



video transcript

alder – journey to first gas

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VO: Imagine a reservoir containing fluids at temperatures near the melting point of lead...

Richard Hinkley, General Manager Projects and Future Growth, Chevron Upstream Europe: The challenge we have always had is that it's high pressure, it's high temperature.

VO: ...and with pressures of around 6 tons per square inch.

Richard Gale, Alder Subsea Team Lead, Chevron Upstream Europe: The pressures that we are looking at subsea are about 12 and half thousand PSI, temperatures of around about 150 degrees C.

VO: This was the challenge faced by the operator Chevron and co-venturer ConocoPhillips in developing the Alder Field.

Robert Visser, Alder Project Manager, Chevron Upstream Europe: We're stretching the capabilities of existing technology.

Richard Hinkley: There are at least seven Chevron technology firsts in the project.

Richard Hinkley: Alder was discovered back in 1975, so that's a long time ago, and to develop it in a cost-efficient manner that delivers the most value has meant we needed new technology, we needed breakthrough in innovation.

Richard Gale: I think we looked at it in 2000, we looked at it in 2006, and this time in 2009 the technology was there and the capacity of Britannia, the host platform, was there as well to take it.

VO: Chevron decided to use advances in subsea pipeline design, to tie the field back to the ConocoPhillips Britannia platform – some 28 kilometers away. Once the gas reached the seabed, it needed to be cooled.

Richard Gale: The subsea cooling unit we have developed specifically to cool the production flow from the well, it comes out of the ground around about 150 degrees down to about 115 as it enters the pipeline. The thing with having the temperature at that point is that we need to keep it warm, to prevent hydrates and keep the flow moving. The technology that we have used here is a pipe-in-pipe design, so that's an inner pipeline and an outer pipeline with a dry cavity. And it's the insulation that we can put in that dry cavity that allows us to keep everything warm in the pipeline.

VO: The subsea system and topsides use some of the latest ideas and materials available, and a showcase for the UK's world leading subsea manufacturing and engineering skills.

Richard Hinkley: Part of Alder, it's been really important that we leverage the UK talent and supply chain that exists here in the country. It truly is a centre of excellence, so we put 70 percent of the total spend of the project into the UK local supply chain.

Richard Gale: So we have the tree from Leeds, the umbilical from Newcastle, the valves from Newcastle, the engineering was done in London with back-up from Aberdeen and the main contracts run from Aberdeen.

Greta Lydecker, Managing Director, Chevron Upstream Europe: If all things are equal and there's a UK source that's where we are going to go to because we really place high value on being the partner of choice.

VO: In order to successfully receive and process the gas and condensate, ConocoPhillips needed to make significant modifications to the Britannia platform – including the installation of a new UK-manufactured processing module.

Gary Collins, Topsides Project Manager, ConocoPhillips: We're constricted by the existing platform; this particular module has a weight limitation of 850 tons; because of all those we end up just using a large amount of exotic steels.

Krish Krishnan, Topsides Engineering and Commissioning Manager, ConocoPhillips: The brownfield scope is probably as important in Alder and probably more important than the module itself. Having to come up with designs and then working it and executing it offshore on a producing platform.

VO: The use of new techniques, and modifying an operational platform, made close co-operation between all parties one of the top priorities for the project.

Robert Visser: Number one is safety, incident and injury free. Number two was focus on quality and number three was collaboration, or interface management, was the key to our successes on the project.

Richard Gale: One of the key differences on the Alder project is the way that we tried to include all levels of the supply chain as being part of the greater Alder team.

Krish Krishnan: We need our suppliers to work with us and make things happen and that is how they have stepped up.

VO: The tieback will extend the field life of Britannia...and unlock the potential of the Alder field.

Richard Hinkley: A lot of it is really tying back into pre-existing infrastructure that allows us to maximize the life of all of the pre-existing assets that we have right here in the North Sea.

Greta Lydecker: That will make other smaller or technically challenged projects become more viable. That's the overall goal for the U.K. government is to maximize our economic recovery as well as drive more collaboration in the industry, and I think the Alder project demonstrates that both of those can happen.

VO: By developing a technologically challenging and marginal field, this greater Alder team, has set an example for future North Sea developments.

Greta Lydecker: That will prompt a lot of people both inside Chevron as well as other companies to think: OK, how can we do that same thing to progress other opportunities in the U.K. that we otherwise might have just said well they are too small, it's too high a temperature, it's too high a pressure, we can't do it. Now they'll say: hey, we can do that.

VO: Technology is set to play an increasing role in unlocking opportunities for Chevron in the North Sea.

Richard Hinkley: I'm very pleased that we've managed to execute this project without any days away from work and serious incidents.

Krish Krishnan: This project has actually taught me that resilience is one of the main characteristics if you are going to be successful in all your endeavors.

Richard Gale: The highlight for me I think is the teamwork.

Richard Hinkley: It shows the commitment to the UK, commitment to the North Sea and a commitment to everybody here that has worked tirelessly to bring this project to First gas.

Greta Lydecker: When people say that something can't be done, we say: just step back and let us show you how it can be, and this is a great example of that: the Alder project.