

GATEWAY TO SCIENCE ETHANOL EXHIBIT

Status Report: Contract R-027-036

Provided Sept. 15, 2016

For the period of May 1-Aug. 31, 2016

Provided by the North Dakota Ethanol Council

Objectives

The objectives of this project are: 1) to increase the long-term use of ethanol in North Dakota by educating students, parents and educators in the region on the benefits of ethanol to the economy, environment and energy independence; and 2) to ensure the future of the ethanol industry workforce by engaging students, parents and educators in the lifecycle of ethanol production, specifically the scientific process of converting an agricultural product, which is a growing source of sustainable energy, into high-value co-products, including ethanol and distillers grains.

In addition to the North Dakota Ethanol Council (NDEC), partners in the program are Gateway to Science (GTS) and Science Museum of Minnesota (SMM), as well as ethanol industry stakeholders including: CTE Global Inc, Dupont, Gavlion, Growth Energy, Lallemand and New Age Cryo.

The strategy that will be implemented to meet the objectives is the installation of a hands-on, interactive, ethanol-specific exhibit to be utilized as a pilot at the current facility and then permanently installed at the new GTS facility in Bismarck, ND, which is scheduled to open in 2018.

Strategy Progress

During this reporting period, the prototype has been delivered to the current GTS facility and evaluation of the messaging and exhibit has begun. The prototype has been featured on the gallery floor since May 24. More than 4,200 guests have visited the gallery since that date, including groups from North Dakota Farmers Union, Legacy High School, elementary schools in Wishek, Taylor-Richardton and Bismarck-Mandan, and local preschools and daycares.

GTS is collecting feedback from visitors through an online survey. Center Guides are also conducting interviews and recording observations of guests' reactions to the exhibit. Preliminary feedback has been positive with visitors of all ages (toddlers to grandparents) engaging with the exhibit and completing the process to fuel the cars and feed the cows. GTS will provide assessment results from a larger sample set in the next report.

North Dakota ethanol industry representatives have visited the exhibit and provided input on messaging, suggesting some changes for the final exhibit. Discussions have also started with GTS staff on how to best incorporate virtual reality components and partner recognition into both the pilot and final exhibits.

GTS staff and Exhibits Committee members have met with the Science Museum of Minnesota exhibits team multiple times via videoconference and in person when they visited the current GTS facility on Aug. 11. During these discussions, GTS shared ideas to improve the exhibit, along with visitor interactions and observations. Some of the improvements suggested include incorporating actual corn and distillers grains into the display, an improved light notification system, a push button to start the cars racing and the cows eating, and the use of augmented reality to tell the stories of the science, technology, engineering and math (STEM) professionals involved in ethanol production.

ATTACHMENTS

- Prototype exhibit
- GTS visitors interacting with prototype exhibit

ENERGY

UNIVERSITY OF MARY
America's Leadership University

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FINANCIAL

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JAMESTOWN

Brew a batch of ethanol

An ethanol factory turns renewable fields of corn into food for cows and fuel for cars. It's a power-packed brew that burns clean. Mix in gasoline, and you could drive round-trip from here to Texas 24 times on an acre of corn.



Corn for Fuel & Feed

Run close

Full 20

3/4 15

1/2 10

1/4 5

Empty 0

MILL

Mix

Empty

HP

48 HOURS

Ferment

Distill

Concentrate

Cook

Dry



Fill the corn silo

Mill the corn

Mix the mash

Ferment the mash

Distill the mash

Dry the mash

Concentrate the mash

Feed the cows





