

AirCarbon wins Popular Science Innovation of the Year

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Every day, plants and microorganisms use greenhouse gases to make useful materials, from carbon dioxide-capturing redwood trees and coral reefs to deep sea methane-capturing hydrothermal vent ecosystems.

Inspired by these carbon-capturing processes in nature, Newlight has developed, patented, and commercialized a carbon capture technology that combines air with methane emissions to produce a plastic material called AirCarbon. By weight, in its most basic form, AirCarbon is approximately 40% oxygen from air and 60% carbon and hydrogen from captured carbon emissions.

The AirCarbon production process begins with concentrated methane-based carbon emissions that would otherwise become a part of the air, rather than fossil fuels that would otherwise remain underground, including air-bound methane emissions generated from farms, water treatment plants, landfills, and energy facilities. Due to the high heat-trapping potential and superior thermodynamics of methane compared to carbon dioxide, the company's primary focus is on sequestering methane-based greenhouse gases, which have over 20 times the heat-trapping impact of carbon dioxide (20 carbon dioxide capture plants would be needed to match the impact of 1 methane capture plant). Newlight is now using the company's patented, award-winning greenhouse gas-to-plastic bioconversion technology to produce plastics from air and methane-containing greenhouse gas emissions generated at a farm.
