Less fossil oil in CO2-reducing plastics

The "carbonauten minus CO2 factory 1" will start production of 4,000 t of CO2-reducing plastic granules annually at favorable prices in summer 2022.

carbonauten announces that financing has been secured for the first extruder to produce plastic pellets with up to 70% biocarbon content. A total of around two million euros will be invested in the plant, which will go into operation at carbonauten's pilot site in Eberswalde from the middle of the year. Starting in the fall, it will produce more than 4,000 metric tons of plastic granules annually. The special feature of the material is the addition of biocarbon, which is also produced at the biorefinery in Eberswalde using a special carbonization process. Its CO2-absorbing properties replace fossil raw materials and make the resulting composite material attractive from an ecological point of view; in addition, its price is extremely low compared with petroleum-based plastics. In addition, the admixture improves properties such as thermal and mechanical resilience as well as UV and temperature resistance. The carbonauts expect demand to exceed the production quota and are already planning dozens of additional plants around the world.

At the Eberswalde site, carbonauten will begin producing up to 7,500 metric tons of biocarbon annually from regional bioresidues this year. Through dry distillation, each metric ton of biocarbon permanently stores up to 3.3 metric tons of CO2, which makes it not only climate-neutral, but CO2-negative - "minus CO2," in other words. Products made from it are also particularly easy to recycle or can even be designed to be composted into valuable black soil ("Terra Preta"). These advantageous properties are also transferred to the composite materials that will be produced in carbonauten's new extruder starting this year: The prospect is of a significantly more climate-friendly alternative to conventional products based on fossil sources.

The price is also convincing, with low process and raw material costs beating out composites from other sources: "Our fundamental philosophy is that 'eco' has to be cheaper than 'non-eco'; and that also applies to our plastic products," explains Torsten Becker, founder and managing director of carbonauten. "We're not kidding ourselves about that: We already have so many customers for the new plant because we can offer our granules at favorable prices, and not predominantly because of the ecological advantages and better properties."

The customers for the composites from the carbonauten plant are from the German premium automotive industry, but also from the plastics and packaging industries, as well as from the agricultural and construction sectors. "In addition to the lower costs compared to fossil-based composites, the advantageous material properties naturally play a role there," explains Torsten Becker. The automotive industry, for example, benefits from the robustness of composites with a biocarbon content, while at the same time being lightweight, he says. "And mulch films for agriculture on this basis don't have to be burned or disposed of, but can be added to the soil as fertilizer after use - again saving costs, improving water storage capacity and replacing artificial fertilizers."

The carbonauts expect to have recouped the investment costs after just one year through sales of composite materials. And since demand for low-cost, high-quality and climate-friendly composites is not only already high, but is set to increase worldwide in the future, carbonauten is already planning to build more plants around the world. "The shortlist includes around 30 sites in Austria, France, Spain, Italy, Montenegro, but also Panama, Colombia, the USA, Canada and Brazil," says Torsten Becker.

Press release

18-Mar-2022
Source: carbonauten GmbH

Further information

- carbonauten GmbH