BANNERMAN energy

ASX ANNOUNCEMENT

20 January 2022

For personal use only

Etango-8 DFS progressing to plan

Bannerman Energy Ltd (ASX:BMN, OTCQB:BNNLF, NSX:BMN) (**Bannerman** or **the Company**) is pleased to advise that the Definitive Feasibility Study (**DFS**) for its flagship Etango-8 Uranium Project in Namibia (**Etango-8**) is progressing well.

HIGHLIGHTS

- **Etango-8 DFS progressing to plan, in-line with original timeframe and budget**
  - **Potential COVID-19 impacts successfully mitigated to date**
  - **Completion targeted for 3Q CY2022; total expected cost approx. A$4M (excl. internal costs)**
  - **DFS benefits from vast body of previous technical work completed at Etango**
- **Feasibility and engineering undertaken by best-in-class consultants**
  - **Wood plc engaged as DFS lead study manager**
  - **Ensures continuity from Etango-8 Pre-Feasibility Study and previous study work**
- **World-class Technical Steering Committee chaired by Norman Green**
  - **Providing technical oversight of DFS process**
  - **Supporting Bannerman's in-country DFS owner's team, led by Werner Ewald**

Bannerman Managing Director and Chief Executive Officer, Brandon Munro, said:

"Despite the global pandemic challenges facing the mining sector, our Etango-8 Definitive Feasibility Study is on-time, on-budget and delivering pleasing initial outcomes. I commend the Bannerman team, Wood plc, our other key consultants and the Technical Steering Committee for their outstanding work to date.

"The Etango-8 DFS has a solid foundation derived from the extensive, high quality technical work previously undertaken to a definitive level on the larger, 20 Mtpa development pathway for the Etango Project. Importantly, the benefit of that work is enhanced by the high degree of continuity in the DFS team, with seamless involvement from our lead study manager, Wood plc, and many of the key executives that delivered Etango technical studies over the last decade. We remain on-track for completion of the Etango-8 DFS in the September 2022 quarter."

Bannerman Energy Ltd
Suite 7, 245 Churchill Avenue, Subiaco, Western Australia 6008
PO Box 1973, Subiaco, Western Australia 6008

W bannermanenergy.com
T +61 8 9381 1436
E info@bmnenergy.com

For personal use only

Background to Etango-8 Uranium Project Definitive Feasibility Study (DFS)

The Etango Uranium Project is located in the Erongo Region of Namibia, approximately 30 kilometres to the east-south-east of Swakopmund and approximately 70 kilometres from the Walvis Bay deep-sea port facility. It is positioned within a highly established uranium mining jurisdiction, where the mining and export of uranium via Walvis Bay has been ongoing for over 45 years. The Etango Project is owned by Bannerman Energy Ltd, through its 95%-owned subsidiary Bannerman Mining Resources (Namibia) (Pty) Ltd.

Planned development of the Etango Project involves bulk open pit mining of a large, relatively homogenous uranium deposit followed by crushing, acid heap leaching, Ion Exchange with Nano Filtration, and uranium recovery into yellowcake product (U_3O_8).

In April 2012, Bannerman completed a DFS (**DFS 2012**) for the Etango Project. The DFS 2012 was based on a 20 Mtpa mine and heap leach process throughput. Mine planning, engineering design and capital and operating cost estimation was undertaken to an accuracy of ±15%.

In March 2015, Bannerman commissioned an industrial scale plant to demonstrate the heap leach configuration and assumptions. The results of the trials demonstrated strong support for the DFS 2012 metallurgical parameters. The heap leach process route has also been comprehensively de-risked via the operation of the Etango Heap Leach Demonstration Plant over several years.

In 2019, Bannerman commenced an evaluation of various project scaling and scope opportunities under a range of potential development parameters and market conditions. Indicative outcomes of this work highlighted strong potential for a scaled-down initial development of the Etango Project at 8 Mtpa throughput (**Etango-8**). As a result, Bannerman commenced work on a Scoping Study into such a development, which was completed in August 2020.

In August 2021, Bannerman completed the Etango-8 Pre-Feasibility Study (**PFS**) to a ±20% level of accuracy. Key external study consultants included Wood plc (process plant design and related infrastructure, plant capital and operating cost estimates) and Qubeka Mining Consultants (pit inventory estimates, mine planning and mining cost estimates).

The results of the Etango-8 PFS confirmed that this accelerated, streamlined project is strongly amenable to development – both technically and economically. Bannerman also announced the Board's decision to proceed with the Etango-8 DFS, with completion targeted for 3Q CY2022. See Bannerman ASX release dated 2 August 2021, *Etango-8 Pre-Feasibility Study*.

Etango-8 DFS progressing to plan

Work commenced on the Etango-8 DFS in August 2021. Targeted progress has been made on all key workstreams, with process flow sheet design and process plant geotechnical field work complete. Accordingly, the DFS is progressing according to the originally envisaged timetable, with targeted completion remaining for 3Q CY2022. Further, the DFS remains on budget, which was estimated at a total of approximately A$4M (excluding internal costs).

Although Etango-8 is a large-scale project, and its projected production rate is amongst the largest uranium projects in prospective development globally, the DFS is being undertaken on an accelerated timeframe for a relatively modest budget. This is because the DFS benefits from a vast body of previous technical work undertaken since 2007 at Etango, with extensive resource drilling, geotechnical, metallurgical and environmental work already complete.

The DFS owner's team is led by Werner Ewald, Managing Director of Bannerman Mining Resources (Namibia) (Pty) Ltd. Mr Ewald is an engineer with extensive Namibian uranium mining experience. Prior to joining Bannerman, Mr Ewald was Mine Manager at the Rossing Uranium Mine, then owned

by Rio Tinto. Mr Ewald joined the Company in 2010 and has been intimately involved with prior feasibility, environmental and metallurgical work undertaken at Etango.

Bannerman's in-house team is supplemented by engineering support from Namibian-based, Creo Engineering Solutions (Pty) Ltd.

For personal use only

Wood plc appointed as lead study manager

Wood plc (**Wood**) is the lead study manager with overall responsibility to manage DFS consultants and produce the Etango-8 DFS report. Wood is also undertaking process plan design and related infrastructure, plant capital and operating cost estimates.

Wood is a global leader in the delivery of project, engineering and technical services, with offices in all major resource centres including Perth and Johannesburg. Wood, through its legacy companies Amec and Amec Foster Wheeler, has been involved with the Etango Project since 2009, including the DFS 2012, as well as a DFS Optimisation Study (2015), a Processing Options Study (2017) and the Etango-8 PFS (2021). In addition to the value of this continuity and context, Wood has ensured that the key technical experts involved in that work, who are all leaders in their respective fields, are engaged during the DFS.

Qubeka Mining Consultants CC (**Qubeka**) is engaged to complete the geological review, pit inventory estimates and mine planning. Qubeka is a specialist mining engineering firm with deep experience in deposits similar to Etango. Qubeka was engaged to complete these workstreams for the Etango-8 Scoping Study (2020) and PFS (2021).

A. Speiser Environmental Consultants has overall responsibility for the environmental and social impacts and management and are providing oversight on community and stakeholder liaison, supported by Urban Green (powerline environmental assessment) and Namisun Environmental Projects (mine closure planning).

The DFS is further supported by Addiza Power (external electricity supply), Genis Business Consulting and Lund Consulting Engineers (external water infrastructure), and Fivemark Partners (commercial and strategic advisory).

The high degree of continuity of key consultants has seen initial workstreams undertaken efficiently and with strong outcomes.

World-class Technical Steering Committee

Bannerman has appointed a Technical Steering Committee to oversee and support the owner's team management of the Etango-8 DFS. The Committee is chaired by Norman Green and comprised of experts in their respective fields: John Turney, Mike Leech and Bannerman Chief Executive Officer, Brandon Munro.

Norman Green is an engineer with more than 35 years' experience including considerable expertise commissioning mines in Southern Africa. Most relevantly, he led the feasibility, environmental and construction phases of the large-scale Husab uranium mine in Namibia as CEO of Swakop Uranium, a subsidiary of Extract Resources Ltd, before handing over to CGN following their takeover of Extract in 2012. Amongst numerous other resources projects in Africa, he led the construction and commissioning of the Skorpion Zinc mine and refinery project in Namibia and consulted to NamDeb on operational improvements at the Elizabeth Bay diamond mine, also in Namibia. Mr Green's deep project development experience, extensive networks, detailed knowledge of the Namibian operating environment and direct experience developing a Namibian uranium mine provide ideal oversight and

input for the Etango-8 DFS process and subsequent development pathway. Mr Green has lived in Namibia since 2009.

John Turney is an engineer with more than 40 years' resources industry experience including extensive experience in project development, mineral processing and mining operations. As Bannerman's Project Director from 2008-2015, Mr Turney oversaw the Etango PFS (2009), DFS 2012 and Etango DFS Optimisation Study (2015). Mr Turney's executive experience prior to Bannerman included an extensive role as Vice President, Capital Projects (Global) for Barrick, which saw him build deep expertise in the feasibility, development and commissioning of mining projects in Africa and elsewhere.

Mike Leech is a respected statesman of the Namibian mining industry and offers a deep understanding of the Namibian operating, political and social-environmental landscape. He is a past President of the Namibian Chamber of Mines and past Chairman of the Namibian Uranium Association. Mr Leech was Managing Director of Rossing Uranium Ltd, then the largest uranium mine in the world, until he retired in 2011. Mr Leech commenced working in the uranium sector in 1982 and is currently Chairman of Bannerman Mining Resources (Namibia) and a non-executive director of Bannerman.

The Technical Steering Committee meets weekly with Werner Ewald and Wood's lead project manager, together with other invited consultants as required.

This ASX release was authorised by:

Brandon Munro, Managing Director and Chief Executive Officer

Investors	Media
Brandon Munro	**Michael Vaughan**
Chief Executive Officer	**Fivemark Partners**
+61 8 9381 1436	**+61 422 602 720**
info@bmnenergy.com	**michael.vaughan@fivemark.com.au**

For personal use only

For personal use only

ABOUT BANNERMAN ENERGY (ASX:BMN, OTCQB:BNNLF)

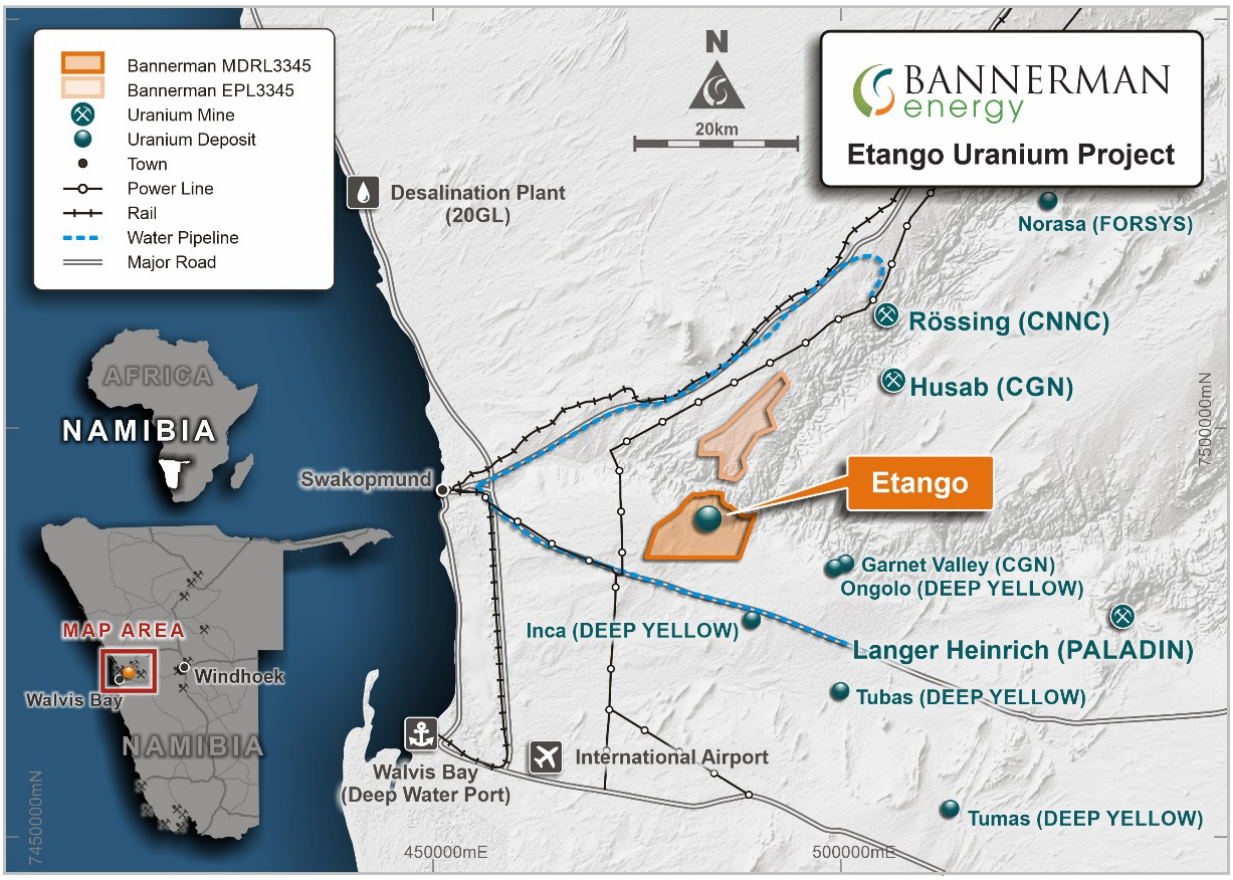
Bannerman Energy Ltd is a uranium development company listed on the Australian, OTC Markets and Namibian stock exchanges. Its flagship asset is the advanced Etango Uranium Project located in the Erongo Region of Namibia. Bannerman has long established itself as an Environmental, Social and Governance (ESG) leader in the uranium and nuclear energy sector.

Etango has benefited from extensive exploration and feasibility activity over the past 15 years. The Etango tenements possess a globally large-scale uranium mineral resource[1]. A 20Mtpa development at Etango was the subject of a Definitive Feasibility Study (DFS) completed in 2012 and a DFS Optimisation Study completed in 2015[2]. Bannerman constructed and operated a Heap Leach Demonstration Plant at Etango, which comprehensively de-risked the acid heap leach process to be utilised on the Etango ore.

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 fourth largest producer of uranium, Namibia is an ideal development jurisdiction boasting political stability, security, a strong rule of law and an assertive development agenda.

Etango has environmental approvals for the proposed mine and external mine infrastructure, based on a 12-year environmental baseline. Bannerman is a CSR leader within Namibia and exercises best-practice governance in all aspects of its business.

In August 2021, a Pre-Feasibility Study (PFS) was completed on Etango-8. The PFS confirmed that this accelerated, streamlined project is strongly amenable to development – both technically and economically. A DFS on Etango-8 has commenced with expected completion in 3Q CY2022.



1 Refer to Section 3 of Bannerman's ASX release dated 2 August 2021, *Etango-8 Project Pre-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.

2 Refer to Bannerman's ASX release dated 11 November 2015, *Outstanding DFS Optimisation Study Results*.