

21 August 2019

Project No. 18113653

Golder Public Participation Office

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BUSHVELD VAMETCO HOLDINGS (PTY) LTD: BASIC ASSESSMENT FOR A 2.5 MW PHOTOVOLTAIC (PV) FIXED TILT SOLAR PARK WITH A 1 MW/4MWH VANADIUM REDOX FLOW BATTERY STORAGE SYSTEM AT THE VAMETCO ALLOYS MINE, BRITS, NORTH WEST PROVINCE

- Invitation to register as Interested and Affected Party; and
- Draft Basic Assessment (BA) Report available for public review

Dear Sir/Madam

Bushveld Vametco Holdings (Pty) Ltd (Bushveld Vametco) proposes to develop a 2.5 MW Photovoltaic (PV) fixed tilt solar park with a 1MW/4 MWh Vanadium Redox Flow Battery (VRFB) storage system. The proposed project will be located within the existing Vametco Mining right boundary and will occupy a footprint of approximately 3ha within the 5ha project site.

The project is designed to supply marginally less than 1MVA (999kVA) to the mine for 16 hours per day and allow for off-peak charging from the grid as an initial pilot project for Bushveld Vametco. The solar arrays would consist of 90 panels (double stacked) to provide a peak power of 31.5kW/h. There would be 70 rows of panels, to provide a total solar output of 2,205 kWp. Each panel is 2005 x 960mm (2m x 0.96m) and six such panels will be mounted on a single support structure. Each of the panels will cover an area of 12m², with a spacing of 4.0m between each row. The VRFB system will consist of several concrete plinths on which will be situated 11 x 40 t standard shipping containers, containing the vanadium electrolyte and the control systems. The construction phase for the proposed project will be approximately three months.

Golder Associates Africa (Pty) Ltd (Golder), an independent environmental consulting firm, was appointed by Bushveld Vametco to undertake the Basic Assessment (BA) required in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (as amended) and its environmental impact assessment regulations. The BA report will be submitted to the North West Department of Mineral Resources for a decision.

Project location

The proposed project is located within the mining right area of the existing Bushveld Vametco Alloys mine, which is located on the farms Uitvalgrond 431 JQ and Krokodilkraal 426 JQ, near the villages of Mmakau and Mothutlung, five kilometres east of the town Madibeng. The proposed site for placement of project infrastructure falls within the boundaries of the farm Krokodilkraal 426 JQ. The local municipality in this area is the Madibeng Local Municipality, which falls under the Bojanala Platinum District in the North-West Province. Please see attached locality map.

Motivation of project

South Africa is currently facing power supply shortages as is evident through power outages or load-shedding that have been occurring nationally. South Africa is depended on non-renewable energy, mainly the burning of fossil fuel (coal) as a means of energy supply. Due to these power supply challenges, South Africa is shifting its focus by exploring alternative means of power supply, such as those offered by Independent Power Producers (IPPs). The IPP projects make use of renewable energy as a means of energy production and supply. The proposed study is a pilot project for combining PV solar with battery storage (Vanadium Redox Flow in this case), a new technology that has been successfully implemented in the United States of America at the Maharishi University. This pilot study will assess the economic and technological feasibility of such a project within the South African context.

Draft BA report available for public review

Stakeholders are invited to register as Interested and Affected Parties (I&APs) and to lodge written comments on the proposed BA process and draft BA report by **Friday, 20 September 2019**. The BA report, background information document and registration and comment sheet will be available for 30 days from **Wednesday, 21 August 2019 until Friday, 20 September 2019**. The draft BA report will be available for comment at various public places in the project area (see Table 1), and stakeholders can also download an electronic copy of the draft BA report from the following website: <https://www.golder.com/global-locations/africa/south-africa-public-documents/>. Stakeholders who require assistance with the downloading of an electronic copy of the documents are welcome to contact the Public Participation Office.

Table 1: List of public places

Public Place	Contact Person	Contact Number
Madibeng Library, 51 van Velden Street, Brits	Hazel Thembo	012 318 9318
Bushveld Vametco Alloys (Pty) Ltd, Main Mothuthlung Road, Brits	Bertina Symonds	0716103985
Mothotlung Community Hall, Mothutlung-A, Brits	Bertina Symonds	0716103985
Golder Associates Africa, Maxwell Office Park, Magwa Crescent West, Waterfall City, Midrand	Ursula Papé	011 254 4800

Stakeholders may comment on the draft BA report in any of the following ways:

- By completing the comment and reply sheet enclosed with this letter;
- By writing a letter or providing additional written submissions; and
- By email, fax or telephone to the Public Participation Office.

We would like to encourage you to actively participate in the BA process. We are available to respond to any questions you may have or to provide you with more information. Should you wish to obtain more information or wish to comment, please contact the undersigned at **(011) 254 4800**, fax **086 582 1561** or email: **ppoffice@golder.co.za**.

Sincerely,

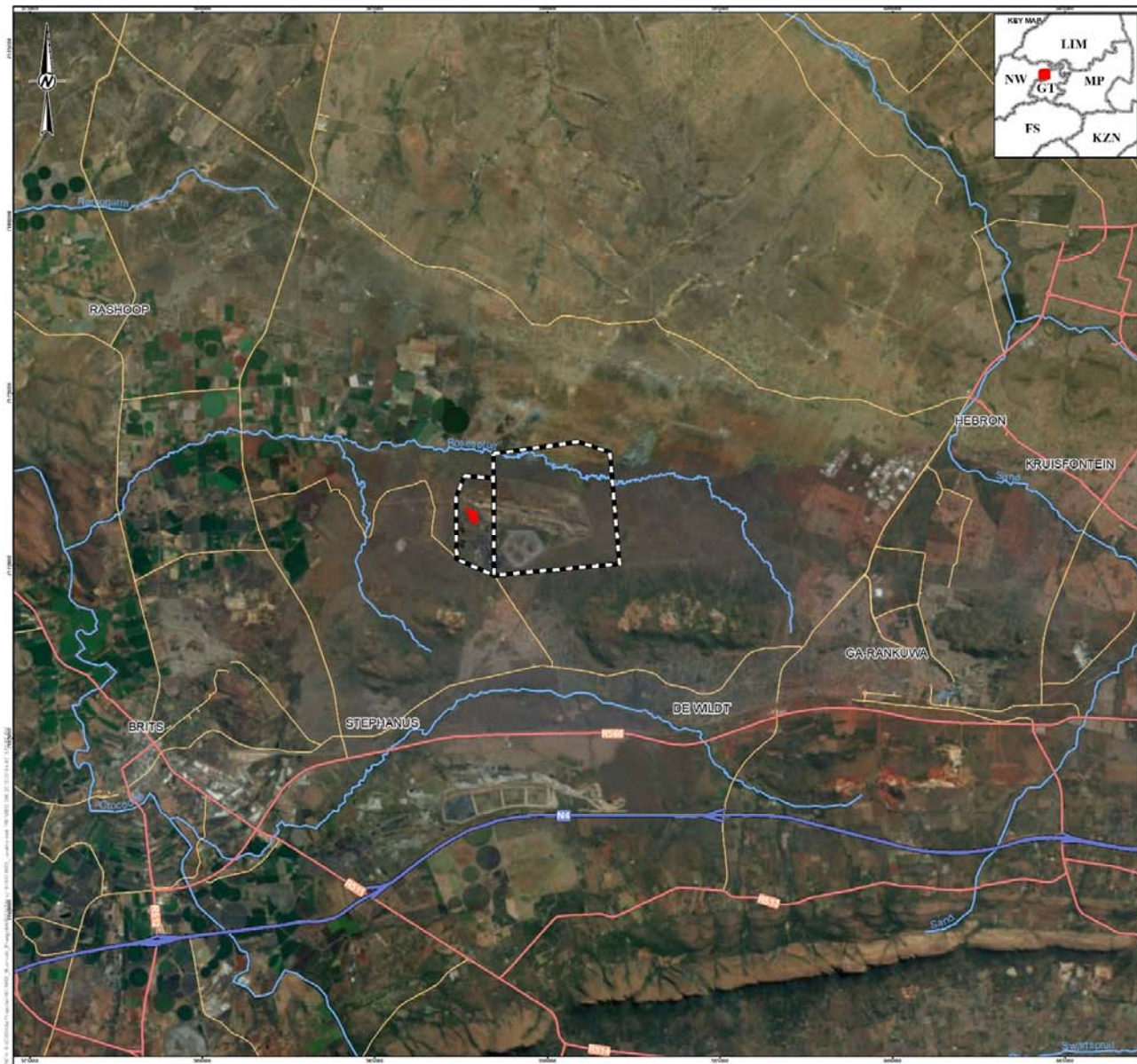
Golder Associates Africa (Pty) Ltd.

Lufuno Nemakhavhani
Environmental Consultant

Tashriq Naicker
Project Manager

LN/TN

Attachments: Registration and Comment Sheet
Locality Map



- LEGEND**
- Bushveld Energy
 - Vametco Mining Area
 - National road
 - Main road
 - Secondary road
 - Towns - intermediate
 - Major Rivers - NFEPA



NOTE(S)

REFERENCE(S)
 1. COORDINATE SYSTEM: WGS 1984 UTM ZONE 35S

CLIENT
 BUSHVELD ENERGY

PROJECT
 HYBRID SOLAR PARK AND BATTERY STORAGE

TITLE
 LOCALITY

CONSULTANT	YYYY.MM.DD	2016/07/04
DESIGNED	MM	
PREPARED	MM	
REVIEWED	LN	
APPROVED	TN	

PROJECT NO: 18113653 CONTROL REV FIGURE