Innovations that work.

ASX Quarterly Report

For the Quarter Ended 31 March 2021

SALES DURING THE QUARTER

	Sales 31 Mar 2021 A$000's	Sales 31 Mar 2020 A$000's	Sales % Change
EdenCrete®	583	409	+ 43%*
OptiBlend®	183	212	-14%
Total	**766**	**621**	**+23%**

* The strengthening Australian dollar (1 USD worth 1.5218 AUD in Q1 2020, worth 1.2937 AUD in Q1 2021), reduced the increase in US EdenCrete® sales, in AUD converted at Q1 2021 rates, from +67.7% to +43%.

SUMMARY

EdenCrete®

- **US EDENCRETE® MARKET - CONTINUING TO EXPAND**
  - **Total US EdenCrete® sales for Q1 2021 rose:**
    - **from US$268,810 in Q1 2020 to US$450,682 in Q1 2021, a year-on-year increase of +67.7% * (when reported in USD).**
  - **Georgia DOT**
    - **US$263,000 of EdenCrete® sold in Georgia in Q1 2021 for five GDOT projects.**
    - **Eden working to try and develop a high performance, low cost, low carbon footprint concrete mix with EdenCrete®, to satisfy the GDOT standards for all classes of concrete.**
  - **First waste transfer station project undertaken in Georgia**
    - **Sales of US$107,000 of EdenCrete® for the concrete tipping slab that is to be exposed to extreme wear, in Eden's first waste transfer station in Savannah, Georgia.**
  - **Growth in US shotcrete and concrete pumping markets, accelerating**
    - **Growth across US markets for shotcrete and for pumped concrete accelerating in a number of States, with interest in various emerging applications including construction, swimming pools, mining and 3-D printing.**

- **US Precast market growth**
  - **Trials with two companies in different States for different pre-cast market sectors.**
- **Colorado DOT**
  - **Vail Pass trial scheduled to start as soon as weather permits.**
- **Silent Partner International**
  - **Eden's first two operational meetings held with independent third-party engineering contractor that has been engaged by SPI to build the first data centre in West Virginia.**
- **Kansas DOT**
  - **Approves Eden Crete® and EdenCrete® Pz.**

- **INTERNATIONAL EDENCRETE® MARKET**
  - **Australia**
    - **NICNAS approval received by Parchem to import EdenCrete® into Australia for sale and use.**
  - **France and India**
    - **Due to the ongoing severe impact from COVID-19 in both countries, no further progress occurred.**
  - **South Korea**
    - **Trials by a major South Korean ready-mix company took place.**
  - **Israel**
    - **Continued interest and trials with various potential customers occurred including for a range of shotcrete applications.**
  - **Canada**
    - **Emerging interest in Canada for possible shotcrete applications for mining industry.**

OptiBlend®

- **India**
  - **Strong market interest continued in India during the first half of the quarter but slowed towards the end of the quarter which coincided with both the rapid increase in the impact of the COVID-19 pandemic, the end of the Indian fiscal year, and the end of the Government's 6 months' ban in Greater Delhi from running 100% diesel fuel in power generation during the winter period.**

- **USA**
  - **Increase in interest from a range of utilities and public institutions emerged after the Texas Power Crisis in February 2021, that are expected to translate into a material increase in sales in coming quarters.**

EdenPlast®

- **Master Batch Trials in Japan**
  - **The Japanese plastics company began testing a concentrated master batch using its own raw polymers in which 38% by weight of Eden's carbon nanotubes were dispersed and successfully produced a range of diluted CNT enriched polymers which it has now commenced testing**.

CNT Applications

- **Eden is examining the possible use of Eden's carbon nanotubes (CNT) in other materials and preliminary analysis of these potential applications has begun**.

Hydrogen

- **Eden continues to discuss possible collaborations related to the use of Eden's various hydrogen capabilities, but nothing has eventuated to date**.

DETAILS

EdenCrete®

USA

Sales up from US$ 268K in Q1 2020 to US$ 450K in Q1 2021,or 67% year-on-year

The total US EdenCrete® sales for the quarter rose from US$268,810 in Q1 2020 to US$450,682 in Q1 2021, an increase of +67.7% when reported in USD. However, as shown in the table above, due to the increased strength in the Australian dollar during the year, when the Q1 2021 sales are converted into Australian dollars at the current exchange rate, the percentage increase was only 43%.

Georgia Department of Transportation Projects

US$263,000 worth of EdenCrete® was purchased for use in five highway repair projects for the Georgia Department of Transportation (GDOT). The number of GDOT highway repair projects in Georgia continues to grow and over the next 6-9 months Eden expects to sell in excess of US$570,000 of EdenCrete® products for GDOT projects.

Eden is currently trying to develop a high performance, lower cost, lower carbon footprint concrete mix using EdenCrete®, that will be suitable for possible use in all GDOT concrete applications. Initial trials have been promising and Eden is hopeful that this project will be successful, as it could help open up access to not only a wider range of infrastructure projects in Georgia but also all across the US.

First Waste Transfer Station Project

The first ever waste transfer station project (**see Figures 1-3 below**) using EdenCrete® in the concrete tipping slab that is to be exposed to extreme wear, is being built in Savannah, Georgia for Atlantic Waste Services. US$107,000 worth of EdenCrete® was used in this project. This order followed a review of increased abrasion resistance and reduced permeability that EdenCrete® delivers to concrete. The dosage rate used was 4 gallons/cubic yard of concrete, and this still delivered a very cost-effective alternative to a more expensive, epoxy coating treatment that had previously been used on other tipping slabs

This growth market offers EdenCrete® a major opportunity for significant new business. Evans Concrete, a leading ready-mix supplier in Southeast Georgia which supplied the concrete for this project, has used EdenCrete® on numerous projects over the past 5 years.

Figure 1. Atlantic Waste Services new waste transfer station

Figure 2. EdenCrete® enhanced concrete slab being installed

Figure 3. EdenCrete® enhanced concrete slab being installed

US Waste Transfer Station Market

The waste transfer station market in USA is estimated to be a US$52 billion dollar per year industry and is serviced by more than 11,000 businesses. It has been growing at approximately 1.4% p.a. for the past 5 years. Continued significant growth is expected over the coming years, particularly with the sharper focus on the re-cycling of industrial and domestic waste.

The US waste disposal industry covers a range of applications including hazardous and nonhazardous waste and recyclable materials. Non-hazardous waste includes municipal solid waste, household waste, industrial and commercial waste. Generally waste transfer stations are operated as waste collection points where waste is collected and transferred to long-distance trucks for transport to dedicated disposal facilities.

In addition to similar services provided by governments, the private US waste disposal industry manages:

- Residential waste collection
- Recyclable material collection
- Transfer and storage facilities
- Non-residential waste collection
- Hazardous waste collection
- Construction and demolition site waste collection.

This industry offers a new and significant market opportunity for EdenCrete®.

US EdenCrete® shotcrete and concrete pumping markets experiencing significant growth

Since the start of 2021, significant growth in interest in shotcrete and concrete pumping applications has occurred. In Georgia, one new shotcrete customer has begun to regularly use EdenCrete® in a range of applications, including the construction of concrete swimming pools. Two other Georgia customers are currently starting trials with EdenCrete® for use in their shotcrete mixes for both swimming pool construction and earth stablisation and shoring applications.

There has also been a growing interest in both shotcrete and also in concrete pumping in several other states for both mining applications (particularly for underground mining applications) and also for concrete 3-D printing applications.

The market growth in the USA follows on from the longer-term progress that Eden has made in the Colorado shotcrete market and concrete pumping applications over the past two years, that has enabled Eden to develop a significant, repeatable market that consistently delivers stronger, cheaper shotcrete at lower pressures, with far less waste and dust and often with a significant amount of Ordinary Portland Cement (OPC) being replaced with far lower Greenhouse Gas-footprint fly-ash or blast furnace slag.

US Precast market growth

Trials using EdenCrete® have taken place during the quarter with two companies in different States for different pre-cast market applications. Whilst no sales have yet occurred, Eden is confident that sales are likely to follow in due course after the full evaluation process is completed.

Colorado DOT

Vail Pass trial on I-70 Interstate Highway to start as soon as weather permits.

The Colorado Department of Transportation (CDOT) trial, that will include EdenCrete®, on the Interstate Highway I-70 in the Rocky Mountains on the western side of Vail Pass is ready to start. Construction, that

had originally been scheduled to take place in the third quarter of 2020 (see Eden ASX announcement 15 August 2019) after repeated delays, is finally ready to start as soon as weather conditions permit.

The goal of this important trial is to evaluate EdenCrete® concrete against other concrete mixes, for resistance to damage caused by abrasion, studded snow tires, rutting due to large semi-trailer truck tyre chains in a harsh, high altitude environment, that is subject to frequent freeze-thaw cycles, and scaling due to heavy magnesium chloride deicer applications.

Currently, CDOT battles with the constant and expensive asphalt replacement cycle approximately every 4 years. CDOT is looking for a solution that will increase pavement life cycle and reduce maintenance funding demands and help to free up budget resources for other projects.

The trial involves placing 3 test contiguous sections in the right-hand lane (i.e. the slow lane where trucks operate) on Interstate 70, each 1000 ft. (304.8 metres) long. One section will be a concrete reference mix, a second will be a 7% silica fume mix, and the third will be an EdenCrete® mix.

Each mix must require to satisfy the following criteria:

- 3000 psi in 2 days,
- Contain 20% F ash for ASR mitigation and
- It will be accelerated for early strength.

CDOT will pay for the EdenCrete® that is required for the trial, which is estimated at approximately 500 gallons.

This trial represents a major opportunity for EdenCrete® to show the benefits that it can deliver when compared with other concrete mixes, in an extremely harsh environment, and if the trial is successful, it is expected to help significantly expand the EdenCrete® footprint in the US highway and infrastructure markets.

Silent Partner International

During the quarter, Eden held its first two meetings with the independent, third-party engineering contractor that has been engaged by Silent Partner International (SPI) to build the first data centre in West Virginia. Eden was also advised that construction is planned to commence later in 2021. Preliminary site works have commenced.

This is the first of a number of similar projects that SPI plans to build in the USA and in other countries using its proprietary design for mitigation of the impact of a broad spectrum of radio frequency ("RF") interference and/or electromagnetic pulses ("EMP") that can result from natural occurrences such as solar flares, or human-generated causes such as nuclear explosions.

This project, which was first announced by Eden in July 2020 (**see Eden ASX announcement dated 15 July 2020**) is the first project to be undertaken pursuant to a long-term agreement ("Agreement") entered into by Eden US with SPI, the material terms of which were detailed in Eden's ASX announcement of 15 July 2020 and include the following:

1. The term of the Agreement is 8 years ("the Term").
2. Eden US will supply the EdenCrete® range of products as well as specialty polymers or paints that may be developed and which incorporate carbon nanotubes or carbon nanofibres produced by Eden US (collectively "the Products"), on commercial terms at Eden US's suggested retail prices as adjusted from time to time.

3.The minimum value of Products that SPI has agreed to purchase ("Minimum Purchases") over the 8-year Term is US $48 million, made up as follows:

a. US $2 million over the first 18 months ;

b. US $2 million in each 6 months from 19-36 months (both inclusive); and

c. US $4 million in each 6 months from 37-96 months (both inclusive).

4.SPI has the right to adjust the Minimum Purchases quantities pursuant to the terms of the Agreement.

5. Should SPI fail to purchase the Minimum Purchases specified above, Eden US will be relieved of its obligations to make royalty payments to SPI (see point 7 below) and Eden US will have the right to terminate the Agreement. There are no other financial penalties should SPI fail to achieve the Minimum Purchases at any time.

6.During the Term, SPI has agreed not to engage any other party for the purchase by SPI of the Products or any product that is competitive with the Products for inclusion in the Facilities, provided Eden US is not in material breach of the Agreement.

7.Provided SPI continues to purchase the Minimum Purchases, Eden will pay to SPI a royalty at the end of each year of the Term (other than the first year when the payment shall be made after 18 months) calculated at 3% for the first year, 2% for the second and third years, and 1% for the last five years of the net sale proceeds of Products sold by Eden US to a competitor of SPI, where certain conditions are met including:

a. where the products are for inclusion in the construction of a facility which will fall within the definition of a Facility and is to be built in a country where SPI has already constructed a Facility, and

b. the competitor's facility incorporates a design for, or is for the express purpose of, mitigation of the impact of RF interference and/or EMP.

This project is a major milestone for Eden, which is already well advanced in planning all the supply and logistical details that will be required for it to meet its obligations under the Agreement as they arise.

Kansas DOT Approval of EdenCrete® and EdenCrete® Pz

During the quarter, the Kansas Department of Transportation (KDOT) added both EdenCrete® and EdenCrete®Pz to its list of approved admixtures. This co-incidentally followed the first commercial EdenCrete® project in Kansas, a five-storey carpark development that was undertaken in November 2020 (**see Eden ASX Announcement 23 November 2020**).

EdenCrete® has now been approved for use in 21 States being:
Alabama, Alaska, Arkansas, California, Colorado, Georgia, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Mississippi, North Carolina, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Vermont, Virginia and West Virginia (**see Figure 4**). EdenCrete®Pz is approved for use in 16 States.

With its significantly expanding US sales footprint, the ongoing DOT EdenCrete® trials (particularly for bridges) in various States, plus the approvals for use in 21 States, EdenCrete® is in a very good position to participate in the significant market growth that is expected should the proposed US Federal infrastructure stimulus programme, that is being presently being discussed, be approved.

These 21 States represent approximately:

- 48% of the total US population;
- 73,436 bridges***** that are structurally deficient or functionally obsolete;
- 50% of the total number of such bridges in the USA*; and
- 53% of the total US land area.

The various terms used by the different State DOTs, being "APL" ("Approved Product List"), "QPL" ("Qualified Product List") and "Approved for Use", are synonymous terms for the product having been allowed to be used.

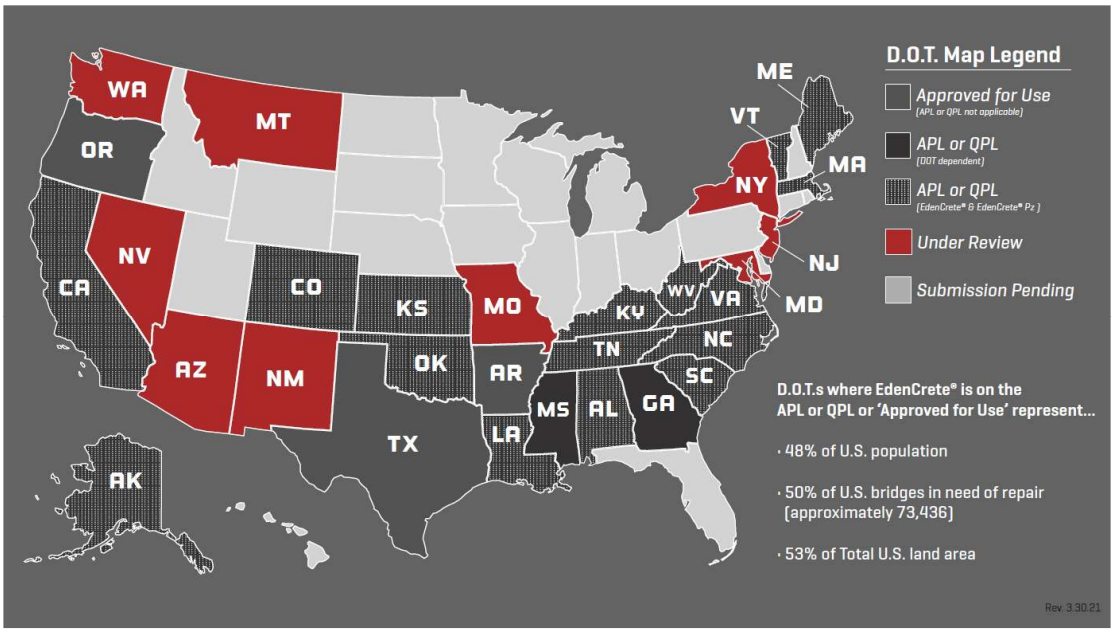


Figure 4. Current Status of US DOT Approvals of EdenCrete® Products

INTERNATIONAL EDENCRETE® SUMMARY

AUSTRALIA

Approval to import EdenCrete® Products

- After extensive communications over more than 12 months, NICNAS, the Australian Government body that assesses chemical products that are proposed to be manufactured in, or imported into, Australia, completed the formal assessment of the EdenCrete® products that Parchem Industrial Products, the Australian and New Zealand distributor of EdenCrete®, applied to import, and NICNAS approved, the importation for sale and use in Australia of the EdenCrete products.
- After a long wait, this finally opened the way for Parchem to import EdenCrete® Products into Australia for sale.
- A number of successful trials by potential Australian customers have been carried out that are hoped will lead to early sales as the products become more available in Australia.

FRANCE and INDIA

Severe disruption from COVID-19

Due to severe COVID-19 lockdowns in both France and India, no further testing/ development work occurred at the French construction company, or the Indian construction company during the quarter.

ISRAEL

First Sale of EdenCrete® Products

Following earlier successful trials during the previous quarter, Eden received its first purchase order to supply Argil Group with both EdenCrete® and EdenCrete®Pz for use in a number of forthcoming commercial trials, initially focused on industrial flooring, shotcrete applications and construction concrete strength testing. During the quarter the product was delivered to the customer in Israel.

SOUTH KOREA

Trials of EdenCrete® Products

Trials of EdenCrete® by a number of large South Korean companies have taken place in spite of ongoing difficulties periodically arising due to COVID 19.These included ongoing trials during the quarter by a large South Korean ready-mix concrete supplier.

CANADA

Interest in EdenCrete® for shotcrete applications

Interest is emerging in Canada for possible shotcrete applications associated with mining applications.

OPTIBLEND®

OptiBlend® Sales for the Quarter

	SALES (A$000s)
USA	81
INDIA	102
TOTAL	**183**

Summary

The total quarterly OptiBlend® sales were 14% lower than in the corresponding quarter in 2020, in part due to COVID-19 difficulties and lockdowns in both USA and India. The Indian sales for the quarter (of the equivalent of A$102,000) involved a total of 8 separate sales. These orders were mainly from customers in the Greater Delhi region. As the quarter was the last in the Indian fiscal year (which ended on 31 March 2021), sales tailed off but it is anticipated that, subject to the current widespread, serious COVID-19 lockdown not continuing for too long, sales should again increase in

coming quarters as companies have access to their new annual capital expenditure budgets for the 2021/2022 Indian fiscal year.

USA

After a quiet start to the quarter, an increase in interest from a range of utilities and public institutions emerged after the Texas Power Crisis in February 2021 that is anticipated to translate into a material increase in US OptiBlend sales in coming quarters.

India

As reported last quarter, on 8th of October 2020 the Indian Environment Pollution (Prevention and Control) Authority (EPCA), a body mandated by the Indian Supreme Court, banned the use of diesel generator sets, with effect from 15 October 2020 for a period of 6 months, in Delhi (the National Capital Territory), Noida, Ghaziabad, Faridabad and Gurugram, that collectively comprise the National Capital Region (NCR region). The NCR region encompasses an area of 30,242 sq. km and has a total population of over 47 million people. Delhi alone, now has a population of over 20 million people.

The ban applied throughout the NCR region to non-essential diesel-powered generator sets during the winter period. This ban supported similar policies to reduce the air pollution that were earlier detailed in the National Clean Air Programme (NCAP), which, to date, State governments in Haryana, Maharashtra and Tamil Nadu have already adopted and may be adopted in further States.

Importantly, NCAP expressly approved the retrofitting of diesel-powered generator sets for partial Natural Gas usage (using a fuel mixture of diesel and Natural Gas) as a cost-effective way to convert the huge number of existing diesel generator sets across India to a Natural Gas operation, opening this major market opportunity for the OptiBlend® dual fuel system. The three States of Haryana, Maharashtra and Tamil Nadu, together with the NCR region, are where piped Natural Gas is currently available (in Tamil Nadu it is only currently available on a limited basis) and is being promoted as a clean fuel alternative through converting diesel generator sets to a partial Natural Gas operation.

The total population of the NCR region, Haryana, Maharashtra and Tamil Nadu alone is approximately 276 million people, representing an estimated 20% of the Indian population. Consequently, Eden has been approached by a number of groups interested in helping to sell OptiBlend kits and some have been appointed as commission-only sales representatives which has assisted in greatly increasing our market coverage over this very significantly populated area. The Petroleum and Natural Gas Regulatory Board (PNGRB), a unit of the Government of India, is the national body responsible for promoting the establishment of a Natural Gas infrastructure and distribution network across India, including in many cities in these three States and the NCR region, as well as in other States.

In consequence, demand in India for OptiBlend® dual fuel systems greatly increased. OptiBlend® sales by Eden India (Eden's wholly owned Indian subsidiary) for the quarter ended 31 December 2020, reached approximately A$317,000, the highest quarterly total achieved to date. OptiBlend® systems for larger generator sets, which comprise a significant share of Eden India's target market, are frequently in the range of A$30,000 - A$40,000 per generator set. Eden India is establishing a network of commission-only, sales representatives where there is piped Natural Gas, commencing in the NCR region and the States of Maharashtra, Goa and Punjab in order to access this market.

Eden India has been selling OptiBlend® dual fuel systems in India (and in Nigeria, Bangladesh and Dubai) for over 10 years, for use on a wide range of makes and models of diesel generator sets from

most of the leading global and Indian generator set manufacturers. Eden India's customers include many leading Indian and international companies operating in India, that have run OptiBlend® dual fuel systems without any disruption, in some cases for over 10 years. Eden India manufactures in India all the OptiBlend® dual fuel systems that it supplies to the Indian, Asian, African and Middle Eastern markets. These systems comply with the Eden US design and performance standards and provide a cost-effective solution enabling Eden India to compete in highly price-sensitive markets.

OPTIBLEND® BACKGROUND

OptiBlend, designed and developed by Eden US more than 12 years ago, is 100% owned by Eden. It is a custom fitted hardware technology designed and produced by Eden in the US and India that allows conventional diesel engines to run on natural gas as its primary fuel without modifying the engine or the diesel fuel system.

Key features and statistics are that it:

- *Works by displacing up to 70% of diesel fuel with natural gas;*
- *Lowers fuel costs, lower emissions and increased runtime;*
- *Is a highly efficient, cost effective system that reduces fuel cost and emissions;*
- *Is used by Cummins on its oil/gas drilling power module using 3 Tier II gensets;*
- *Is suitable for most makes of diesel engines; installed on most major global brands;*
- *Has been marketed in US and India for over 10 years – long proven highly reliable and durable;*
- *Over 200 systems sold and installed across USA, India, Middle East, Africa and East Asia;*
- *Has a significant market in India).*

EdenPlast®

JAPAN

A Japanese plastics company is testing an Eden prepared, concentrated EdenPlast® master batch in which 38% by weight of Eden's carbon nanotubes were dispersed into the other company's raw polymers.

The Japanese company has successfully produced a range of diluted CNT-enriched polymer samples containing a range of concentrations of CNT between 0.5% and 3% (**see Figure 5**) which it is testing.

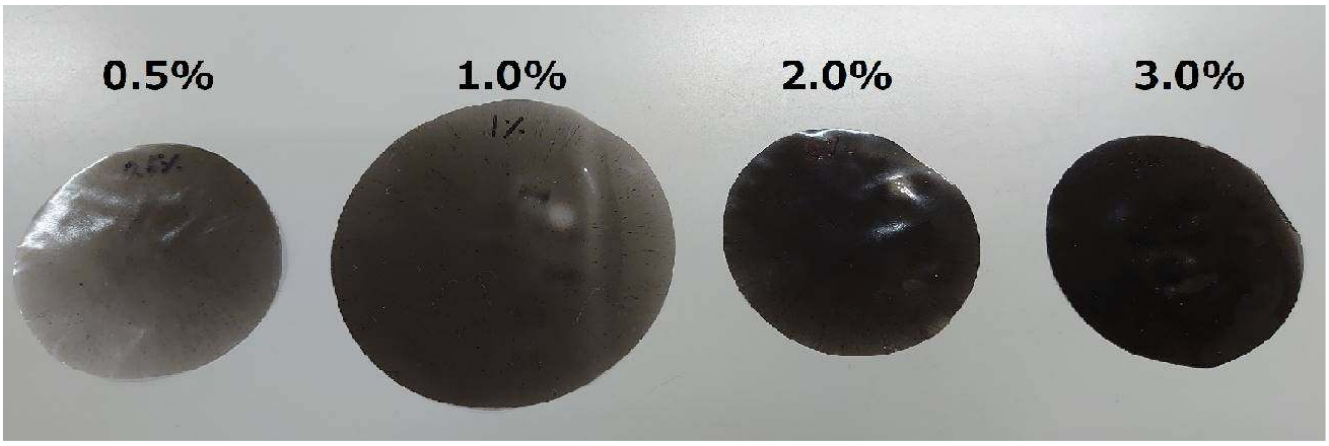


Figure 5. Photograph of range of CNT-enriched polymer samples prepared for testing

CNT Applications

Eden is regularly exploring a range of other possible uses and applications for incorporation of its carbon nanotubes into a range of other materials and for a wide range of possible applications.

In this regard, during the quarter Eden was approached by a company seeking a possible collaboration involving a new application for Eden's carbon nanotubes (CNT) in bitumen, a material that Eden has not previously tested, and preliminary discussions and trials of the potential application have begun.

Whilst possible new applications will probably take time to fully develop, the increasing level of interest from a wider market is confirmation of the significant untapped market potential of Eden's CNT.

Hydrogen

During the quarter Eden was approached by another company relating to possible collaborations involving Eden's hydrogen capabilities. Preliminary talks occurred but have not been progressed. However, Eden remains open to considering such a collaboration, provided that it will not compromise Eden's existing technologies or other operations in any way.

Eden's Hydrogen Background

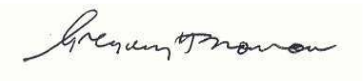
Whilst focusing heavily on hydrogen related activities between 2004 and 2012, Eden built, and still retains, a strong hydrogen technology base (comprising significant know how, techniques, designs and eight relevant patents).

This includes Eden's patented pyrolysis process for production of hydrogen and carbon nanotubes/carbon nanofibres from natural gas (without producing carbon dioxide as a by-product), a patented blender for blending hydrogen and natural gas to create a highly efficient, low emission blend called Hythane® which Eden promoted for a number of years, particularly in India, and a patented hydrogen fuelled, internal combustion engine.

During this period, Eden built a hydrogen electrolyser and an operating Hythane® station for Indian Oil near the Delhi airport (and which was still operating until 2018), and developed Hythane® bus engines with Ashok Leyland, the largest Indian bus manufacturer. Eden was also at that time working on joint ventures with various Indian natural gas suppliers to establish a number of Hythane® bus trials in various parts of India, but interest in hydrogen as a fuel started to wane after 2008, when US policy moved away from hydrogen as a vehicle fuel to electric vehicles. As a result, none of these early developments in India progressed beyond the development and planning stages.

Over the past couple of years however, around the world there has been a growing increase in the level of interest in hydrogen as a fuel, in large part being driven by concern about climate change, which in turn has resulted in increased interest in Eden's hydrogen technologies. Additionally, in India, extreme air pollution in Delhi and other cities is causing great concern, which has resulted in the Indian Supreme Court having mandated that the 10,000 strong, natural gas fuelled bus fleet in Delhi, be converted to run on a hydrogen-based fuel, that in the short term is focusing on converting these buses to operate on Hythane®.

This has again resulted in enquiries being received in relation to Eden's various hydrogen capabilities. Similarly, in Australia, the Federal Government and various State governments have allocated funds for research into the production of "clean hydrogen", opening a further area of possible interest for Eden for its now commercialised, pyrolysis process that produces, with a very low Greenhouse Gas footprint, both relatively low-cost hydrogen and high value carbon nanotubes or carbon nanofibres.



Gregory H Solomon
Executive Chairman

This report was authorised by the above signatory.
For further information please contact Aaron Gates on +61 8 9282 5889.

Description of Payments to related parties of the entity and their associates (LR 5.3.5)

Payments to related parties during the quarter related to:

1. Directors Fees and superannuation
2. Management Fees, as per agreement, were paid during the quarter to a company of which Mr. GH Solomon and Mr. DH Solomon are directors; and
3. Legal Fees and disbursements were paid during the quarter to a firm of which Mr. GH Solomon and Mr. DH Solomon are partners.