Energy Innovators: Developing LNG Technology

Narrator

The world needs energy. As demand increases, so do the challenges to find it, produce it, and deliver it more efficiently and safely than ever before.

How do we overcome these challenges? We innovate.

Innovation depends on bringing together the right people and their ideas.

In Perth, Chevron has established a Global Technology Center, which draws on Chevron's pool of talent and collaborates with local universities and research institutions.

The Center develops technology that adds value to each step of the LNG production chain, which starts with exploration and finding the source gas.

Gerry Flaherty, ABU General Manager – Asset Development

We've had 21 discoveries since 2009 at a 90 percent success rate while minimizing our capital spend.

As any basin matures, resources are going to get harder and harder to find, and so what you need to do is to be able to push your technology to see larger features and deeper features.

Narrator

Investing in academic excellence can help us reach new frontiers.

Professor Chris Elders, Chevron Professor of Petroleum Geology, Curtin University

What we're trying to do here is to look at things from a slightly different perspective, maybe a slightly quirky point of view that gives us some new insights into the way in which the oil and gas deposits have formed.

Narrator

Delivering the source gas to the processing plant requires a sophisticated pipeline system—an area where Chevron's research partnerships are adding value.

Mike McLerie, ABU Technology Manager

The data from the O Tube has actually revolutionized the pipeline design.

So when you get the right people, the right partnerships and the right framing of the problem, you can really come up with some very innovative technology solutions

Professor David White, Center for Offshore Foundation Systems, University of Western Australia

My remit was to make the water flow just like it does under large waves and currents and then to see what happens to the pipelines and the other infrastructure at the seabed.

We can show in simulations the pipe will bury itself as the seabed moves around.

This feature's normally overlooked but it's very beneficial in design.

Narrator

The pipelines deliver the source gas to the processing plant where the gas becomes liquefied.

Richard Hinkley, Perth GTC Manager

Technology in the area of LNG process engineering is looking to improve energy efficiency, improve productivity and help understand process safety.

Narrator

It's a stage of the production chain where Chevron is funding university research.

Professor Eric May, Chevron Chair in Gas Process Engineering, University of Western Australia

We studied some really fundamental properties of natural gas at the extreme conditions that you find in LNG plants so that the plants can be more efficient and have less greenhouse gas emissions.

Narrator

Innovation is also helping us to protect people and the environment.

Carol Baker, ABU Environmental Manager (Wheatstone)

Innovation and technology play a huge role in environmental monitoring. Could we continue to collect data in the same way we always have collected it? Absolutely we could. Is that really what we should be doing with Chevron, or should we be pushing the envelope? How can we do things safer, smarter, better?

We just started thinking about what else could we do, have we challenged ourselves to think of some new innovative ways to collect data, and the Wave Glider came up.

Dr Iain Parnum, Dept of Imaging and Applied Physics, Curtin University

What's new about this approach for monitoring the environment is the dynamic nature and the platform being used.

Our mission here is to investigate the gliders as a platform for carrying out environmental monitoring. We're also looking at how good the sensors are at monitoring the marine environment.

Narration

Since 2009, Chevron has spent more than one billion dollars on research and development projects in Australia. And, helping to turn innovation into one of Australia's most valuable resources.