REPORT

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2023 GREENHOUSE GAS EMISSIONS ANNUAL REPORT

ALBEMARLE KEMERTON PLANT

MINISTERIAL STATEMENTS 1085 & 1187

REVISON HISTORY

Revision No.	Revision Date	Prepared By	Reviewed By	Approved By
1	27 Mar 2024	Bronwyn Bell	Darren Coulson	Beverley East

AMENDMENT HISTORY FOR LATEST REVISION

Clause(s)	Details of Change:

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1 INTRODUCTION

The report is the 2024 greenhouse gas emissions annual report for the Albemarle Kemerton Plant (**Proposal**) and has been prepared by Albemarle Lithium Pty Ltd to fulfil the requirements of Ministerial Statement 1187, Condition 9-8:

> *"The proponent shall submit an annual report to the CEO each year by 31 March, commencing on the first 31 March after the Commencement of Operations, or such other date within that financial year as is agreed by the CEO to align with other reporting requirements for GHG, specifying for the previous calendar year:*
>
> *(1) the quantity of Proposal GHG Emissions and lithium hydroxide produced; and*
>
> *(2) the Emissions Intensity for the proposal."*

The scope of this report is 2023 calendar year and all greenhouse gas emissions have been determined using the appropriate methods required by the National Greenhouse and Energy Reporting (Measurement) Determination 2008 (NGER Determination) as amended and applicable for the relevant reporting year.

It should be noted that the annual period for the Commonwealth's NGER reporting scheme is on a financial year (FY) basis. Ministerial Statement 1187 requires reporting on a calendar year (CY) basis and the 2023 FY NGER Report therefore represents a different time period to that presented in this report.

The is the second annual report (CY). The 2022 Annual Report is available on the Albemarle public website[1] and this report will be published to the website following submission to the Western Australian Government's Department of Water and Environmental Regulation (DWER).

2 DEFINITIONS AND ABBREVIATIONS

Term	Definition
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.
CY	Calendar Year
DWER	Department of Water and Environmental Regulation
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. The facility for this annual report is the Albemarle Kemerton Plant.
FY	Financial Year
GHG	Greenhouse Gas, all greenhouse gases mentioned in the NGER Act

[1] 2022 Annual Report for greenhouse gas emissions available at https://www.albemarle.au/sustainability/regulatory-compliance-reporting

Term	Definition
NGER	National Greenhouse and Energy Reporting
NGER Determination	The NGER Determination 2008 as it applies to the current reporting year
Proposal	Albemarle Kemerton Plant, as defined by Ministerial Statements 1085 and 1187
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.
t CO_2^{-e}	Tonnes of carbon dioxide equivalent

3 PROPOSAL GHG EMISSIONS

During the 2023 CY, both construction and operational activities occurred at the Albemarle Kemerton Plant.

The main scope 1 emissions relate to consumption of pipeline natural gas and input materials such as lime and limestone in processing.

The 2023 CY is the first full calendar year during which spodumene processing and lithium hydroxide production occurred. This resulted in significant changes in production, fuel and materials usage, and emissions compared to the 2022 CY. As production across Trains 1 and 2 continues to ramp up, emissions will increase but they remain well below the projected and authorised limits approved for the facility.

Table 1 Kemerton Annual and Cumulative GHG Emissions and Authorised Limit 2022 - 2023

Years	Units	2022 CY	2023 CY
Scope 1 Emissions	tCO_2^{-e}	9,500	18,088
Cumulative Total	tCO_2^{-e}		27,588
Authorised Net Plant Emissions Limit (MS1187) for 1 Jan 2021 to 31 Dec 2024	tCO_2^{-e}		1,240,000

The Albemarle Kemerton Plant sources electricity from the South West Interconnected System (SWIS) (Scope 2). It does not generate its own electricity and therefore on-site electricity generation is not relevant during the 2023 CY or historically for Scope 1 emissions. There are therefore no relevant data to report for the Net PS GHG Emissions or against the authorised Net PS GHG Emission limit defined in Ministerial Statement 1187.

4 LITHIUM HYDROXIDE PRODUCED

The primary product produced at the Albemarle Kemerton Plant is lithium hydroxide monohydrate, commonly known as “lithium hydroxide”.

Table 2 Kemerton Annual and Cumulative Lithium Hydroxide Production 2022-2023

Production	Units	2022 CY	2023 CY
Lithium Hydroxide Produced	tonnes	126	3,196
Cumulative Total	tonnes		3,322

5 EMISSIONS INTENSITY

The Albemarle Kemerton Plant’s emissions intensity for Scope 1 emissions is provided below. A comparison to 2022 CY is also provided. As production ramp-up continues at the plant, the emissions intensity is expected to continue to reduce due to more efficient plant and processing operations and economies of scale.

Table 3 Kemerton Annual Emissions Intensity for 2022 and2023

Years	Units	2022 CY	2023 CY
Net Plant GHG Emission	tCO_2^{-e}	9,500	18,088
Lithium hydroxide produced	tonne product	126	3,196
Emissions Intensity	tCO_2^{-e} / tonne product	75	5.7

The emissions intensity has been calculated using the Net Plant GHG Emissions and production as shown below.

$$Emission\ intensity = \frac{Net\ Plant\ GHG\ emissions}{Lithium\ hydroxide\ produced}$$

ANNUAL REPORT ENDS.