



ASX CODE (GPP)

ABN 22 000 002 111

ABOUT GREENPOWER

Greenpower Energy is a clean energy technology developer, and is currently progressing the development of 'zero carbon' processes for converting coal to transport fuels, which it can then apply to the company's own sizeable inferred resource of Victorian brown coal. Go to greenpowerenergy.com.au

CAPITAL STRUCTURE

- Shares on issue	92,466k
- Unlisted options	0.7m
As at 30 June 2014:	
- Cash	0.4m
- Shares in listed co	0.6m
- Exploration assets	1.3m

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ASX RELEASE

GREENPOWER ENERGY LIMITED (ABN 22 000 002 111)

QUARTERLY REPORT 31 DECEMBER 2014

MINING PRODUCTION REPORT LISTING RULE 5.1

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

MINING EXPLORATION REPORT LISTING RULE 5.2

VICTORIAN AREAS [EL4500, EL4860, EL4877 and EL5227]

Latrobe Valley, Victoria, Resources

EL4500, EL4877 and EL5227 cover lignite occurrences to the west of Moe Township. Previous exploration by other companies has shown substantial lignite tonnages in a discrete basin covered by EL4500 and EL4877 (western part). A small part of this basin is located within EL5210 a tenement owned by outside parties.

A second basin located to the west of this is covered entirely by EL5227.

Including the resource reported during the current quarter, the company has a total of 573Mt of JORC compliant Inferred lignite.

Applications for renewals of EL 4877, EL 4500 and EL 5227 have now been made.

Brown Coal Innovation Association 'BCIA' (In Victoria)

In 2014 GPP joined the BCIA which invests proactively in the development of technologies and people to broaden the use of brown coal for a sustainable future. GPP anticipates this will provide assistance in developing its assets and in particular its Coal to Liquid technology.

In the October 2014 newsletter GPP was pleased that our vision for Victorian Brown Coal was highlighted see [BCIA Spotlight on GPP](#)



Coals to Liquids Projects, Latrobe Valley, Victoria

Thermaquatica Coal to Liquid Technology

In March 2013 the Company had signed a Memorandum of Understanding (MOU) with US-Thermaquatica Inc., to jointly test and develop the Oxidative Hydrothermal Dissolution (OHD) process for the conversion of coals to liquids, and in November 2013 an Agreement was signed to replace the MOU.

The arrangement allows Greenpower to receive an exclusive license to develop and apply the OHD process on a commercial scale within Australia and New Zealand in exchange for contributing USD \$2m towards research on extraction of the products from the OHD liquid.

OHD is a novel and environmentally friendly technology for the conversion of coal and other solid organic material into low molecular weight, water soluble products. Many of the initial products are potentially useful for producing polymers as well as other hydrocarbon based products. The process works by taking the initial macromolecular solid material such as coal and causing a reaction with small amounts of oxygen in high temperature, high pressure water.

Testing of samples of VBC shipped to Thermaquatica's laboratory has continued during the quarter.

Progress Report

GPP aims to utilise Victorian Brown Coal [VBC] to produce low molecular weight organic compounds with an aim to build a pilot plant producing:

- Vanilla
- Bio-degradable plastics
- Oxygenated Fuels

During the 3 month period ending 31/12/2014 the conceptual design for a pilot plant was completed. Design elements include dewatering the OHD liquor, esterification and separation into the various required products. The pilot plant will have an input capacity of 20 tonnes/day of ROM VBC. Basic annualised output will be:

Ethyl Vanilla	730 tonnes.
pHB [para hydroxybenzoate]	750 tonnes.
Oxygenated fuels	1950 tonnes.

As well as producing valuable chemicals, operation of the plant will totally de-risk operational procedures. Following the pilot plant operation it is envisaged that a commercial scale plant of processing capacity 5,000 tonnes day [VBC] will be constructed.

The use of VBC for developing the OHD process to a commercial level is built around the VBC properties which render it uniquely suitable for processing. VBC is high moisture, low ash product with almost zero levels of inertinite [Fig 1]. The OHD process is indifferent to water content of the input material; no elaborate pre-process dewatering required. There is low [less than 3%] ash content. In many coal processing schemes significant ash [>10%] causes operational problems as well as presenting a significant disposal problem. In addition the level of deleterious is low; sulphur problems do not exist. As shown in Fig. 1 inertinite content is low. For the development of a coal processing scheme it would be difficult to find anything better than VBC.



Fig 1.

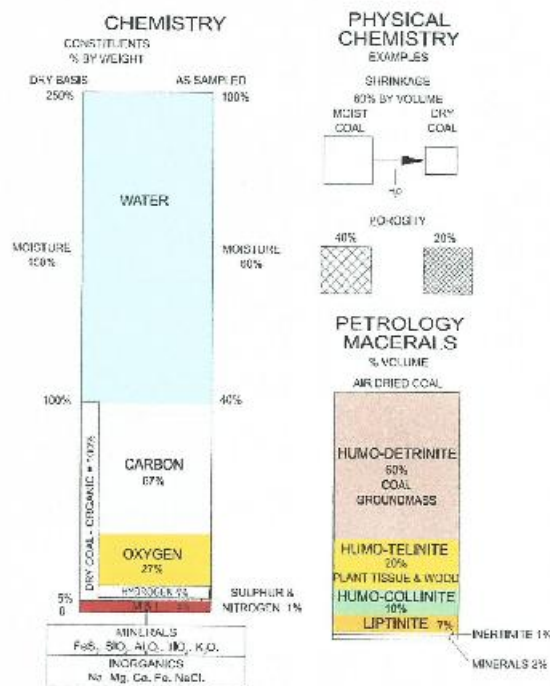


Plate 8: Schematic showing typical chemistry for brown coal.

The following section provides a brief summary of the range of selected qualities in Victorian brown coal. However a full and detailed analysis and description is provided in Durie 1981.

3.4.1 Moisture

Brown coal 'bed' moisture is the natural in situ water content and is normally reported by weight percent.

THE PILOT PLANT:

Major Material Inputs.

VBC

Oxygen

Ethanol

20 tonnes/day.

3.58 tonnes/day.

2.92 tonnes/day.



Will generate [utilization 335 days/year]

- Ethyl Vanillate	730 tonnes/year. [2.18 tonnes/day].
- Para hydroxybenzoate [pHB]	750 tonnes/year. [2.24 tonnes/day].
- Oxygenated fuels	1950 tonnes/year. [5.82 tonnes/day].

THE SPECIALTY CHEMICALS.

Ethyl Vanillate. Vanilla [and variants] is an essential ingredient in many foodstuffs mainly as a flavouring agent. It is also used in the pharma and cosmetic industry. Worldwide consumption is reported to be ~18000 [±2000] tonnes/year. 7/8% of this originates from the so called vanilla bean. Growing and harvesting natural vanilla is a difficult, labour intensive process.

The remaining consumption of approximately 16000 tonnes per annum is provided by synthetic vanilla. The output from the OHD pilot plant will constitute approximately 4.5% of global synthetic production.

Reliable commercial data for synthetic vanilla is difficult to find. A major emerging manufacturer of synthetic vanilla, Evolva reports that world total yearly production for all forms of vanilla is 18000 tonnes with an overall value of USD600million.

Hi spec. [high purity] synthetic vanilla is used in the pharma and cosmetic industry. For instance Guerlain have pioneered the use of synthetic ethyl vanilla as a bottom for some of its perfumes including its flagship “Shalimar” product.

Para hydroxybenzoate [pHB]and ethyl vanillate are both precursor chemicals for a family of bio-degradable plastics. The commercial development of bio-degradable plastic has been hampered by the relatively high cost of input chemicals. pHB and ethyl vanillate derived from VBC will enable a significant improvement to the economics of bio-degradable plastic.

TO PRODUCE FROM THE MODIFIED PILOT PLANT.

The OHD reaction produces a range of low molecular weight organic compounds many of which mimic a fulvic acid complex. The company has contracted a research group in the Department of Chemistry, Monash University to assess the efficacy for the OHD liquor to condition the soil so that plant growth/health is enhanced. It is planned to use OHD liquor which has the concentration increased to ± 4% [by weight]. Production of this liquor will require the only the “front end” of the pilot plant.

TO PRODUCE FROM OHD DERIVED MOULD.

When exposed to the atmosphere the OHD liquor, on some occasions and over time converts to mould. It is assumed that this is related to microbial agents reacting with the OHD chemicals. At a qualitative level it is noted that the mould contains lipids. It is noted that lipids form a precursor product in the manufacture of bio-diesel. A project designed to assess the commercial potential of these reactions is being formulated.



GE Microwaved Plasma-assisted Coal to Liquid Technology

Having finalised an agreement with GE's Technology Ventures Group, a subsidiary of General Electric Company, (NYSE:GE), the evaluation by the Company of the technical and economic feasibility of the GE Coals to Liquids (CTL) process is continuing.

Victorian Brown Coal (VBC) has been tested at GE laboratories in the United States by the GE CTL process which uses microwave energy to heat the coal to create plasma conditions to assist chemical conversion of the coal into liquid hydrocarbons.

The testing programme was completed at GE's laboratories during last year. A report was delivered to the Company last year and following that report is being reviewed by the Company and its consultant, GE and the Company have agreed to postpone further research while the Company concentrates on the OHD technology described above. Greenpower continues to have an option to take an exclusive commercial license [within Australia and New Zealand] for the process, and general worldwide rights.

SOUTH AUSTRALIAN AREAS [PEL 145, PELA 146]

The Company has decided that the South Australian areas do not fit the Company's present business intentions and arrangements will be made for their disposal/surrender.

WEST AUSTRALIAN AREAS [EP447-WALYERING]

Last year UIL Energy Ltd, (UIL) completed a 2D seismic survey on EP447 to earn a 50% interest in the permit held by Greenpower's wholly owned subsidiary GCC Methane Pty Ltd (GCCM). On 23 August 2013 EP447 was renewed for a further five years.

UIL and the Company have agreed to draft a new Joint Operating Agreement in relation to EP447. UIL agreed to utilise its carried forward expenditure credits free carrying GPP in relation to the renewed Year One permit work obligations.

UIL and GPP are currently working on firming up the current year work plans.

Ends

Compliance Statement

The technical information quoted in this announcement has been compiled by Mr Alan Flavelle and geoscientists under his supervision. Mr Flavelle is a Fellow of the Australasian Institute of Mining and Metallurgy and is a member of the Society of Petroleum Engineers. Mr Flavelle has consented to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Competent Person Statement

The information in this report that relates to Exploration Results and Inferred Resources based on information compiled by John Watts who is a Fellow of The Australasian Institute of Mining and Metallurgy and CEO of Greenpower Energy Limited. John Watts has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". John Watts consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.