



CLEAN UP BARGE

TO PROVIDE A SERVICE TO AUSTRALIA'S NORTH TO TURN TRASH INTO BUILDING PRODUCTS

Outline:

Australia has a major issue with trash. Our top end and the northern islands of the Great Barrier Reef are covered in it. Whilst it may not be our trash, we are stuck with it and have to do something to protect our wildlife. Currently minor projects burn it as it is too expensive to return to land for proper disposal.

Imagine a mothership that can turn plastic trash into building products. Imagine turning rubbish ridden rivers, beaches and creeks back into healthy waterways, whilst housing people in remote communities. Imagine small isolated communities being able to store debris over a year and then turn that debris into building products, rather than burning it. We have the technology, all we need is the funding to make this happen.

THE CONCEPT

The concept is simple, collect debris and transform it into useful products that remote communities can use for housing. We need one large mothership with a dumb barge/processing plant being towed behind.

The vessel would turn up to a selected location and help the locals clean. All debris would come back to the mothership for processing. Plastic products will be melted down and extruded into building products and returned to the locals free of charge. We will create simple building blocks and planks that can be formed together, that way they can build houses or retaining walls.

Ongoing costs for the program will be supported by government, grants, crowd funding, corporate sponsorships, the sale of additional products (metal, polystyrene, aluminium and glass. Fuel will be provided through recovered tyres through the same technology used by Pearl Global (www.PearlGlobal.com.au)

As we will be using a landing craft, there is also the ability to supply goods to these remote locations at the same time we visit, hence saving shipping costs of essential items. We can ship in essential aid and supplies, produce water through water makers and provide medical services, the options are endless.

The concept of having a section of the vessel dedicated as a medical treatment base, allows us to take doctors to remote villages to offer check-ups and treatment to people who simply wouldn't have access to this normally.

THE VESSELS

A landing barge capable of travelling all over Australia with plenty of accommodation for live-a-board crew and volunteers / adventure holiday makers.

A landing barge is the ideal vessel as it can land on any beach anywhere. It can carry vehicles and people whilst allowing easy access when ashore. The deck space is large to allow installation of sorting stations. The vessel shown on the



right is a 54m vessel currently for sale out of Darwin, Australia. It sleeps 20 people and has the layout similar to what we would like for this project. It is currently priced at USD\$1.65 million however has been on the market for over 3 years.

<https://www.commercialboats.com.au/all-vessels/33-lct/1434-54-mtr-landing-craft>



A fleet of smaller waterway cleaning vessels will also be stored onboard to scout around and pick up debris from the water. Most of these will be custom built debris cleaners, whilst others will carry personnel to the hotspots. All debris is then returned to the mothership for processing. On the left is our 7m landing craft fitted with the world's first onboard vacuum system to remove debris from river banks. We also have the option to install a conveyor system to the bow door for removing large quantities of debris from the water.

The inclusion of a second vessel (dumb barge) to act as the processing base will handle metal, aluminium, glass and other debris unsuitable for re-processing. This gives you the ability to remove all rubbish from a location, not just plastic. The dumb barge would tie up to the back of the double ended landing barge, meaning it extends the size of the work platform.



The dumb barge would hold the plastic melting plant, extrusion moulding center, a tyre processing plant that can melt tyres down and return them to diesel products to use in our vessels, plastic shredders, foam densifiers and metal crushers, along with storage containers for recyclable materials we will later ship to recycling plants.

The ability to separate the vessels, also means that you can move the processing plants away from the mothership to avoid noise or safety issues. The added bonus being two separate vessels making for smaller mothership length, hence qualifications can be of a lower grade than if it was one big mothership.

THE TECHNOLOGY

The biggest issue in plastic recycling is separating the plastic into different types and then cleaning it before it is used. This process assigns most plastics to land fill as it is easier and cheaper.

We have the technology to take co-mingled plastics, with up to 10% contaminants, and melt them down and create products through extrusion moulding. Simple products like building blocks and beams is all we need to produce on the vessels, so we can enrich the lives of people in third world countries.

The technology can be seen at <http://newtecpoly.com/polywaste/> We have been working with Newtec Poly with debris from our clean ups going to them for re-purposing. The purchase of the machine is US\$4,500,000 plus extrusion moulding processes.

The concept sees the rubbish come onboard where it is sorted into hard plastics, soft plastics and other material. Hard plastics would then be run through a shredder to compact the load. Soft plastics would be bailed, again to compact the load. Non plastic materials would go straight through to the dumb barge where they would be crushed and compacted ready for shipping to recycling facilities either locally or overseas.

Once a load is ready, we would run a melting program to melt the plastics down and extrude them into building blocks and beams. An example is shown here of 10kg of plastic and on the right a carpark bump stop that was created from similar plastic.



We will also have a foam densifier onboard to compact polystyrene as you can compress foam approximately 50:1 through these technologies and form a product that can be sold. The addition of tyre melting plants to transform tyres into diesel adds to the items we can remove, whilst also providing diesel for our operations. Glass crushers and metal compactors will maximize time between needing to ship items to recycling facilities. All items would be compacted into a size that can be fitted into shipping containers and sold to help pay for costs of the program.

We need to be able to process every type of rubbish and so the final item would be a furnace where we can turn any other item into energy, similar to the way Sweden does with its debris furnace plants.

FUNDING

Finding the funding to launch the first vessel will be our biggest challenge. We have proved the concept when we cleaned up the Yarra River in May 2018. We cleaned up the banks (5.2 tonne in 5 days with 4 people on a boat) and transformed the rubbish into products that have since been sold. That funding has now gone back into the next project. However we intend to be able to offer these products back to third world countries free of charge.

The capital outlay is projected to be in the vicinity of \$7.5 million. This will purchase the landing craft, dumb barge and all equipment required for processing of debris.

SUMMARY

We have the technology to turn the debris in our oceans and on the land into useful products rather than going to landfill where it can possibly end up back in the ocean. 50% of plastic bags in the ocean come from land fill.

By basing this technology on a vessel that can go from place to place, not only can we take the technology to the world, we can make a difference whilst we do it.

This is a massive undertaking and will require a lot of work from a lot of people and more importantly it will require a lot of funding, both up front and ongoing. However if we manage to clean Australia, then we can take this to our neighbors to prevent the debris coming south.

Kind regards

A handwritten signature in black ink, appearing to read 'Ian Thomson', with a long horizontal stroke extending to the right.

Ian Thomson
Founder/Director