

WORLD FIRST GAS PROCESSING PROJECT UNDERWAY

PRELIMINARY field trials at Cool Energy's innovative gas processing plant near Dongara, north of Perth, have been very positive and testing is gaining momentum, according to its developers.

The demonstration plant, based at ARC Energy's Xyris site in the Perth Basin, is the first of its kind in the world and brings Cool Energy's CryoCell technology out of the laboratory and into the field.

The technology, developed in Western Australia, removes carbon dioxide from natural gas in liquid form making it immediately available for geo-sequestration.

Cool Energy is now aiming to complete testing of their demonstration gas dehydration and CO₂ removal plants next year.

According to Cool Energy managing director, Ms Jessie Inman, preparations for trials with higher CO₂ levels are progressing well, with some minor technical problems encountered with the demonstration plant being addressed by the manufacturer.

"Despite the mechanical delays and many challenges we've faced, we have learned a tremendous amount and made some great progress to date," Ms Inman said.

"Trials thus far have confirmed Cool Energy's expectations regarding many aspects of the process performance.

"Work to date has also confirmed that the plant is not expected to have difficulty operating in a commercial setting. In routine operations, after shut down, the whole system can be restarted and meet target temperatures in just two to three hours.

"The restart time is significant because in a commercial environment, shut downs are expensive and need to be kept to the shortest period of time possible to reduce production loss," Ms Inman said.

Cool Energy is also continuing their laboratory testing programme in Perth to support field trials and further develop their technology for new applications, and recently invested in a full time researcher at Curtin University of Technology. The researcher is expected to commence work on behalf of Cool Energy in November.

Cool Energy's team of experts is now working to prepare the CryoCell plant for higher CO₂ testing. The modified plant is due for completion soon and is expected to be able to test CO₂ levels of 30 to 40 per cent and possibly higher.

"We are very excited about our progress because the world needs this technology, in particular Australia and other countries with high CO₂ natural gas fields," Ms Inman said.

"Natural gas is one of the cleanest and most abundant energy sources available to meet existing and future energy demand.

"We're continuing a number of discussions with potential commercial partners with high CO₂ levels in their natural gas fields and hope to have the first commercial project identified and continued within the next few months," Ms Inman said.

Cool Energy's CryoCell technology aims to unlock previously uneconomic gas reserves due to a high CO₂ content and help to fulfill the rising demand for energy. The low-cost CryoCell technology extracts the CO₂ by freezing it, then later removing it as a liquid for sequestration, or for use in enhanced oil recovery.

Ms Inman said the technology eliminates the need for traditional and more expensive solvent and membrane-based processes, and their supporting utilities, thus making it cheaper to build and operate.

"The technology has the potential to unlock hundreds of gas fields around the world, currently not developed because of their high CO₂ levels."

Cool Energy's development partners include Shell Global Solutions International, Woodside Energy Limited, ARC Energy Limited, Nido Petroleum Limited, Curtin University, and the Centre for Energy and Greenhouse Technologies.

The plant incorporates two leading-edge gas treatment technologies - Cool Energy's own CO₂ removal CryoCell technology fed by Woodside's new gas dehydration process, which extracts water from natural gas streams and provides the crucial dry feed to the CryoCell operation.

Cool Energy is managing the development of Woodside's dehydration process. Both technologies were developed at WA's Curtin University of Technology.



Solid progress is being made at the Cool Energy demonstration plant, based at ARC Energy's Xyris site in the Perth Basin.