SL Tribune: Project plans to bury CO2

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Note: AGRC has been an active partner in several CO2 Sequestration projects (including one, the Southwest Regional Partnership on Carbon Sequestration, led by Brian McPherson) providing GIS mapping, spatial database and analytical services.

From the Salt Lake Tribune:

http://www.sltrib.com//ci_7488186?IADID=Search-www.sltrib.com-www.sltrib.com Project plans to bury CO2

By Brian Maffly, Salt Lake Tribune

Gov. Jon Huntsman Jr. on Friday announced the launch of an $88 million Utah-based research project that explores the feasibility of injecting and storing carbon dioxide emissions underground.

The pilot technology, known as carbon sequestration, could someday staunch greenhouse gases spewing from the nation's power plants and spur economic development and energy production in Utah, backers say.

"If we want energy independence . . . [the key] would be figuring out how to feed our growing economy, but do it in a clean way that begins to reverse what we've seen in the first 100 years of industrialization," Huntsman said at the University of Utah's Energy and Geoscience Institute.

The bulk of the project is funded by a $67 million grant from the U.S. Department of Energy's National Energy Technology Laboratory, while the rest of the money comes from industry partners. The 10-year project, led by U. engineering professor Brian McPherson, targets mile-deep, saltwater-filled sandstone formations under an area called Farnham Dome near Wellington, 130 miles southeast of Salt Lake City.

"The idea is to capture CO2 and put it back in the ground. It's a great project and it's going to be successful," McPherson said. "Fossil energy is here to stay for the next 5, 10, maybe 30 years. A nonfossil-energy economy is going to take decades."

McPherson joined the U. last year as one of the "all-star" faculty recruits lured to Utah under the new Utah Science, Research and Technology (USTAR) initiative, the state's $400 million investment to commercialize technologies developed at state universities

"I'm not going to call Brian the $88 million man, but we need to recognize the dollars that are following the brainpower into this university," Huntsman said. Just 15 months into its life, USTAR is ahead of schedule attracting research grants, and the DOE grant supporting McPherson's work is the largest so far, officials said.

"At least $30 million will be spent in rural Utah at the injection site," said Scott Anderson, a Zions Bank executive who sits on USTAR's governing authority. "This project is part of the largest carbon-sequestration project launched anywhere in the world," added authority president Dinesh Patel. The Wellington phase of the project consists of a single injection well and four observation wells drilled at incremental distances from the injection site.

McPherson's team will gather naturally occurring carbon dioxide from the site, owned by the Salt Lake City firm Pure Energy, as well as CO2 piped in from a coal-bed methane development. Researchers will compress the CO2 into a near-liquid form at pressures of about 2,200 psi. They will inject 3 million tons of it over the next four years deep into the water-bearing sandstone formation, which is about 200 to 300 feet thick and covered by an impervious layer of shale.

"The formation we are injecting into holds carbon dioxide that's been there for millennia. It's static. The difference is when we inject it, it will be moving around," McPherson said. "Over time, it dissolves into the brine. Over hundreds of years, it will mineralize."

Because the near-liquid carbon is less dense than water, it will float to the top of the formation and push the water out into surrounding rock. The injected carbon then will be monitored for another six years to determine how it moves and affects the chemistry, temperature and pressure of the brine.

Sequestration technology is expected to add three cents to the generation costs of a kilowatt hour of electricity from an existing power plant that would have to be retrofitted with equipment to separate and capture carbon from its

smokestack, he said.