

ASX ANNOUNCEMENT

11 June 2024

Etango-8 FEED Complete and Costs Updated; Detailed Design Commenced

Bannerman Energy Limited (**ASX:BMN, OTCQX:BNNLF, NSX:BMN**) (**Bannerman or the Company**) is pleased to advise of significant further de-risking of its base-case 8 Mtpa Etango uranium development (**Etango-8**) in Namibia through the completion of the Front-End Engineering and Design (**FEED**) and Control Budget Estimate (**CBE**) processes.

Completion of FEED and the CBE has refined the outcomes of the Definitive Feasibility Study (**DFS**) undertaken in late 2022 (refer to Bannerman ASX release dated 6 December 2022, *Etango-8 Definitive Feasibility Study*), delivering enhanced accuracy and recency to key cost estimates.

Bannerman is currently undertaking early works construction activities for Etango-8, in parallel with offtake marketing and strategic financing workstreams. Detailed design works for Etango-8 have also now commenced, initially focussed on earthworks and civils.

KEY OUTCOMES

- **Delivers strong reinforcement of overall quality of Etango-8 design, along with significant further de-risking of project development and execution profile.**
- **Improved estimation accuracy to +/-10% (from DFS +/-15%) through offers received from competitive tender for over 80% of the total Etango-8 capital costs.**
- **CBE pre-production capital forecast (US\$353.5M) shows a modest 11.3% increase on the DFS estimate (inclusive of unchanged contingency) driven by:**
 - **Design changes delivering operating cost benefits, improved operational resilience and increased certainty: +US\$21.6M (+6.9%)**
 - **Inflation offset by FX impacts: +US\$14.5M (+4.4%).**
- **Minor change to operating cost forecast, with CBE life-of-mine All-in-Sustaining Cost (AISC) increasing by US\$1.0/lb (+2.6%) from DFS estimate to US\$39.09/lb U₃O₈.**
- **Detailed design work on Etango-8 underway, initially focussed on earthworks and civils.**
- **Early works construction of Etango access road and construction water pipelines proceeding well and on track for completion in July.**
- **Strategic finance and offtake marketing workstreams progressing in parallel.**
- **Advancing towards a targeted positive Final Investment Decision on Etango-8, market conditions permitting.**

Commenting on these outcomes, Bannerman Chief Executive Officer, Gavin Chamberlain, said:

“The early development of our Etango-8 project is progressing well, with positive outcomes from the FEED and CBE processes. The FEED work has confirmed the high quality of the technical evaluation and design, as detailed in the December 2022 DFS. Finalising the CBE has demonstrated the robustness of the DFS cost estimates, evidenced by the lack of significant increases in forecast construction or operating costs. Additionally, the moderate increase in forecast pre-production capital is attributed to design enhancements that deliver cost efficiencies and reduce operating risks.”

Key Control Budget Estimate (CBE) outcomes

Scope

The Etango-8 CBE was undertaken concurrently with the FEED process to further increase the estimation accuracy of the capital and operating cost forecasts in the December 2022 DFS and to update those forecasts to current market conditions.

The CBE process incorporated the following:

- Changes in scope and design identified during FEED Phases 1 and 2;
- Variances in market pricing attributable to supply and inflationary pressures experienced over the 18+ months since DFS estimates were compiled;
- Movements in foreign exchange (FX) rates; and
- Variances in the underlying cost of consumables (e.g. diesel, water, power).

To obtain revised capital and operating cost estimates, updated Requests for Quotation (RFQs) were sought from all contractors, vendors and suppliers identified during the DFS and FEED processes. All parties were asked to submit quotations, incorporating any scope and/or design revisions.

The following consultants assisted with the CBE:

- **Wood plc:** Processing Plant
- **Qubeka Mining Consultants:** Mining
- **CREO Engineering Solutions:** External Infrastructure and Owner's General and Administration (G&A).

Pre-production capital cost (CBE: US\$353.5M, +11.3%)

The progress from DFS to CBE resulted in increases in pre-production capital costs, with the DFS pre-production capital estimate of US\$317.5M increasing by US\$36.0M, or 11.3%, to US\$353.5 M.

Scope changes (+US\$21.6M)

Key design improvements and de-bottlenecking initiatives implemented based on insights from the FEED process, including a dynamic simulation study, include:

- **Freshwater Storage:** Increased onsite freshwater storage from two 17,000m³ ponds to two 33,000m³ ponds for 10 days' requirements (up from 5 days), ensuring resilience to water supply interruptions.
- **Primary Crusher:** The primary crusher structure was sunk 10m into the ground, lowering the haulage gradient to the ROM pad to reduce diesel usage and maintenance costs.
- **Secondary Crusher Circuit:** Redesigned with two smaller secondary cone crushers to address changes in ROM particle size and prevent bottlenecks.
- **Ripios Disposal System:** Upgraded from a single truck feeder to a conveying and spreading system to eliminate potential bottlenecks.
- **Surge Capacity:** Combined emergency and coarse ore stockpiles into a single 30,000t (21hrs) coarse ore stockpile, reducing conveyor lengths and increasing surge capacity.
- **Fine Ore Bin:** Replaced fine ore bin with a 6,000t (4.5hrs) concrete silo to increase storage and reduce disruptions during maintenance of the crushing circuit.

A decision was made to bus construction staff to site rather than build a construction camp (as per the DFS). This approach will reduce environmental impacts and upfront expenditure, whilst simplifying the construction timetable.

Inflation (+US\$35.1M)

Before the application of FX savings, cost increases attributable to inflation, including escalation of contractor rates and inflation in the price of key materials (e.g. steel), account for a US\$35.1M increase in pre-production capital costs.

FX impacts (-US\$20.6M)

The long-term FX forecasts were revised to reflect changes in exchange rates over the last 18 months and updates to long-term forward contracts and consensus pricing, with the primary impact arising from changes to the Namibian Dollar exchange rate (which is pegged to the South African Rand). The revised long-term USD:NAD assumption of 19.28 represents a modest weakening of 9.8% against the previous estimate (USD:NAD 17.56).

Contingency (unchanged, US\$27.3M)

The CBE continues to apply the total DFS contingency of US\$27.3M, noting that the estimation accuracy has improved to +/-10% (from DFS +/-15%). This estimation accuracy reflects a high degree of rigour in obtaining cost estimates, including utilising adjudicated offers received from competitive tendering for over 80% of the total pre-production capital costs.

Operating cost (CBE All-In-Sustaining-Cost (AISC): US\$39.09/lb, +2.6%)

Mining costs

Total mining operating cost based on competitive contract tenders decreased by 2.1% from US\$2.36/t material mined in the DFS (US\$857M LOM) to US\$2.31/t material mined in the CBE (US\$839M LOM). The tender quotations accounted for updated costs of mining consumables including diesel.

Processing costs

Total processing operating costs increased 2.8% from US\$6.92/t (US\$785M LOM) in the DFS to US\$7.11/t (US\$807M LOM) in the CBE.

The dominant factors affecting variable processing costs, post-FX movement, from the DFS to the CBE were:

- Acid costs increased by 1.0%, due to a revised acid consumption rate. DFS acid price assumptions were confirmed and have not changed.
- Other consumables costs increased by 9.6%.
- Power costs increased by 24.1%, including a 26.5% increase in the underlying quoted cost of grid power (no change in solar power) and a 7.7% increase in total power consumption.
- Water costs increased by 15.0%, including a 14.0% increase in the water costs quotation and an 8.6% increase in water consumption.
- Maintenance costs increased by 62.1%, primarily attributable to maintenance associated with servicing/replacing the ripios conveyor (following the design change from ripios trucking to conveying).
- Diesel costs increased by 232%, driven by a 213% rise in diesel consumption and a 5.7% increase in the underlying cost per litre. The significant increase in consumption is attributed to the expansion of the mobile plant fleet, primarily related to the dozing of conveyed ripios in the disposal area.
- Fixed processing costs were reduced overall, with increases in labour costs offset by other reductions, including removing ripios trucking costs (following the design change from ripios trucking to conveying).

G&A and external infrastructure costs

Total owner's G&A and external infrastructure costs increased by 26.0%, due largely to additional access road dust suppression and general inflation.

Closure costs

Closure costs decreased by 3.7%.

All-in-sustaining-cost (AISC)

In line with this net increase to operating costs and sustaining capital, the forecast AISC increased by US\$1.0/lb U₃O₈, or 2.6%, from US\$38.09/lb (DFS) to US\$39.09/lb (CBE).

Table 1: Etango Key Operating Cost Estimates (DFS to CBE)

PROJECT AISC & CASH COST	Unit	CBE	DFS	\$ Change	% Change
Total operating cost (incl-selling, ex-royalties/levies)	US\$M	1,882	1,842	40.1	2.2%
All-In-Sustaining-Cost (AISC)	US\$/lb U ₃ O ₈	39.1	38.1	1.0	2.6%
Cash operating cost (ex-royalties/levies)	US\$/lb U ₃ O ₈	35.8	35.0	0.8	2.2%

Detailed design works commenced

Bannerman has now commenced the first stage of detailed design for Etango-8, with Wood (Etango's lead engineering consultant) and CREO (the Namibian technical owner's team consultant) proceeding with finalising the bulk earthworks design.

Early works on the Etango access road and construction water pipelines are proceeding well, with both due for completion in July. These two contracts are seen as natural enablers for the subsequent placement of the bulk earthworks contract.

This ASX release was authorised on behalf of the Bannerman Board by:

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ABOUT BANNERMAN ENERGY (ASX:BMN, NSX:BMN, OTCQX:BNNLF)

Bannerman Energy Ltd is a uranium development business listed on the Australian and Namibian stock exchanges and traded on the OTCQX Market in the US. Its flagship asset is the advanced Etango Uranium Project located in the Erongo Region of Namibia.

Etango has benefited from extensive exploration and feasibility activity over the past 15 years. The Etango tenement possesses a globally large-scale uranium mineral resource¹. In December 2022, a Definitive Feasibility Study (DFS)² was completed on the Etango-8 Project, confirming to a definitive-level the strong technical and economic viability of conventional open pit mining and heap leach processing of the Etango deposit at 8Mtpa throughput (for average annual output of 3.5 Mlbs U₃O₈). In March 2024, a scoping study³ demonstrated the capacity to expand annual production to 6.7 Mlbs U₃O₈.

Etango's advanced credentials are further highlighted by the construction and multi-year operation of the Etango Heap Leach Demonstration Plant, which comprehensively de-risked the conventional acid heap leach process to be utilised on the Etango ore. All environmental approvals have been received for the proposed Etango mine and external mine infrastructure, based on a 12-year environmental baseline. Bannerman was awarded the Mining Licence for Etango in December 2023 and is progressing all key project workstreams towards a targeted positive Final Investment Decision (FID) in parallel with strengthening uranium market fundamentals.

Namibia is a premier uranium investment jurisdiction, with a 45-year history of uranium production and export, excellent infrastructure and support for uranium mining from both government and community. As the world's third largest producer of uranium, Namibia is an ideal development jurisdiction boasting political stability, security, a strong rule of law and an assertive development agenda. The Bannerman team has ample direct experience in the development, construction and operation of uranium projects in Namibia, as well as extensive links into the downstream nuclear power industry.

Bannerman has long established itself as an Environmental, Social and Governance (ESG) leader in the uranium and nuclear energy sector. It is also a leader within Namibia on social development and community engagement and exercises best-practice governance in all aspects of its business. This was recently recognised with receipt of the 2023 African Mining Indaba's ESG Award for Community Engagement.



1 and 2. Refer to Bannerman's ASX release dated 6 December 2022, *Etango-8 Definitive Feasibility Study*. Bannerman confirms that it is not aware of any new information or data that materially affects the information included in that release. All material assumptions and technical parameters underpinning the estimates in that ASX release continue to apply and have not materially changed.

3. Refer to Bannerman's ASX release dated 18 March 2024, *Etango-XP and Etango-XT Scoping Study*.