Innovations that work.™

ASX Quarterly Report

For the Quarter Ended 31 March 2020

SALES DURING THE QUARTER

	Sales 31 Mar 2020 A$000's	Sales 31 Mar 2019 A$000's	Sales % Change
EdenCrete®	409	416	-2%
OptiBlend®	212	113	+87%
Total	621	529	+17%

HIGHLIGHTS

In spite of US commercial activity having slowed significantly during March (and subsequently) due to COVID-19 lockdown requirements, encouraging progress in the sales, testing and marketing of EdenCrete® products occurred in a growing number of States in the USA.

Additionally important trials were completed in India, South Korea and Israel immediately prior to each of these countries imposing lockdown requirements, that have delayed further activity until these restrictions are lifted.

Highlights of the activities that occurred during the quarter are detailed below.

EdenCrete®

USA Overview

- **Encouraging growth in the number of new and repeat customers and US States where EdenCrete® sales and/or trials have occurred or are planned.**

US Concrete Market Growth - Details

- **40 companies in 9 States are now using EdenCrete® products for various applications.**
- **16 of these companies used EdenCrete® products for the first time in 2020.**
- **19 of these companies have bulk EdenCrete® storage and dispensing equipment installed in a total of 22 plants, spread across the 9 states.**
- **The 40 companies using or specifying the use of EdenCrete® products comprise:**
  - **27 ready mix companies in 9 States using EdenCrete® products;**

  - **6 shotcrete operators in 2 States;**
  - **3 contractors;**
  - **2 precast concrete manufacturers; and**
  - **2 engineering consultants.**
- **16 potentially new customers that own approx. 290 concrete plants in 6 States are awaiting trials when lockdown restrictions are lifted.**
- **US sales team grew with four experienced commission-only sales representatives appointed, covering Texas, Midwest, South East, and North East, and a second Georgia-based sales person was also employed.**

Regional Progress

Georgia

- **Port of Savannah field trial of EdenCrete® concrete commenced and delivered highly encouraging results including:**
  - **Compressive strength achieved at 28 days of 10,010 psi exceeded by 100% the required minimum 28 days strength of 5,000psi.**
  - **Compressive strength achieved at 28 hours (5,720 psi) exceeded the required minimum to re-open the section (4,000psi) by 43%, approximately 48 hours earlier than is usually the case.**
- **GDOT/FHWA funded highway repair projects using EdenCrete® continued' including the second GDOT/FHWA funded project, which commenced in September 2019, was completed during the quarter, eventually requiring US$550,000 worth of EdenCrete®.**
- **GDOT funded repair projects requiring approximately US$165,000 worth of EdenCrete® were advertised.**
- **EdenCrete® worth US$120,000 used in 200,000 square feet (18,580 square metres) external, heavy duty wear, industrial storage area.**

Colorado

- **8 ready mix companies, that between them have EdenCrete® dispensing systems installed at 13 different plant sites, now regularly using EdenCrete® products (and including 3 ready mix companies with 4 plants that only started using EdenCrete® in 2020).**
- **4 shotcrete operators regularly using EdenCrete® products.**
- **Town of Breckenridge proposes to use EdenCrete®.**

New York

- **EdenCrete®Pz usage continued by New York ready mix company in low-midrise construction until stopped by COVID-19 lockdown restrictions.**

Ohio

- **First order received from an Ohio-based ready mix company and bulk storage and dispensing system installed in their plant.**

Utah

- **Two ready mix plants and one shotcrete operator installed storage and dispensing equipment for inclusion of EdenCrete® in their standard concrete mixes.**

Status of DOT Approvals

- **EdenCrete®Pz approved by North Carolina DOT and the use of EdenCrete® has been approved by Alabama DOT**
- **Currently DOTs from 18 States have approved the use of EdenCrete® and 12 have approved the use of EdenCrete®Pz.**

AUSTRALIA AND NEW ZEALAND

- **Work continued towards seeking regulatory approval to import unrestricted quantities of EdenCrete® into Australia.**

INDIA

- **A number of advanced trials with potentially significant customers, of lower cost, stronger concrete, continued during the first part of the quarter, but were delayed later in the quarter by COVID-19 lockdown restrictions.**

EUROPE

- **Advanced trials with a European construction company that is testing for a range of possible applications, continued during quarter, but were similarly delayed later in the quarter by COVID-19 lockdown restrictions.**

SOUTH KOREA

- **A number of advanced trials of lower cost, stronger concrete continued during the first part of the quarter, but were stopped later in the quarter by COVID-19 lockdown restrictions. These trials have now resumed.**

Middle East

- **Initial trials in the Middle East that achieved encouraging results with a potential customer were undertaken early in the quarter, but possible follow-up testing was delayed due to COVID-19 lockdown restrictions.**

COVID-19

- **Eden US continues to produce, sell and ship product from its Colorado facility to its customers. A comprehensive range of measures to ensure adequate social distancing and other protective/ sanitisation procedures are being observed.**
- **The City of Denver announced a "Stay at Home" order but this has not impacted Eden US's employees. OptiBlend®**
- **Sales of OptiBlend® Dual Fuel Systems worth approx. A$213,000, were invoiced during the quarter, with continued market interest in both the USA and India.**

Intellectual Property

- **US patent application no. 15/597,198 which includes 24 claims directed to the production of the EdenCrete® family of products was allowed; and**
- **US Patent No. 10,472,240 which includes 16 claims directed to the production of the EdenPlast® family of products was issued.**

Corporate

- **Eden US secured US$1.85m of debt financing for working capital**
- **Since the end of the quarter:**
  - **Eden US has re-financed this secured debt and raised more than a further US$1m for working capital; and**
  - **Eden US also received a US Government backed loan of US$634,000, under the US Government's COVID-19 stimulus package, which is likely to become a grant and not be repayable provided certain conditions related to continued employment are met**
  - **Directors and management fees to be reduced for three months period**

DETAILS

The total combined sales of EdenCrete® and OptiBlend® products achieved for the quarter were 17% higher than for the corresponding quarter in 2019, in spite of impact of COVID-19 and the consequential lockdown restrictions and the resulting commercial and financial upheaval around the world.

The continuing growth in the numbers of EdenCrete® customers and the extension in the geographic footprint of EdenCrete® sales and trials in both the USA and a number of other countries are expected to help drive increased sales in coming quarters, particularly as the current COVID-19 lockdown restrictions around the world are progressively lifted.

OptiBlend® sales in both USA and India are also anticipated to increase over the coming quarters, in part following the appointment of new commission-only sales representatives, four of whom have now been appointed in the USA.

EDENCRETE®

USA

GROWTH OF US FOOTPRINT

At the date of this report:

- 40 companies in 9 States are now using or specifying EdenCrete® products.
- 16 of these companies used EdenCrete® products for the first time in 2020.
- 19 of these companies have bulk EdenCrete® storage and dispensing equipment installed in a total of 22 plants, spread across the 9 states.
- The 40 companies using or specifying EdenCrete® products comprise:

- 27 ready mix companies in 9 States using EdenCrete® products;
- 6 shotcrete operators in 2 States;
- 3 contractors;
- 2 precast concrete manufacturers; and
- 2 engineering consultants.

- 16 potential customers that own approximately 290 concrete manufacturing plants in 6 States, are awaiting trials when lockdown restrictions are lifted.

These numbers evidence the significant growth that occurred during the quarter.

US EDENCRETE® SALES FORCE

At the end of the quarter, the US sales team had expanded, with four commission-only sales representatives having been appointed, collectively covering Texas, the Midwest, South East, and North East, and a second Georgia-based sales person having been employed. These additional members of the sales team bring over 125 years collective experience in the infrastructure and general commercial concrete markets in the USA**.**

US SALES AND MARKETING PROGRESS

Georgia

Second GDOT/FHWA funded highway repair project completed
17.35 Miles of repairs on I-285 (Fulton, Cobb)
The second highway repair project in Georgia, jointly funded by the Federal Highway Administration (FHWA) (80%) and the Georgia Department of Transportation (GDOT) (20%) that included EdenCrete® in the concrete mix, \ and commenced late in September 2019, finished in February 2020.

The US$17.4 million project involved the replacement of numerous sections of concrete pavement along 17.35 miles of Interstate Highway I-285 and State Road SR 407. Initially project was estimated to involve the replacement of 5,146 cubic yards of concrete, requiring 10,292 gallons of EdenCrete® worth US$257,300.

As happened with the first FHWA jointly funded project, where the initial scope of the project was expanded by almost 40%, by the end of the second project EdenCrete worth approximately US$550,000 was required to complete it.

GDOT funded repair projects
During the quarter, four State funded repair projects requiring approximately US$165,000 worth of EdenCrete® were advertised for tender. These projects are expected to take place sometime during 2020.

Port of Savannah

During the quarter a field trial of EdenCrete® at the Port of Savannah (part of Georgia Port Authority) commenced with the pouring of a section of concrete

(known as the “runway”) that is subject to very heavy loading and abrasion from the tyres of the large rubber tyred gantry (RTG) cranes (see Figures 1-2).

Independent laboratory testing of the compressive strength of the EdenCrete® enriched concrete being trialled was completed. The average compressive strength achieved in the independent laboratory tests by the EdenCrete® enriched concrete after 28 days, was 10,010 psi (68.95MPa), exceeding by 100% the required minimum 28 day strength of 5,000psi (34.47MPa).

Also of interest is the fact that the average compressive strength achieved after 2 days was 6,780psi (46.75MPa), after 3 days was 7,810psi (53.85 MPa) and after 7days was 8,550psi (58.95MPa). This early strength gain is significant operationally and commercially, as the usual time, before which a repaired section can be re-opened, is often around 3-4 days.

In this trial EdenCrete® was added to the concrete mix at 1 US gallon per cubic yard (4.95 litres/ cubic metre) of concrete. The trial involves monitoring the on-going performance of the EdenCrete® concrete over three months.

Figure 1. EdenCrete®- enriched concrete being poured at Port of Savannah

Figure 2. Ship-to-shore cranes currently operating at Port of Savannah

Importantly, since the end of the quarter, and before the 90 days field trial was formally completed, Georgia Ports has mandated the inclusion of EdenCrete® in the concrete specifications for a new project at a Georgia port.

US$120,000 of EdenCrete® used in 200,000 square ft. industrial storage area.

Eden US received its largest, repeat order to supply US$120,000 worth of EdenCrete® products to the same contractor from Georgia who had used EdenCrete® in a number of previous projects. The contractor won the competitive tender process, with a bid including EdenCrete® products, for constructing a new 200,000 square foot (18,500 square metres) external concrete industrial storage area that was to be subject to heavy-duty wear at an industrial plant in south-eastern USA.

This was a repeat project, in less than 12 months, for the same industrial plant owner in which EdenCrete® is to be used, at a different plant on this occasion, and follows a number of repeat orders for similar projects from other US industrial plant owners.

This was the first order was to supply a combination of both standard EdenCrete® and EdenCretePz® to create tougher, more durable concrete that is better able to handle both the heavy loading, and the constant abrading forces from heavy forklift traffic.

The engineering firm engaged on the project approved a number of design specifications for the concrete slab, including one concrete mix that incorporated EdenCrete® and EdenCrete Pz®. This was the first concrete mix design approved by this firm incorporating concrete that included either EdenCrete® product.

Significantly, due to the performance benefits delivered by the EdenCrete® products, the engineering firm approved a reduction by 7.5% in the design thickness of the EdenCrete® concrete slab, compared with other mix designs, whilst still meeting the required performance levels.

Further, the successful contractor won the tender with a bid using a concrete incorporating the EdenCrete® products, against a competitive bid from another contractor that proposed using a mix design involving metallic fibres to achieve the required performance specifications.

Colorado
Continued growth of EdenCrete® sales in Colorado

As at the date of this report, 8 ready mix companies in Colorado, that between them have EdenCrete® storage and dispensing systems installed at 13 different plant sites, are now regularly using EdenCrete® products including 3 ready mix companies (with 4 plants) that first used EdenCrete® in 2020. Further, 4 shotcrete operators in Colorado are also regularly using EdenCrete® products.

Town of Breckenridge

During the quarter Eden was advised that the Town of Breckenridge ("Breckenridge") in Colorado intends to include EdenCrete® in the concrete for suitable construction and renovation projects. This intention by the Town of Breckenridge to use EdenCrete® is not binding upon the Town of Breckenridge, and will be decided on a project-by-project basis.

The list of possible projects where EdenCrete® may be used include sidewalks, cross-pans, ADA ramps, walls, driveways, road paving and walls and wall caps. The first project that will involve concrete sidewalks will take place in the forthcoming northern spring and is scheduled to commence in May 2020.

Breckenridge, located at an elevation of 9,600 feet (2,600 metres) in the Rocky Mountains, has a permanent population of 4,500 people and is a major alpine snow

skiing area. It experiences extreme winter conditions and heavy snowfall and its concrete infrastructure is subjected to very harsh conditions, including the frequent application of salt and de-icing chemicals, freeze-thaw events, and abrasive wear from the use of metal tyre studs and snow chains.

New York

EdenCrete®Pz – First Sale into New York Market

During the quarter, New York based United Transit Mix Inc. (”United Transit”) continued to use EdenCrete®Pz in its concrete mix that is used in low-midrise construction project. In consequence, the initial supply of EdenCrete®Pz that had been delivered to its bulk storage tank in the previous quarter was exhausted, but due to current restrictions on activity in New York city, the delivery of replacement product has been delayed.

Ohio

During the quarter the first order was received from an Ohio based ready mix company and a bulk tank and dispensing system was installed in their plant. This represents the first sale into Ohio.

Utah

Once COVID-19 restrictions are eased, two ready mix plants and one shotcrete in Utah plan to install EdenCrete® storage and dispensing equipment for inclusion in their standard concrete mixes.

Trials

EdenCrete® trials in a number of States including Utah, Illinois, Indiana, Wisconsin, Oklahoma, Florida, Mississippi, Tennessee, Alabama Texas, Georgia and Pennsylvania, many with new customers, were either undertaken or commenced during the quarter, but many were temporarily stopped by COVID-19 lockdown restrictions and will resume when permitted, or are still planned to be conducted when the restrictions are lifted.

Approval Status of EdenCrete® Products by State DOTs

During the quarter, North Carolina DOT has approved the use of EdenCrete®Pz and Alabama DOT has approved the use of EdenCrete®, and as a result EdenCrete® is now approved for use by DOTs in 18 States, and EdenCrete®Pz is approved for now use in 12 States. The 18 State DOTs that have so far approved the use of EdenCrete® products are:

Alabama, Alaska, Arkansas, California, Colorado, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Vermont, Virginia and West Virginia (see Figure 3).

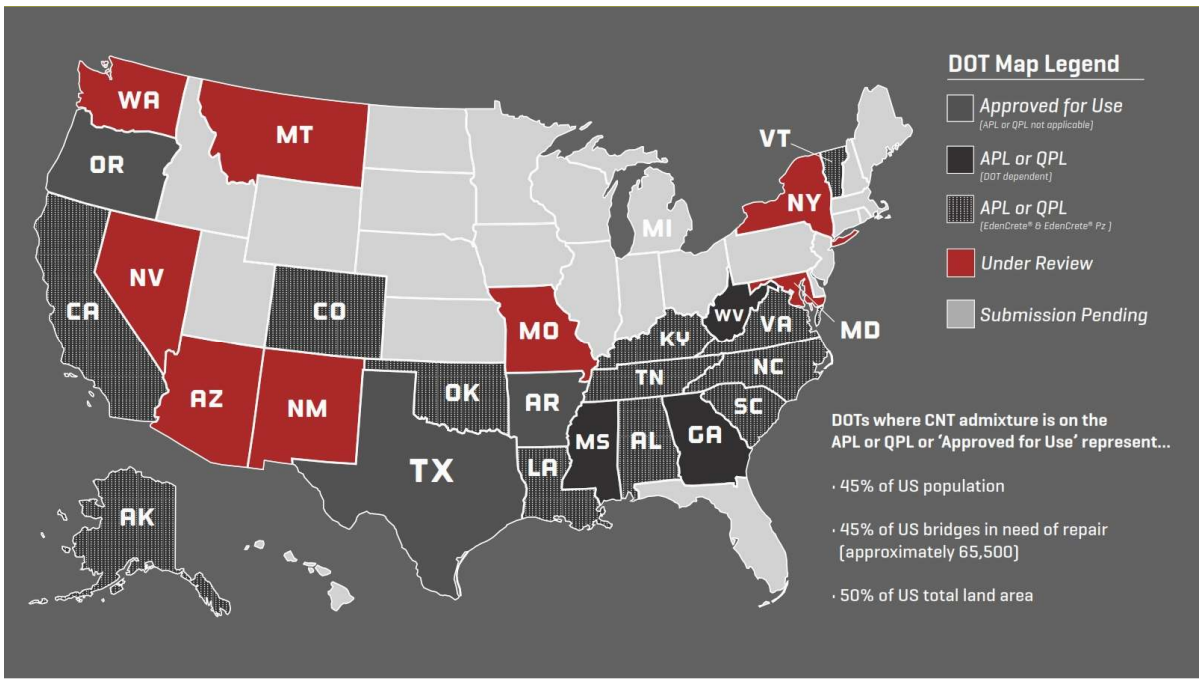


Figure 3. Map of USA showing current position of DOTs Approval

These 18 States represent approximately:

- 45% of the total US population;
- 65,500 bridges that are structurally deficient or functionally obsolete;
- 45% of the total number of such bridges in the USA*; and
- 50% of the total US land area.

* DOT Fact Sheets Highlight Grim State of US Roads and Bridges – 9 July 2015

AUSTRALIA AND NEW ZEALAND

Parchem Distributorship

During the quarter, Parchem Construction Supplies Pty Ltd, the Australian and New Zealand distributor of the EdenCrete® range of products, worked to compile the required data that enabled it to lodge, subsequent to the end of the quarter, the Australian application to import into Australia unrestricted quantities of EdenCrete® products.

Significant commercial interest continues to be shown, which is hoped will rapidly translate into commercial sales once this final approval is obtained, which is anticipated later in 2020.

INDIA

A number of advanced trials with potentially significant customers, of lower cost, stronger concrete, continued during the first part of the quarter, but further work was delayed later in the quarter by COVID-19 lockdown restrictions.

Within a relatively short period after these restrictions are lifted, Eden is hopeful of receiving its maiden Indian EdenCrete® order from a significant construction company that has essentially completed its testing programme.

Background to Indian Concrete market

Indian Fly Ash Supply

In April 2018, the Indian Ministry of Coal estimated that India had approximately 319 Billion tonnes of Geological Resources of coal, of which 280 Billion tonnes are classified as non-coking coal, including approximately 129 Billion tonnes of non-coking coal that are classified as "Proved/ Measured". 1. Indian non-coking coal is mainly used in coal fired thermal power stations to generate electricity, fertiliser plants, cement furnaces and brick kilns.

Much of this non-coking coal contains high levels of silica, that when burnt produces a significant percentage (by weight) of fly ash. To minimise air pollution, the fly ash is largely captured in the smoke stacks of the furnaces, generating very large quantities of fly ash that is sold at very low prices or in some cases given away free of charge.

In consequence, it is hoped that the addition of EdenCrete® products to concrete mixes may enable the percentage of the low cost fly ash to be increased, thereby potentially strengthening the concrete as well as perhaps reducing its cost whilst also reducing its Greenhouse Gas footprint due to the fly ash itself being a waste by-product.

Indian Concrete Market

In India, a rapidly developing nation with a population of nearly 1.3 billion people, the concrete market for all industrial, commercial and infrastructure applications, whilst already being large by global standards, is growing rapidly.

India is the second largest cement manufacturer in the world. To put this in context, in 2017, India's annual cement consumption reached 270 Million tonnes. As commercial concrete mixes often contains up to or more than 20-30% (by weight) of cement, this is estimated to have resulted in the annual consumption of between approximately 800 Million tonnes – 1.3 Billion tonnes of concrete, or approximately 347 Million cubic metres - 565 Million cubic metres of concrete. Coupled with the election commitment in May 2019 to allocate US$1.2 trillion towards infrastructure by re-elected Prime Minister Modi, India is a very high priority target for EdenCrete® for infrastructure and construction projects.

Relevantly, during the past four years, the Indian Federal Minister for Transport and Roads (and who was re-appointed to the same portfolio after the recent election), is reported to have pushed the increase in the rate at which new Federal highways and roads were built (including a significant amount built using concrete), from two kilometres per day to thirty kilometres per day, and he has recently indicated he would like to again double that rate to sixty kilometres per day during the next four years.

Many of the concrete mixes that have been trialled in India with EdenCrete® to date delivered reasonable improvements in performance, opening the way for EdenCrete® products to potentially deliver cheaper, better concrete that has significantly lower

Greenhouse Gas footprint. If these early positive outcomes can be delivered on a broader scale, India is considered likely to become a major market for EdenCrete® products.

1. *https://coal.nic.in/content/coal-reserves*
2. *https://www.statista.com/statistics/269322/cement-consumption-in-india-since-2004/*

SOUTH KOREA

Early in the quarter, a number of advanced trials of lower cost, stronger concrete continued, but were stopped later in the quarter by COVID-19 lockdown restrictions. Since the end of the quarter, these trials have now resumed.

EUROPE

Advanced trials continued in Europe with a major construction company continued, until they were delayed due to lockdown restrictions.

MIDDLE EAST

Initial trials commenced early in the quarter with a diversified Middle Eastern construction group, delivering encouraging results, but any follow-up testing will be delayed due to lockdown restrictions.

OPTIBLEND®

During the quarter Eden recorded the following OptiBlend® sales:

Optiblend® Sales for the Quarter

	SALES (A$000s)
USA	205
INDIA	7
TOTAL	212

The total sales were 87% higher than in the corresponding quarter in 2019.

EDENPLAST® RESEARCH PROJECT

During the quarter preliminary discussions with two overseas companies commenced related to possible collaboration for commercialising EdenPlast®.

INTELLECTUAL PROPERTY

US Patents Allowed for EdenCrete® and EdenPlast®

During the quarter, the US Paten Office issued or allowed the following US patent applications (lodged in 2017):

- US patent application no. 15/597,198 has been allowed and includes 24 claims directed to the production of the EdenCrete® family of products; and
- US Patent No. 10,472,240 has issued and includes 16 claims directed to the production of the EdenPlast® family of products.

In addition, corresponding patent applications have been lodged in the US that include claims directed to the composition of the EdenCrete® and EdenPlast® family of products. Corresponding patent applications have also been lodged in five other countries pursuant to the Patent Convention Treaty.

These two US patents are both broad in their scope, covering in each case the use of a wide variety of carbon nanoparticles in the manufacture of concrete and plastic products including carbon nanotube particles, carbon nanofibre particles, graphene particles, graphite particles, carbon black, polycrystalline carbon particles, nano-diamonds and fullerene particles.

The two US patents are intended to provide significant protection in the USA for the considerable intellectual property that Eden has developed over the past 10 years in relation to the EdenCrete® and EdenPlast® family of products.

Eden now holds ten US patents protecting its technologies in different areas, along with corresponding patents in a number of other countries. Eden also holds three other current US patent applications that are still being considered.

HYDROGEN

Eden received an enquiry from a firm that was interested in exploring a large scale, "green" hydrogen production capability for a European application. Eden reviewed the concept and submitted a proposal, but in the end the firm elected to pursue an alternative proposal from a large European group.

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), including 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 in 2018 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.

COVID-19

Eden continues to produce, sell and ship product to our customers. We have taken steps at our facility in Littleton, CO to ensure the protection of our most critical asset, our employees, while continuing our business processes. We have;

- created shifts to reduce the total number of people on site at any given time (social distancing);
- developed guidelines for cleaning of public spaces in the office prior to each shift and guidelines for cleaning of personal office space prior to each shift (surface cleaning); and
- developed guidelines for accomplishing work from home (social distancing).

The City of Denver has announced a "Stay at Home" order for the city and county of Denver. This has no impact for our employees. The City of Denver's Department of Public Health confirmed the requirements to be identified as an essential business.

Our sales specialists continue to make sales and engage both existing and new customers, and they are accomplishing face-to-face meetings when they are able (with proper distance between personnel), while also using our information technology infrastructure to have virtual meetings.

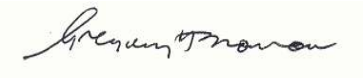
CORPORATE

Secured loan of US $1.85 million completed

During the quarter, to fund ongoing working capital, Eden secured US$1.85 million in debt financing by way of a 2-year, interest only loan (the "Loan") from a publicly listed US real estate financing institution, which is secured against Eden's two freehold properties in Colorado, U.S. (owned by Eden's 100% owned U.S. subsidiary Eden Innovations LLC ("Eden US").

Since the end of the quarter:

- Eden US has re-financed this secured debt and raised more than a further US$1.046m for working capital; and
- Eden US also received a US Government backed loan of US$634,000, under the US Government's COVID-19 stimulus package, which is likely to become a grant and not be repayable provided certain conditions related to continued employment are met
- Directors' fees and management fees are to be reduced by 25% for each of the next three months.
- Other options for raising additional capital are also being explored.



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.