

‘I proved renewable energy, plastic waste to electricity work’

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THERE is no more excuse not moving into clean, renewable energy or inaction to rid mounting plastic trash because the technologies are already there, says Marco Simeoni, founder of Race for Water Foundation.

This is a very good story on how he has demonstrated successes on both fronts.

One, he has already got high temperature pyrolytic technology working to transform plastic trash into electricity without any environmental issue while dramatising to the world renewable energy alone can power a 100-tonne catamaran around the world indefinitely, demonstrating the transition to an age of clean energy is inevitable.



Camille Rollin: French crew and ACT programme manager shows journalists micro plastics collected from Easter Island.

Small wonder.

Out of irresistible interest, local journalists flocked to Race for Water Foundation's 100-tonne, 130ft, all renewable energy-powered catamaran for a familiarisation tour and press conference, Aug 23.

Leading the pack was Malaysian Law Minister Datuk VK Liew, his wife and daughter said to be environmental zealots of their own plus former KK City Mayor Datuk Yeo Boon Hai.

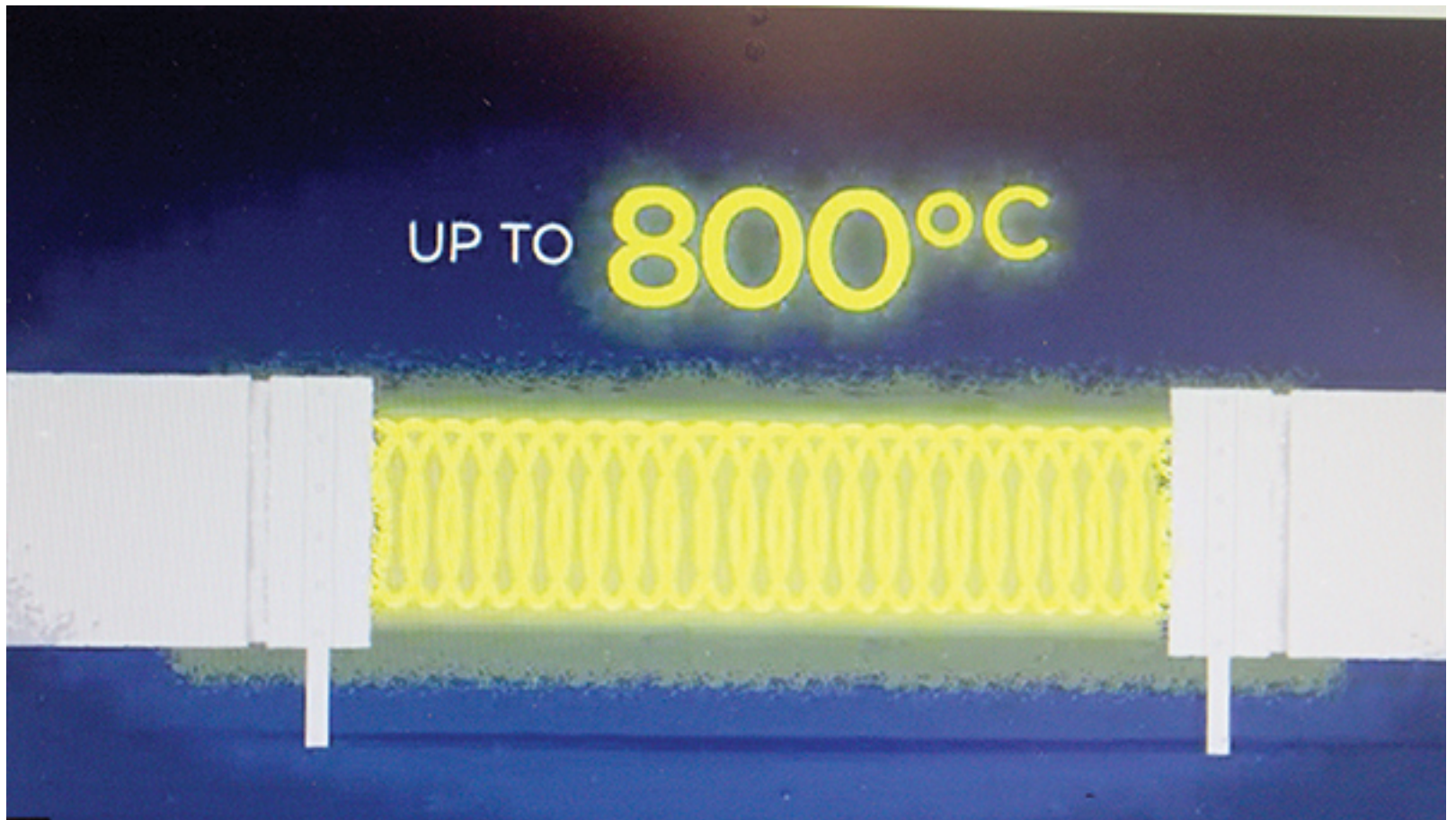
Stunning statement from Marco

During a briefing, Simeoni made one stunning statement which may shock a lot of people.

He said: "Recycling plastics doesn't work and will not work!"

Sheer impossible volume?

"We can recycle 10 to 15pc but we are creating 400 million tonnes of plastics per year!"



High temperature pyrolysis process used to crack hardy bonds of polymer in anaerobic condition.

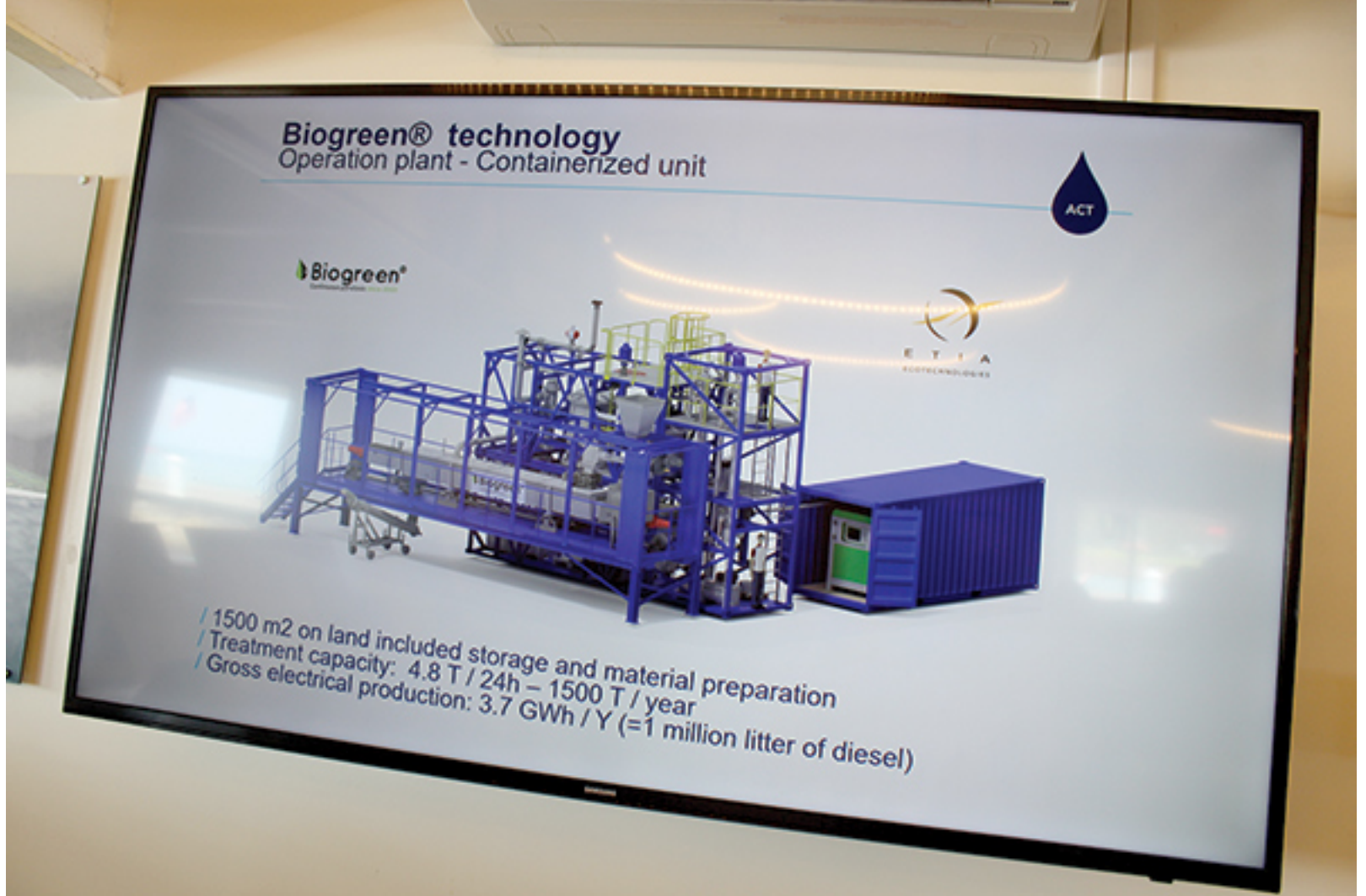
But he hinted that there is something more sinister – additives in plastics.

Everywhere Marco went, he has been highlighting the threat of five massive gyres of carcinogenic and DNA altering whirling soup of micro or nano plastics now found in the guts of 25pc of species fish in the oceans.

“The tech industry are putting a lot of additives. These additives have a lot of pollutants and they are very bad for health so today it doesn’t work and will not work,” he repeated the long held belief that plastic recycling is a laudable action.

“So what do we do? On the one hand, truck loads of plastics are sent in to the water everyday. What do we do? We are cleaning the beaches, we put them into the landfills. Stupid because plastics has a lot of energy inside made from petrol.

That is why we are thinking how we can transform plastics into energy and working more than three years with our partner,” Marco told the Sabah media.



Race for Water's containerised operational plant or reactor used to turn plastic waste to electricity without emission.

The two main goals

He cited his two transcendent goals he has set for his foundation: "The main goal of Race for Water is not only renewable energy technology but also the battle against plastics pollution problem in the ocean and propose a solution.

"I have proved that with our boat, you can combine the three – Sun, wind and hydrogen to make energy and you can have full energy!"



Law Minister Datuk VK Liew and his wife being briefed by Simeoni on the catamaran.

High temperature tech to turn plastic trash to clean energy explained

Great! But first, my big interest is his reportedly tested machine and technology that can transform plastic waste into electricity without any pollution.

As the well-spoken of brilliant entrepreneur was willing to sell his business just to dedicate himself to this transcendental mission, I wasn't going to miss the opportunity to pose a few questions to the best authority standing right in front of me at the Sutera Marina Spice Island Club.

Here is my question: "I heard you are using a very interesting heat action or what they call high temperature pyrolysis process to turn plastics into electricity, is that correct?"



The Race for Water crew.

800 degrees C

“Yes, exactly, but actually it is a bit technical but we have a screw inside the reactor and in the screw we are passing electricity so the screw will become very hot and reach 800 degrees centigrade in the centre of the reactor because electricity is passing the screw and it is heating the screw.

“That is the factor that is becoming very, very hot. And when we have 800 degrees centigrade, we put the plastics in and when the plastics is in the reactor, you break all polymer chains of the molecules and you get syngas as an output.”

DE: So you break all the carbon – carbon bonds?

Marco: Yes, exactly, all the molecules of the polymer we are breaking down.

DE: That sounds interesting. So there are no harmful by-products from this pyrolytic process because the temperature is so high?

Marco: Yes, we are using the electricity that we are producing which we put back to the machine.

“We put 25pc of the electricity back to the reactor so that we can use 75pc of the electricity that we are making and 25pc we are using to keep heating the machine.”

DE: In other words, self-powering?

Marco: “Exactly, self-sufficient.”

No burning, only cracking in super heat

DE: But if you burn plastics, doesn't it produce a highly toxic chemical compound called dioxin?

Marco: “We are not burning, we have no oxygen inside our reactor, no oxygen, no burning. We are cracking the molecules of the polymer, we are cracking, no oxygen, we are not making carbon dioxide, we are not doing burning like in an incinerator. That is the very key. So we don't use the word burn... cracking the molecules without oxygen.”

DE: This is a very interesting process.

Marco: Yes, it is the pyrolysis process – changing the matter without burning it.

Zero harmful emission

DE: So, there are no harmful by-products?

Marco: No, I don't have harmful dioxin.

DE: So it is clean energy?

Marco: It's clean, but what is not clean are the additive pollutants in the plastics. That's why I need a filter after the reactor to filter out the syngas because the syngas has the pollutants that the manufacturers have put into the plastics. So we have two carbon filters to catch the pollutants that we have in the plastics. The oceans give food for more than 50pc of the world population. Today we have already 25pc of the species of fish already have plastics in their stomach.

Marco said since plastics waste carry chemical additives that are very bad for health, this

harmless emission-free pyrolysis process to transform them into useful electricity is the safe way to dispose the waste.

Until the plastics industry can change their ways to build more sustainable plastics which will take at least 10 to 15 years, Marco says recycling plastics doesn't work.



Part of the 512sq metres of solar panels which produce 67pc of electricity.

Leading edge technology gives plastic waste the value & incentives

As it is, toxic plastic pollution is everywhere. Every year, some 25 million of tonnes of it enter the oceans via mainly waterways at an accelerating pace, leading to toxic contamination of the oceans and the food chain as said earlier.

From their first five-year global odyssey, they discovered the so called plastic islands in the oceans don't exist but has instead been decomposed by ultraviolet rays into giant soups of micro or nano plastics 99pc of which has sunken to the subsurface which makes oceanic collection impossible.

Marco and team concluded that land-based solutions are the key to fight against this issue.

Hence, Race for Water has crystallised their goal to implement a new social and economic model of incentivising collection by giving plastic waste a value.

Turning plastic waste to electricity the best bet

Since recycling doesn't work and will not work, turning plastic waste into electricity is the best bet because electricity is universally highly valued.

Marco believes that the flow of plastic waste into water can be stopped by working with local organisations on incentivising collection programmes.

Local communities which are directly implicated and sensitised will get the benefits from the value of job creation.

“The vision is we have to give money to the people to collect plastics so that they will do it. By paying them to transform this plastics waste to energy, we can clean up the city, we can clean up the land and make a lot of electricity,” Marco said.

But giving waste a value takes a leading edge technology like his high temperature pyrolysis which can decompose most plastic litter including the unrecyclable ones and turn them into syngas.

As Marco has explained, the syngas is then cleaned from all its contaminants in order to grant an environmentally friendly electricity production of up to two MWH per tonne, which can finally be sold to the grid or any private electricity consumer.



Flock of local journalists on board to listen to a briefing by Simeoni.

Taking into account the entire perspective of sustainable development

Race for Water's zero greenhouse gas emission manner of electricity production from plastic waste is a very important point because it takes into account the entire perspective of UN's declared set of 17 Sustainable Development Goals which include climate action.

The compact modular system is containerised and therefore can be installed with ease where it is needed and works.

Easter Island, 3000km from any closest continent but full of plastic waste, has signed up for it.

The test in this plastic waste issue is whether the action create positive triple wins in terms of economic, social and environmental outcomes simultaneously.

'I proved that renewable energy can do it': Marco

But the Marco's 100 tonne 130ft long catamaran is his dramatic demonstration to the world

that it's time to say goodbye to dirt energy and welcome in clean renewable energy – his first main objective.

DE: Eventually we have to say goodbye to dirty energy as you are demonstrating with this boat, correct and that we are in a transition to renewable energy, no question about it, correct?

Marco: Yes, correct. Renewable energy is a key, and we are proving with the boat that we are like an island because on an island, you have water, you have wind, you have the sun, you combine those tree, you can have full energy. I proved that with the boat.

Okay, it is not in size because you need a bigger size but with hydrogen and with the wind, you can have the propeller, you call also have a forward kite making energy, electricity with the wind, you have everything and the technologies are there ready, we have no excuse.

Electric cars existed 50 years ago

DE: No excuse not to go into renewable energy?

Marco: Exactly. The technology is there, why we don't go so fast? Because of the lobby, big lobby, because changing the world when you make a lot of money with what you are doing you don't want to change.

DE: You mentioned the word proof You are proving to the world it can be done. This is a very important point?

Marco: Electric cars existed since 50 years ago. We are just not moving to electric cars, Why? Because the industry don't want to change. We knew how to make electric cars 50 years ago but only now we are switching to that.

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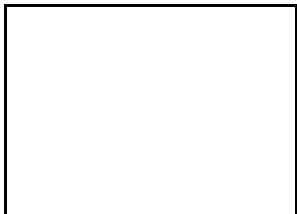


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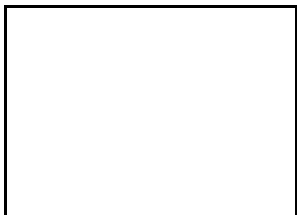
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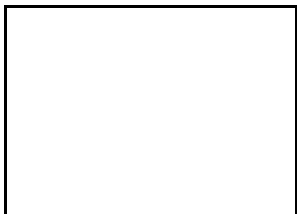
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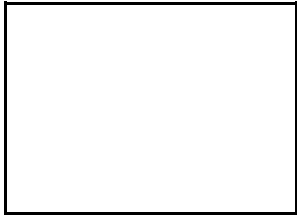
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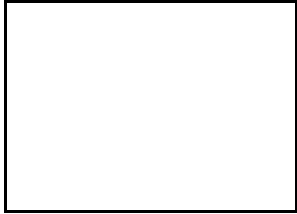
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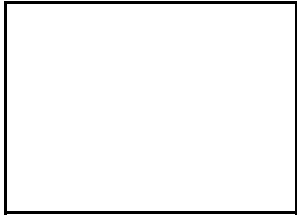
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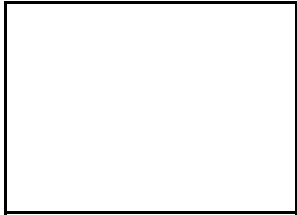
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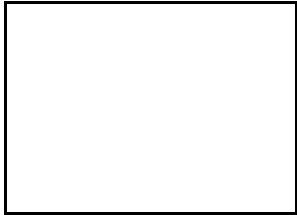
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