

The Statewide Committee for Research honors Alaska's

Northern Innovators



Geoff and Marcy Larson

Alaskan Brewing Company

Northern Innovators Hall of Fame Member

Thirty years ago, powered by their affection for beer, Alaska, and one another, Marcy and Geoff Larson created a brewery in a small Alaska city. That idea is not an original one today (Fort Collins, Colorado, for example, is home to more than 20 small breweries), but it was then. And that forward-thinking has in many ways rewarded the Juneau couple, who now export their product by barge for delivery to 17 other states.

Cracking Outside markets in which consumers have hundreds of beer choices is an achievement worth noting, but the way the Larsons have executed would make them stand apart even if they weren't operating from a place with no road connection to America.

Along with allowing Alaskan Brewing Company's employees to use their imaginations to invent new beers with hints of spruce tips and alder-smoked malt, the Larsons have become one of the greenest breweries on Earth.

How? In developing their "beer-powered beer," they have saved more than 80,000 gallons of No. 2 diesel fuel each year by using their spent brewing grains to power a steam boiler that sprung from their own imaginations.

Their Earth-friendly methods were in part adaptations to operating in Juneau, Alaska's capital city hemmed in by glaciers, mountain walls and the Pacific Ocean. In other places,

brewers ship mounds of spent grains to dairy farmers, who feed them to cattle as a cheap protein source. Another option is to give the leavings away as a compost ingredient. Neither was a great option in Juneau, home to few cows.

In the early days, the Larsons shipped their grains to farmers in Washington state. They invested in a dryer, which helped preserve and lighten grains, lessening the shipping costs. But even after the grain is dried, Alaskan Brewing Company produces more than 7 million pounds of this potential waste product each year.

Now, rather than barging out the grain or overwhelming the Juneau landfill, the brewery burns the dried product. It creates steam that powers their brewing process. This has allowed Alaskan Brewing Company to be true to a lofty stated goal: "To have a zero-net negative effect upon our environment by reclaiming and reusing at least as much waste and emissions as we produce."

The sparks for this absurd-in-Alaska achievement began in 2008, when the brewery installed a mash filter grain press that saved more than one million gallons of water over their older method, a traditional lauter tun. The latter, they explained, is to drip coffee what the mash press is to a French press/espresso machine.

After going through the mash-filter press, the grain emerges in a finer state, with the consistency of sawdust. Upon seeing it, crew members at Alaskan Brewing thought it looked burnable, if properly dried. The Larsons and their employees thought *biofuel*.

They searched for adequate furnace systems already in place and found none. So, they got a team together and brainstormed ways to turn malted grain and hops into energy.

They decided on a furnace that would turn burned grains to steam power, but found no ideal commercial boiler. They designed their own.

In 2013, the Larsons installed a one-of-a-kind spent-grain boiler made by a company in North Dakota. The steam produced fires the grain dryer, with plenty of steam left over to power the remainder of brewhouse operations. Not only are they keeping hills of grain out of the waste stream, they save \$450,000 dollars each year with the process.

Alaskan Brewing Company also has a carbon-dioxide reclamation system. The brewers recapture the CO₂ produced during the fermentation process and use it for bottling operations. They figure the system prevents more than 900,000 pounds of CO₂ from being released into the atmosphere every year. That's like removing 80 cars from the road.