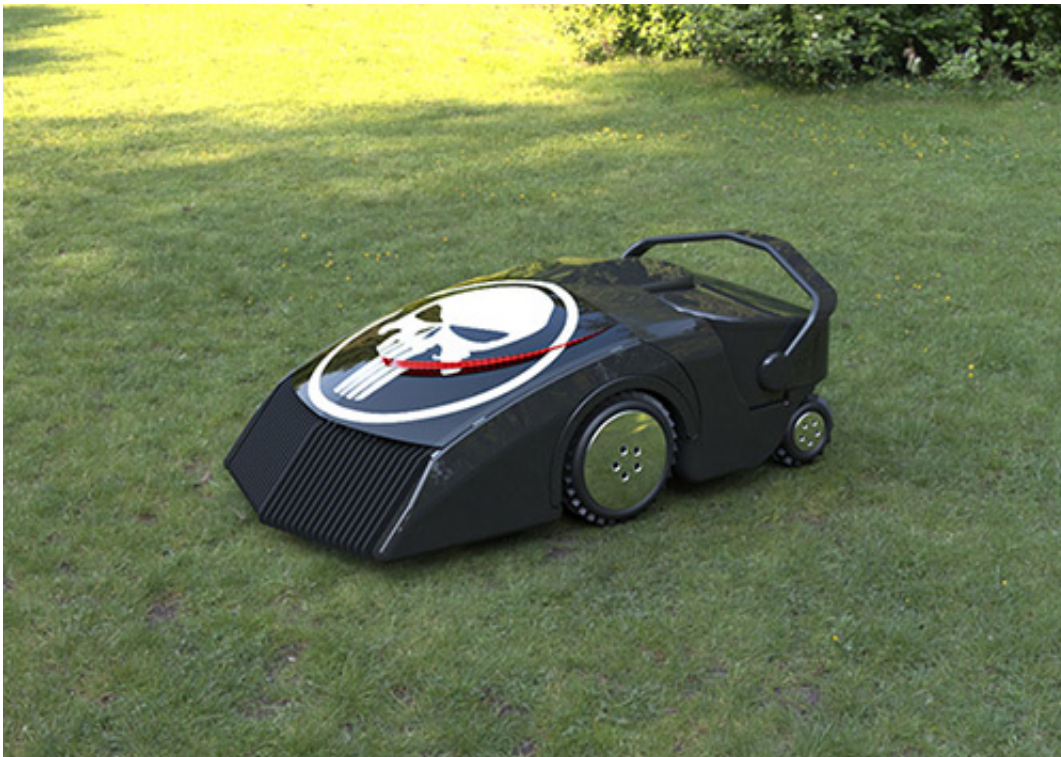


# Robotic EcoMow cuts and uses grass as fuel

February 17 2014, by Nancy Owano

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(Phys.org) —A self-fueled, self-guiding robotic mower is in the works from a Fairfax, Virginia based group; they are preparing a prototype by April. The company, by the same name, EcoMow Technologies, describes its device as a self-fueled mower as well as grass pellet harvester. Fundamentally, they intend to deliver a platform for harvesting and processing grassy biomass, and a fuel system technology to take advantage of the produced pellet fuel. The mower uses the grassy

biomass that it harvests as fuel, and processes the biomass that it does not use into a dried pellet form, which can be used for heating or power generation. Looking into the company's beginnings, *Gigaom* said that George Mason University graduate student Jason Force, who now serves as the company's chief design engineer, several years ago started thinking about creating a lawn mower that might be able to power itself with the grass it harvested.

Eventually a team developed around the idea and they have been working to bring the device to market. The team designed the mower with attractive features for efficiency on a commercial scale.

The device uses the grassy [biomass](#) that it harvests as fuel. It processes the biomass that it does not use into a dried pellet form, which can be used for heating or [power generation](#). (In place of a rotating blade, the EcoMow instead uses an electrically driven bar cutter. The bar cutter is followed by the pelletizer. The company said the pelletizer presses the grass into pellets somewhat like a meat grinder, except that higher pressures and temperatures are used.)

The EcoMow software is Google Maps-driven, with an interface for configuring the mower to cut the precise layout of the user's lawn. "The software running on mobile hardware uploads the configuration setup to its servers for the mower hardware to download and auto-configure," according to the company. Usage reports and other data are tracked and maintained in personal accounts.

The EcoMow team points to advantages that can be gained by commercial mowing operations. Those benefits include reduced labor, elimination of fuel costs, and a higher profit margin from the resale of processed biomass. "In established economies we can significantly shift energy use from fossil fuels to biomass sources while lowering the energy cost," they stated.

They also see the product as applicable to the needs of developing economies. "We can lower the barrier to implementing local [fuel](#) production sources for power, heating, and equipment."

**More information:** [www.ecomowtech.com/](http://www.ecomowtech.com/)

via [Gigaom](#)

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