

CO2 to fish food, other ideas advance in \$20M XPRIZE contest

October 17 2016, by Mead Gruver

With dreams of turning carbon dioxide into everything from concrete to fish food, teams from six countries have advanced beyond the first phase of a \$20 million XPRIZE contest to find profitable uses for CO2 emitted by power plants.

A panel of nine judges recently chose the 28 proposals from 47 entries submitted last summer. The teams now will have a year or so to demonstrate their techniques in laboratories and compete for the first \$5 million in prize money, XPRIZE announced Monday.

"The race is really on," said Paul Bunje, principal and senior scientist at XPRIZE.

The goal is to find new ways to prevent carbon dioxide, a [greenhouse gas](#), from entering the atmosphere and contributing to global warming. Coal-fired power plants are a major source of [carbon dioxide emissions](#), a problem contributing to hard times in the U.S. coal industry.

Semi-finalist entries came from Canada, China, India, Switzerland, Scotland and the U.S.

Successful ideas in the NRG COSIA Carbon XPRIZE must work as anticipated and will need to be profitable enough to offset their cost in a real-world application.

Ideas moving up to the contest's second round would turn CO2 into a

range of products including graphene, a newly discovered substance much stronger than steel; carbon nanotubes, extremely tiny tubes with potential uses in electronics; and toothpaste.

Making high-protein fish food from [carbon dioxide](#) could have environmental benefits besides controlling greenhouse gas. Farm-raised fish, such as salmon, could be more sustainable if they got some of their nutrition from sources that don't grow in the ocean.

In the third and final round, teams will demonstrate their ideas at a coal-fired power plant in Wyoming and at natural-gas-fired power plant in Canada.

"Each round is 10 times harder than the previous one in some respects," Bunje said.

The winners on each side of the competition—technologies destined for gas-fired-power-plants and those for use at [coal-fired power plants](#)—will get \$2.5 million after the second round. They will each get \$7.5 million after the third and final round.

NRG is a U.S. energy company based in Houston, Texas. COSIA stands for the Canadian Oil Sands Innovation Alliance, a group of companies developing the Canadian oil sands.

The gas-fired power plant where the competition will take place has yet to be announced. The XPRIZE competition will be the first tenant of a carbon-capture test center under construction at Basin Electric's Dry Fork Station near Gillette in northeast Wyoming.

The state of Wyoming has pledged \$15 million toward the project.

© 2016 The Associated Press. All rights reserved.

Citation: CO2 to fish food, other ideas advance in \$20M XPRIZE contest (2016, October 17)
retrieved 24 April 2024 from <https://phys.org/news/2016-10-co2-fish-food-ideas-advance.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.