

LESSONS IN ENTREPRENEURSHIP

From trash to cash

Stuart Read and Robert Wiltbank look at a recycling business that works with clients of all sizes

Good ideas for new companies can come from anywhere: from a frustrated customer, a breakthrough invention or, as Kevin DeWhitt would tell you, from the trash. In 2004, he and his wife founded Plas2Fuel Corporation with the idea of taking plastic waste and turning it into crude oil. From a chemical engineering perspective, it makes perfect sense. Plastic is made from petroleum products — why not reverse the process when you're done with the plastic? Simple enough, in theory. In practice, the science turned out to be difficult, the logistic issues many, and the real challenge proved to be turning the idea into a business.

START WITH A SPARK

The new venture cycle can be tricky to ignite. You need a first-class team. You need customers to generate revenues. You need a product to attract customers. And of course you need cash to build a product.

The team's solution was to combine angel investment with a strategic customer willing to assist in the development and deployment of a fully operational prototype. By partnering with its customer, Plas2Fuel was able to construct a complete working system that could be shown to potential customers, provide real-time environmental data to regulators and optimise the system for full commercial deployment. Perhaps most important is that both entities are committed to the success of creating an entirely new approach to the problem of waste plastic.



The innovation is in having a system that is both versatile and scalable



Above: Kevin DeWhitt works with a series of customers to recycle plastic bottles into crude oil

TAPPING THE WELL

Today, Plas2Fuel's initial client can convert several thousands of pounds of mixed waste plastic into hundreds of gallons of sweet synthetic crude oil each day. While this is exciting, it is utterly dwarfed by the fact that 26 million tons of plastic are sent to landfills annually in the US, and more than three times that amount is disposed of in Europe and China. Having proven the concept, Plas2Fuel now has to figure out how to scale the business up to be able to handle this enormous quantity of fuel.

WHERE'S THE POWER?

What the Plas2Fuel team has learned is that, as remarkable as reversing plastic back into crude oil is, the innovation is in having a system that is both

versatile and scalable enough to give clients of any size the power to convert previously unrecyclable plastic into a valuable commodity.

By having the option of running many small distributed systems, a small city or recycler, or even a large town, can afford to get into the business of producing crude oil locally instead of transporting plastic trash to a large central facility or digging more landfills. At the same time, the design can scale to meet the demands of huge waste generators, aggregators and large cities with massive "waste streams" wanting to get into the business of converting refuse into money by running many of the prototype systems in parallel. Necessity of design has given Plas2Fuel flexibility in how it sells and how it deploys.

RECYCLED IDEAS

Starting with the trash might not seem to be the most intuitive basis for a new venture, but with the potential to process mixed waste plastic into nearly 250 million barrels of crude oil annually in the US alone, the opportunity could be worth more than \$25bn.

Before you scoff, consider that eBay has created a market more than twice that size for people's unwanted household items (translation: trash) in just over ten years. So, if you are looking for a business idea, one of the assets you have might just be another man's trash. ●

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