



The start-up scene is packed with flashy funding announcements, but what really goes on behind the glitz and glamour? In this series, The Straits

Times sits down with founders to learn how they developed their ideas, and what it takes to ride the roller coaster of entrepreneurship.

# Climate tech firm turns food waste into reusable containers

Timothy Goh

Her idea for a start-up was called garbage.

But it did not stop Ms Karen Cheah from embarking on a mission to tackle the world's escalating plastic waste and food waste problems at the same time – the company she founded uses food waste to make reusable food containers.

She had a brainwave to reinvent food waste in 2018 while she was studying part-time for a master's degree in science at the Singapore Management University. As part of an assignment, she was tasked with developing a "hypothetical start-up".

"The question posed was whether I could launch a hypothetical start-up where I could solve a global problem with no financial constraints," she said.

During that time, Ms Cheah, who is in her 40s, was travelling extensively for her work as a full-time app developer for a multinational company.

"During my travels, whether it was to First World or Third World countries, I saw whole communities choking under the weight of garbage, and that garbage was inevitably made up of plastics and food waste," she said.

"That was my epiphany... It's not so much about reducing food waste, but about how we can use items normally branded as garbage to curb the plastic problem."

When she asked experts at the Digital Life Design Conference in Europe in 2019 whether a new material could be created out of garbage, they said it was a garbage idea because it was "not possible".

That year, she quit her job and forked out more than \$60,000 from her savings to establish AlterPacks, a climate tech start-up creating reusable, compostable food containers and utensils made entirely from plant fibres. She has

since poured more than \$260,000 into the company.

For eight months, she experimented in a spare room in her mother's house with materials collected from food processing plants in Tuas, including soya pulp, before finally settling on a mix of rice husks, wheat and spent grains – all by-products from food manufacturing that normally go to waste.

AlterPacks' waterproof food containers have a texture similar to cardboard, and are designed to be freezer-friendly and microwave-safe.

They can also withstand temperatures from minus 18 deg C to 260 deg C without compromising their structural integrity.

After they are used for hot food and washed several times, they turn softer and users can choose to compost them.

The company, which manufactures all of its products in China, is also working on containers that can withstand open flames or steaming, which are expected to be launched in 2025.

Since scoring its first deal in 2022, AlterPacks has 10 clients in Singapore, including restaurant operator Crystal Jade, Chillii Api Catering, lifestyle conglomerate Como Group and DBS Foundation.

It also has distribution networks in Australia, Thailand and Japan, and has plans to expand to Europe and Britain, where there are strict laws banning the use of single-use plastics.

There is currently no law banning single-use plastics in Singapore, but measures are in place to encourage consumers to reduce their usage. These include a government-mandated minimum five cents charge for every disposable plastic bag at major supermarkets.

Ms Cheah said that many businesses and consumers here are willing to make the switch to alternative materials from plastic "regardless of regulatory pressures", but there are some who "will do so



AlterPacks founder and chief executive Karen Cheah with the company's waterproof food containers, which have a texture similar to cardboard, and are designed to be freezer-friendly and microwave-safe. ST PHOTO: DESMOND WEE

## CHALLENGING THE STATUS QUO

**I want to be known as the disruptor of a market that has always been so relaxed in accepting the status quo of using plastics. So it's about deciding where I want to land and how I want to get there, and just having that gumption to make that leap of faith.**



**MS KAREN CHEAH**, founder and chief executive of AlterPacks, a climate tech start-up creating reusable, compostable food containers and utensils made entirely from plant fibres.

only if they get a carrot or a stick".

"A potential client once told me, 'Switch for what?' He told me that it was not even about price; it was about how the company was used to its existing operations and supply chains, and didn't want to do the extra work to make the switch," she added.

AlterPacks' food containers, which include boxes and bowls of different sizes, are on average about 2½ times more expensive than single-use plastic equivalents, which are available on the market from about seven cents each.

Within the next three years, the company will be able to match the prices of plastic containers, Ms Cheah said.

"Price will be a very big mover in the market, but it's also a question about how willing these brands are to combat climate change... There are merchants which want to make a profit from plastic containers by selling them for about 30 cents each, so it's become a profit-making method," she said.

"Our clients have been willing to absorb the price difference, so the final price for their customers actually remains unchanged... Our products are slightly more expensive, but we're also offering func-

tionalties like temperature tolerance and delivery without spillage, so it's just a matter of taking that step to make a difference."

Looking ahead, the hands-on chief executive said AlterPacks plans to expand its current headcount of five to seven by 2026.

The firm, which has received funding from the likes of innovation platform Plug and Play, Earth Venture Capital and Seeds Capital, is not yet profitable, but is currently valued at more than US\$6 million (S\$7.8 million). It is in the midst of closing another funding round worth US\$1.6 million.

Ms Cheah said her biggest takeaway from running AlterPacks is that "it can be done". She also hopes to be recognised as someone who challenges the status quo, and plans to repurpose the material used in AlterPacks' containers to produce a paper alternative within the next five years.

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## HER TOP THREE TIPS FOR ASPIRING YOUNG ENTREPRENEURS

- For entrepreneurs trying to enter the climate tech space, be aware that it is an industry with a very short attention span – there will always be a "sexier" idea coming into the space, such as carbon capture or some form of artificial intelligence. But stay true to the problem you are trying to solve, and do not abandon your idea.
- Not all climate tech investors prioritise tackling climate change; some may be more focused on the financial returns. It is important to understand their motivations, and wisely choose partners whose goals align with yours.
- Surround yourself with the right people and build a good team, because doing everything solo is lonely and untenable.