



*Greenearth  
Energy Ltd.*

*Quarterly Activities  
Report  
30 September 2014*

*Energy Security in a  
Carbon Constrained World*

# Corporate Directory

## Directors

Robert J. Annells (Non-Executive Chairman)  
John T. Kopcheff (Non-Executive Director)  
Philip Zajac (Non-Executive Director)  
Samuel Marks (Managing Director)

## Company Secretary

Robert Smith

## Registered Office

Level 14  
500 Collins Street  
Melbourne Victoria 3000

**Telephone:** (03) 9620 7299

**Facsimile:** (03) 9629 1624

## Securities Exchange

Australian Securities Exchange Limited  
Level 45, South Tower, Rialto  
525 Collins Street  
Melbourne Victoria 3000  
ASX code: GER

## Auditors

Pitcher Partners

## Legal Advisors

Baker & McKenzie

## Bankers

Westpac Banking Corporation

## Address for Correspondence

P.O. Box 24  
Collins Street West  
Victoria 8007

Email: [greenearth@greenearthenergy.com.au](mailto:greenearth@greenearthenergy.com.au)

Website: [www.greenearthenergy.com.au](http://www.greenearthenergy.com.au)

## Share Registry

Computershare Investor Services Pty Ltd  
Yarra Falls 452 Johnston Street  
Abbotsford Victoria 3067  
(03) 9415 5000



# Greenearth Energy Ltd.

Energy Security in a  
Carbon Constrained World

## Highlights

### Corporate

- Welcomed Philip Zajac as a non-executive director to the board;

### NewCO2Fuels

- Hosted a weeklong visit by one of the world's largest steel manufactures and one of its suppliers to discuss the design and implementation of plant in their European facility;
- Initiated external independent verification via global engineering firm Technip;

### Greenearth Energy Efficiency

- Continued to build an experienced, professional and well rounded team;
- Delivered new lighting projects with unparalleled performance for customers;
- Installed and initiated remote central monitoring across current blue-chip customers



# Greenearth Energy Ltd.

Energy Security in a  
Carbon Constrained World

## Introduction

The first quarter of 2014/15 saw the management team of Greenearth Energy begin to execute on its plans outlined in 2013/14. After completing the recent placement and share purchase plan in June, two key work streams were established; funding of the NCF investment and growing the capabilities and revenue of the Industrial Energy Efficiency team.

Greenearth Energy Efficiency saw a ramp up in activity, both internally and externally, with the hiring of a new Sales Leader in July and further sales staff during the quarter. We also added operational capacity to the team whose focus has been on project roll outs and implementation of technology platforms on customer sites, including centralised remote monitoring of lighting installations for our customers. The additions to sales resourcing capacity quickly lead to an uptake in awareness of our range and saw customers place an increased number of orders during the quarter. Further information is detailed on page 8 and highlights a positive step in the right direction in the move to building out this business unit into a platform for consistent earnings growth moving forwards.

In Israel, the NewCO<sub>2</sub>Fuels (NCF) team continued to progress commercialisation of the reactors, with a keen focus on establishing a pilot with our global Steel Manufacturer partner (based in Europe), along with developing new opportunities including the Israel Electricity Corporation and industrial corporations in Australia and Asia. They also progressed potential funding via government agencies including the United States and Israeli governments. Further information on this progress is outlined on page 5 of this report.

It is an exciting time at Greenearth as we are beginning to see the results of previous efforts and focus across both of these business units. The team within the Industrial Energy Efficiency business has rapidly evolved and developed and I can genuinely say it is a world class team of experienced and proven individuals who it is a real pleasure to work with and grow the business. We continue to see enormous opportunities in the sector and are looking forward to what lies ahead in the coming year.

The following pages outline the progress achieved during the past quarter across the business units.

SIGNED ON BEHALF OF GREENEARTH ENERGY LTD



**Samuel Marks**  
Managing Director  
Greenearth Energy Limited  
**31 October 2014**

# Greenearth Energy Ltd.

Energy Security in a  
Carbon Constrained World

## NewCO<sub>2</sub> Fuels

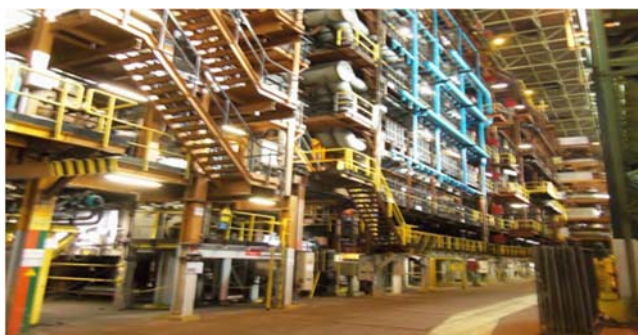
With the additional funding provided by Greenearth Energy as part of its recent investment in the business, the NewCO<sub>2</sub>Fuels (NCF) team focused on product development and progressing the business towards commercialisation. Specifically, its current efforts are being channelled towards the design of the demonstration scale pilot and ongoing business development with new opportunities in Europe, Asia and Australia.

### The quarter's highlights included:

1. Hosted a weeklong visit by one of the world's largest steel manufactures and one of its suppliers to discuss the design and implementation of plant in their European facility;
2. Finalised grant negotiations with the US and Israeli governments;
  - (a) Further developed collaborative agreement with global conglomerate for US Department of Energy (DOE) funding
  - (b) Received positive feedback from Israeli Department of Science and Department of Energy
3. Initiated independent 3rd party review by globally recognised engineering firm - Technip;
4. Began detailed discussions with companies in China and Australia for further demonstration plants;

On the business development front, NCF hosted visitors and tours of their facilities with participants from around the globe. This included potential strategic partners, ongoing delegations from the Israeli government, business and technical delegations from China along with progressing discussions with the local Israeli Electric Company (IEC) to provide for another pilot site.

During the first quarter, the team in Israel continued to develop the relationship with one of the world's largest steel manufacturers to review the implementation of a pilot plant in their facilities in Europe. This included a two week on-site at NCF's facilities with key members of the Steel Manufacturer, along with members of one of their major suppliers on the design and likely scale and opportunity for the pilot. The week was very successful in progressing the opportunity and included ongoing activity devoted to solidifying the next steps of the joint collaboration. The teams are now working closely together, including recent visits on site by NCF at the European steel facility. The key focus for the next quarter is on the final pilot site location within the plant, which include a focus on heat source and means of extraction for the NCF reactor.



*Internal workings of the Steel Plant  
in Europe where the pilot plant is  
underway.*

# Greenearth Energy Ltd.

Energy Security in a  
Carbon Constrained World

Additionally, exciting ongoing developments continued to evolve around government support from both the United States of America, via their Department of Energy (DOE) and a few major Israeli government departments (Ministry of Energy and Ministry of Economics). Key projects have been outlined to these varied departments with requests around funding for Research & Development and commercialisation. We look forward to reporting further progressing in the coming period upon feedback on these grants.

A key piece of commercialisation of a project such as NCF is ensuring that there is continued review of the engineering and the science behind the concepts. There is little question that NCF is made up of a world class team, however the Board and Management of NCF believe it is worthwhile to obtain an independent valuation and opinion on the progress of the technology and the opportunities that may exist across the globe. Subsequently, Technip (<http://www.technip.com/en>) were engaged to complete a technical review in the 2nd Quarter of 2014/15. The scope includes a commercial readiness review and a design and engineering review of the overall system. We look forward reporting on this in the coming months.

Whilst the engineering and pilot development continued to come together, management and the board took further steps to establish additional strategic relationships and pilot plant opportunities across the world. The team has seen interest levels growing and had detailed discussions with companies in Israel, Europe and Australia for pilot discussions. These are early discussions, however are with large well known 'blue-chip' global companies. The process takes time, however the levels of interest are compelling.

We are continually pleased with the feedback and results achieved by the team at NCF and look forward to updating our shareholders with more news as it comes to hand.

## ***NewCO2 Fuels In the Media***

### **Sep. 22, 2014 - THE AUSTRALIAN, Damon Kitney: Solar guru wants to heat up the gas industry**

<http://origin.www.theaustralianls.com.au/business/mining-energy/solar-guru-jacob-karni-wants-to-heat-up-the-gas-industry/story-e6frg9df-1227065750166>

### **Aug. 16, 2014 - IBA-Ettay Nevo: Little light**

<http://www.iba.org.il/bet/bet.aspx?type=286&entity=1034302>

### **Jul. 17, 2014 - PLATTS MCGRAW HILL FINANCIAL: Most steelmakers slow to adopt energy**

[http://www.newco2fuels.co.il/files/files/SRM\\_20140707.pdf](http://www.newco2fuels.co.il/files/files/SRM_20140707.pdf)

### **Jul. 17, 2014 - GASWORLD: CO2 emissions converted to fuel**

<http://www.gasworld.com/regions/middle-east/co2-emissions-converted-to-fuel/2004033.article>

### **4th July - STEEL TECH: New Co2 Fuels (NCF) - from CO2 to Fuels**

[http://www.newco2fuels.co.il/files/files/steell\\_tech\\_july\\_issue\\_2014\\_Final.pdf](http://www.newco2fuels.co.il/files/files/steell_tech_july_issue_2014_Final.pdf)





# Greenearth Energy Ltd.

Energy Security in a  
Carbon Constrained World

## NewCO2 Fuels Joint Venture

In June 2014, Greenearth Energy Ltd (Greenearth) advised that the Group had finalised the details of its investment in NewCo2Fuels Israel (NCF) to 33 percent. Under this agreement, Greenearth has commenced payments to NCF, with the first USD \$1m now paid and the remainder of the USD\$3m investment due by January 2015. The investment is subject to partial claw-back by NCF should less than USD\$3m be ultimately invested by Greenearth.

On completion of the investment, Erdi Fuels Pty Ltd (Erdi Fuels) and Greenearth will be equal shareholders in NCF at 33.33 percent each and the remaining percentage of NCF Shares will continue to be held by founders, current staff and Yeda Research & Development Co. Ltd. (Yeda), based at the Weizmann Institute in Israel.

In 2011 Greenearth Energy secured an exclusive worldwide Research and License Agreement for a revolutionary technology that had the ability to convert CO<sub>2</sub> emissions to fuel. Greenearth and Erdi Fuels' previous arrangements with NCF (as described in the 2013 annual report), including the royalty stream previously available to Greenearth, have been renegotiated and replaced by this new structure outlined in the above paragraph. Erdi Fuels and its associates have invested US\$9m into NCF to reach its current milestones.

The CO<sub>2</sub> to fuel conversion technology concept, successfully developed and proven in laboratory trials in Israel by Professor Jacob Karni and his group at the Weizmann Institute of Science, involves a new method of using concentrated solar energy or excess heat, for the dissociation of Carbon dioxide (CO<sub>2</sub>) to Carbon monoxide (CO) and Oxygen (O).

The same system can also dissociate water (H<sub>2</sub>O) to Hydrogen (H<sub>2</sub>) and Oxygen (O), at the same time it dissociates the CO<sub>2</sub>. CO, or the mixture of CO and H<sub>2</sub> (called Syngas) can then be used as a gaseous fuel (e.g. in power plants), or converted to liquid fuel (e.g. methanol or other transportation fuels) which has the potential to be stored, transported and used in motor vehicles. Oxygen produced can be used in the combustion of the clean fuel or elsewhere.

**Review video at the attached link for further information on the NCF business:**

[http://www.youtube.com/watch?v=vH-YZdqB\\_SE](http://www.youtube.com/watch?v=vH-YZdqB_SE)

**NewCO2 Fuels Website:**

<http://newco2fuels.co.il/>



# Greenearth Energy Ltd.

Energy Security in a  
Carbon Constrained World

## Greenearth Energy Efficiency

The capital raise in May / June of 2014 has had an immediate positive impact on the Industrial Energy Efficiency ('GEE') business this past quarter. Sales staff increased from one part time to a complement of five across Melbourne and Sydney, together with an increased focus on branding, marketing and operations associated with product and site roll-outs. The team also commenced installing 3G wireless monitored systems which will provide remote data monitoring access across all enabled sites, and have already demonstrated additional time and cost savings for our clients.

Key Quarter highlights included:

1. Continued to build an experienced, professional and well rounded team;
2. Delivered new projects with unparalleled performance for customers;
3. Installed and initiated wireless remote central monitoring of installed lighting systems for current blue-chip customers;
4. Ongoing benchmarking of GEE equipment in a competitive landscape.

### ***Growing a strong team***

The Energy Efficiency team continues to develop and enhance its sales capacity and reach with the addition of a new Sales Leader who brings over 20 years of skills and experience within the industrial sales arena, previously responsible for the global sales force of a ~\$250m industrial systems business. The sales team has also been expanded to accelerate growth in our nationwide sales capacity and improve distribution channel capability.

In addition, the team also added project management capacity to ensure that the business continues to deliver high quality solutions and maintains its goals to exceed customer expectations as throughput increases.

### ***Delivering benchmark energy efficiency projects in record time***

This increased capability has had an immediate positive impact, allowing the fast tracking of two new projects where GEE designed and delivered energy efficient LED lighting systems at one third of the usual lead times.

Importantly, these customers have experienced substantially reduced capital costs of refurbishment to the A-grade office and warehouse sites, as well as providing them with market-leading lighting power densities. This ensures that they benefit from their extremely energy efficient, low maintenance lighting systems, and will continue to do so for many years to come.





# Greenearth Energy Ltd.

Energy Security in a  
Carbon Constrained World

## ***Intelligence in Action***

As previously reported, GEE has now installed and is operating multiple sites under intelligent lighting control. The system provides insight into a range of information about the installed lighting systems and individual lights, including electricity consumption and lighting data over time. The interface visually displays lighting status and history, overlaid on the layout view of all connected lights on each site. Important real time operating data for light fittings is monitored continuously and is available to customers to enable better and more timely operational and business decisionmaking.

Unlike other indirect and intermittent performance verification systems, this **unequaled system** provides **complete information** as the data is captured continuously at the source. GEE can also **monitor and analyse** this **high resolution data** and deliver **custom reports and messages** to customers, maintenance staff, landlords or other stakeholders in formats and timescales most useful to each.

## ***Benchmarking against the best***

The ability to deliver benchmark results is a direct result of GEE's ability to combine highly effective proprietary optics, digital control gear, advanced light source technology and lighting control systems with optimized lighting designs.

Our continual advances in technology, combined with our regular comparison against perceived substitutes, underlines the strength and unique advantages of GEE's business and its technologies.



# **Greenearth Energy Ltd.**

*Energy Security in a  
Carbon Constrained World*

## **Greenearth Energy Efficiency Business Unit**

Greenearth Energy Efficiency (GEE) is a business unit focused on the integration of energy efficiency technologies into the Industrial, Warehouse and Manufacturing sector across Asia. The core current product focuses on energy efficient lighting systems. The GEE strategy of developing relationships with the Original Equipment Manufacture (OEM) industry for utilizing Metrolight technology in their products, while creating a rapidly growing demand for Metrolight equipped products, continues to develop well.

The product base continues to be received particularly keenly in sectors where facilities operate continuously and high standards are applied such as the Food and Beverage Industry.



# Greenearth Energy Ltd.

Energy Security in a  
Carbon Constrained World

## Geothermal Energy

There was no update on Geothermal during the 1st quarter of 2014-15 due to the Victorian Governments ban on hydraulic stimulation ('fracking') and drilling.

On the 14th March 2014, Greenearth Energy Ltd (Greenearth) announced that it had successfully secured formal suspensions of work permit requirements for our three Australian Geothermal leases (identified below), from the Victorian Government for a period currently ending May 2015. At which point, Greenearth can re-apply for additional extensions as required.

The prolonged discussions with the Victorian Government, specifically the Department of Primary Industries (DPI), led to Greenearth submitting three requests for suspension and extension for all our current exploration permits as follows:

- **Geothermal Exploration Permit 10;**  
Located in the greater Geelong / Anglesea region;  
**Suspended through May'15**
- **Geothermal Exploration Permit 12;**  
Located in the Latrobe Valley region;  
**Suspended through May'15**
- **Geothermal Exploration Permit 13;**  
Located in the Latrobe Valley region;  
**Suspended through May'15**

Greenearth's decision to apply for suspension and extension of its permit conditions was influenced by the lack of geothermal funding by Government (following withdrawal of funding for Greenearth's flagship geothermal project by the Victorian Government in 2013), and by current government policy relating to a moratorium on "fracking" (hydraulic stimulation) and well activity.



# Greenearth Energy Ltd.

Energy Security in a  
Carbon Constrained World

## Significant Changes in the State of Affairs

There were no significant changes during the relevant period that have not been previously disclosed.



At the date of this report, Greenearth Energy has approximately 1,293 shareholders, with an issued capital structure of:

Total Listed Ordinary Shares	197,580,003
Total Unlisted Options	22,950,000

Samuel Marks  
Managing Director  
Greenearth Energy Limited  
**30 October 2014**

*The images contained in this document are of a generic nature and are not intended to be representative of specific locations, unless noted.*