KATANNING GOLD PROJECT

GREENHOUSE GAS ASSESSMENT TECHNICAL REPORT

Version 2.1

Prepare by **Greenbase Pty Ltd**

On behalf of **Ausgold Limited**

Prepared November 2025

Disclaimer

This document has been prepared for the exclusive use of Ausgold Limited on the basis of instructions, information and data supplied by Ausgold Limited. No warranty or guarantee, whether express or implied, is made by Greenbase Pty Ltd with respect to the completeness or accuracy of any aspect of this document and no party, other than Ausgold Limited, is authorised to or should place any reliance whatsoever on the whole or any part or parts of the document. Greenbase Pty Ltd does not undertake or accept any responsibility or liability in any way whatsoever to any person or entity in respect of the whole or any part or parts of this document, or any errors in or omissions from it, whether arising from negligence or any other basis in law whatsoever.

Rounding of Amounts

All CO_2-e and energy amounts included in this document have been rounded to the nearest Tonne and GJ respectively, except when rounding would result in a zero.

Prepared by:

Greenbase Pty Ltd

Level 2, 41 St Georges Terrace, Perth WA 6000

PO Box Z5451, St Georges Terrace WA 6831

Telephone 08 9322 9966

Website www.greenbase.com.au

Table of Contents

Summary **5**

1 Introduction **6**

1.1 Background 6

1.2 Katanning Gold Project 6

1.3 Australian GHG Landscape 6

2 GHG and Energy Inventory **8**

2.1 Activities Covered in Assessment 8

2.2 GHG Emissions Scenarios Considered in Assessment 8

2.3 GHG Emissions and Energy Sources 8

2.3.1 Scope 1 GHG Emissions 8

2.3.2 Scope 2 GHG Emissions 9

2.3.3 Scope 3 GHG Emissions 9

2.3.4 Renewable Energy 10

2.3.5 Limitations and Exclusions 10

2.4 GHG Emissions and Energy Methodology 11

2.4.1 Scope 1 GHG Emissions 11

2.4.2 Scope 2 GHG Emissions 12

2.4.3 Scope 3 GHG Emissions 12

2.4.4 Renewable Energy 13

2.5 GHG Emissions and Energy Estimates 13

2.5.1 Scope 1 GHG Emissions 13

2.5.2 Scope 3 GHG Emissions 15

2.5.3 GHG Emissions Summary 16

3 Benchmark Assessment **17**

3.1 Contribution of the Katanning Project GHG emissions 17

4 GHG Monitoring and Reporting **18**

4.1 National Greenhouse and Energy Reporting (NGER) 18

4.2 Safeguard Mechanism 18

5 Glossary **19**

Appendix A Scope 3 Emission Categories and Relevancy **20**

References **22**

Table of Tables

Table 1 Project Summary Table 6
Table 2 Scope 3 GHG Emissions Categories (Greenhouse Gas Protocol, 2011) 9
Table 3 Scope 1 GHG Emission Factors applied to Fuel Consumption 11
Table 4 Electricity generation by hybrid power plant for Katanning Project 11
Table 5 Staged Plan for Electrification of Mining Fleet and Mobile Equipment 12
Table 6 Key Scope 1 Inputs for the Katanning Project 13
Table 7 Land Clearing Scope 1 Inputs for the Katanning Project 13
Table 8 Estimated Scope 1 GHG Emissions associated with Fuel Consumption 14
Table 9 Estimated Scope 1 GHG Emissions Associated with Land Clearing 15
Table 10 Estimated Scope 1 GHG Emissions 15
Table 11 Estimated Scope 3 GHG Emissions over LoM 16
Table 12 GHG Emissions Summary 16
Table 13 Estimated Impact of Scope 1 GHG Emissions 17
Table 14 Key NGER Thresholds 18

Summary

Ausgold Limited (Ausgold) is the proponent for the Katanning Gold Project (Katanning Project), located 40 km north-east of the town of Katanning. The proposed Katanning Project encompasses a gold mine and processing plant. The Life of Mine (LoM) is 10 years.

This greenhouse gas (GHG) assessment has been prepared to convey the company's intent of minimising both direct (scope 1) and indirect (scope 3) emissions to stakeholders and community groups. The estimated emissions for the Katanning Project have been calculated for this assessment. For a summary of the emissions broken down by scope, see Table 12.

One baseline scenario and one potential GHG reduction scenario has been considered in the assessment:

- Baseline Scenario: Hybrid Power Station (LNG + Solar)
- Scenario 1: Electrification of the mining fleet and mobile equipment

In the baseline emissions scenario, where electricity is generated through a hybrid power station have been implemented, the total emissions (scope 1 and 3) over the LoM have been estimated at 1,138,791 t CO_2-e. The average annual scope 1 emissions have been estimated at 78,835 t CO_2-e/year during LoM, excluding land clearing emissions. There will be no scope 2 emissions from the Katanning Project as the hybrid power station is expected to be the primary source of electricity.

Scenario 1 involves a staged electrification of the mining fleet and mobile equipment. In this scenario, total LoM emissions have been estimated at 999,935 t CO_2-e. The average annual scope 1 emissions have been estimated at 69,226 t CO_2-e/year during LoM, excluding land clearing emissions. Compared to the Baseline Scenario, this represents a 12% decrease in total emissions.

Katanning Project is not expected to exceed safeguard threshold for both baseline scenario where hybrid solar-gas power station is used to generate electricity and scenario 1, where staged electrification of the mining fleet and mobile equipment is implemented.

Overall, scope 1 emissions of the Katanning Project are estimated to contribute 0.14% to Western Australia's annual emissions and 0.03% to Australia's annual emissions, based on the highest year of emissions in the Baseline Scenario.

1 Introduction

1.1 Background

This GHG assessment has been prepared to assist Ausgold convey their intent of minimising both direct (Scope 1) and indirect (Scope 3) emissions to stakeholders and community groups.

The estimated GHG emissions from the Katanning Project have been calculated in this assessment and the likely contribution to state and national emissions have been estimated.

A summary of the project details is outlined in Table 1.

Table 1 Project Summary Table

Project name	Katanning Gold Project (Katanning Project)
Proponent name	Ausgold Limited (Ausgold)
Key environmental factor and objective	Factor: Greenhouse Gas Emissions EPA Environmental Objective: To reduce net greenhouse gas emissions in order to minimise the risk of environmental harm associated with climate change (EPA, 2020b)
Proposed commencement date of the project	Year 0 (construction): FY2026 Year 1 (operation): FY2027

1.2 Katanning Gold Project

The Katanning Gold Project (Katanning Project) is located 40 km north-east of the town of Katanning and spread over 4,000 m^2 of the Katanning Greenstone Belt in the south-west corner of the Yilgarn Craton.

The main components of the Katanning Project include open pit mining and processing of gold ore to produce gold concentrate.

1.3 Australian GHG Landscape

To manage Australia's contribution to global GHG emissions, several frameworks, agreements and policies have recently been put in place. The history and key points of these strategies, which underpin the basis of Australian GHG reporting, are discussed below.

The United Nations Framework Convention on Climate Change (UNFCCC) came into force in 1994 with the aim of stabilising GHG concentrations and preventing dangerous human interference with the climate system (UNFCCC, 2023). Australia, along with over 190 other countries, is a member of this Convention and submits regular reports detailing its annual and quarterly emissions, progress towards targets, projections, and mitigation actions to fulfill its reporting obligations to the UNFCCC. Australia is also a signatory to the Kyoto Protocol, ratified in December 2007, and the Paris Agreement, ratified in November 2016.

The National Greenhouse and Energy Reporting (NGER) scheme, established by the *National Greenhouse and Energy Reporting Act 2007* (NGER Act), is Australia's national

framework under which companies are required to report their GHG emissions and energy consumption and production. The objectives of the NGER scheme include informing government policy and helping to meet Australia's international reporting obligations.

In October 2021, Australia set a national net-zero target, while in June 2022 Australia committed to reducing GHG emissions to 43% below 2005 levels by 2030. Alongside these commitments, each state and territory has set their own net-zero target. Western Australia is committed to achieving net-zero emissions by 2050 as outlined in the Western Australian Climate Policy (Government of Western Australia, 2020).

To further align with national and state goals of reducing and managing GHG emissions, the Government of Western Australia published the Greenhouse Gas Emissions Policy for Major Projects (State Emissions Policy) in August 2019. This Policy aims to inform the decision-making process for Environmental Impact Assessments (EIA) assessed by the EPA. Under the Policy, projects with significant GHG emissions (over 100,000 t CO_2-e of scope 1 emissions per year) are required to demonstrate their ability to contribute to Western Australia's net-zero target. The Environmental Greenhouse Gas Emissions Guideline (EPA, 2020) has been prepared to further inform the EIA process.

2 GHG and Energy Inventory

2.1 Activities Covered in Assessment

The key infrastructure and principal activities to be undertaken by the Katanning Project have been identified and outlined below:

- Open mining pits,
- Hybrid power plant (LNG + Solar) and
- Processing plant (crushing, beneficiation, leaching).

2.2 GHG Emissions Scenarios Considered in Assessment

The Katanning Project aims to reduce their emissions over the LoM. One baseline scenario and one emissions reduction scenario have been taken into consideration:

- Baseline Scenario: Hybrid Power Plant (LNG + Solar)
- Scenario 1: Electrification of the mining fleet and mobile equipment

2.3 GHG Emissions and Energy Sources

GHG emissions can include both *direct* and *indirect* emissions, i.e., scope 1, scope 2, and scope 3 emissions.

Emissions sources identified for the Katanning Project are discussed below.

2.3.1 Scope 1 GHG Emissions

Scope 1 emissions are *direct* emissions from sources within the boundary of the facility or organisation, e.g., fuel combusted on site.

The significant sources of scope 1 emissions resulting from the activities identified from the project are as follows:

- Diesel combustion (non-transport)

  Diesel consumption by the mining fleet and other stationary plant and equipment,
- Diesel combustion (transport)

  Diesel consumption by road-registered mobile vehicles,
- Liquified Natural Gas (LNG) combustion

  LNG consumed for electricity generation by thermal generators at the hybrid power plant,
- Liquified petroleum gas (LPG) combustion (non-transport)

  LPG consumed at the processing plant for kilns, furnaces etc.
- Land clearing.

2.3.2 Scope 2 GHG Emissions

Scope 2 emissions are *indirect* emissions from the consumption of purchased electricity, steam, or heat produced by another organisation.

Katanning Project is expected to rely on a hybrid power plant for electricity as such it is not expected to produce any Scope 2 emissions.

2.3.3 Scope 3 GHG Emissions

Scope 3 emissions are all other *indirect* emissions that are of a consequence of an organisation's activities but are not from sources owned or controlled by the organisation, e.g., the emissions associated with the extraction, refinement, and delivery of diesel to site.

The GHG Protocol (2011) divides scope 3 emissions into two groups, depending on where the emissions occur in the corporate value chain:

- Upstream indirect GHG emissions related to purchased or acquired goods and services,
- Downstream indirect GHG emissions related to sold goods and services.

Scope 3 emissions are further split into 15 categories to provide a systematic framework for companies to quantify, manage, and reduce emissions across their corporate value chain. To avoid double counting emissions, the categories are designed to be mutually exclusive. Table 2 outlines all scope 3 categories, their relevancy to the project and indicates those included in the GHG assessment. A full list and description of the scope 3 categories as well as definitions of relevancy are outlined in Appendix A.

Table 2 Scope 3 GHG Emissions Categories (Greenhouse Gas Protocol, 2011)

Category	Relevancy	Included in Assessment
1. Purchased goods and services	Material and directly influenced by the company; should be calculated.	✓
2. Capital goods	Material and directly influenced by the company; should be calculated.	✓
3. Fuel and energy-related activities (Not included in scope 1 or scope 2)	Material and directly influenced by the company; should be calculated.	✓
4. Upstream transportation and distribution	Material and directly influenced by the company; should be calculated.	✓
5. Waste generated in operations	Potentially material; currently cannot be estimated due to uncertainty at this stage.	
6. Business travel	Potentially material; currently cannot be estimated due to uncertainty at this stage.	
7. Employee commuting	Potentially material; currently cannot be estimated due to uncertainty at this stage.	

8. Upstream leased assets	Not material for a single facility.	
9. Downstream transportation and distribution	Not material for gold production.	
10. Processing of sold products	Immaterial but directly influenced by the company; should be calculated.	✓
11. Use of sold products	Not material for gold production.	
12. End-of-life treatment of sold products	Not material for gold production.	
13. Downstream leased assets	Not material for a single facility.	
14. Franchises	Not material for a single facility.	
15. Investments	Not material for a single facility.	

2.3.4 Renewable Energy

Renewable energy commodities have been identified and has been included in the assessment.

In addition to the LNG-powered thermal generator, the hybrid power plant also includes a solar farm and a Battery Energy Storage System (BESS) as renewable sources of electricity generation.

2.3.5 Limitations and Exclusions

The following emissions and energy sources have been excluded from the assessment as they were deemed either minor sources or no use was identified (exclusions from scope 3 are outlined in Table 2):

- Sulphur hexafluoride (SF_6),
- Hydro fluorocarbons (HFCs) and perfluorocarbons (PFCs),
- Other minor fuel sources (e.g. ULP, oils, and greases), and
- Wastewater treatment.

Other exclusions are noted below:

- Exploration activities,
- Explosives used for mining; there are no factors/methods included in the National Greenhouse Accounts Factors (2022) or the *National Greenhouse and Energy Reporting (Measurement) Determination 2008 (*NGER Determination) to calculate emissions from explosives.

Whilst the estimates in this assessment have been calculated using the best available information, it should be noted that potential for technology change (implementation of best available technology) and updates to costing over the project LoM may result in adjustments to emission estimates.

2.4 GHG Emissions and Energy Methodology

2.4.1 Scope 1 GHG Emissions

Scope 1 GHG Emissions from Fuel Consumption

For emissions calculations, fuel use is split into three categories - electricity, transport, and non-transport - based on the associated activity. Fuel used by generators with a power rating greater than 500 kW that generate more than 100,000 kWh of electricity each year is classified as electricity. Fuel used by road-registered vehicles is classified as transport. All other fuel usages are classified as non-transport.

Scope 1 estimates from fuel consumption have been prepared using methods and emission factors from the NGER Determination, as applicable to 2023-24 financial year (FY2024) reporting. The emission factors applied to calculations are shown in Table 3.

Table 3 Scope 1 GHG Emission Factors applied to Fuel Consumption

Emission/Energy Source	Energy Content Factor (GJ/kL)	Emission Factor (kg CO_2-e/GJ)			
		CO_2	CH_4	N_2O	Total
Diesel (Transport)	38.60	69.90	0.10	0.40	70.40
Diesel (Non-Transport)	38.60	69.90	0.10	0.20	70.20
LNG (Electricity)	N/A	51.40	0.10	0.03	51.53
LPG (Non-Transport)	25.70	60.20	0.20	0.20	60.60

Only 50% of the total electricity generated by the hybrid power plant is expected to be supplied by the LNG powered thermal generator, while the remaining is expected to be generated through renewable sources as shown in Table 4.

Table 4 Electricity generation by hybrid power plant for Katanning Project

Source	Electricity (kWh/year)	% contribution
Thermal - LNG	84,256,807	50%
Solar PV/BESS	84,256,807	50%
Total	**168,513,614**	**100**

Two fuel consumption scenarios are considered for the estimation of scope 1 emissions:

- Baseline Scenario: Mining fleet and mobile equipment operate entirely on diesel
- Scenario 1: Mining fleet and mobile equipment are gradually replaced by electric vehicles and equipment, according to the staged approach outlined in Table 5.

Table 5 Staged Plan for Electrification of Mining Fleet and Mobile Equipment

Year	Proposed Electrification of Mining Fleet and Mobile Equipment
Year 1-2	None
Year 3-4	Mobile equipment at the processing plant
Year 5-6	Mining fleet – dozers, graders, drills, other vehicles
Year 7-10	Mining fleet – excavators, trucks, loaders

Scope 1 GHG Emissions from Land Clearing

Emissions associated with land clearing have been calculated using the Full Carbon Accounting Model (FullCAM) guidelines produced by the Department of Climate Change, Energy, the Environment and Water (DCCEEW, 2020) and methodology outlined in *Carbon Credits (Carbon Farming Initiative—Avoided Clearing of Native Regrowth) Methodology Determination 2015* (CER, 2018). Emissions were calculated by determining the carbon mass (tonnes of carbon per hectare) of the cleared vegetation, multiplying it by the cleared area (hectares), and converting the resulting carbon mass (tonnes of carbon) to CO_2 emissions.

The carbon mass (tonnes of carbon per hectare) is calculated using the project location (latitude/longitude coordinates) and takes into consideration the vegetation type of the area. The maximum carbon mass of trees per hectare and the associated forest debris carbon mass per hectare have been utilised in the calculations. Other baseline settings used in the FullCAM calculations were set up in accordance with the FullCAM Guidelines (DCCEEW, 2020).

Emissions have been calculated assuming all vegetation will be completely lost upon land clearing and converted to carbon dioxide emissions.

2.4.2 Scope 2 GHG Emissions

Scope 2 emissions estimates for consumption of electricity purchased from the grid have been calculated using the methodology from the *National Greenhouse and Energy Reporting (Measurement) Determination 2008* (NGER Determination).

There were no scope 2 emissions estimated for the assessment.

2.4.3 Scope 3 GHG Emissions

To calculate scope 3 GHG emissions, the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011), has been consulted and the GHG Protocol Technical Guidance for Calculating Scope 3 Emissions (2013) were referenced where required.

The two main methods of quantifying scope 3 GHG emissions are direct measurement and calculation. Direct measurement involves monitoring, mass balance or stoichiometry to quantify emissions, while calculation uses an emission factor and activity data to calculate emissions. Due to the difficulty in direct measurement generally the calculation method is used, as such the general formula for calculating emissions is outlined below:

$$GHG\ Emissions = Activity\ Data\ x\ Emisssion\ Factor$$

A variety of emission factor sources were used, including but not limited to:

- National Greenhouse Accounts Factors (2023),
- Supply Chain Emission Factors for US Industries Commodities, and
- Various scientific studies.

2.4.4 Renewable Energy

The solar farm has a capacity of 50 MWp capacity and BESS has a capacity of 20.04 MW/44.19 MWhr. All electricity generated by the renewable sources will be used for onsite operations.

2.5 GHG Emissions and Energy Estimates

2.5.1 Scope 1 GHG Emissions

Scope 1 emissions have been estimated for the Katanning Project over the expected LoM for the Baseline Scenario and Scenario 1.

The key inputs used to calculate the scope 1 emissions associated with the project are outlined in Table 6.

Table 6 Key Scope 1 Inputs for the Katanning Project

Scenario	Input	Values over LoM
Both Scenarios	LoM: Construction + Operation	Construction: 1 year Operation: 10 years
	LPG Consumption	8,823,529 L
Baseline Scenario	Diesel Combustion (Transport)	12,180,701 L
	Diesel Combustion (Non-Transport)	154,710,445 L
	LNG Consumption (Electricity)	7,784,297 GJ
Scenario 1	Diesel Combustion (Transport)	3,059,024 L
	Diesel Combustion (Non-Transport)	109,276,353 L
	LNG Consumption (Electricity)	8,603,239 GJ

The inputs applied to the Katanning Project land clearing calculations are shown in Table 7.

Table 7 Land Clearing Scope 1 Inputs for the Katanning Project

Input	Value
Cleared Area	68.78 ha
Project Location Coordinates	-33.5498 North; 117.9074 East
Long Term Average Rainfall (annual)[1]	<500 mm

Other Baseline Settings	As outlined in FullCAM guidelines

1. Source: Bureau of Meteorology. http://www.bom.gov.au/climate/averages/tables/cw_010916_All.shtml

Scope 1 GHG Emissions from Fuel Consumption

Scope 1 emissions from fuel consumption were calculated under two scenarios:

- Baseline Scenario: Mining fleet and mobile equipment operate entirely on diesel
- Scenario 1: Mining fleet and mobile equipment are gradually replaced by electric vehicles and equipment, under a staged approach

The estimated scope 1 emissions from fuel consumption, by source, are outlined in Table 8. The average annual emissions have been calculated using the operational years only.

Table 8 Estimated Scope 1 GHG Emissions associated with Fuel Consumption

Scenario	Sources	Emissions over LoM ($t CO_2$-e)	Average Annual Emissions During Operation ($t CO_2$-e)
Baseline Scenario	Diesel combustion (Transport)	33,100	3,236
	Diesel combustion (Non-Transport)	419,222	40,929
	LNG combustion (Electricity)	401,125	40,112
	LPG combustion (Non-Transport)	13,742	1,374
	Total	**867,189**	**85,652**
Scenario 1	Diesel combustion (Transport)	8,313	757
	Diesel combustion (Non-Transport)	296,108	28,618
	LNG combustion (Electricity)	443,325	44,332
	LPG combustion (Non-Transport)	13,742	1,374
	Total	**761,488**	**75,082**

Scope 1 GHG Emissions from Land Clearing

Input data in Table 7 was entered into the FullCAM simulation model, producing an estimated maximum carbon biomass for the project area of 60.27 t carbon/ha. An emission factor of 220.58 t CO_2-e/ha is calculated from this carbon biomass via the Carbon Credits Methodology (CER, 2018).

It should be noted that the maximum carbon biomass includes the carbon mass of trees and the carbon mass of forest debris.

The estimated scope 1 emissions from applying the above emission factor to the proposed area of land are outlined in Table 9.

Table 9 Estimated Scope 1 GHG Emissions Associated with Land Clearing

Area (ha)	Emissions over LoM (t CO_2-e)
68.78	15,190

Combined Scope 1 GHG Emissions

The emissions from fuel consumption and land clearing have been combined to provide an overall estimate of scope 1 emissions for the Baseline Scenario and Scenario 1.

The combined estimated scope 1 emissions, by source, are outlined in Table 10.

It is noted that the project is expected to emit over 100,000 t CO_2-e in year 1 to year 6 of the baseline scenario, tripping the safeguard threshold.

Table 10 Estimated Scope 1 GHG Emissions

Scenario	Category	Emissions over LoM (t CO_2-e)
Baseline Scenario	Fuel Combustion	867,189
	Land Clearing	15,190
	Total	**882,379**
Scenario 1	Fuel Combustion	761,488
	Land Clearing	15,190
	Total	**776,678**

2.5.2 Scope 3 GHG Emissions

Five categories of scope 3 emissions were determined to be material for Ausgold in Section 2.3.3:

- Purchased goods and services
- Capital goods
- Fuel and energy related activities
- Upstream transportation and distribution
- Processing of sold products

Data used in the calculations was sourced from capital and operating cost estimates, projected fuel and electricity requirements, and projected gold production.

Emissions from purchased goods and services, capital goods, & upstream transportation and distribution have been combined, as they were all calculated using cost estimates and the appropriate emission factors from the Supply Chain Emission Factors for US Industries Commodities.

Table 11 shows that purchased goods and services (including capital goods and upstream transportation and distribution) were the highest contributor to scope 3 emissions.

Table 11 Estimated Scope 3 GHG Emissions over LoM

Scenario	Category	Emissions over LoM (t CO_2-e)
Both Scenarios	Purchased Goods and Services (including Capital Goods and Upstream Transportation and Distribution)	109,120
	Processing of Sold Products	128
Baseline Scenario	Fuel and Energy Related Activities	147,164
	Total	**256,412**
Scenario 1	Fuel and Energy Related Activities	114,009
	Total	**223,257**

2.5.3 GHG Emissions Summary

Table 12 GHG Emissions Summary

Scenario	Scope	Emissions over LoM (t CO_2-e)
Baseline Scenario	Scope 1	882,379
	Scope 3	256,412
	Scope 1 + 3 Total	**1,138,791**
Scenario 1: Solar Farm and Electrification of Mining Fleet and Mobile Equipment	Scope 1	776,678
	Scope 3	223,257
	Scope 1 + 3 Total	**999,935**

3 Benchmark Assessment

3.1 Contribution of the Katanning Project GHG emissions

Total annual emissions of Australia reported by the Department of Climate Change, Energy, the Environment and Water up to September 2024 was 434.9 million t CO_2-e (DCCEEW, 2025).

The CER published the annual NGER data for FY2023-24 in February 2025. For the FY2023-24 year, corporations reported a total of 303 million t CO_2-e of scope 1 emissions and 74 million t CO_2-e of scope 2 emissions (CER, 2025). 22.9% of scope 1 emissions was contributed by Western Australia, and 31% of scope 1 emissions was contributed by the mining industry (CER, 2025).

To provide a perspective on the project's likely impact, the highest scope 1 emission estimate for the baseline scenario, 99,048.80 t CO_2-e, has been compared against state and national emission estimates and displayed in Table 13.

Table 13 Estimated Impact of Scope 1 GHG Emissions

Location	FY2024 Scope 1 GHG Emissions (million t CO_2-e)	% Contribution from the Project	Data Source
Western Australia^	69.4	0.14%	NGER Highlights Infographic (CER)
Australia	303	0.03%	NGER Highlights Infographic (CER)

^Only includes facilities reporting to safeguard and electricity generators that provide electricity to the grid. The real figure is likely to be higher as it will include other sources such as smaller mining and processing facilities, road rail and air transport, and agriculture.

4 GHG Monitoring and Reporting

4.1 National Greenhouse and Energy Reporting (NGER)

The NGER scheme is a Commonwealth initiative, introduced in 2007, to provide data and accounting in relation to GHG emissions and energy consumption and production.

Under the NGER scheme, corporations that exceed the corporate or facility thresholds need to report annually to the CER (Table 14).

Table 14 Key NGER Thresholds

Level	GHG Emissions ($t CO_2$-e)	Energy Consumed / Produced (GJ)
Facility	25,000	100,000
Corporate	50,000	200,000

The controlling corporation (as defined in the *NGER Act)* of the Katanning Project is likely to be Ausgold Limited. It is expected that Ausgold will exceed the NGER threshold under all emissions scenarios, and will be required to include the GHG emissions, energy consumption, and energy production for this project in their annual NGER report.

4.2 Safeguard Mechanism

Starting on 1 July 2016, the Australian Government introduced a Safeguard Mechanism under section 22XS of the NGER Act. Responsible emitters for facilities that emit 100,000 tCO_2-e or more of scope 1 GHG emissions are required to meet the Safeguard requirements, including keeping the facility's scope 1 emissions at or below a set baseline. Should the emissions exceed the baseline; the responsible emitter will be required to 'make good' the excess emissions by surrendering Australian Carbon Credit Units (ACCUs) or Safeguard Mechanism Credits (SMCs) or be liable to a substantial penalty.

The Safeguard Mechanism reforms introduced in 2023 apply a decline rate to facilities' baselines so that they are reduced on a trajectory consistent with achieving Australia's emissions reduction targets of 43% below 2005 levels by 2030 and net zero by 2050. The decline rate will be set at 4.9% each year to 2030. Post-2030 decline rates will be set in predictable five-year blocks, after updates to Australia's Nationally Determined Contribution (NDC) under the Paris Agreement.

With the maximum forecast annual scope 1 GHG emissions of 99,048.80 tCO2-e, the Katanning is not likely to exceed the default baseline of 100,000 tCO_2-e when it is in operation during both baseline scenario and where stage electrification of mining fleet and mobile equipment is implemented.

5 Glossary

Terms	Definitions
CER	Clean Energy Regulator
CH_4	Methane
CO_2	Carbon dioxide
CO_2-e	Carbon dioxide equivalence, the amount of the gas multiplied by a value specified in the regulations in relation to that kind of greenhouse gas.
Determination	*National Greenhouse and Energy Reporting Determination 2008*
Downstream emissions	Indirect GHG emissions related to sold goods and services
EPA	Western Australian Environmental Protection Authority
EP Act	*Environmental Protection Act 1986*
Facility	Is a single enterprise that undertakes an activity, or a series of activities that involve greenhouse gas emissions, the production of energy or the consumption of energy.
GHG	All greenhouse gases mentioned in the NGER Act
HFCs	Hydro fluorocarbons
LoM	Life of Mine
LPG	Liquefied Petroleum Gas
MS	Ministerial Statement
N_2O	Nitrous oxide
NGER	National Greenhouse and Energy Reporting
NGER Act	*National Greenhouse and Energy Reporting Act 2007* as it applies to the current reporting year
Non-transport	Includes purposes for which fuel is combusted that do not involve transport energy purposes, see Sections 2.20, and 2.42 of the Determination.
PER	Public Environmental Review
PFCs	Perfluorocarbons
Regulations	*National Greenhouse and Energy Reporting Regulations 2008*
Scope 1	Emission of greenhouse gas, in relation to a facility, means the release of greenhouse gas into the atmosphere as a direct result of an activity or series of activities (including ancillary activities) that constitute the facility.
Scope 2	Emission of greenhouse gas, in relation to a facility, means the release of greenhouse gas into the atmosphere as a direct result of one or more activities that generate electricity, heating, cooling or steam that is consumed by the facility but that do not form part of the facility.
Scope 3	Indirect emissions of greenhouse gas, that are not included in scope 2, that occur in the value chain of the reporting company.
SF_6	Sulphur Hexafluoride – a gas used in switchgear and circuit breakers for insulation.
t carbon	Tonnes of carbon
t CO_2-e	Tonnes of carbon dioxide equivalent
Transport	Includes purposes for which fuel is combusted for transport by vehicles registered for road use, rail transport, marine navigation, and air transport, see Sections 2.20, and 2.42 of the Determination
UNFCCC	United Nations Framework Convention on Climate Change
Upstream emissions	Indirect GHG emissions related to purchased or acquired goods and services

Appendix A Scope 3 Emission Categories and Relevancy

Category	Description
1. Purchased goods and services	All emissions from the production of products and services purchased or acquired by the reporting company in the reporting period. *Example: The emissions associated with the extraction, production and transportation (between suppliers) of copper that is purchased by the reporting company to create bronze.*
2. Capital goods	All upstream emissions from the production of capital goods purchased by the company in the reporting period. *Example: Emissions associated with the production of excavators used by the reporting company.*
3. Fuel- and energy-related activities (Not included in scope 1 or scope 2)	All emissions related to the production (extraction, processing, transport etc.) of fuel and energy purchased by the reporting company, that are not included in the company's scope 1 and scope 2 emissions. *Example: The emissions from extracting crude oil, processing it to form diesel and transporting it to a site run by the reporting company.*
4. Upstream transportation and distribution	All emissions resulting from the transportation and distribution of purchased products, between a company's tier 1 suppliers and its own operations, in vehicles not owned by the reporting company, as well as any third-party transportation and distribution services purchased by the reporting company between a company's own facilities. *Example: Emissions from transportation of purchased copper between the supplier and the reporting company's bronze manufactoring facility.*
5. Waste generated in operations	All emissions from third-party treatment and disposal of waste that is generated by the company in the reporting period. *Example: Waste sent from the reporting company's site facilities for recycling, disposal at landfills, incineration, composting, etc.*
6. Business travel	All emissions from the transportation of employees for business-related activities in vehicles owned or operated by third-parties. *Example: Flights to business conferences and meeting suppliers.*
7. Employee commuting	All emissions from the transportation of employees between their homes and worksites. *Examples: FIFO and DIDO to site.*
8. Upstream leased assets	All emissions from the operation of leased assets that are not included in the company's scope 1 and 2 emissions inventory. *Example: Emissions from leased cars, offices and buildings.*
9. Downstream transportation and distribution	All emissions from third-party transport and distribution of the company's sold products in the reporting period. *Example: Emissions from third-party marine transportation of iron ore sold by the reporting company to be processed by another company.*
10. Processing of sold products	All emissions from processing of sold intermediate products by third-parties, subsequent to the sale of the product by the reporting company. *Example: Emissions from processing of iron ore sold by the reporting company to create steel.*
11. Use of sold products	All emissions from the use of goods and services sold by the reporting company in the reporting period. *Example: Emissions from the combustion of diesel, produced by the reporting company, as fuel for cars.*
12. End-of-life treatment of sold products	All emissions from the waste disposal or treatment of products sold by the company in the reporting period, at the end of their life. *Example: Emissions from recycling of metal cans sold by the reporting company.*
13. Downstream leased assets	All emissions from the operation of assets owned by the company and leased to third-parties in the reporting period, if they are not included in the company's scope 1 and scope 2 emissions. *Example: Emissions from electricity used in offices/buildings leased by the reporting company to other operations.*

14. Franchises	All emissions from the operation of franchises, by franchisees, not included in the franchisor's scope 1 and scope 2 emissions. *Example: Emissions from operations associated with a company's trademark.*
15. Investments	All emissions associated with operating the reporting company's investments in the reporting period. *Example: Emissions associated with a mine a company has a financial investment in but not operational control.*

Criteria	Description
Size	They contribute significantly to the company's total anticipated scope 3 emissions.
Influence	There are potential emissions reductions that could be undertaken or influenced by the company.
Risk	They contribute to the company's risk exposure (e.g., climate change related risks such as financial, regulatory, supply chain, product and customer, litigation, and reputational risks).
Stakeholders	They are deemed critical by key stakeholders (e.g., customers, suppliers, investors, or civil society).
Outsourcing	They are outsourced activities previously performed in-house or activities outsourced by the reporting company that are typically performed in-house by other companies in the reporting company's sector.
Sector guidance	They have been identified as significant by sector-specific guidance.
Other	They meet any additional criteria for determining relevance developed by the company or industry sector.

Source: GHG Protocol (2011)

References

Clean Energy Regulator (CER) (2018). *Carbon Credits (Carbon Farming Initiative—Avoided Clearing of Native Regrowth) Methodology Determination 2015*. Available at: https://www.legislation.gov.au/Details/F2018C00127

Clean Energy Regulator (CER) (2025). *2023–24 published data highlights*. Available at: https://cer.gov.au/markets/reports-and-data/nger-reporting-data-and-registers/2023-24-published-data-highlights#emissions-and-energy-included-in-these-data-highlights

Department of Climate Change, Energy, the Environment and Water (2022). *Australian National Greenhouse Accounts Factors*, Available at: https://www.dcceew.gov.au/sites/default/files/documents/national-greenhouse-accounts-factors-2022.pdf

Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2025). *National Greenhouse Gas Inventory Quarterly Update: September 2024.* Available at: https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-gas-inventory-quarterly-update-september-2024

Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2020). *FullCAM Guidelines: Requirements for use of the Full Carbon Accounting Model (FullCAM) with the Emissions Reduction Fund (ERF) methodology determination.* Available at: https://www.dcceew.gov.au/sites/default/files/documents/final_fullcam_guideline_native_forest_from_managed_regrowth.pdf

Environment Protection Authority (EPA) (2020a). *Environmental Factor Guideline: Air Quality*. EPA, Western Australia. Available at: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EFG%20-%20Air%20Quality%20-%2003.04.2020.pdf

Environment Protection Authority (EPA) (2023). *Environmental Factor Guideline: Greenhouse Gas Emissions.* EPA, Western Australia. Available at: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Guideline-GHG-Emissions%20-%20April%202023.pdf

GHG Protocol (2011). *Corporate Value Chain (Scope 3) Accounting and Reporting Standard*. WRI/WBCSD. Available at: https://ghgprotocol.org/standards/scope-3-standard

GHG Protocol (2013*). Technical Guidance for Calculating Scope 3 Emissions (v 1.0), WRI/WBCSD*. Available at: https://ghgprotocol.org/scope-3-technical-calculation-guidance

GHG Protocol (2021). Quantis Scope 3 Evaluator tool. Available at: https://quantis-suite.com/Scope-3-Evaluator/

Government of Western Australia (2020). *Western Australian Climate Policy*. Available at: https://www.wa.gov.au/service/environment/environment-information-services/western-australian-climate-change-policy

National Greenhouse Accounts Factors (2023), Australian Government Department of Industry, Science, Energy and Resources. Available at: https://www.dcceew.gov.au/climate change/publications/national-greenhouse-accounts-factors-2023

National Greenhouse and Energy Reporting Act 2007 (Cth). Available at: https://www.legislation.gov.au/Series/C2007A00175

National Greenhouse and Energy Reporting (Measurement) Determination 2008 (Cth). Available at: https://www.legislation.gov.au/Series/F2008L02309

National Greenhouse and Energy Reporting Regulations 2008 (Cth). Available at: https://www.legislation.gov.au/Series/F2008L02230

United Nations Framework Convention on Climate Change (UNFCCC) (2023). *UNFCCC Process and meetings*. Available at: https://unfccc.int/process-and-meetings/what-is-the-united-nations-framework-convention-on-climate-change (Accessed April 2023).