

## AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT

8 September 2011

### Nano-carbon / Hydrogen Pyrolysis Project Progress Report

#### HIGHLIGHTS

- **First Carbon Nanotubes Production from Commercial Scale Reactor (see Figure1)**
- **Carbon Impregnated Concrete Mixture Testing commencing by both Industry and Academic Research Groups**
- **Testing of Tyre Rubber Compound containing nano-carbon materials nearing completion.**



*Figure 1-First Carbon Nanotubes Produced in New Commercial Scale Reactor*

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Eden Energy Limited (ASX: "EDE") through its wholly-owned US, Colorado-based subsidiary, Hythane Company LLC, at its specially developed production laboratory in Denver has commenced production of carbon nanotubes (see figures 1) in the smaller of its first two newly fabricated commercial scale reactors (see Figure 2).



*Figure 2 The Two Recently Fabricated Commercial Scale Reactors*

For the first trial, only a very limited quantity of catalyst was used in the recently scaled up unit, and good performance and highly encouraging production levels were achieved. The scale of production will now be increased to determine the maximum production capacity of the unit.

The second, larger reactor is also being readied for similar trials, to determine what is the most efficient sized unit for future commercial production. The carbon production occurs in a self-contained clean production room

The units are modular and several reactors will be integrated to produce large-scale future production models. The present units are anticipated together to be capable of producing up to 100 tonnes of carbon nanofibres and 33 tonnes of hydrogen per year. The actual production capability of each unit will be determined in trials over the next two-three months. These trials produce carbon that can be stockpiled, used for research or sold.

This success follows major breakthroughs during 2011 in the time and costs associated with the production processes and catalyst manufacturing used in the manufacture from natural gas of both hydrogen and super-strong, super-light, and highly conductive nano-carbon products which have widescale emerging applications across many industrial and manufacturing sectors for a wide range of uses.

## Carbon Loaded Concrete Research

Two world leading concrete research groups, one a research arm of a major international concrete manufacturer that operates in many countries, and the other, a leading Australian university that has an engineering research division that specialises in enhanced concrete mixtures and has already been working with carbon loaded concrete mixtures, have received samples of Eden's carbon nanotubes and fibres and will commence testing these in the immediate future in various concrete mixtures. This test work is likely to take two-three months, and is hoped to open up a very large global market for Eden's carbon nano-products.

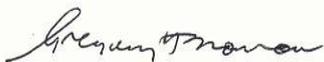
## Carbon Loaded Rubber Research

A US laboratory, which serves the tyre industry, is presently completing a series of process, physical, dynamic, and application-specific tests with various loading levels of nano-carbon materials in a representative tyre rubber compound. Seven sample batches were mixed and cured for a range of tests including viscosity, hardness, tensile strength, elongation strength, and abrasion and tear resistance. Final data and reporting is now expected later in September 2011.

The advantages of using the carbon nanotubes or carbon nanofibres in place of the carbon black that presently constitutes approximately one third of the mass of a rubber tyre, are that the new carbon nano-products are much stronger and far more efficient conductors of heat than the existing form of carbon that is used, which should keep the tyres significantly cooler, produce longer life and be far lighter than existing tyres, again potentially opening up another very large global market for Eden's carbon nano-products.

## Conclusion

This project is progressing extremely well and Eden remains confident that suitable commercial applications will emerge for the potentially very large quantities of carbon nano-materials that Eden is now capable of producing, thereby opening up the very exciting opportunity to sell both the carbon and also the hydrogen (for Hythane® and other applications).



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