Greenway Grameen Infrastructure Limited

Clean Cooking Catches Fire

Photos by: Bhumesh Bharti

Problem: Dirty Cooking Fuels Lead to Disastrous Health Outcomes

In 2015, 3.1 billion people cooked using biomass fuels, and over a quarter of them (839 million) were in India — more than any other country. Use of solid fuels for cooking leads to indoor air pollution, with disastrous health effects, especially for women and girls. Smoke from solid fuel combustion produces a large number of health-damaging air pollutants, and those pollutants are 1000 times more likely to reach human lungs if released indoors. Almost 3.2 million people died of indoor air pollution in 2020, most of them women and girls. Moreover, solid cooking fuels contribute significantly to carbon emissions and deforestation, two drivers of climate change.[1]

Solution: Efficient Biomass Cookstoves

Neha Juneja and Ankit Mathur founded Greenway Grameen Infrastructure Limited (Greenway) in 2010 to combat this problem by developing more efficient biomass cookstoves. Their goal was to save households money and improve the quality of life for people living in poverty.

During due diligence, Acumen India's deal team determined Greenway's stoves were considerably more efficient than existing solutions. The company was able to overcome a major challenge for clean cooking solutions: providing high-quality products that are affordable for households in poverty, and doing so at a scale that matched the problem. Greenway was able to do this through a rigorous focus on product design and engineering, combined with widespread distribution partnerships.

Acumen's Investment

Acumen invested equity in Greenway in 2015, becoming their first and largest institutional investor. The company had grown impressively in its early years, opening its own factory and selling several hundred thousand cookstoves by the time Acumen invested, making it a leading player in a nascent industry. Our capital was meant to help them develop additional products and expand into other states, or even internationally.

Over the next several years, Acumen supported Greenway through the next phase of their growth. We took a seat on the board and provided strategic accompaniment, as well as technical assistance grants for new product development. In addition, we funded work by Acumen's Lean Data team, (now 60 Decibels) to understand the perspective of Greenway's customers, and the impact that clean cookstoves were having on their homes.

By 2020, Greenway had matured into a stable, profitable company and a national leader in efficient biomass cookstoves. By this point Acumen's involvement had decreased, as we began to prioritize the next generation of energy companies. As is common, our original share purchase agreement requested the company begin exploring exit options after five years. By that point, Greenway's founders had decided to not pursue additional equity capital. Instead, the founders decided to buy back the original equity investors' stakes in the company over the next several years, at a reasonable multiple of our investment. Acumen and other investors agreed, and are in the process of exiting ownership of Greenway (as of April 2023).

Impact

Greenway Grameen has delivered incredible impact for its customers over the last seven years. In 2017 the Acumen Lean Data team interviewed Prabhulal Meena, the head of a family of six who had recently purchased a Greenway stove. He shared that, before purchasing the stove, his family gathered cow dung to burn for cooking meals. The smoke from the cooking fires made him and his family sick with colds. In the past year, his wife had also been burned by an open flame.

But now, Prabhu told us, “life is better than before as the cookstove has enhanced [our lives] in a way that it consumes less wood, gives smoke-free cooking, and there is no danger of falling sick due to smoke carbon. The food can be cooked easily too.” His family no longer had to buy fuel or gather dung which meant their workload decreased. His mind was made up: “I cannot go for any other option [that is] better than this.”

Prabhu is not alone. If we just look at the numbers, the company has achieved both depth and breadth of impact.

Depth: Due to more efficient combustion, Greenway’s stoves use 65% less fuel than traditional stoves. The impact of this is multi-faceted: owners of the stove burn less firewood, which means less deforestation. At the same time, better combustion means better cooking: surveys performed by Grameen Koota found that users saved half an hour per day on cooking times. And 54% of Grameen’s users reported that their health had improved. Greenway cookstoves emit 42% less carbon monoxide than traditional stoves.[2] This is a big deal for low-income households who often share kitchen and living spaces.

Breadth: Since our investment, Greenway has sold almost two million cookstoves, meaning close to ten million people have experienced the benefits of cleaner cooking. This translates into hundreds of millions of hours saved and critical environmental benefits: the company’s stoves have mitigated around 10 million tons of greenhouse gasses since 2016.

But Greenway’s impact also extends beyond their stoves. They employ more than 500 people in manufacturing and distribution. Their stoves are all made in India, and since 2015, all manufacturing occurs in Greenway’s own factory.

Lessons Learned from Greenway’s Scale and Impact

Selling products to people in poverty means finding partners that can help aggregate and finance those sales.

Greenway has found success through high-touch partnerships with local organizations that already serve low-income communities. Microfinance institutions (MFIs) and similar NGOs in the space bring people together every week or month for group loan repayments and disbursements. Those meetings are an ideal opportunity for Greenway to market its products. They also give MFI clients the option to apply for a loan to finance the cookstove purchase. Greenway’s partners earn a commission from each sale, as well as the interest income from any loan. Over 750,000 of Greenway's cookstove sales have been on credit, and Greenway has helped make that financing affordable by buying down the interest rate, making the loans easier to repay.

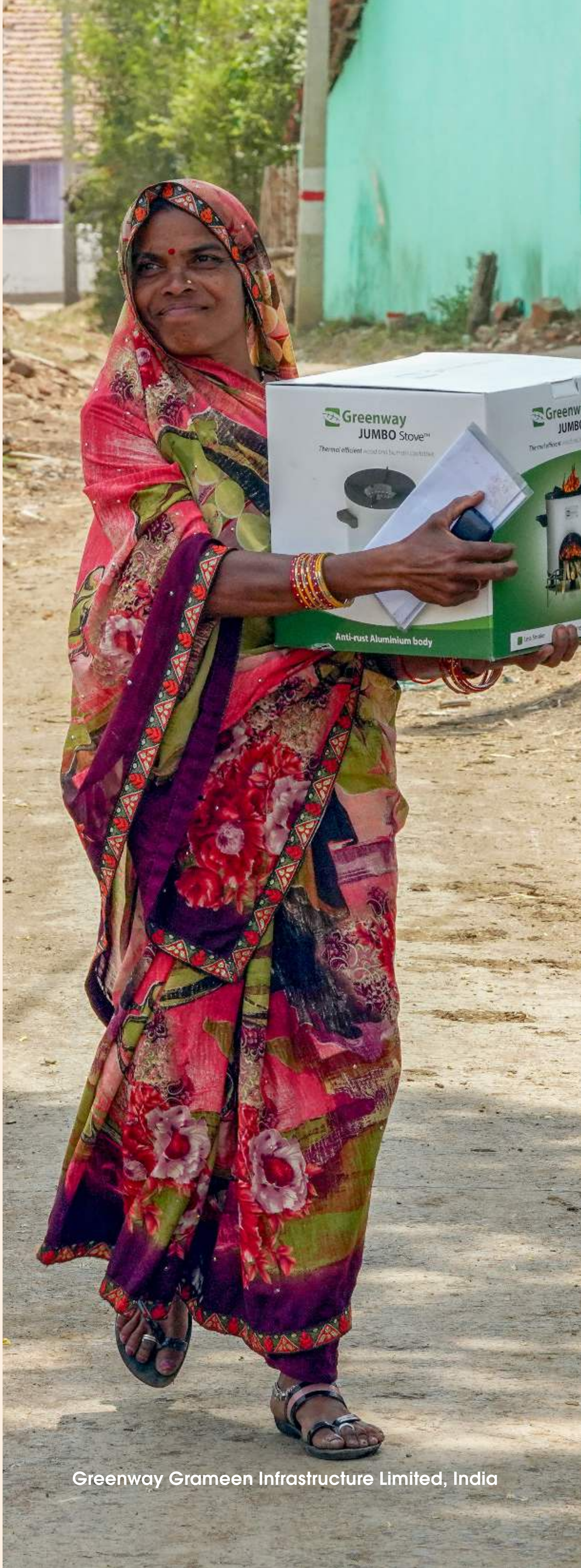
These partnerships take time to build. They require investment from both parties in systems, stockpoints, and coordination. But for Greenway, partner channels have been more successful than traditional retail. Once a distributor and retailer have taken their share, the remaining margins are too low, the cost of above the line (ATL) marketing is too high, and there is still significant variation in the end sales.

Neha Juneja, Greenway's CEO, was clear that partner sales can come in clusters, which makes them more efficient, whereas "cash sales are more distributed, so they're more expensive." In-person sales also allow the stoves to stand out, which is good for a product category that few people have prior brand recognition of.

Moral leadership means committing to customers and staff when times are tough.

In 2018, Greenway almost had to shut its doors. The twin shocks of demonetization in 2016 and the introduction of a 12% tax on cookstove manufacturers (as part of India's new Goods and Services Tax) meant that fewer customers could afford to pay, and margins were almost nonexistent, particularly for smaller cookstoves.

Greenway's founders protected their workers and took on personal risk to keep the business operational. The company's policy was not to pay executives until all frontline staff were paid. In the cash crunch, some executives went four to six months without a salary. One of the founders even took out a mortgage on their house to keep the company afloat.



Greenway Grameen Infrastructure Limited, India

“One thing I’m proud of is that over the last four to five years, we've not passed any financial stress down to our people. Senior people get paid last, and we’ve always kept a buffer of three to four months payroll for people in the first tranches. Sometimes executives went three, four, even six months without pay. That does give stability in choppy water, and that can lead to loyalty.”

- Ankit Mathur, Co-Founder and CTO

These measures kept the company afloat, and by 2019 fortunes had improved: revenues increased 92%, and the company went from a pre-tax loss margin of -12.1% to a net profit of 3.6%. Greenway has turned a profit every year since.

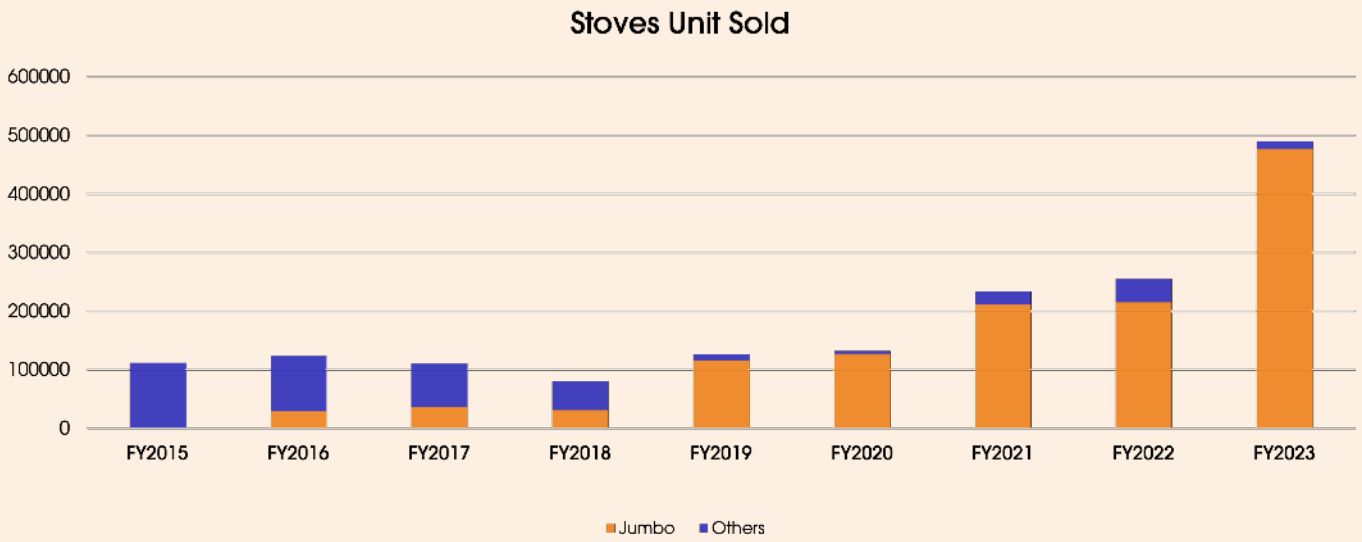
It can take different business models to reach people in poverty. Listen to what customers want, then find the most sustainable way of getting it to them.

Greenway made two significant shifts in its business model in 2018 that turned things around for the company. The first was on product. They originally believed that their most affordable product (the Smart Stove) would be the best seller, as it fit poorer households’ budgets. But customers did not see it that way. The stove, while big enough for an immediate family meal, was not large enough to cook for extended family at holidays. Greenway began to push its larger product (the Jumbo Stove) and saw rapid returns. The Jumbo Stove increased its percentage of sales from 37% in FY18 to 91% in FY19, leading to the company posting its first after-tax profit.

“(The Jumbo Stoves) may seem oversized, but people want the cookstove that will work for everything, even the day that the entire family shows up (for festive occasions). It's just a matter of consumer choice.”

- Ankit Mathur

The second shift was to double-down on marketing through microfinance partners as opposed to building a retail brand, as discussed above. Revenue increased 95%



from FY2018 to FY2019 as the company had its most successful year ever. But marketing spend, previously one of the company's major cost centers, fell from 11% of revenue to 5%.

"We realized that spending capital on chasing customers doesn't work. There's no lifetime value if you're only selling one product."

- Ankit Mathur

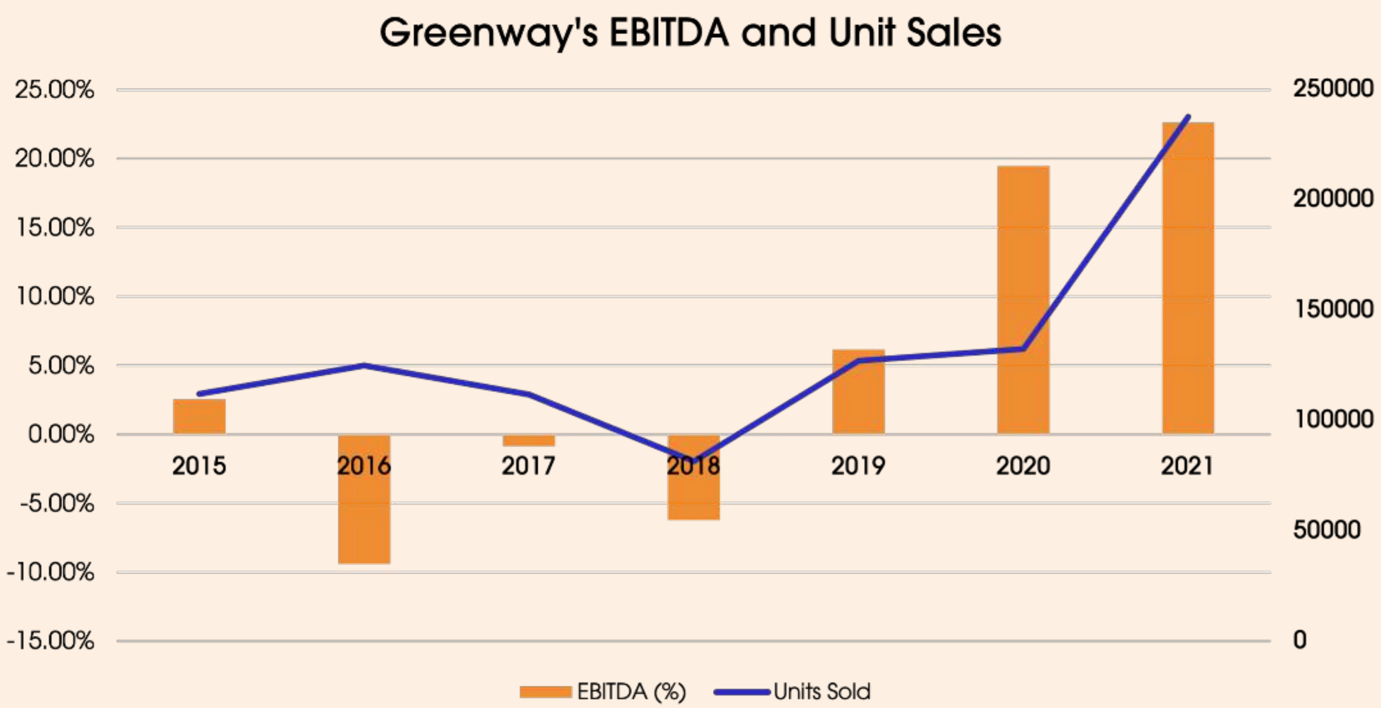
"(With retail) you appoint a distributor, and that distributor finds a network of retailers and places the product. Someone walks in, becomes interested, you make a sale. So both the distributor and the retailer have margins, but there's not much left for Greenway. And the cost of marketing for those is much higher, above the line, than for credit sales."

- Neha Juneja, Co-Founder & CEO

In-sourcing manufacturing can make products much more affordable.

After four years of operation, Greenway became frustrated working with vendors who would not iterate designs or retool in the ways they needed to better respond to customer preferences. In 2015, Greenway decided to open their own factory, which has been crucial to the company's success ever since.

With a limited portfolio of products, Greenway has become well adept at minimizing their cost of goods sold (COGS), which allows them to maintain affordability while still keeping healthy margins. Conversion costs (money spent on labor and machinery to transform raw materials into finished products) are 15% of the final COGS. Greenway's material costs have consistently declined over the years since it began its own manufacturing.



Greenway has achieved this by reviewing every machine and every stroke that goes into a cookstove, and optimizing for efficiency and cost. This level of detail is only possible for a company with its own manufacturing capabilities, and it's no coincidence that a number of successful Acumen companies, which are designing products for people with low incomes, have found success through in-sourcing manufacturing.

Lessons for Investors

It takes courage to raise equity. It takes even more courage to stop raising it.

Lots of social enterprises start with a vision of changing the world. And Greenway actually did change the world for millions of people. But knowing how large that "world" is going to be, and determining a vision to reach it, is not easy. After the company's near insolvency in 2018, both founders made a conscious decision to stop raising additional equity capital. At that point, they realized that the business could be successful, but would not deliver the kind of growth that new equity investors might require, given the government-fueled growth of liquified petroleum gas stoves (LPG), the limited ability to enter other states in India, and issues with bringing their products to market.

Greenway's promoters had achieved what they set out to do: build a growing, profitable business that sold affordable and impactful products. They understood the growth that could still be achieved, and believed that, with their existing capital and operations, they could maintain their leadership stake. With that in mind, they made the courageous decision to get off the treadmill that can be

Greenway Grameen Infrastructure Limited, India additional equity raises, and to buy back the original investors' shares. While investors always try to protect their interest by requiring founders to explore exit options, entrepreneurs are not always committed to finding exit opportunities for their early investors. By actively working towards providing investors like Acumen an exit, Greenway promoters demonstrated a commitment to investors that is not at all common in the space.

"I'm more of a long-term optimist and short-term realist. Who would I raise money from that could (then) exit in five years? We could not assure returns to anyone, and so we would just have to cook up a new story in four years. That's just fundamentally not who we are."

– Ankit Mathur

"We decided not to go down the additional equity road. I have lots of friends in startups, and (I know) that would keep us on the treadmill. We didn't want to have to be committed to those investor-side obligations."

– Neha Juneja, Co-Founder and CEO

This route to exit is only available for stable, profitable companies like Greenway. But for these companies, it does offer an alternative to the venture capitalist model of raise-scale-raise-scale. More companies like Greenway should be able to raise values-aligned, patient capital with the promise of a reasonable return, and set themselves up for long-term stability. The risks of this model are still high (for every Greenway there are multiple unsuccessful startups), which means it might not carry venture capitalist-like returns. But it's exactly the sort of capital that millions of impactful businesses need, and more of it ought to be available.

Summary

Greenway and its founders have helped millions of people transform the way they cook and clean up the air we all breathe. In doing so, they have built a profitable company that is still growing, employing hundreds of people, and becoming an incredible example of quality manufacturing.

Greenway's founders have taken a series of difficult decisions along the way, and demonstrated a new model for how Patient Capital can function for smaller, more limited-scale businesses. Companies like Greenway — sustainable and profitable while changing the world — should be celebrated more than venture capitalist-backed tech startups who burn through fortunes in the name of disruption. We are deeply proud to have been part of Greenway's journey, and humbled by the work that their dedicated and undeterred leaders have achieved.

Endnotes

1 Lougborough University (2021) *COP26 Explainer*

2 Muralidharan V et al (2015) *Field Testing of Alternative Cookstove Performance in a Rural Setting of Western India*