Botala Energy Ltd

ASX Announcement

8 July 2024

42% INCREASE IN CBM RESOURCE

Highlights:

- **42% increase in CBM 2C Contingent Resources to 454bcf from 317bcf (best estimate), ahead of expectations.**
- **Increased resource solidifies the potential of our 100% owned CBM Project in Botswana.**
- **Updated resource positions Botala as a key player in energy hungry Southern Africa.**
- **Botala is ideally positioned to help address the energy needs in Southern Africa with a severe gas supply shortage expected from 2026.**

Executive Summary

Botala Energy Ltd (ACN 626 751 620) (**Botala**) is pleased to announce a 42% increase in the 2C Contingent Resources (best-case estimate) within its 100% owned Serowe Coal Bed Methane (CBM) Project to 454 billion cubic feet (bcf) after the latest independent recertification by Sproule in the USA (Table 1).

This increase is a result of extensive exploration and improved mapping techniques that have enhanced the understanding of the CBM potential in Botswana in terms of CBM presence and potential gas flow rates. The new low estimate of 363bcf (2C) is higher than the previous best-case estimate of 317bcf (2C).

This CBM resource upgrade comes at a crucial time when the Southern African region is facing a looming gas shortage, as forecast by Sasol for 2026[1]. The strategic location and the substantial increase in 2C contingent resources place Botala in an excellent position to contribute significantly to gas and general energy security in Botswana and Southern Africa.

Volumes in BCF (Billions of cubic feet)		Gross (100% Ownership) Net of Royalties		
		Low Estimate	Best Estimate	High Estimate
Contingent Resources		363	454	544
Prospective Resources		5,334	7,112	8,890

Table 1: Unrisked Contingent and Prospective Resources; independently certified by Sproule, 1 July 2024

Kris Martinick, CEO of Botala said: *"I am thrilled by the significant increase in our 2C contingent resources and the vast potential of our CBM Project in Botswana to supply gas to energy hungry Southern Africa, especially the nearby industrial heart land of South Africa. This development further positions Botala as a key player in the Southern African gas market and aligns with our vision to address the region's energy needs.*

[1] SASOL, August 2023

We are well positioned to capitalise on this opportunity, and I look forward to the encouraging gas flow-rate investigations and negotiations with potential partners and customers delivering value to our shareholders. The future of Botala is incredibly promising in today's energy hungry Southern Africa, and I look forward to sharing our progress as we advance this project."

Overview

The updated independent resources assessment by Sproule includes the following key points:

- **Resource Estimates**: The report highlights the increase in 2C contingent resources for Botala's CBM project. The resources are in the Serowe, Upper Morupule, and Lower Morupule coal formations, with an average net coal thickness of approximately 33 metres.
- **Drilling and Exploration**: Since the previous Sproule Report of April 2022, six additional wells have been drilled. These include a 5-spot pattern near the Serowe 3-1 well and step-out wells Serowe-6 and 7. The drilling confirmed the presence of significant coal intervals with free gas in all wells.
- **Geological Changes**: The updated mapping and data integration reflect new geological insights, including the impact of dolerite intrusions which have been factored into the resource estimates. The assessment incorporates a 15% reduction in coal volumes due to these intrusions.
- **Risks and Future Steps**: Key risks include the need for further production testing to classify the resources as reserves. The report outlines a phased exploration and testing programme to achieve feasibility and commerciality.

Prospective Resources reduced from 8,008bcf (3C) to 7,112bcf (3C) in part due to the conversion of the Prospective Resources to Contingent (i.e. the 3C Resource converted to a 2C Resource with an applied shrinkage factor). 2C Contingent Resources refer to the estimated quantity of gas that Botala and Sproule believe can be recovered from the known coal seams, but with certain conditions that need to be met before it can be produced. The "2C" label stands for the "best estimate" scenario, meaning it's a middle-of-the-road estimate - not too optimistic, not too pessimistic.

2C Contingent Resources are important because they show potential future value. They are not yet considered proven reserves, and therefore can't be counted on for immediate production. They provide a reliable indication of how much gas might be available when certain conditions such as successful testing, securing financing, confirming market, and obtaining regulatory approvals, are met. Botala aims to convert 2C Resources to 2P Reserves by concluding gas off-take agreements as 2P reserves are more valuable and reliable. "2P" stands for "Proved plus Probable" reserves, which means these quantities are not only discovered but are also commercially viable to extract with a high degree of certainty.

Future steps required to convert the prospective resources to contingent resources include:

- **Conduct Further Testing:** Confirm gas can be produced in economic quantities – Current Project Pitse.
- **Secure Financing:** Ensure sufficient money available to develop the project.
- **Obtain Approvals:** Permissions from government and regulatory bodies.
- **Market:** demonstrate access to an economically viable market for the gas.

Impending Gas Crisis

Southern Africa is facing a looming gas shortfall crisis from early 2026 onwards. This stems from a combination of depleting gas reserves and increasing demand across the region. Key existing suppliers, such as Sasol, have publicly announced they will have to cease supply to traders and industrial users by mid-2026 due to:

- Depletion of their gas reserves in Mozambique.
- Strategic shift to retain more gas output for their own operations.

These announcements have raised alarm across sectors that heavily rely on natural gas, including manufacturing, healthcare, and households. The gas shortage threatens to disrupt industrial operations, power generation, and domestic energy supply, with possible severe economic and social consequences.

The potential impact of this gas shortage is significant. South Africa's manufacturing sector, which in 2023 employed around 1.5 million people and contributed 11.4% towards the overall GDP (R3 trillion) [www.pwc.co.za, "Manufacturing Workforce 2023"] is particularly vulnerable. Key industries such as steel, aluminium, mining, agriculture, paper, glass, ceramics, construction, automotive, and food and beverage could face severe disruptions. This could lead to plant closures, increased production costs, and higher consumer prices, exacerbating the country's economic challenges (Daily Maverick) (Engineering News).

Efforts to mitigate the gas crisis include calls for the South African government to expedite infrastructure projects and policy decisions, such as the Gas Masterplan, which has yet to be finalised. Development of new gas infrastructure, including pipelines and gas-to-power generation facilities, is crucial to address the anticipated gas shortfall. However, experts have publicly warned there could be a substantial delay between Sasol's supply cessation and the availability of alternative gas sources (SABC News) (BizNews.com).

Additionally, this underscores the need for South Africa to tap into its offshore gas potential and to fast-track investments in gas infrastructure. This includes potential LNG imports through Mozambique and developing facilities at South African harbours like Richards Bay and Coega (IOL | News that Connects South Africans).

In addition, the Botswana government has identified the requirement to generate 100MW of electricity from CBM powered gas generating facilities. Botala aims to supply most, if not all, of this CBM.

Botala's substantial CBM resources provide a viable solution to this impending gas shortfall. The key market entry points for Botala's gas include local LNG consumption, power generation, industrial use, and customers within the Southern African Power Pool (SAPP).

- **Market Size and Entry Points:** The regional market for natural gas is substantial, with significant demand in power generation and industrial sectors.
- **Strategic Positioning:** Botala's 100% ownership and control over its Serowe CBM project allows for flexibility in negotiations and partnerships, and positions Botala well to meet the demand and contribute to regional energy security.

Botala's substantial increase in contingent resources and its huge prospective resource, positions it as a critical player in mitigating this impending gas shortfall. Development of its CBM resources positions Botala to become a significant new regional gas producer.

Electricity Demand in southern Africa

The energy demand in southern Africa has been growing steadily, driven by economic development and population growth. Botswana, in particular, faces significant challenges in ensuring reliable electricity supply, which has been impacted by declining production from Eskom and the SAPP grid.

- **Current Energy Landscape:** Southern Africa's energy sector is characterised by a reliance on aging coal-fired power plants and intermittent renewable energy sources. This has led to frequent power shortages and a need for reliable gas-based power generation.
- **Future Projections:** The International Energy Agency (IEA)[2] projects that Africa's energy demand will grow by 60% by 2040. Gas is expected to play a critical role in meeting this demand, providing a reliable and lower-carbon alternative to coal.

Over the past 15 years, the reliability of electricity production by Eskom and the Southern African Power Pool (SAPP) grid has significantly declined, primarily due to mismanagement, aging infrastructure, and insufficient maintenance:

1. **Decline in Energy Availability Factor (EAF)**: Eskom's EAF, which indicates the proportion of its fleet producing electricity, has seen a continuous decline. In the 2009/2010 financial year, the EAF was just over 85%, but it has steadily decreased, reaching about 59% in 2022. This drop is due to increased unplanned outages and equipment failures, which are partly attributed to deferred maintenance and operational pressures on aging coal-fired plants (The Global Warming Policy Foundation).
2. **Aging Infrastructure**: The average age of Eskom's coal fleet, excluding newer plants like Kusile and Medupi, is around 54 years. These older plants have become increasingly unreliable, and significant maintenance or upgrades are challenging due to the need to avoid severe load-shedding. The newer plants, meant to alleviate some of these issues, have also faced numerous technical problems and delays (BizNews.com).
3. **Financial and Operational Mismanagement**: Eskom has faced severe financial difficulties, partly due to management issues and corruption. The utility's massive debt burden has limited its ability to invest in new infrastructure or properly maintain existing plants. Moreover, poor management has exacerbated operational inefficiencies (The Global Warming Policy Foundation).
4. **Impact on the Southern African Power Pool (SAPP)**: Eskom's issues have affected the broader SAPP grid, as South Africa is a significant electricity exporter within the region. The decline in reliable electricity production has

[2] IEA *Africa Energy Outlook 2022,* Revised version May 2023

strained the grid, impacting power supplies to neighbouring countries and undermining regional energy security (BizNews.com).

5. **Government and Policy Challenges**: Efforts to transition to more reliable and sustainable energy sources have been slow. While there is an acknowledgment of the need for additional capacity and the integration of private power producers, government policy and implementation have lagged. Delays in Independent Power Producer (IPP) projects and a lack of clear policy direction have hindered progress in addressing the electricity supply crisis (BizNews.com).

Petroleum Resource Management System PRMS (Global Certification Process)

The Society of Petroleum Engineers' PRMS certification process is a rigorous framework that ensures the accuracy and reliability of resource estimates. The key steps involved in moving from a 2C contingent resource to a 2P reserve include:

- **Further Exploration and Drilling:** Conducting additional drilling to gather more data and confirm the extent and quality of the resources.
- **Production Testing:** Carrying out extended production tests to demonstrate the commercial viability of the resources.
- **Economic Feasibility:** Conducting detailed economic analyses to ensure that the project can be developed profitably under current market conditions.

Achieving 2P reserve status significantly increases the value of the resources, as it confirms their commercial viability and readiness for development.

BY ORDER OF THE BOARD

Yours faithfully
BOTALA ENERGY LTD

Kris Martinick
Chief Executive Officer

In respect to prospective resources, the following cautionary statement applies: *"The estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable hydrocarbons."*

Investors are cautioned that there is no guarantee that Botala will succeed in acquiring a particular size of market share in the CBM industry (and, accordingly, investors should not place undue reliance on the anticipated future growth of the CBM industry in making an investment decision in respect of Botala). Investors are further cautioned that there is no guarantee of future pricing or demand for CBM or that Botala will necessarily have access to such demand (and accordingly, investors should not place undue reliance on future demand increasing or subsisting at or above historical levels or anticipated future CBM demand or access).

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This report is lodged on Botala's website, www.botalaenergy.com

About Botala

Botala Energy Ltd (ACN 626 751 620) is an ASX-listed coal bed methane (**CBM**) exploration and development company focussed on developing production from its 100% owned Serowe CBM Project located in a high-grade CBM region of Botswana (and related early-stage renewable energy opportunities). Botala (as Operator) is focussed on developing the Serowe CBM Project and believes that there is a considerable opportunity for it to commercialise the project due to the demand for stable power supply in Botswana. Botala is listed on the Australian Securities Exchange and the Botswana Stock Exchange.

Forward-looking Statements

This document may contain certain statements that may be deemed forward-looking statements. Forward looking statements reflect Botala's views and assumptions with respect to future events as at the date of the Announcement and are subject to a variety of unpredictable risks, uncertainties, and other unknowns that could cause actual events or results to differ materially from those anticipated in the forward-looking statements. Actual and future results and trends could differ materially from those set forth due to various factors that could cause results to differ materially include but are not limited to: industry conditions, including fluctuations in commodity prices; governmental regulation of the gas industry, including environmental regulation; economic conditions in Botswana and globally; geological technical and drilling results; predicted production and reserves estimates; operational delays or an unanticipated operating event; physical, environmental and political risks; liabilities inherent in gas exploration, development and production operations; fiscal and regulatory developments; stock market volatility; industry competition; and availability of capital at favourable terms. Given these uncertainties, no one should place undue reliance on these forward-looking statements attributable to Botala, or any of its affiliates or persons acting on its behalf. Although every effort has been made to ensure this Announcement sets forth a fair and accurate view, we do not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Annexure A – Listing Rule Requirements

The following information is provided in respect of this announcement and the reporting of contingent resources and prospective resources.

Listing Rule	Rule	Response
5.25.1	The date at which the estimates are reported.	6 July 2024
5.25.2	Petroleum resources must be classified in accordance with SPE-PRMS and reported in the most specific resource class in which petroleum resources can be classified under SPE-PRMS.	Reported according to SPE-PRMS and Sproule standards
5.25.3	The disclosure of total petroleum initially-in-place, total resource base, estimated ultimate recovery, remaining recoverable resources or hydrocarbon endowment is prohibited unless all of the following information is included in the report proximate to that disclosure: • An estimate of petroleum reserves; • An estimate of contingent resources; • An estimate of prospective resources; and • Whether and how each of the resource classes in the summation were adjusted for risk.	Not applicable, project is not at the reserve certification stage.
5.25.4	The disclosure of discovered petroleum-initially-in-place is prohibited unless all of the following information is included in the report proximate to that disclosure. • An estimate of petroleum reserves; • An estimate of contingent resources; and • Whether and how each of the resource classes in the summation were adjusted for risk.	Gas discovery has been made and flowed.
5.25.5	Estimates of petroleum reserves, contingent resources and prospective resources must: (a) Be reported according to the entity's economic interest in the petroleum reserves, contingent resources and prospective resources including its entitlements under prospection sharing contracts and risk-service contracts; (b) Be reported net of: (i) Contractual royalty quantities (including overriding royalties provided for in farm-out agreements) that the entity is required to pay in-kind or in-cash to the royalty owner; and (ii) Those volumes that the entity is allowed to lift and sell on behalf of the royalty owner; and (c) Not be reported in relation to pure service contracts. For the avoidance of doubt, paragraph (b)(i) above does not apply to production taxes, even though they may in the nature of a royalty. Production taxes in the nature of a royalty may either be accounted for and reported as a reduction in the entity's petroleum resource entitlement or as a tax expense. The entity must disclose which treatment it is applying to such taxes.	a) Botala Energy Ltd is 100% Owner and Operator of the CBM Field and licences. b) Royalty to Government of Botswana of 3% c) Not applicable

5.25.6	The entity must disclose whether the deterministic or probalistic method was used to prepare the estimates of petroleum reserves, contingent resources and prospective resources in the report.	Deterministic
5.25.7	Estimates or petroleum reserves, contingent resources and prospective resources must be reported in the appropriate units for each individual product type reported. If estimates are also reported in units of equivalency between oil and gas, the entity must disclose in the report the conversion factor used to convert: • gas to oil, where the estimates are reported in BOEs; and • oil to gas, where the estimates and reported in McfGEs.	Not Applicable
5.27.1	Contingent resources must be categorised and reported in the most specific category that reflects the degree of uncertainty in the estimated quantities of potentially recoverable petroleum, that is, 1C, 2C or 3C. If an estimate of 3C is reported, estimates of 2C and 1C must also be reported.	Contingent Resource Estimates Low 363 bcf (1C) Best 454 bcf (2C) High 544 bcf (3C)
5.28.1	Prospective resources must be categorised and reported in the most specific category that reflects the degree of uncertainty in the estimated quantities of potentially recoverable petroleum, that is, low estimate, best estimate or high estimate. If a high estimate of prospective resources is reported, the best estimate and low estimate of prospective resources must also be reported.	Prospective Resources Estimates Low 5,334 bcf Med 7,112 bcf High 8,890 bcf
5.28.2	A cautionary statement proximate to, and with equal prominence as the reported prospective resources must be included in the report.	The estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable hydrocarbons.
5.30	An entity publicly reporting material exploration and drilling results in relation to petroleum resources must include all of the following information in that report and give the report to ASX for release to the market. (a) The name and type of well. (b) The location of the well and the details of the permit or lease in which the well is located. (c) The working interest in the well. (d) If the gross pay thickness is reported for an interval of conventional resources, the net pay thickness. (e) The geological rock type of the formation drilled. (f) The depth of the zones tested. (g) The types of test(s) undertaken and the duration of the test(s). (h) The hydrocarbon phases recovered in the test(s). (i) Any other recovery, such as, formation water and water, associated with the test(s) and their respective proportions.	Not applicable

	(j) The choke size used, the flow rates and, if measured, the volumes of the hydrocarbon phases measured. (k) If flow rates were tested, information about the pressures associated with the flow and the duration of the test. (l) If applicable, the number of fracture stimulation stages and the size and nature of fracture stimulation applied. (m) Any material volumes of non-hydrocarbon gases, such as, carbon dioxide, nitrogen, hydrogen sulphide and sulphur. (n) Any other information that is material to understanding the reported results.	