



‘Garbage to Gas: Using Biodigesters to Create Energy’ wins 2020 New Mexico Governor’s STEM Challenge

December 22, 2020

LOS ALAMOS, N.M., Dec. 22, 2020—Student scientists at Monte del Sol Charter School earned a \$4,500 cash prize awarded by Laboratory judges in the New Mexico Governor’s STEM Challenge with their project, “Garbage to Gas: Using Biodigesters to Create Energy.”

“The STEM Challenge’s team-based approach of applying science, technology, engineering and math to address real needs is a microcosm of what we do at the Laboratory every day,” said Laboratory Director Thom Mason. “I congratulate the teachers and student scientists of Monte del Sol Charter School and thank our partners for organizing this innovative contest.”

The STEM Challenge, a virtual competition testing students’ ability to use science, technology, engineering and math to solve real-world problems, was a collaboration among the Office of the Governor, New Mexico Department of Education, New Mexico Department of Workforce Solutions, New Mexico State University, LANL Foundation, and 18 other STEM employers in the state. Each employer supplies two judges to evaluate the projects and awards each student of the winning team a cash prize of \$500.

All 33 teams from public, private and charter secondary schools statewide created presentations or prototypes answering the challenge question, “How can you combine New Mexico’s natural resources with technology to address regional and global needs?”

Monte del Sol Charter School’s entry impressed Laboratory judges Benigno Sandoval, an engineer in space instrument realization, and Melissa Espinosa, an engineer in nuclear materials science.

“Monte del Sol presented an achievable method to make the most of their generated waste while having a positive impact close to home by using biodigesters,” said Sandoval. “Although the team encountered many obstacles, they continued to generate fresh and creative ideas. This is how real R&D happens in the world, with initial ideas often falling short; but through creative problem-solving, tenacity and teamwork, real results are achieved.”

Biodigesters use microbes to speed the decay of organic matter (usually food waste) and use the resulting methane-rich biogas as a sustainable energy source for electricity, cooking and heating. The winning students are Javier Marquez Almeida, Alicia Gettler,

Brooklyn Martinez, Kaley Martinez, Noelle Liam Morningstar, Betsy Venegas Pena, Syriana Poteat, Jackson Sparrow and Angel Martinez Velasquez. The team's teacher sponsors are Rhonda Crespo and Christopher de Jesus.

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