	Indirect GHG emissions from imported energy	Scope 2	Energy indirect emissions	Emissions associated with the purchase of electricity.	**Included based on significance assessment**: Indirect GHG emissions from electricity use and fuel production are significant due to the **magnitude** in Sanlam's emissions.
		Scope 3, category 3	Fuel- And Energy-Related Activities	Emissions related to the production of fuels and energy purchased and consumed by Sanlam in the reporting year such as: • Upstream emissions of purchased fuels • Upstream emissions of purchased electricity • Transmission and Distribution losses	

ISO 14064:2018		ISO 14064:2006		Emission Sources	Inclusion in GHG Inventory
Category	Description	Category	Description		
3	Indirect GHG emissions from transportation	Scope 3, category 4	Upstream Transportation and Distribution	Emissions from the transportation and distribution activities throughout the value chain: • Air transport • Rail transport • Road transport	**Included based on significance assessment:** Emissions related to business travel and employee commuting are significant due to Sanlam having the ability to **influence** the methods of corporate logistics and business travel, as well as the **opportunity** to engage employees to reduce their emissions resulting from commuting. Road and Air Freight (Upstream transportation and distribution) are significant due to the **magnitude** of these emissions. **Downstream Transportation and Distribution was excluded as no downstream transportation and distribution services were**
		Scope 3, category 6	Business Travel	Emissions from business travel such as: • Air travel • Rail travel • Bus travel • Automobile travel (e.g., business travel in rental cars or employee-owned vehicles other than employee commuting to and from work) • Other modes of travel	
		Scope 3, category 7	Employee Commuting	Emissions from employee commuting such as: • Automobile travel • Bus travel • Rail travel • Air travel • Other modes of transportation (e.g., subway, bicycling, walking)	

ISO 14064:2018		ISO 14064:2006		Emission Sources	Inclusion in GHG Inventory
Category	Description	Category	Description		
		Scope 3, category 9	Downstream Transportation and Distribution	Emissions from downstream transportation and distribution from transportation/storage of sold products in vehicles/facilities not owned by Sanlam, such as: • Air transport • Road transport	**reported in this boundary of Sanlam's GHG emissions.**
4	Indirect GHG emissions from products used by organization	Scope 3, category 1	Purchased Goods and Services	Products include both goods (tangible products) and services (intangible products) such as: • Water • Paper • Stationary	**Included based on significance assessment:** Indirect GHG emissions relating to goods used by Sanlam are significant due to their **magnitude**, as well as Sanlam's level of **influence** over the type of goods that can be purchased.
		Scope 3, category 2	Capital Goods	Emissions from the use of capital goods by the company, such as: • Equipment • Machinery • Buildings • Vehicles	**Not applicable as no capital goods were reported in this boundary of Sanlam's GHG emissions.**
5	Indirect GHG emissions associated with the use of products	Scope 3, category 10	Processing of Sold Products	Emissions from processing of sold intermediate products by third parties (e.g., manufacturers) subsequent to sale by the company	**Not applicable as Sanlam's operations are related to the provision of insurance services and**

ISO 14064:2018		ISO 14064:2006		Emission Sources	Inclusion in GHG Inventory
Category	Description	Category	Description		
	from the organization	Scope 3, category 11	Use of Sold Products	Emissions from the use of goods and services sold by the company in the reporting year.	**finance.**
		Scope 3, category 12	End-Of-Life Treatment of Sold Products	Emissions from the waste disposal and treatment of products sold by the reporting company such as: • Landfilling • Incineration • Recycling	
6	Indirect GHG emissions from other sources	Scope 3, category 5	Waste Generated in Operations	Waste treatment activities may include: • Disposal in a landfill • Recovery for recycling • Incineration • Composting (Food Waste)	**Included based on significance assessment:** Indirect GHG emissions from waste generation are significant due to the level of **influence** Sanlam has over how much waste is sent to landfill compared to recycling.
		Scope 3, category 8	Upstream Leased Assets	Operation of assets that are leased by the reporting company in the reporting year such as: • Vehicles • Equipment • Generator	**Not applicable in this footprint as no leased assets were reported in this boundary of Sanlam's GHG emissions. However, this should be**

ISO 14064:2018		ISO 14064:2006		Emission Sources	Inclusion in GHG Inventory
Category	Description	Category	Description		
		Scope 3, category 13	Downstream Leased Assets	Assets that are owned by the reporting company (acting as lessor) and leased to other entities in the reporting year such as: • Vehicles • Equipment • Generator	**considered in the future.**
		Scope 3, category 14	Franchises	Emissions from the operation of franchises not included in scope 1 or scope 2.	**Not applicable as Sanlam does not utilise a franchise model**
		Scope 3, category 15	Investments	Emissions associated with the reporting company's investments in the reporting year such as: • Equity investments • Debt investments • Project finance • Managed investments and client services.	**Not applicable as investments data is not readily available or the processes are not yet put in place to determine the emissions**

2.6. Assumptions, Emissions and Conversion Factors

The assumptions, emission and conversion factors applied in the calculation of Sanlam's FY2022 GHG inventory, related to the facilities located in South Africa, can be found in the Excel spreadsheet accompanying this document, as well as in the Appendix 2 to this report.

The chosen emission factors are in line with guidance provided by ISO 14064 Part 1:2018, in that these factors:

- Are derived from a recognised origin;
- Are appropriate for the GHG source concerned;
- Are current at the time of quantification;
- Take account of quantification uncertainty and are calculated in a manner intended to yield accurate and reproducible results; and
- Are consistent with the intended use of the GHG inventory.

The emission factors to calculate direct emissions (scope 1) were taken from DEFRA (UK Department of Environment Food and Rural Affairs). Such source was also used for the emissions factors for diesel and petrol production, transport of products, business travel, and employee commuting.

The grid emission factor was taken from Eskom's IAR2022.[2] This grid emission factor was used to calculate indirect energy emissions (scope 2) for operations in South Africa.

The emission factors to calculate the indirect emissions (Scope 3) were mostly taken from DEFRA, however, a few emission factors are extracted from reputable scientific articles.

3. Results for Corporate Reporting

This section presents the FY2022 GHG inventory for Sanlam's South African facilities, which may be used for corporate reporting purposes. The results are presented according to the formats of both the ISO14064-1:2006 standard and the updated ISO14064-1:2018 standard. Whilst not verified against the ISO 14064-1:2018 standard, presenting the footprint in this format is advised to allow for Sanlam to slowly progress to the new recording standard.

3.1. Results as per GHG Protocol and ISO14064-1:2006

Table 3 shows the summary of Sanlam's FY2022 GHG inventory in terms the GHG Protocol and the 2006 version of ISO14064-1 standard.

The GHG inventory, reflecting emissions in both the Sanlam and Santam facilities in South Africa, includes scope 1 and 2 emissions. The scope 1 and 2 emissions amounted to 2 822 tCO_2e and 33

[2] Eskom Integrated Report, 2022, p.70. Available at: https://www.eskom.co.za/wp content/uploads/2022/12/2022_integrated_report.pdf

605 tCO_2e, respectively in FY2022. The calculation of scope 3 emissions is also included, even though it is a voluntary measure under the GHG Protocol and ISO14064-1:2006 standards. Total scope 3 emissions accounted for 22 984 tCO_2e in FY2022.

Table 3: FY2022 GHG inventory according to the GHG Protocol and ISO14064-1:2006

Scope	Description	Sanlam Emissions	Santam Emissions	Group FY2022 Emissions
SCOPE 1	Stationary Diesel Combustion	719 tCO_2e	55 tCO_2e	775 tCO_2e
	Mobile Diesel Combustion	0 tCO_2e	255 tCO_2e	255 tCO_2e
	Diesel Pool Cars	2 tCO_2e	2 tCO_2e	4 tCO_2e
	Mobile Petrol Combustion	0 tCO_2e	1 219 tCO_2e	1 219 tCO_2e
	Petrol Pool Cars	4 tCO_2e	1 tCO_2e	5 tCO_2e
	Stationary LPG	13 tCO_2e	1 tCO_2e	14 tCO_2e
	Refrigerants (R410A)	236 tCO_2e	250 tCO_2e	485 tCO_2e
	Refrigerants (134A)	65 tCO_2e	0	65 tCO_2e
Total SCOPE 1		**1 038 tCO_2e**	**1 783 tCO_2e**	**2 821 tCO_2e**
SCOPE 2	Purchased Electricity	28 005 tCO_2e	5 551 tCO_2e	33 556 tCO_2e
	Acquired Energy (Landlord Generator)	37 tCO_2e	12 tCO_2e	49 tCO_2e
Total SCOPE 2		**28 042 tCO_2e**	**5 563 tCO_2e**	**33 605 tCO_2e**
SCOPE 3	Purchased Goods and Services	258 tCO_2e	38 tCO_2e	296 tCO_2e
	Upstream Transportation and Distribution	154 tCO_2e	57 tCO_2e	211 tCO_2e
	Fuel and Energy Related Activities	3 605 tCO_2e	1 066 tCO_2e	4 671 tCO_2e
	Waste Generated in Operations	131 tCO_2e	10 tCO_2e	142 tCO_2e
	Business Travel (Including Accommodation)	5 915 tCO_2e	1 536 tCO_2e	7 451 tCO_2e
	Employee Commuting and Working from Home	8 568 tCO_2e	1 644 tCO_2e	10 213 tCO_2e
SCOPE 3 Sub-Total		**18 632 tCO_2e**	**4 352 tCO_2e**	**22 984 tCO2e**
Out of Scope[3]	R22 gas	103 tCO2e	**0**	103 tCO_2e
TOTAL Scope 1, 2 and 3		**47 712 tCO_2e**	**11 698 tCO_2e**	**59 410 tCO2e**

[3] Non-Kyoto gases that have been reported.

Total Emissions	**47 815 tCO2e**	**11 698 tCO_2e**	**59 513 tCO2e**

In summary of the table above, it is evident that Scope 2 accounts most of the emissions, with indirect emissions with regards to fuel and energy related activities, and employees commuting and working from home, following.

Table 4: Scope 1 - 3 Emissions for 2019 to 2022.

Carbon Footprint	2019	2020	2021	2022
Total Carbon Footprint (tCO2e)	84 830	51 652	52 130	59 410
Scope 1 emissions (CO2e)	2 391	1 644	1 684	2 821
Scope 2 emissions (CO2e)	41 353	34 221	35 460	33 605
Scope 3 emissions (CO2e)	41 086	16 858	14 442	22 984

If we compare emissions to previous years (Table 4), it is noted that Scope 2 emissions had a marginal decrease compared to 2021. The significant increase in Scope 3 emissions in comparison to 2021 is as a result of the increased business travel, employee commuting and office waste as a result of post-COVID 19 restrictions that have been reduced within FY2022. However, in comparison to FY2019 Scope 3 emissions, such emissions are still much lower as a results of reduced employees commuting and an increase of employees working from home.

3.2. Results as per ISO14064-1:2018

Whilst the GHG Protocol and the ISO14064-1:2006 standards is still being used by the Salam Group for reporting purposes, Promethium advises that Sanlam start incorporating the new ISO14064-1:2018 standard into the Group's GHG reporting as it represents the latest, internationally recognised approach to corporate GHG inventory accounting.

Accordingly, the summary of the FY2022 GHG emissions inventory, according to the ISO14064-1:2018 standard, is presented in the table below.

Table 5: FY2022 GHG inventory according to ISO 14064-1:2018

Category	Description	Sanlam Emissions	Santam Emissions	Group FY2022 Emissions
Category 1: Direct GHG emissions and removals	Stationary Diesel Combustion	719 tCO_2e	55 tCO_2e	775 tCO_2e
	Mobile Diesel Combustion	0 tCO_2e	255 tCO_2e	255 tCO_2e
	Pool Cars Diesel Combustion	2 tCO_2e	2 tCO_2e	4 tCO_2e
	Mobile Petrol Combustion	0 tCO_2e	1 219 tCO_2e	1 219 tCO_2e

Category	Description	Sanlam Emissions	Santam Emissions	Group FY2022 Emissions
	Pool Cars Petrol Combustion	4 tCO_2e	1 tCO_2e	5 tCO_2e
	Stationary LPG	13 tCO_2e	1 tCO_2e	14 tCO_2e
	Refrigerants (R410A)	236 tCO_2e	250 tCO_2e	485 tCO_2e
	Refrigerants (134A)	65 tCO_2e	0	65 tCO_2e
Total CATEGORY 1		**1 038 tCO_2e**	**1 783 tCO_2e**	**2 821 tCO_2e**
Category 2: Indirect GHG emissions from imported energy	Electricity and Fuel and Energy Related Activities[4]	31 610 tCO_2e	6 618 tCO_2e	38 227 tCO_2e
	Acquired Energy (Landlord Generator)	37 tCO_2e	12 tCO_2e	49 tCO_2e
Total CATEGORY 2		**31 646 tCO_2e**	**6 630 tCO2e**	**38 276 tCO_2e**
Category 3: Indirect GHG emissions from transportation	Upstream Transportation and Distribution	154 tCO_2e	57 tCO_2e	211 tCO_2e
	Business Travel (Excluding Accommodation)	5 248 tCO_2e	1 268 tCO_2e	6 515 tCO_2e
	Employee Commute	7 358 tCO_2e	1 365 tCO_2e	8 723 tCO_2e
Total CATEGORY 3		**12 760 tCO_2e**	**2 690 tCO_2e**	**15 450 tCO_2e**
Category 4: Indirect GHG emissions from products used by organization	Purchased Goods and Services	258 tCO_2e	38 tCO_2e	296 tCO_2e
Total CATEGORY 4		**258 tCO_2e**	**38 tCO_2e**	**296 tCO2e**
Category 6: Indirect GHG emissions from other sources	Waste Generated in Operations	131 tCO_2e	10 tCO_2e	142 tCO_2e
	Accommodation During Business Travel	668 tCO_2e	268 tCO_2e	936 tCO_2e
	Working from Home	1 210 tCO_2e	279 tCO_2e	1 489 tCO_2e
	R22 Refrigerant	103 tCO_2e	-	103 tCO_2e
TOTAL CATEGORY 6		**2 113 tCO_2e**	**557 tCO_2e**	**2 670 tCO2e**
Total EMISSIONS (Category 1-6)		**47 778 tCO_2e**	**11 686 tCO_2e**	**59 464 tCO2e**

With reference to the table above, it is seen that Category 2 contributes to the most emissions (64%), specifically the purchased electricity and fuel and energy related activities, this is followed by Category 3 emissions in terms of business travel and employees commuting (26%).

[4] Value calculated is the sum of emissions from purchased electricity as well as the indirect emissions related to the production of fuels and energy purchased and consumed in the reporting year.

3.3. Key Emissions Per Facility

The emissions described above are the sum of the respective Sanlam and Santam facilities that have been analysed. The direct (Scope 1) and energy indirect (Scope 2) emissions are presented per facility, in Appendix 1 to this report, as well as the Excel sheet accompanying this document. Such information is useful as it allows for Sanlam to identify trends in emissions, which may also lead to an identification of reduction opportunities according to specific sites.

4. Conclusion and Recommendations

This report quantifies Sanlam's direct and indirect emissions for the 2022 financial year, with respect to the group's South African facilities, in accordance with both the ISO 14064-1:2006 and ISO 14064-1:2018 standards.

4.1. Conclusion

Sanlam's FY2022 carbon footprint, related to the South African facilities, is summarised in Table 6 below according to the ISO 14064-1:2006 and GHG Protocol standards.

Table 6: Summary of FY2022 results according to ISO14064-1:2006 and GHG Protocol

GHG Inventory according to ISO14064-1:2006 and GHG Protocol	FY2022 Emissions
Scope 1: Direct GHG emissions and removals	2 821 tCO_2e
Scope 2: Indirect GHG emissions from imported energy	33 605 tCO_2e
Scope 3: Other indirect emissions that occur in the value chain	22 984 tCO_2e
Total emissions, excluding Out of Scope Emissions	**59 410 tCO_2e**
Out of Scope Emissions (R22)	**103 tCO_2e**
Total emissions, including Out of Scope Emissions	**59 513 tCO_2e**

Sanlam's largest Scope 1 (direct) emissions were from petrol combustion in company owned vehicles, accounting to 43% of the total Scope 1 emissions. Scope 2 - Purchased electricity is responsible for the highest emissions within Sanlam's FY2022 GHG footprint (64%). Compared to emissions recorded for 2020 and 2021 (Table 4), Scope 1 and 3 emissions in FY2022 have increased as a result of higher fuel usage and increase business travel, employees commuting and office waste. Furthermore, there has been a slight decrease in Scope 2 emissions over the past two years as a result of reduced electricity usage and more employees working from home.

The carbon footprint, according to ISO 14064:2018, is summarised in Table 7 below.

Table 7: Summary of FY2022 results according to ISO 14064:2018

GHG Inventory according to ISO14064-1:2018	FY2022 Emissions
Category 1: Direct GHG emissions and removals	2 821 tCO_2e
Category 2: Indirect GHG emissions from imported energy	38 276 tCO_2e
Category 3: Indirect GHG emissions from transportation	15 450 tCO_2e
Category 4: Indirect GHG emissions from products used by organization	296 tCO_2e
Category 6: Indirect GHG emissions from other sources[5]	2 670 tCO_2e
Total Emissions (Category 1-6)	**59 513 tCO_2e**

Similarly to the inventory described in Table 6, which is presented according to the ISO 14064-1:2006 and GHG Protocol standards, Sanlam's largest category 1 (direct) emissions were from petrol combustion in company owned vehicles. The largest indirect emissions originated from category 2, indirect emissions from electricity and fuel and energy related activities. In contrast to the inventory in Table 6, the category 2 emissions under ISO 14064-1:2018 include emissions from purchased electricity as well as the upstream and downstream energy emissions associated with the Sanlam value chain. The second largest source of indirect emissions were accounted for in category 3: employee commuting and business travel.

4.2. Recommendations

The following recommendations are discussed under two categories:

Emission reduction opportunities:

To reduce emissions calculated in the FY2022 inventory, it is recommended that Sanlam considers:

- Developing renewable energy and/or energy efficiency measures or purchasing renewable energy certificates (RECs) to offset the group's Scope 2/Category 2 emissions: these measures could serve to decrease the group's energy emissions and if suitably designed, carbon credits from the renewable energy facilities that are owned by Sanlam could potentially be sold into the local carbon tax market.
- Encourage employees to either work from home or implement lift clubs to reduce emissions from employees commuting.

Approach to quantifying the Sanlam carbon footprint in future:

We continue to encourage Sanlam to:

- Extend the boundary of the carbon footprint to include emissions related to the:
    - Physical facilities located across the group's international footprint; and

[5] Category consists of Sanlam's emissions for waste generated in operations, accommodation during business travel, R22 gas consumption and working from home activity.

- Investments owned or managed by Sanlam's insurance and asset management clusters.

- Align future carbon footprints to the ISO14064-1: 2018 standard:
  - The significance criteria will need to be applied to each emission source recorded in the footprint boundary.
  - Periodically reassess the significance of emission sources, against the criteria in the ISO14064-1: 2018 standard .

Appendix 1: Scope 1 and 2 Emissions per Sanlam Facility in South Africa

Operations	Santam Glacier	Santam Alice Lane	Santam Auckland	Santam HO	Sanlam West End	Sanlam Alice Lane	Sanlam Glacier	Sanlam Sanlynn	Sanlam Investments	Sanlam Sky	Sanlam HO	Total Santam	Total Sanlam
	tCO_2e	tCO_2e	tCO_2e	tCO_2e	tCO_2e	tCO_2e	tCO_2e	tCO_2e	tCO_2e	tCO_2e	tCO_2e	**tCO_2e**	**tCO_2e**
Scope 1 Emissions													
Diesel - Stationary	-	1.19	7.82	46.44	0.81	2.32	-	39.17	76.77	40.64	559.44	**55.46**	**719.15**
Diesel - Mobile	-	-	-	254.52	-	-	-	-	-	-	-	**254.52**	**-**
Diesel - Pool cars	-	-	-	2.28	-	-	-	-	1.54	-	-	**2.28**	**1.54**
Petrol - Mobile	-	-	-	1 218.94	-	-	-	-	-	-	-	**1 218.94**	**-**
Petrol - Pool cars	-	-	-	1.29	-	-	-	-	2.61	-	1.25	**1.29**	**3.86**
LPG - Stationary	-	1.20	-	-	-	6.86	-	-	2.84	-	3.02	**1.20**	**12.72**
Aircon Gas (R410A)	70.16	-	85.40	93.96	-	-	210.47	25.06	-	-	-	**249.52**	**235.53**
Air Gas (134A)	-	-	-	-	-	-	-	-	65.21	-	-	**-**	**65.21**
Scope 2 Emissions													
Purchased Electricity	161.40	1 003.98	2 623.32	1 762.49	559.37	1 948.91	384.00	509.04	1 940.87	630.67	22 031.99	**5 551.2**	**28 004.9**
Acquired Energy (Landlord Generator)	12.32	-	-	-	-	-	36.96	-	-	-	-	**12.3**	**37.0**

Appendix 2: Assumptions and Emission /Conversion Factors

	Value	Unit	Source	Notes
SCOPE 1 - EMISSION FACTORS				
Diesel- Stationary Fuel	0.00270	**tonne CO2e/litre**	DEFRA 2022	
Diesel Mobile Combustion	0.00270	tonne CO2e/litre	DEFRA 2022	
Petrol Mobile Combustion	0.00234	**tonne CO2e/litre**	DEFRA 2022	
LPG - Stationary	2.94	tonne CO2e/tonne	DEFRA 2022	
R134a	1.43	**tonne CO2e/kg**	**IPCC AR4– 100 year GWPs.**	
R410A	2.09	tonne CO2e/kg	IPCC AR4– 100 year GWPs.	
R22 GWP	1 810.00	**tonne CO2e/tonne**	**IPCC AR4– 100 year GWPs.**	
Diesel Combustion	2.66134	kgCO2/litre	DEFRA 2022	
Diesel Combustion	0.00026	**kgCH4/litre**	DEFRA 2022	
Diesel Combustion	0.04	kgN2O/litre	DEFRA 2022	
Petrol Combustion	2.33	kgCO2/litre	DEFRA 2022	
Petrol Combustion	0.0073	kgCH4/litre	DEFRA 2022	
Petrol Combustion	0.0067	kgN2O/litre	DEFRA 2022	
LPG Combustion	2 935.18	kgCO2/tonnes	DEFRA 2022	
LPG Combustion	2.2800	kgCH4/tonnes	DEFRA 2022	
LPG Combustion	1.83	kgN2O/tonnes	DEFRA 2022	
SCOPE 2 - EMISSION FACTORS				
South Africa - Grid	1.04	tCO_2e/MWh	Eskom IAR2022[6]	
SCOPE 3 - EMISSION FACTORS				
3.1 PURCHASED GOODS AND SERVICES				
Policy Paper	0.63	tonne CO2e/tonne	Mondi IAR page 52	
Office Paper	1.37	million tCO2e	Mondi Paper Profile	
Water	1.47	tonne CO2e/Million litres	Promethium carbon calculations by use of information below.	
Annual water production	1 611 110.00	Ml	Rand Water annual report 2017 [7]	
Water tariff rate	0.85	R/kWh	Eskom Megaflex 2021[8]	
Annual Electricity Cost for Production of Water	1 931 425 000.00	R	Rand Water annual report 2017 (assumed all energy is from electricity)	
Energy Consumed per ML Water Produced	1.41	MWh/Ml	Assumed by calculation	

6 Eskom Integrated Report, 2022, p.70. Available at: https://www.eskom.co.za/wp-content/uploads/2022/12/2022_integrated_report.pdf

7 Rand Water, 2017. Annual Report. Available at: https://www.randwater.co.za/Annual%20Reports/Annual%20Reports/2016-2017%20Annual%20Report/Final%20Annual%20Report%2014Nov2017.pdf

8 Eskom, 2020. Tariffs & Charges Booklet. Available at: https://www.eskom.co.za/distribution/wp-content/uploads/2021/07/2020-21.pdf

	Value	Unit	Source	Notes
South Africa Electricity Grid	1.04	tonnes CO2e per MWh	Eskom's IAR page 153	
3.3 FUEL AND ENERGY RELATED ACTIVITIES				
Diesel production	0.000629	tonne CO_2e/litre	DEFRA 2022	
Petrol production	0.000603	tonne CO_2e/litre	DEFRA 2022	
LPG Production	0.347	tonne CO_2e/tonne	DEFRA 2022	
South Africa - Transmission and distribution losses	0.109	%	Eskom IAR2022 page 144[9]	
South Africa - Grid in terms of Transmission and distribution losses	0.127	tonne CO_2e/MWh	Calculated by Promethium using information from Eskom IAR 2022 in accordance with the GHG Protocol	
3.4. UPSTREAM TRANSPORTATION AND DSITRIBUTION				
Heavy Goods Vehicle	0.000213	tonne CO2e/tonne.km	DEFRA 2022	Average laden. All Rigids
Freight airline International	0.001019	tonne CO2e/tonne.km	DEFRA 2022	Average laden. International with RF
Freight airline Domestic	0.004494	tonne CO2e/tonne.km	DEFRA 2022	Average laden. Domestic with RF
Freight airline Short Haul	0.002302	tonne CO2e/tonne.km	DEFRA 2022	Average laden. Short Haul with RF
3.5. WASTE GENERATED IN OPERATIONS				
Municipal Solid Waste	1.296720	tonne CO2e/tonne	Email correspondence between Kerry from VerifyCO2 and Elena Friedrich (Author of: GHG emission factors developed for the collection. transport and landfilling of municipal waste in SA municipalities.)	
Recycled Municipal Waste	0.021280	tonne CO2e/tonne	DEFRA 2022	Open loop municipal waste
Recycled Paper	0.085700	tonne CO2e/tonne	Article by Friedrich, E. and Trois, C., 2010.[10]	
Food compost	0.008911	tonne CO2e/tonne	DEFRA 2022	
3.6 BUSINESS TRAVEL				
Average petrol car	0.000170	tonne CO2e/km	DEFRA 2022	
Average diesel car	0.000171	tonne CO2e/km	DEFRA 2022	
Domestic Flight - Average passenger	0.245870	tonne CO2e/passenger.km	DEFRA 2022	Emission factors used include a radiative forcing uplift.
Short-haul - Average passenger	0.153530	tonne CO2e/passenger.km	DEFRA 2022	Emission factors used include a radiative forcing uplift.

[9] Eskom Integrated Report, 2022, p.144. Available at: https://www.eskom.co.za/wp-content/uploads/2022/12/2022_integrated_report.pdf

[10] Friedrich, E. and Trois, C., 2010. Greenhouse gases accounting and reporting for waste management–A South African perspective. Waste Management, 30(11), pp.2347-2353.

	Value	Unit	Source	Notes
Short - haul - Economy	0.151020	tonne CO2e/passenger.km	DEFRA 2022	Emission factors used include a radiative forcing uplift.
Short-Haul - Business	0.226520	tonne CO2e/passenger.km	DEFRA 2022	Emission factors used include a radiative forcing uplift.
Long-Haul - Average Passenger	0.193090	tonne CO2e/passenger.km	DEFRA 2022	Emission factors used include a radiative forcing uplift.
Long-Haul - Economy Class	0.147870	tonne CO2e/passenger.km	DEFRA 2022	Emission factors used include a radiative forcing uplift.
Long-Haul - Premium Class	0.236590	tonne CO2e/passenger.km	DEFRA 2022	Emission factors used include a radiative forcing uplift.
Long-Haul - Business Class	0.428820	tonne CO2e/passenger.km	DEFRA 2022	Emission factors used include a radiative forcing uplift.
Long-Haul - First Class	0.591470	tonne CO2e/passenger.km	DEFRA 2022	Emission factors used include a radiative forcing uplift.
Accommodation	0.051400	tonne CO2e/bed.night	DEFRA 2022	
3.7 EMPLOYEE COMMUTING				
Average petrol car	0.000170	tonne CO2e/km	DEFRA 2022	
Average diesel car	0.000171	tonne CO2e/km	DEFRA 2022	
Bus	0.000097	tonne CO2e/passenger.km	DEFRA 2022	Average local bus
SA Taxi	0.000021	tonne CO2e/passenger.km	Toyota Quantum specifications	Assuming a 16 seater taxi with 339g/km emissions
National Rail	0.000035	tonne CO2e/passenger.km	DEFRA 2022	
Mixed (Train and bus)	0.000066	tonne CO2e/passenger.km	calculated	
Mixed (bus and taxi)	0.000118	tonne CO2e/passenger.km	calculated	
Motorcycle	0.000114	tonne CO2e/km	DEFRA 2022	
Working from home	0.150000	kWh/FTE/annum		
Conversion factors and assumptions				
Sanlam employees	10 561	No. of people	Provided by Sanlam Group	
Santam employees	2 447	No. of people	Provided by Sanlam Group	

	Value	Unit	Source	Notes
Weight of A4 paper ream	0.0025	tonne/ream	http://paperlink.co.za/paper_rotatrim.htm	
Weight of A3 paper ream	0.005	tonne/ream	http://paperlink.co.za/paper_rotatrim.htm	
Convert GJ to MWh	0.277778	MWh/GJ		
Diesel Calorific Value	0.0381	GJ/litre	SA Technical Guidelines Annexure D	
Petrol Calorific Value	0.0342	GJ/litre	SA Technical Guidelines Annexure D	
LPG Calorific Value	0.0461	GJ/kg	SA Technical Guidelines Annexure D	
Global Warming Potential of CH4	25	kgCO2e/kgCH4	IPCC AR4– 100 year GWPs.	
Global Warming Potential of N2O	298	kgCO2e/kgN2O	IPCC AR4– 100 year GWPs.	
Average travel time - car	0.75	hours	Assumption	
Average travel speed - car	30.00	km/hour	Assumption	
Average travel time - bus/tax	1.00	hours	Assumption	
Average travel time - train	0.50	hours	Assumption	
Working weeks in a year	45.60	number	Calculated by Promethium	

Appendix 3: Comparison between the old ISO14064:2006 and new ISO 14064:2018 Standard

ISO 14064:2018		ISO 14064:2006	
Category	Description	Scope and Category	Description
1	Direct GHG emissions and removals	Scope 1	Direct GHG emissions
2	Indirect GHG emissions from imported energy	Scope 2	Energy indirect emissions
		Scope 3, category 3	Fuel- And Energy-Related Activities
3	Indirect GHG emissions from transportation	Scope 3, category 4	Upstream Transportation and Distribution
		Scope 3, category 6	Business Travel
		Scope 3, category 7	Employee Commuting
		Scope 3, category 9	Downstream Transportation and Distribution
4	Indirect GHG emissions from products used by organization	Scope 3, category 1	Purchased Goods and Services
		Scope 3, category 2	Capital Goods
5	Indirect GHG emissions associated with the use of products from the organization	Scope 3, category 10	Processing of Sold Products
		Scope 3, category 11	Use of Sold Products
		Scope 3, category 12	End-Of-Life Treatment of Sold Products
6	Indirect GHG emissions from other sources	Scope 3, category 5	Waste Generated in Operations
		Scope 3, category 8	Upstream Leased Assets
		Scope 3, category 13	Downstream Leased Assets
		Scope 3, category 14	Franchises
		Scope 3, category 15	Investments