

Starting strong in Greater Dandenong

Biofuel Innovations

STARTING UP FOR SUSTAINABILITY

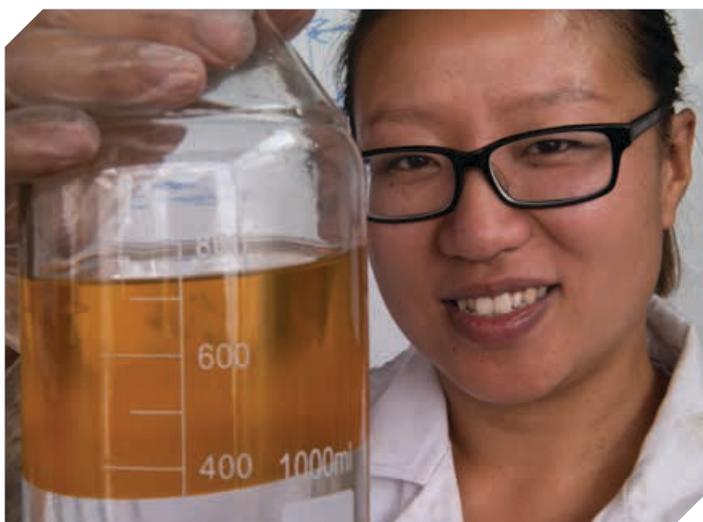
Dr Rebecca Yee and Dale Barnett have used a combination of education, enthusiasm and eco-consciousness to turn cooking waste into biodiesel and created their business *Biofuel Innovations*.

From brewing beer to brewing biodiesel

After studying chemical engineering at university with Rebecca, Dale worked for some big corporations. He found them to be risk averse and resistant to new technology. In his spare time, and in between driving long distances, he brewed his own beer.

“In 2014 I thought, ‘Why don’t I brew my own diesel using my beer brewing equipment?’ he said.

“Then I figured that if I was going to make 50 litres, I may as well make 5,000 litres and make it into a business.”



Meanwhile, Rebecca completed her PHD in converting wastewater into electricity. She identified a gap between the “amazing research” available and actually implementing it on a real-scale commercial application. She joined Dale in 2015 after completing her studies to grow *Biofuel Innovations* into a formal business.

Building awareness of the business

In 2016 the organisation received a City of Greater Dandenong Small Business Grant, assisting it to move to a new site in Dandenong and purchase new equipment. Rebecca and Dale also received business mentoring, which assisted with marketing and logistics.

“The last 12 months have seen a serious push with a business plan developed, as well as putting our custom-made equipment together,” said Rebecca. “Our new facility is located close to both our suppliers and customers including transport companies.”

Our market research shows a huge demand for companies using diesel so we definitely have a market for our product.

The Victorian Government selected *Biofuel Innovations* for its Faces of Small Businesses exhibition in 2016, featured in publications such as *Dandenong Leader* and *Biofuel Industry Reports*.

This media exposure has led to international work, with Rebecca and Dale currently consulting for a biodiesel plant in New Zealand.

The reason we're developing a new technology is the traditional biodiesel process is waste intensive – we're designing the system to have zero or minimal waste.

Rebecca Yee, Co-Founder and Head of Business & Research Development △

Fuelling growth

Rebecca and Dale are currently focussing on completing their pilot plant and refining their technology. Biofuel Innovations processes around 100 tonnes of waste per month into 100 tonnes of fuel, which is small on a commercial scale, according to Rebecca.

“Once we've optimised the technology on that scale, we plan to develop it as a drop-in solution for other waste resources and build a commercial-scale facility 10 to 20 times bigger at another location. We're looking at increasing the yield, and making the process more efficient and automated so you can literally run it with the press of a button.”

Biofuel Innovations is working with Monash and Melbourne universities on student research projects to develop new formulations. ▷

“It does take a lot of energy for us to employ interns but we get useful drawings and details that we wouldn't have time to do ourselves.”

www.biofuelinnovations.com.au

Factory

5A/11 England Street, Dandenong South

Start-up lessons from Biofuel Innovations

Challenges

- ✗ Raising capital was challenging because Biofuel Innovations' work is capital intensive – purchasing equipment is required as compared with a business in the digital space
- ✗ Technical impediments of being in the research space and spending time on projects that don't work
- ✗ As a non-traditional business, obtaining a Council permit for 'use of space' was more challenging

Achievements

- » Obtaining the City of Greater Dandenong grant, which “kicked us off into a proper business”
- » Moving into a factory space, putting in the equipment, turning it on and seeing it all work
- » University projects have been successful with good learning opportunities for students and the universities being grateful to make that industry connection

Top three start-up tips

1. Everything will take longer and cost more than you expect, and every time you think something is finished, it's actually not!
2. Ask for help when you need it, such as for accounting and legal advice – you may be able to access some free meetings. Starting on the right path can save you a lot of time and money.
3. Use mentor relationships, developed through your own networks, who can provide guidance on what you should be doing from their own start-up business expertise.

