

ASX RELEASE

**GREENPOWER ENERGY LIMITED (ABN 22 000 002 111)**

**QUARTERLY REPORT 31 DECEMBER 2016**

**MINING PRODUCTION REPORT - LISTING RULE 5.1**

Greenpower Energy Limited (ASX: GPP) (the Company) is not presently in production or development in any of its mining tenements.

**MINING EXPLORATION REPORT - LISTING RULE 5.2**

The Company holds:

1. an application for an Exploration License for an area situated near Moe township, in the Latrobe Valley, Victoria. [The Company previously held Exploration Licences 4500, 4877 and 5227, also in the Latrobe Valley, Victoria. As previously announced, each of these has not been renewed.]
2. an interest in a 'PGGS' application for an exploration right for lithium, tantalum and rare earths situated in the Republic of Guyana – See details below.
3. applications which were made for 8 Exploration Licences EL-31459 through to EL-31466 in the Northern Territory where GPP plans to test the brines for Potassium, Sulphate and Lithium potential– See details below.

**ACTIVITY DURING THE QUARTER**

**1. THE GUYANA LITHIUM PROJECT**

During the quarter under review the Company engaged Brendan Borg of Borg Geoscience to meet our Joint Venture Partner Guyana Strategic Metals Inc ('GSM') in Guyana for preliminary reviews of the opportunity. Subsequently GPP provided shareholders with Notice of Meeting to approve the option to acquire up to a 74% interest in the Lithium Project

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## **2. RESOURCE TECHNOLOGY DEVELOPMENT: COAL TO CHEMICALS**

During the quarter under review, the Company continued the development of its proprietary coal to chemicals technology called "OHD" (see description below)

As announced 21 October 2016 the first phase of tests using liquid produced by application of the OHD process as a plant growth bio-stimulant, the tests were carried out on the Company's behalf by Monash University with very positive results.

The second phase of testing has commenced with Monash University.

HRL Technology Group have progressed in terms of reviewing the desktop studies, detailed designs and costing of an OHD pilot plant in Victoria.

## **3. NORTHERN TERRITORY - BRINE PROJECT**

During the quarter under review, the Company was the successful applicant to 8 Exploration Licenses (EL-31459 through to EL-31466) in the Northern Territory. GPP will be seeking to test saline brines for concentrates of potassium, magnesium and sulphates which could support the production of Potash which if successful has the potential to supply the Australian fertilizer market.

In addition, GPP will seek to test the brines for Lithium potential.

## **4. FUND RAISING & SECURITIES ISSUES**

During the quarter under review a General Meeting of Shareholders took place on the 5<sup>th</sup> October 2016 (announced 13 October 2016) approving the issue of:

- (a) the issue of 59,000,000 Shares in accordance with the tranche two of the placement announced on 29 July 2016;
- (b) the issue of 75,000,000 unlisted options, which were attaching to the shares issued under the placement (both tranche 1 and 2); and
- (c) the issue of 10,000,000 unlisted options, which were issued to consultants under Listing rule 7.1 placement capacity.

On 21 November 2016, the Company completed a placement of 110,000,000 ordinary shares.

As a result during the Quarter the Company raised \$2,203,697 net of expenses which provides assurance that GPP will be comfortably funded through the initial phases of the Morabasi project and its other projects. GPP also sold on market listed equity investments raising \$216,117.

## **5. CORPORATE COMPLIANCE**

The Companies' Annual Report was completed lodged and announced 31 October 2016. The AGM was held on 30 November 2016 with all resolutions approved by Members in attendance and Proxy votes.

## **ADDITIONAL INFORMATION REFERRED TO RELATING TO PROJECTS 1 & 2 ABOVE**

### **THE LITHIUM PROJECT - 20/09/16 ANNOUNCEMENT EXTRACTS**

“Greenpower Energy Limited (ASX: GPP) (**GPP** or **Company**) is pleased to announce that it has executed a binding Heads of Agreement (the **Transaction**) to acquire up to a 74% interest in the Morabisi Project located in Guyana, prospective for lithium and tantalum (**Morabisi Project**). The Morabisi Project is currently under application in the name of Guyana Strategic Metals Inc., (**GSM**) a private Canadian company established by a group of mining professionals with significant Guyanese experience and in-country expertise.

#### **Background**

GSM was established to pursue strategic mineral opportunities in Guyana, a mining-friendly jurisdiction whose commitment to the industry is evidenced by the recent commissioning of three substantial gold mines (Guyana Goldfields' Aurora Gold Mine, Troy Resources' Kaburi Gold Mine and Goldsource's Eagle Mountain Gold Mine).

GSM has applied for a 950,000-acre Permission for Geological and Geophysical Survey (**PGGS**) which covers historically documented, wide spread, alluvial tantalum and niobium deposits.

#### **The Opportunity**

The recent global rise in demand for lithium for use in the mobile telecommunications and computer batteries industries, as well as the recent development of fully electric cars, has rendered lithium a strategically important commodity which is presently fiercely sought after. At the same time, tantalum also represents a high potential mineral in Guyana, due to the country's "non-conflict" status, which may represent a strategically important point of difference as compared with other sources of the mineral.

Over the past two years, GSM has undertaken a substantial amount of work in terms of identifying areas within Guyana which are prospective for lithium and tantalum (including compiling, interpreting and undertaking desktop work in relation to historical information).

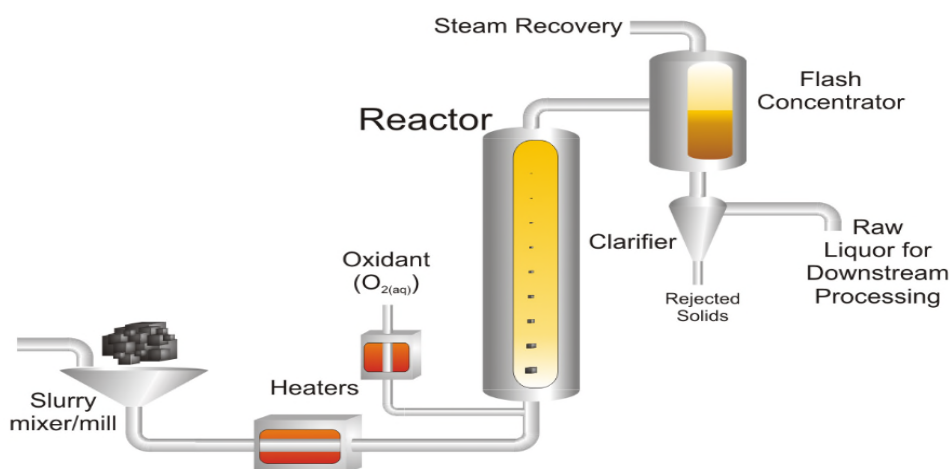
The Morabisi Project area, in respect of which GSM has lodged an application for a reconnaissance licence with the Guyanese Minister of Governance & Natural Resources and Environment (**Project Area**), is believed by GSM to contain a favourable geological setting for lithium, with widespread presence of LCT Type Pegmatites. Further, historical exploration results also support the possibility that the Project Area may host district-scale tantalum mining potential.

The Project Area is located in Guyana, in the Morabisi River area, a tributary of the Mazaruni River, Mining District number 3, Region 1. It encompasses a polygonal area of 950,810.1 acres.

### **THE "OHD" COAL TO CHEMICAL CONVERSION TECHNOLOGY**

'Oxidative Hydrothermal Dissolution' [OHD] is the descriptive name given (by the inventor) to a process invented by Professor Ken Anderson, of Southern Illinois University (SIU) in the USA, patented by SIU, for converting carbonaceous material, such as coal, into a range of low molecular weight organic compounds. The process is exclusively licensed to Greenpower for use in Australia and NZ.

The process is operationally simple: crush the coal to powder, slurry it with water, feed the slurry into a reactor, apply heat and pressure while introducing liquefied oxygen. A schematic of the OHD process is as follows:



For lignite and lignin most the material is chemically converted [the OHD process] with a reaction time of less than a minute. The output from the reactor is a liquid which is about 98.5/99.5% water, and 1.5/0.5% by weight organic chemicals in solution (the bio-stimulant fertiliser).

The OHD process is safe, environmentally friendly and involves relatively inexpensive throughput costs: It uses only water and oxygen; requires no exotic solvents, enzymes or catalysts, nor pretreatment of the feed; presence of moisture is irrelevant; reaction times are less than a minute; achieves high rate of initial conversion, and unconverted material can be recycled to achieve 90% + ; produces minimum CO<sub>2</sub> or other gases.

In 2013 Professor Anderson, having formed Thermaquatica Inc. to take the invention forward, built a small (5kg/hr) "Process Demonstration Unit"—aka PDU) to prove that the process worked beyond laboratory scale, This small plant has worked ever since and demonstrates, at an engineering scale, the process can be scaled up from laboratory scale

The resulting product is an aggregate of low molecular weight organic compounds dissolved in water. This mixture can function as an agricultural bio-stimulant in much the same way as commercially available products which are sold. Agricultural bio-stimulants are sold around the world and are known to stimulate plant growth and improve soil health and efficiency. The use of biostimulants is at present, because of cost, restricted to high value fruits and vegetables—e.g. almonds. Compared to existing fulvic acid products the OHD fluid can be produced at a fraction of the cost. So the immediate or primary product as it exits from the reactor has an immediate use, without further treatment.

## PLANT GROWTH BIO-STIMULANTS

Bio-stimulants foster plant development in a number of demonstrated ways throughout the crop lifecycle, from seed germination to plant maturity. They can be applied to plant, seed, soil or other growing media that may enhance the plant's ability to assimilate nutrients and properly develop. Bio-stimulants are active on the plant in addition to the soil:

By fostering complementary soil microbes and improving metabolic efficiency, root development and nutrient delivery, bio-stimulants can:

- Increase yield in terms of weight, seed and fruit set.
- Enhance quality, affecting sugar content, color and shelf life.
- Improve the efficiency of water usage.
- Strengthen stress tolerance and recovery.

Bio-stimulants use is growing rapidly due to multi-targeting where one application can assist both the crop (fruit yield and growth) in addition to the soil (water/nutrient retention and root development) which assists in the following years crop programs:

The accelerated use of bio-stimulants in agriculture is a recent phenomenon. In a major study Calvo, Nelson & Kloepper conclude: "Plant bio-stimulants are diverse substances and microorganisms used to enhance plant growth. The global market for bio-stimulants is projected to increase 12% per year and reach \$2.2 billion by 2018."

Currently, humic and fulvic acids constitute more than half of the bio-stimulant market, with seaweed extracts being secondary.

### **Bio-stimulant Market & The Advantage of the OHD Process**

Bio-stimulant fertilizer (Fulvic acid) products for agriculture are proven however expensive to produce and despite having demonstrated improved plant growth and nutrient uptake benefits, are **generally reserved for high value crops**.

In the residential market Bio-stimulants are generally known by their market name of Seasol, Powerfeed, MegaKelp and SuperKelp and generally retail for \$3,500 to \$7,000 per 1,000 litres wholesale. The OHD process allows for the production of Bio-stimulant fertiliser at a **significant cost saving using coal as feedstock as opposed to seaweed and other decaying plant matter** with a production cost of circa \$350 to \$700 per 1,000 litres wholesale (1/10<sup>th</sup> versus traditional Bio-stimulants).

The significant cost savings achieved by the OHD process allow bio-stimulant fertilisers to now potentially be **used as an everyday fertiliser in broad acre and horticultural cropping operations where it was previously cost prohibitive to do so**. Once the Company completes additional trials in the 2017 growing season it will move to the planned construction phase of a 20 tonne/day OHD manufacturing plant. Costing and feedstock economics will be released to the market very shortly.

Greenpower retains the exclusive OHD rights to the **Australian and New Zealand Market for the next 15 years** where thus far it has spent in excess of \$4 million of shareholder equity

developing and testing (research & extraction) the OHD project in conjunction with Thermaquatica Inc.

The Company is currently in discussions to broaden its OHD license beyond Australia and New Zealand given the Company was instrumental in funding the Process Demonstration Unit (PDU) housed at Thermaquatica Inc's headquarters in Illinois, USA.

### **Plant Trials**

Greenpower coal from the Gippsland Basin in Victoria was subjected to the OHD process and the resulting bio-stimulant fertiliser liquid was applied to test crops at application rates of 10 and 20 L/ha. The results from the **trials on horticultural and cereal crops were impressive** and were headlined by:

- Application of the OHD bio-stimulant fertiliser at both rates **increased flower and fruit numbers**.
- **Increased fruit yield by approximately 49%** with 10L/ha and 41% with 20L/ha application rates compared to the untreated control plants.
- Application of the OHD bio-stimulant fertiliser **significantly decreased the incidence of fruit blossom end rot** caused by calcium deficiency in the fruit, with 12% of fruit affected with application of 10L/ha of OHD bio-stimulant fertiliser compared to 65% from the untreated control plants.
- Trials show the application of the OHD bio-stimulant at 10L/ha can be used to **increase the marketable fruit yield**.