

## Province puts \$300M into one last CO2 project; Coal-to-gas plan to fuel power plant by 2015

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Alberta will hand out about \$300 million over 15 years in assistance today to a fourth firm under its carbon capture and storage (CCS) initiative.

SwanHills Synfuels received \$8.8 million in provincial aid in March for its \$30-million demonstration project to turn deep coal deposits into synthetic natural gas and it was accepted for consideration under Alberta's \$2 billion CCS plan.

Since then, the province has promised \$1.67 billion to three other projects-- Shell's Quest, TransAlta's Pioneer and Enhance Energy's Alberta Carbon Trunk Line. That still leaves \$329 million unallocated.

A government official confirmed SwanHills Synfuels will be the fourth and final project to get funding, and that some money will be held back for other purposes, such as public education.

SwanHills Synfuels, a privately held company, plans to replicate its successful demonstration project with 20 pairs of wells over a section of land.

The \$1.5-billion commercial project would supply enough syngas for an initial eight years of power generation by a major, 300megawatt clean-energy plant to be built in Whitecourt.

The plant is planned to be in service by 2015.

SwanHills Synfuels president Douglas Shaigec said this summer's demonstration showed clearly that the possibilities are immense for turning deep coal into energy.

"It was a demonstration of what has been done in the world previously, taking the proven process and applying it here to the deep coals we have in Alberta," he said.

"We proved the basic control functions and made some excellent-quality syngas. It was all very much in line with what the theory had predicted."

While coal has been turned into syngas through underground combustion in many projects around the world over the years, most of it was in shallow seams.

It wasn't until the 1990s that European research looked into deep deposits.

SwanHills Synfuels is going 1,400 metres deep.

"That is the deepest in the world, but with this syngas process, depth is a positive factor. We are in a saline environment well below any (potable water) aquifers, and don't have a chance to contaminate those," he said.

SwanHills Synfuels is chemically converting in situ coal into a gas, piping saline water and pure

oxygen down an injection well. The resulting combustion, plus the steam created by it, converts the coal into gas that flows up the production well to a surface gas-separation plant.

There, there carbon dioxide is removed and sent into a pipeline to be used by local oil firms for enhanced oil recovery.

"There are a lot of depleted reservoirs in this area that could use the CO2," said Shaigec.

The synthetic gas is rich in hydrogen and lower in carbon, and will burn 50-per-cent cleaner than conventional natural gas at the Whitecourt electrical power plant.

SwanHills Synfuels says Alberta will earn higher royalties from the new oil production, and have clean, coal-based electricity.

"Alberta has an incredible amount of deep coal that can't be mined, and what we are doing in Swan Hills will be able to be replicated in the vast Mannville coal formation which stretches from Grande Prairie to Calgary," Shaigec said.

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