

Winner 2013



GROWING BRICKS FROM SCRATCH

BioMASON | *Ginger Dosier*

When thinking about invasive products or practices that have a negative impact on our ecosystem, we don't necessarily think about bricks. However, bricks need to be "fired", creating carbon dioxide emissions in the process. This means that the 1.23 trillion bricks produced globally every year actually lead to 800 million tons of emissions.

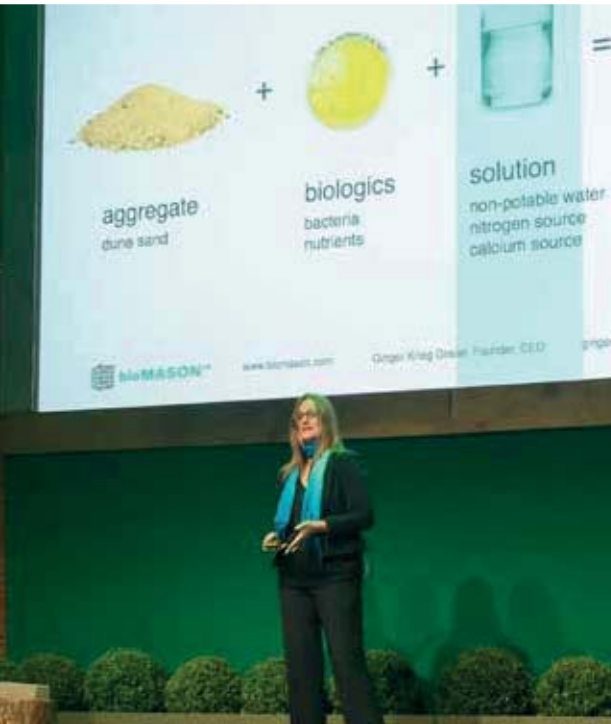
Back in 2010, Metropolis Magazine initiated an award called "Next Generation 'The Big Fix'", where contestants had to submit a proposal to grow bricks, rather than fire them. Inspired by the way coral reefs grow in the ocean, Ginger Dosier's proposal won the award. Though a professor at the time, Dosier thought that starting a company was the best way to launch this technology into the world. Dosier took leave – unpaid – to found bioMASON in 2012. "It was difficult," she said, "I didn't have any training in business or finance and had to figure out a lot on my own."

From bacteria to bricks

BioMASON is a manufacturing company trying to create an easy, scalable process where bricks can be home-grown, revolutionizing the building and construction industry. It's a complicated process that mixes different bacteria with loose aggregate (like sand or gravel) to produce a natural cement. The process is similar to what happens in nature over thousands of years, but bioMASON has modified and compressed it in such a way that a brick takes between two to five days to grow. Traditionally-fired

clay bricks need between three and five days, by comparison.

Dosier was first introduced to the Postcode Lottery Green Challenge by Ecovative's Eben Bayer, a fellow sustainable entrepreneur. "Winning this competition in 2013 was amazing, of course, but even the application process itself was incredibly valuable to us," Dosier explains. It forced her team to crystallize their business case even further and to think about aspects that are not necessarily part of your average business case proposal, such as the impact on the environment and the world. "Winning was like a steroid shot for us," Dosier remembers: "it put us on the map, gave us global validation and introduced us to our first licensees. In very practical terms, we were finally able to move out of an incubator's lab and into a proper facility. Moreover, the Postcode Lottery Green Challenge helped us formulate and deliver our key message, and that training was a wonderful additional bonus."



SUMMARY

Company **BioMASON**
Country **United States**
Founder & CEO **Ginger Dosier**

Postcode Lottery
Green Challenge **Winner 2013**

What **Growing bricks**

How **BioMASON employs natural microorganisms and chemical processes to manufacture biological cement-based building materials.**

Founded in **2012**

Employees **15+**

Founders wisdom **"Involve your team when applying for the Green Challenge. Start early and really digest the questions. The application itself can strengthen your business plan enormously."**



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Pilot productions and licensees

Since winning the Postcode Lottery Green Challenge competition in 2013, bioMASON have been optimizing their (patented) process for pilot productions. In May 2016, bioMASON moved to a new facility in North Carolina, one which has the capacity to grow 5,000 bricks at a time and has plenty of space for training sessions for licensees and other interested parties. "We learned early on that we needed to automate our process as quickly as possible, considering both cost and time. Mistakes, especially for a start-up, can be incredibly costly. An automated process can eliminate a lot of mistakes – if only in terms of human error," Dosier explains.

"Maintaining momentum is a struggle, though," says Dosier; "we bite off a lot, which means we have to be 100% focused 100% of the time. Fighting off distractions and prioritizing what we do and don't do is a daily challenge. At bioMASON we believe in focusing on developing technologies that can be implemented in a viable way into the fabric of construction materials. It is critical to be good at succeeding in one product at a time."

BioMASON has sold over a thousand bricks, but their main focus is to make the process available for licensees. "As a company, we're not here to

necessarily make the bricks; we're here to make the process, so that our manufacturing licensees can make the bricks," says Dosier. When asked how discussions are going with manufacturing licensees both in the US and overseas, Dosier keeps her cards close to her chest and says "we have multiple on-going conversations and are making progress."

In order to make their technique more accessible (and cheaper), bioMASON is now looking at a powder or syrup that can easily be shipped around the world, requiring the manufacturer to only add water in order to grow bricks. "An easier growing process," says Dosier, "will go a long way towards scaling up the business and facilitating increased usage of home-grown bricks."

Transforming a 1.23 trillion-bricks-a-year industry is no easy task, however. Achieving real impact will require that the biggest brick-firing companies abandon their traditional methods and adopt bioMASON's technique – which means a complete makeover of their production process and supply chain. BioMASON is not targeting those companies just yet, but is instead focusing on smaller-scale projects, offering local manufacturers an economically viable and biologically-based alternative to fired clay bricks.