

# The future bioeconomy is now

By Meghan Sapp

**It's time for the industry to innovate before a reliance on sugar production goes the way of the dodo.**

From [obese Scots](#) and [traffic light warnings on cereals](#) to [depression](#) and [sugar taxes](#), it's no wonder the market is concerned about consumer demand. [Rabobank highlighted this week](#) how this shift away from sugar consumption will absolutely impact future sugar prices.

But as the bioeconomy begins to ramp up, where feedstocks such as sugarcane and sugarbeet are good for far more than just sugar or ethanol, other demand centres will also appear in order to take away some of the pressure from falling sugar consumption.

If you can put sugar in your car, in the form of ethanol, why not also build your car with sugarbeet in the form of biomaterials as these [Dutch student engineers](#) have done? Using resin from sugarbeet, they've made a material that has the strength of fiberglass but is so lightweight that the four-person electric vehicle only weighs 310kg.

The vehicle is still in its early stages, as are the biomaterials because they break rather than bend as metal does, posing questions about the safety of the car should it crash, but it's a strong start to something that could innovate into a new market for sugarbeet.

Then there's the issue of what to do with spent wash from sugar and ethanol production at sugar mills. It's an environmental challenge that only in some cases is used as feedstock for biogas but all too often ends up polluting waterways. But Indian researchers have found a way to [use that spent wash and convert it into a carbon source for energy storage materials](#).

Energy storage is the most expensive part of renewable energy use currently and a challenge that has perplexed researchers around the world. If this waste stream could become a viable solution to solving both the pollution and energy storage challenges, then it could also add another income stream to sugar mills further helping them to cope with the consumer shift away from sugar consumption.

And then there's farsene. It's one of those words that in a short time has become world renowned, at least with the global bioeconomy. The proprietary yeast developed by Amyris in California that uses sugar to produce a wide range of chemicals and ingredients that can be used for dozens of uses that in the future will stretch to hundreds or thousands. The company's production facility in Brazil is at full capacity so is [now looking to build in Queensland](#) in order to use local sugar sources and easily access growing markets like China.

And since it's just sugar, there's no added investment required, but it will forever be a lowest value product for the mill itself.

As with all transitions, the most difficult part will be to transition the way the industry thinks and get it to look at innovation in a new way, not just in how to make more sugar cheaper but how to create new value added products from the same feedstock and utilise as much of the current infrastructure investment at mills and factories as possible. Investment will of course be required, not just in production capacity but also in R&D, but it's the best way for companies to ensure survival.