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Attention ASX Company Announcement
Platform

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Interview with Chairman, Pearl Global Pty Ltd

In this interview, Gary Foster (Chairman) of Tyre Recycling Company Pearl Global Pty Ltd, "**Pearl**" or the "**Company**" provides an overview of the recently announced Heads of Agreement with Citation Resources Limited ("**CTR**") (ASX:CTR).

Record of interview:

Q: Lots of investors are asking what is the real extent of waste tyres in Australia and around the world?

There have been numerous reports commissioned in almost every country in the world. The Australian Department of Environment advises 48 million tyres reached end-of-life in 2009-10 period, up from 41 million in 2007-08. So we know there is a compounding problem. The truly scary piece of this puzzle is that according to the Hyder Consulting Report of 2012, commissioned by the Australian Government, only 16% of end-of-life tyres in Australia are classified as recycled. Of the remaining tyres, it is stated that 66% (or 29.76 million) of used tyres were classified in the report as either sent to landfill, stockpiled, illegally dumped or "final destination unknown". This is especially concerning given the substantial costs associated with cleaning up contaminated sites.

The World Business Council for sustainable development estimate that in excess of 1 billion tyres reach end-of-life each year. This number does not consider existing tyre dumps. It does not consider mining tyres. Our view is there is another 1 billion+ in stockpiles unaccounted for. If we assume 2 billion tyres, we are talking of 20 billion kilograms of waste tyres. Then of course we can add mining tyres and discarded conveyor belt rubbers.

Q: Describe the Pearl process and why it's so unique?

The Pearl process is, in essence, an enclosed oven (oxygen free) designed to process rubber in such a way that we can reclaim the valuable products that made up rubber in the first place. For example, to make a tyre, much like a cake, you need ingredients. For a tyre you need fuels, carbon black, steel, and nylon. Mix all these together and press them under heat and pressure and you have a tyre.

Our process, reverse engineers the composition of that tyre and we “take off” (extract) the fuels, carbons and steel separately, so we are left with three products of value. We can increase the value of these products by further refining as we see fit, and thereby having the ability to address various markets. So far, none of the above is “unique”- there are many pyrolysis plants, notably throughout Asia that can get fuel out of a tyre by burning it. However, many have been shut down by respective Governments due to their excessive and potentially toxic emissions released to the atmosphere during processing.

Our “unique” piece lies in three key areas that we have addressed over the last 6 years of development.

1. Regulatory – Emissions: our process is designed to operate with near zero emissions due to our patented ability to control the time, temperature and turbulence of the rubber treated within our plants. If any of these three parameters are out of sequence or out of time, the catalytic reaction will vary will lead to the creation of exotic gases (poisons), which in turn leads to the degradation of the by-products recovered from the process. During previous testing, our operating formula has been developed to ensure our product quality is consistent and the excess gases have similar characteristics to CNG, and is therefore usable as a power source.
2. Economics – our plants are built to be operated within 40 foot sea containers so machines are fully transportable, relatively cheap to build and designed to take shredded rubber with steel, nylon and rubber as one. This provides a very cheap feedstock, as we are talking about a discarded waste stream. It also allows us to optimise the efficiency of our process by using, what we consider to be minimal power, which by the way we self-generate as required, no need to plug into the power grid. I shall expand more on this later.
3. Environment – we are very environmentally focussed as a Company. As stated above, the statistics show that in Australia alone, there are tens of millions of used tyres that are not recycled every year. This creates an opportunity for Pearl Global to bring about significant change to the management of end-of-life tyres on a global scale. However, being realistic, if the economics don’t stack up, being “green” unfortunately counts for very little. We believe we have found the balance between environment and economics, making as a truly ‘sustainable’ industry leader in our field.

Q: Have you got commercial plants up and running?

To date, we have built 9 plants. Plants 8 and 9 are our final commercial versions. We have a Works Approval from the Department of Environment Regulation of Western Australia. As per the approval limits, our plants have undergone rigorous factory testing with associated engineering sign off on reaching the operating parameters of processing 1 Ton per hour of shredded tyres. These tests have been repeated and continuous within commissioning guidelines to satiate licensing requirements to be ready for continuous, commercial production.

Q: How can investors get comfort that the technology works given how significant a solution (financially, environmentally, regulatory) it is to such a major problem?

Firstly, from an investors point of view they would see this opportunity as a speculative, risky start up investment, and from the outside looking in that is a fair call. We should be judged as such and hence, we feel the deal struck with CTR compensates investors for the risk profile. From the inside looking out, we have proudly lived, breathed and created this now (in our view) commercial opportunity.

Over the last 6 years, we have been refining our process, making errors, failing, trying again and failing better. We have built multiple units/plants – some too small, some too big to be able to control emissions effectively. The process required us to strike an exact balance of time, temperature and turbulence within the “oven” as a way of achieving near zero emissions.

Over the last few years, we have been and continue to work with the University of Western Australia, Centre for Energy to provide independent verification and testing for our process and fuels. Further, we have received independent analysis on our produced gases and carbon black from Chemcentre (Curtin University). From a process and control perspective, we have been working with Emissions Assessment Pty Ltd, an independent Company with expertise in fugitive emissions in industrial processes and experts in this field of science. All of our results, discussions and operational experience points to the fact that we have been able to successfully achieve what we set out to do which was to breakdown the chemical composition of rubber and hydrocarbons in a controlled environment.

Further, we understand that whilst we do have some emissions, the gases produced in the process can be treated effectively and used as an energy source. Our emissions will be well under the world’s strictest environmental standards.

Further, we have allowed access to a number of parties to view our operations and processes including the Directors of CTR, stockbrokers and analysts. The feedback has been positive from all groups.

Q: How is the technology protected to ensure CTR / Pearl investors can realise the full benefits of this remarkable process?

We do have an Australian patent in place, and we do carry trade secrets. Our strategy is focused on rapid deployment with significant trusted joint venture partners in chosen jurisdictions. Importantly, we are not selling the technology or just wanting to sell boxes. We want to be involved in the operations and therefore maximise returns.



Q: How much energy does it use?

If we are not co-generating our own power by use of our gases we use approximately 20 litres of diesel per hour of operation. Under the co-generation process the plant is initially ignited and heated by an external energy source (such as a diesel generator) followed by power self-generation after optimum heat process is achieved and production is underway. With further testing and regulatory approval, it is envisaged that our operation will be run fully on our own oil and gas produced' making us a totally self-sustaining operation.

Q: How long does it take to set a plant up?

Once a site is ready for operations, the plant is delivered in 2 containers and takes approximately 1 week to set up and operate. Pearl has the ability through its partner manufactures in Australia to produce approximately 200 plants per annum. This number could be increased as demand requires.

Q: How many tyres can each plant treat?

Each plant can process between 150 to 200 light vehicle tyres per hour depending on the size of the shredded tyre material that is used as feedstock.

Q: What comes out the other end?

Tyre Derived Fuel Oil The raw fuel oil is the initial output (eg. typically used for heating oil or bunker fuel) which can then be fractionated at a low cost into high grade solvents, diesels and gasolines in order to maximise economics;

Radial Steel: radial steel discharged as a clean rubber-free product which can be sold to recyclers worldwide and re-used in the manufacturing and steel industries;

Carbon Black: a refined powdered substance that is in high demand worldwide for the tyre, paint, plastic and other general manufacturing industries. Pearl has the ability to treat the carbon black in a secondary process to ensure a higher quality which attracts greater value; and

Clean Gases: a clean gas is produced in the process which can then be used for power generation. For example, a plant can be configured as a power generation unit which is expected to produce between 3-4 MW/hr based on current testing.



Q: Are permits required to use this machine?

Based on the current low emissions of current commercial plant operations, permits may be required in various jurisdictions but these are not expected to be difficult to obtain once an operating track record of one plant is established. Pearl has already obtained independent environmental reviews of the plant's emissions which gives the Company comfort and confidence in the commercial roll out program.

Q: And to finish off, what is the Company's current strategy for local and international expansion?

Pearl is engaged in a number of strategic negotiations with multiple parties as to the roll out of its plants in various jurisdictions. A number of financing options have been presented to Pearl on the basis that Pearl will fund (through a master facility) the capital costs of its plants globally whilst identified strategic partners will invest and deliver on all other establishment costs such as licensing, site, permitting, labour and feedstock. The key basis for this approach is Pearl maintains control of its unique intellectual property whilst at the same time leveraging off significant local expertise in operations and, just as importantly, maximising off take economics.

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