



ASX Quarterly Report
For the Period Ended 31 December 2010
5 January 2011

HIGHLIGHTS

Pyrolysis Project - Carbon Nanotubes/Carbon Fibres/ Hydrogen

- Scale-up process is underway at Eden's US subsidiary, Hythane Company, where a catalyst production facility has been built and is operating and two scaled-up units, one for batch production and the other for continuous production have been designed, built and commissioned.
- Encouraging production results of both carbon nanofibres, multi walled carbon nanotubes and hydrogen received from first batch production unit using catalyst produced by Eden in US.
- First continuous production unit has been designed, built and has produced what appear to be good quality carbon fibres and carbon nanotubes which are being further assessed.
- Planning underway for designing and building in US a commercial scale production unit in 2011.

Optiblend® Dual Fuel Project

- Eden India completed the successful installation of an Optiblend® kit for a 1,250KVA Cummins K50 generator in Mumbai and it has achieved 58% displacement of diesel at 50% load. Displacement of up to 70% is expected at higher loads.
- Eden India has received another order for a Optiblend® kit from a major machinery manufacturer and potentially another 10 kits to follow.

Hythane® Project

- On-going discussions with various parties in India for initial Hythane® bus trials in 2011.
- Final negotiations for lease document for San Francisco Airport Hythane® project expected in January 2011.

CARBON, HYDROGEN, DUAL FUEL and HYTHANE® PROJECTS

1 Pyrolysis Project (Eden 100%)

Production of Carbon Nanotubes/Carbon Fibres/ Hydrogen

Through the pyrolysis process that has been developed, methane (natural gas) is broken down into its atomic constituents of hydrogen gas and solid carbon, without the production of carbon dioxide. In the Eden process, the solid carbon is produced as either carbon fibres or carbon nanotubes that have a tensile strength of up to several hundred times greater than that of steel.

The new process, developed by Eden with the University of Queensland (UQ) and which Eden now owns 100%:

- appears from the results to date to be relatively efficient when compared with other methods of production of carbon nanotubes and fibres and uses only a relatively low level of energy and lower cost capital equipment compared with most other published methods;
- employs relatively low cost catalysts (no precious metals are used in the catalysts);
- has a low carbon footprint; and
- produces only hydrogen, carbon nanotubes and solid carbon fibres from natural gas, all of which have significant commercial market potential opening up the possibility of:
 - i. low-cost, super strong, ultra light carbon nanotubes that can possibly be used in a wide range of composite materials suitable for many types of commercial applications including the domestic automobile industry and construction industries in concrete strengthening and in carbon composite materials ;
 - ii. low-cost, high volume production of carbon nanofibres that are likely to possess significant electrical capacity opening up potential for use in a wide range of applications in batteries and electrical storage, and for electrical conductivity in composite materials due to their electrical conduction capability and ability to hold an electrical charge; and
 - iii. low-cost hydrogen production without the production of carbon dioxide as a by-product that could help facilitate the more rapid spread of both hydrogen as a vehicle fuel and also Eden's Hythane® technology as an ultra-clean, highly efficient premium blend of hydrogen and natural gas that it is marketing in India and USA.

If successfully piloted on a commercial scale, the process could have important implications for the widespread commercialisation of these forms of carbon whilst also producing relatively low cost hydrogen with an extremely low carbon footprint as the only by-product.

Initial Scale-up in USA

In July 2010 staff from Eden's wholly owned subsidiary, Hythane Company visited the University of Queensland meeting the engineers involved in developing the technology. Upon return from Queensland, Hythane Company completed the procurement and installation of the equipment required for the initial scale-up. Hythane Company has built a catalyst production laboratory in US and catalysts for production of multi-walled carbon nanotubes (MWCNT) and carbon nanofibres (CNF) have been produced and tested confirming their quality.

High Quality Hydrogen/ Carbon Production at US Facility

Since July 2010, the first scale-up of a batch production unit was designed and built by Hythane Company in US and is producing hydrogen and MWCNT or CNF (depending upon the

particular catalyst that is used). This unit has an output capacity approximately 25 times larger than the original laboratory scale unit that was used at UQ. This US built unit has now been successfully trialed and produced hydrogen and either MWCNT or CNF on a batch basis, with stable, production levels for both forms of carbon being achieved. The quality and quantity of the MWCNT and CNF were measured and tested using high technology techniques including TEM (Transmission Electron Microscope) photography and Raman Spectroscopy and the results to date of both the quality and the quantity of all carbon products are very encouraging. Two photographs and three TEM images of carbon nanotubes that have been produced by Hythane Company in US are attached (Figures 1-5).

First Prototype Continuous Production Unit Completed in US

During the quarter Hythane Company also completed the design and manufacture of its first, relatively small, prototype continuous production unit which has the capacity to produce up to 10 tonnes of carbon fibre per annum or up to 3 tonnes per annum of MWCNT. This unit is now successfully operating utilizing catalysts produced by Hythane Company and the carbon fibres and the carbon nanotubes that have been produced have been analysed and samples sent off for commercial assessment and testing. Eden anticipates that testing and final optimisation of the first prototype continuous production unit will be completed in early 2011

Small Commercial Scale Continuous Production Unit Planned in US

The second stage of the scale-up, to build a prototype of a modest sized, commercial scale, continuous production unit, will commence in the first quarter of 2011 with a target completion date of the end of 2011. This unit is planned to be significantly larger than the first prototype unit that has already been successfully trialed, and is presently planned to have an output capacity of between 25-100 tonnes per annum of carbon nanotubes.

Growth of Carbon Nanotube and Carbon Fibre Market

There is a new but rapidly growing commercial market for these forms of solid carbon, particularly for carbon nanotubes, with current wholesale prices ranging from between US\$300-\$700 per kilogram and up to \$4000 per kilogram depending primarily upon the type of carbon nanotubes but also on the size of the order. As an indication of anticipated market growth, one major international chemical manufacturer, Bayer Material Science, reports on its website that in 2009 it was designing a pilot scale unit with capacity to produce 200 tonnes per year of carbon nanotubes and its vision is to build a 3000 tonnes per annum capacity, production scale unit, possibly in 2011. They also state that tests have shown that when 1% of their carbon nanotubes are mixed with concrete it increases its compressive strength by up to 45%.

Timetable

It is planned that the commercial scale-up process will be completed by the end of 2011 or during the first half of 2012, at which time Eden projects that, subject to satisfactory resolution of any technical difficulties that may arise, it will have both a catalyst production capability and a fully developed pyrolysis production technology that together will enable Eden to produce and market commercial quantities of high quality, low cost hydrogen and carbon nanotubes and/or carbon fibres, which the company intends to market on a widespread basis.

Summary

Eden is well on the way to developing an efficient, commercially competitive process that will enable Eden to produce and market the carbon itself, or else licence others to use its technology.

Additionally, the only other major by-product from Eden's pyrolysis process is hydrogen, the real cost of which will be dependent upon the value of the carbon produced. The quantity of hydrogen produced will be 33.33% (by weight) of the quantity of carbon produced and this can be captured fed into the various hydrogen/Hythane® applications that Eden has been developing around the world, with the intention of accelerating the commercial rollout of these downstream hydrogen applications based on the prospect of relatively low cost hydrogen. The current cost of hydrogen is one of the major factors holding back a broader rollout of hydrogen technology. Of further interest, the hydrogen produced using the Eden pyrolysis process will generate only a relatively small amount of greenhouse gas as a by-product of the production process compared with most other currently available methods of hydrogen production, and in consequence it is projected that the hydrogen will be both commercially competitive and extremely environmentally acceptable.

2 Optiblend® Dual Fuel Technology (Eden 100%)

Background

Eden has completed the development of an efficient dual fuel kit that is capable of operating on diesel engines and displacing up to 70% of the diesel fuel with natural gas. If Hythane® is used in place of natural gas, the displacement of diesel fuel could be as high as 80%. The use of the natural gas will greatly reduce greenhouse gas emissions and, in places where natural gas is cheaper than diesel, will also reduce fuel costs. In various parts of India, available natural gas is already significantly cheaper than diesel, and accordingly Eden has been targeting a diversified market for this technology, starting with stationary power generators and then locomotives.

Many millions of diesel generators are installed throughout India in industrial, commercial, and residential applications, to provide either base load power or backup power generation, largely due to the unreliability of the Indian power grid in many parts of the country. As natural gas, which is both much cleaner and cheaper than diesel, becomes more widely available, a large market is emerging for the conversion of these diesel engines to operate on a dual-fuel system of both natural gas and diesel. Depending upon the size of the engine and the number of hours per day that it operates, payback times for the conversions are often less than 12 months, so the cost is minimal compared to the replacement cost of a natural gas generator.

Indian Optiblend® Sales

During the quarter Eden completed the installation of an Optiblend® kit for a 1,250KVA Cummins K50 generator based in Mumbai, which will help open up a very large potential market in Western and Northern India where natural gas is now becoming available. This unit achieved very good results included 58% displacement of diesel by natural gas at 50% load, which was the maximum load required by the customer. Displacement of up to 70% of the diesel fuel with natural gas is anticipated at loads of up to 80%.

Another order was received for a 1,250KVA Optiblend® kit was received from a major machinery manufacturer in Northern India, in addition the two more sales of Optiblend® kits to Assam tea plantations were secured during the last quarter. These sales to Assam tea plantations are to the same customer as the first three Optiblend® kits sold by Eden in India.

Eden continues to receive a significant number of strong enquiries for the Optiblend® kits in India and these are awaiting the rollout of natural gas pipelines over the next few years. Currently it is estimated that this rollout is starting at a rate of about 1 new city per month, on top of the more than 20 cities that already have a natural gas distribution network.

US Optiblend® Sales

During the quarter Eden, through its US subsidiary, Hythane Co, continued marketing the Optiblend® kit in US and has received encouraging enquiries for the kit which it is hoped will translate into sales during the next 6 months.

3 Hythane®

Indian Hythane® Project

Mumbai Hythane® Bus Demonstration Project

During the quarter, discussions continued for the proposed Mumbai Hythane® bus demonstration project with GAIL (India) Ltd (“GAIL”), Mahanagar Gas Ltd (“MGL”) and BEST.

GAIL (Gas Authority of India) is the largest distributor of Natural Gas in India. MGL is a joint venture company jointly owned by GAIL (49.75%), BG Group (49.75%) and the Government of Maharashtra (0.5%), which owns and operates pipelines and markets Natural Gas in and around the Mumbai area to a broad commercial, domestic and industrial customer base of more than 25 million people and is keen for the planned Hythane® demonstration project to proceed.

The demonstration project in Mumbai will involve Eden establishing a Hythane® refuelling station at a suitable bus depot to fuel buses, progressively increasing to 50-70 buses. The proposed bus depot in Mumbai is operated by BEST, the state owned Mumbai bus operator that operates more than 4000 buses, half of which are already using natural gas and all of which are planned to be operating on natural gas within the next three years. MGL supplies BEST with all its natural gas requirements. However, although agreement had been reached and the project was underway, following recent changes in management personnel at BEST, renewed negotiations with BEST on the project details were required and are still underway, slowing this project whilst new management become comfortable with the details and embraces the project. As a result, the project has been delayed and it is now hoped that subject to resolution of this delay, it will be operating some time during 2011, but further details will be announced as they become clearer.

If the project proceeds, then upon successful completion of the demonstration project the parties will endeavour to negotiate a commercial agreement for the ongoing promotion and marketing of Hythane® by MGL in its area of operation. If commercial scale hydrogen production, using Eden’s new pyrolysis process were available by that time, it may well increase the chances of developing a very large Hythane® market in India if the hydrogen were effectively produced as

a by-product to the production of higher value carbon fibres and nanotubes and with a very low carbon footprint.

Background- Hythane® in India

In 2006, India adopted a Hydrogen Roadmap that proposes to have 20% of all vehicles running on a hydrogen based fuel by 2020, and plans to use hydrogen enriched natural gas (Hythane®) as the transitional fuel. At present there are approximately 12 Indian cities that have established natural gas distribution networks, in which expanding numbers of natural gas fueled vehicles, particularly buses, are operating. The Indian Government has announced a new target to expand such networks to 200 cities by 2015 – opening up a potentially huge Hythane® market across the country.

Additionally, commercial production of natural gas from the large offshore KG basin commenced in April 2009, which is expected to significantly increase the amount of available natural gas in the coming years. These factors together with other exploration success and a possible emerging domestic shale gas market in India make India the primary target market for Eden's hydrogen and Hythane® technology.

US Hythane® Project

San Francisco International Airport (SFO)

During the end of the quarter, Eden was advised that the final funding required for this project had been awarded, and subject to finalization of the lease agreement for the site, it is hoped that construction may begin early 2011. If this happens, both the hydrogen and Hythane® stations are now likely to be completed and operational during the first half of 2011. Again, whilst there has been an undesired delay in this project, nevertheless progress does now seem to be being achieved and Eden is hopeful that this project will now proceed.

For this project, Hythane Company has received funding for station infrastructure as well as the conversion of potentially up to 27 Ford E-450 airport shuttles to run on Hythane®. Unfortunately, because of the delay in this project, funding is currently now available for only the first 13 Hythane® vehicles. The project will demonstrate the commercial practicality of Hythane® vehicles for large-scale projects across the US particularly in smog prone areas where lower emissions are required.

Funding is being supplied by the Bay Area Air Quality Management District (BAAQMD) and the San Mateo County Government, with possible additional funding from the Department of Energy (DOE). Recently, the major merchant gas company with which Hythane Company is working on this project, received grant funding for its hydrogen fueling station adjacent to the Hythane® station. This award is a significant boost to the Hythane® project as it makes low-cost hydrogen readily available at the site.

ENERGY PROJECTS

UK Coal bed Methane, Conventional Natural Gas and Shale Gas Project

During the quarter, Centrica, the major UK gas company that acquired 90% of Eden's interest in the coal bed methane in four of its 18 licences and which is meeting all the costs of the next £500,000 of expenses, completed their review of all past work in the area and submitted a proposed budget and program which includes the drilling and testing of two joint ventures well

sites in 2011. Discussion on this budget is continuing. Centrica has advised that it has expended the £500,000 and this is being reviewed at present. In this proposed program site preparation works are scheduled to start in 2011 to enable spudding of the first well in 2011. Testing will overlap into 2012. It is currently planned to drill 2 wells at each well-site, but other options have also been proposed and will be considered.

The total area of UK exploration licences in which Eden holds an interest is approximately 500,000 acres. Work is also progressing on the 14 other exploration licences in which Eden holds a 50% interest in Wales, Kent and Bristol/Somerset and which are all considered prospective for coal bed methane, conventional natural gas and also shale gas.

Discussions have also continued with our joint venture partner Coastal Oil & Gas (“Coastal”) with a view to possibly establishing a joint company as a highly resourced UK-based gas producer and last quarter these discussions resulted in a non-binding terms sheet being initialed. It is anticipated that the proposed joint company will in due course proceed to a public listing.

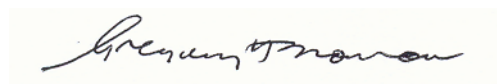
A claim has been made against Eden by Ticora Geosciences Inc (“Ticora”), the company that carried out permeability and desorption testing for Eden in 2007-8 in UK, for the unpaid portion of its bill (US\$786,191) for this testing. Eden disputes the claim and in turn has counterclaimed against Ticora for damages resulting from the alleged negligence of Ticora in carrying out the permeability testing on the second well, and claims a right of setoff. This dispute is scheduled to be determined by the UK courts during 2011 if not previously settled.

Australian Natural Gas and Geothermal Projects (Eden 100%)

During the end of the quarter, Eden sold its remaining 30% interest in GEL 185 to Origin Energy for a further \$700,000. Eden received a total of \$1.7million from the sale of its entire interest in GEL 185.

Eden has secured a voluntary suspension on its work commitments on all of its geothermal licences. This is given Eden time to find a suitable partner / cornerstone investor to progress this project.

During the quarter Eden secured a suspension of licence on its South Australian Natural Gas licence.



Gregory H Solomon

Executive Chairman



Figure 1: Photograph of US produced Carbon Nanotubes



Figure 2: Close up photograph of US produced Carbon Nanotubes

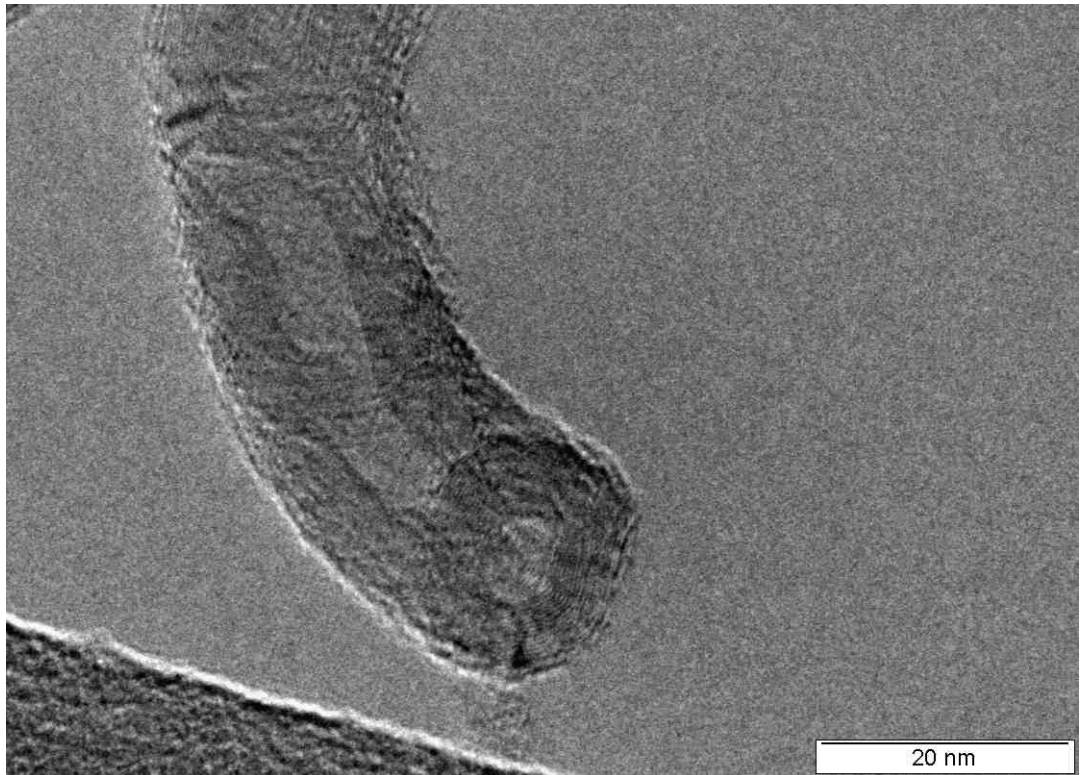


Figure 3: End on TEM image of US produced multi-walled Carbon Nanotubes

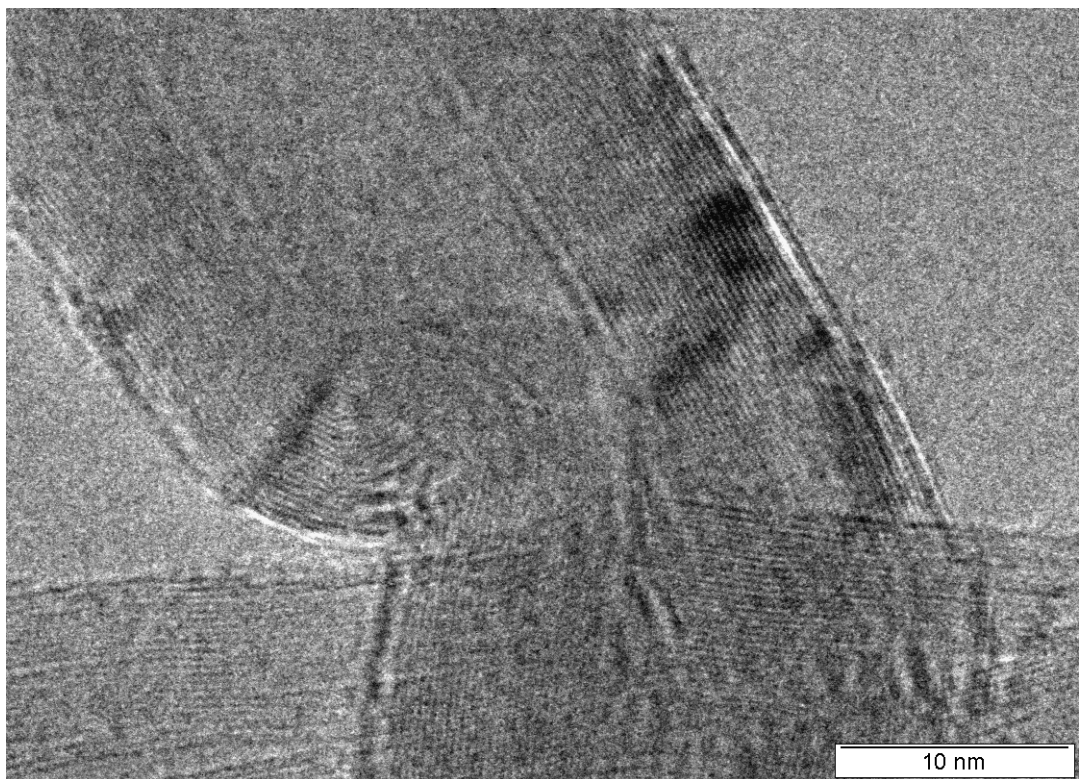


Figure 4: TEM image of several multi-walled Carbon Nanotubes

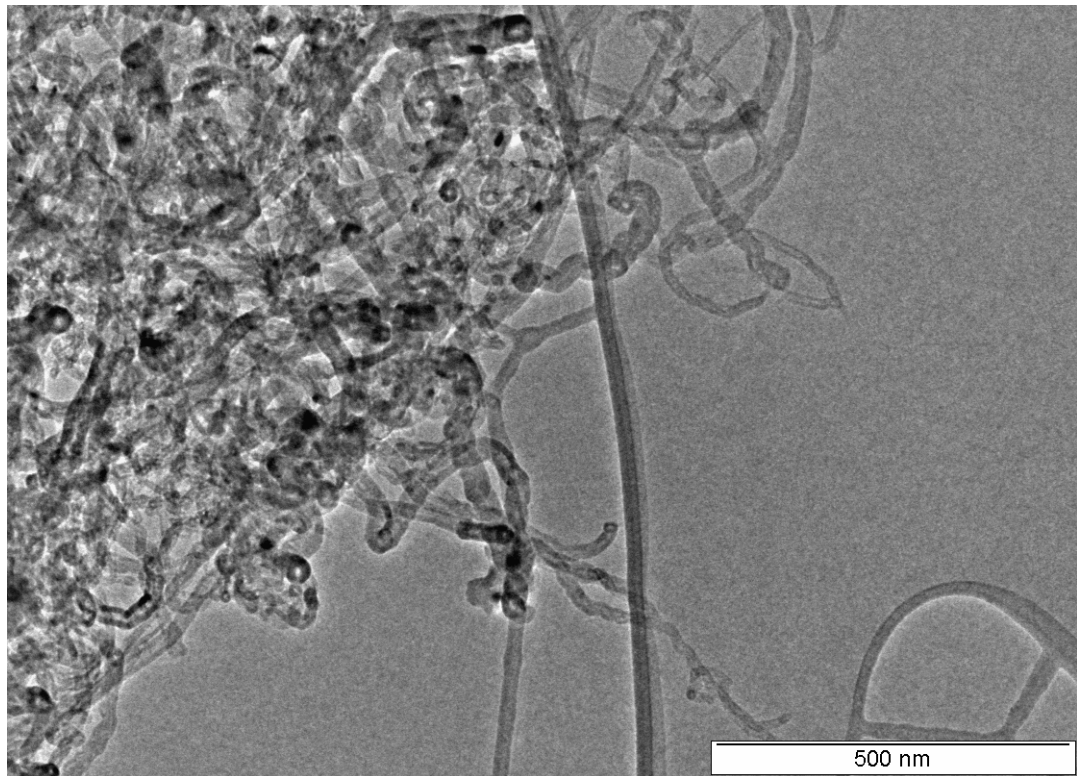


Figure 5: TEM image of multiple US produced Carbon Nanotubes

About Eden Energy Limited

Eden Energy Ltd is a diversified clean energy company that listed on the Australian Securities Exchange in June 2006. Eden has interests in hydrogen, storage & transport fuel systems, including the low emission Hythane hydrogen-methane blend, coal seam & abandoned mine methane in the UK, conventional gas in SA, low temperature pyrolysis research into hydrogen production and geothermal energy production.

All these aspects of Eden's business are part of an integrated strategy to become a major global participant in the alternate energy market, particularly focussing on the clean energy transport market, producing hydrogen without any carbon emissions, transporting the hydrogen to markets & providing the engines to power hydrogen-based transport & energy solutions.

For further information please contact Greg Solomon (+61 8 9282 5889) or visit our website (www.edenenergy.com.au).