



**Kinetics Controls
& Innovation Ltd**
Engineering Leak Sealing Solutions

ICoTA Techbyte Session

Methane Emissions Reduction Technology

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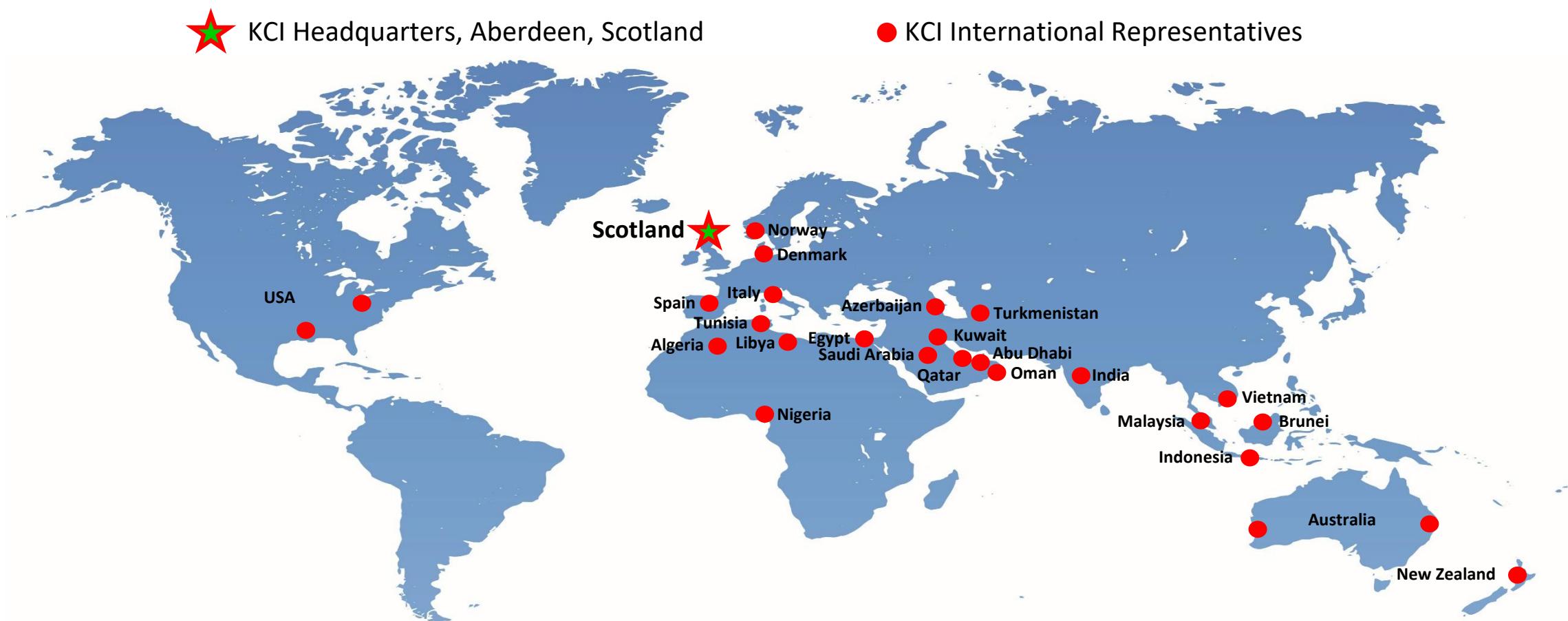
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In Conjunction With



Introduction

KCI have a network of International Representatives around the Globe who can assist with leak sealing operations to quickly restore the Integrity of Wells with a major focus on Methane Emission reductions.



Methane Emissions Reduction

Why do we need to reduce Emissions?

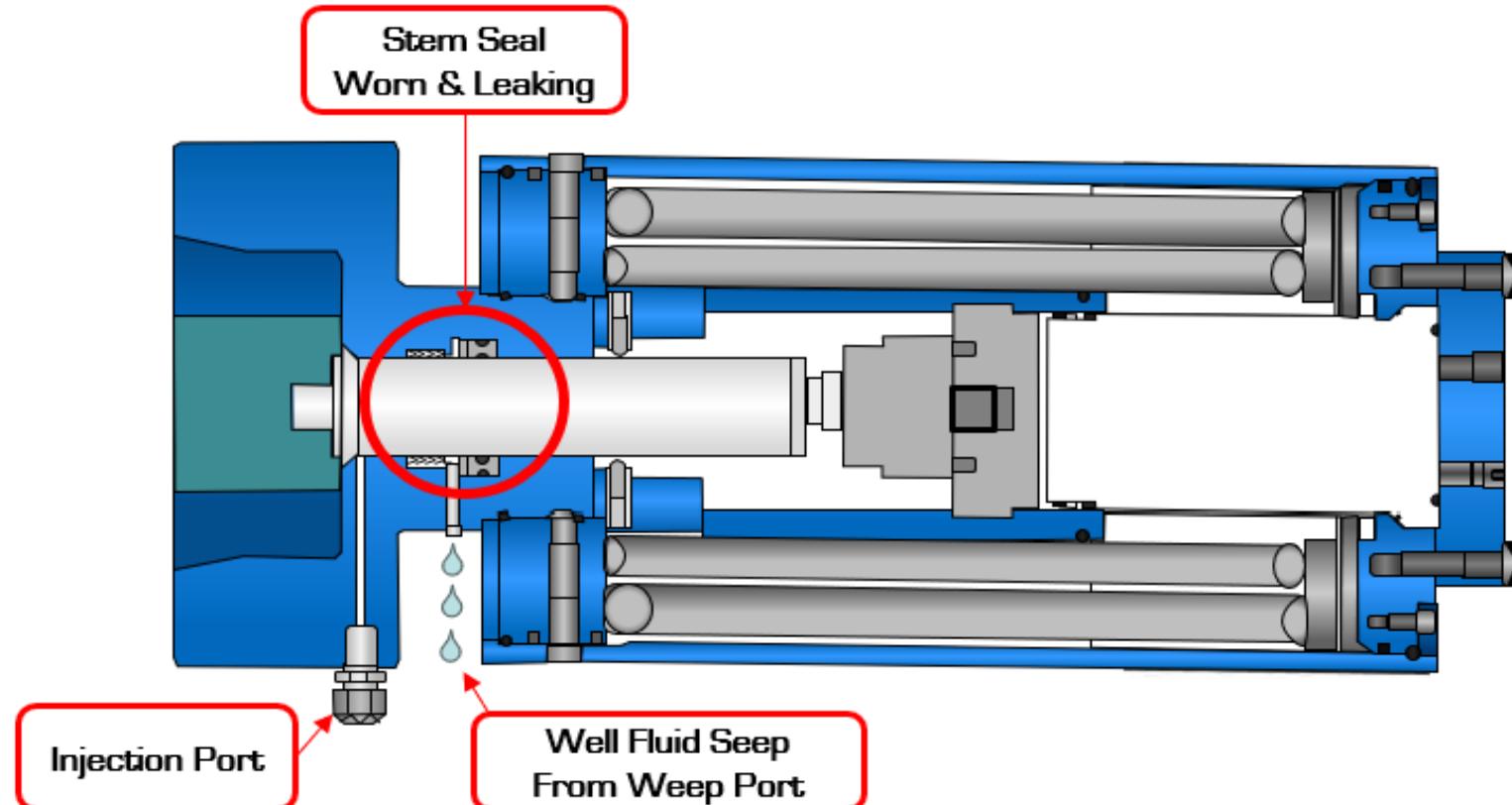
- The Paris Agreement is a legally binding global treaty, adopted in 2015 by nearly every nation.
- Target is 45% reduction in emissions by 2030 & Net Zero by 2050.



Methane Emissions Reduction

How Big is the Emissions Problem?

- 60% of Fugitive Leaks comes from Valves.
- 80% of Valve Leaks come from the Stems.



Methane Emissions Reduction

What's the Risk?

Research estimates that 25% of today's global warming is driven by methane gas released by human activities.

Methane, the main component of natural gas, is a greenhouse gas with a warming impact which, over 20 years, is 86 times greater than that of carbon dioxide.



Methane Emissions Reduction

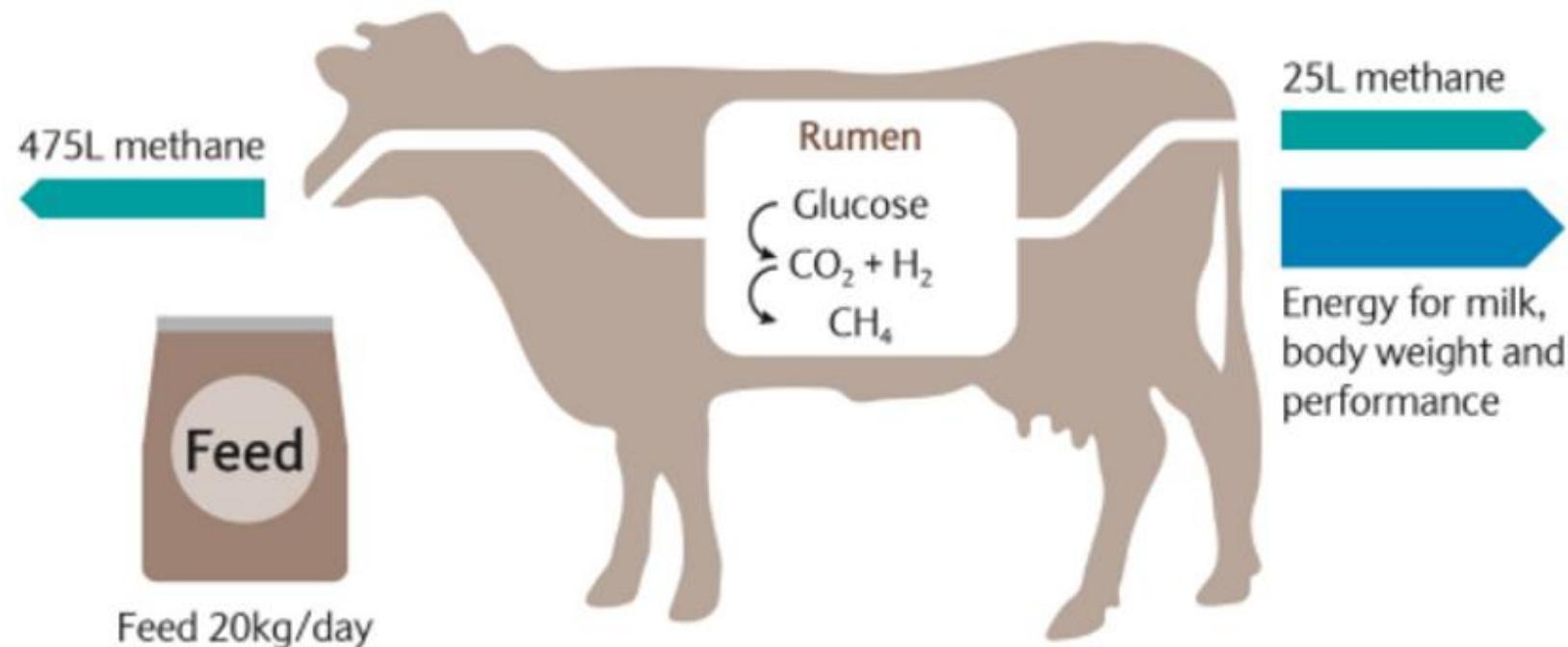
What's the Risk?

Each High Emitting Well at 400 Litres per year is equal to:

Driving 42 Million Miles in a Car.

Energy Use in 2000 Homes Per Year.

By comparison, +/- 400 Litres of Methane is Produced Every Day by a standard UK Cow.



Methane Emissions Reduction

Do you want to reduce

METHANE 
EMISSIONS

quickly and effectively?

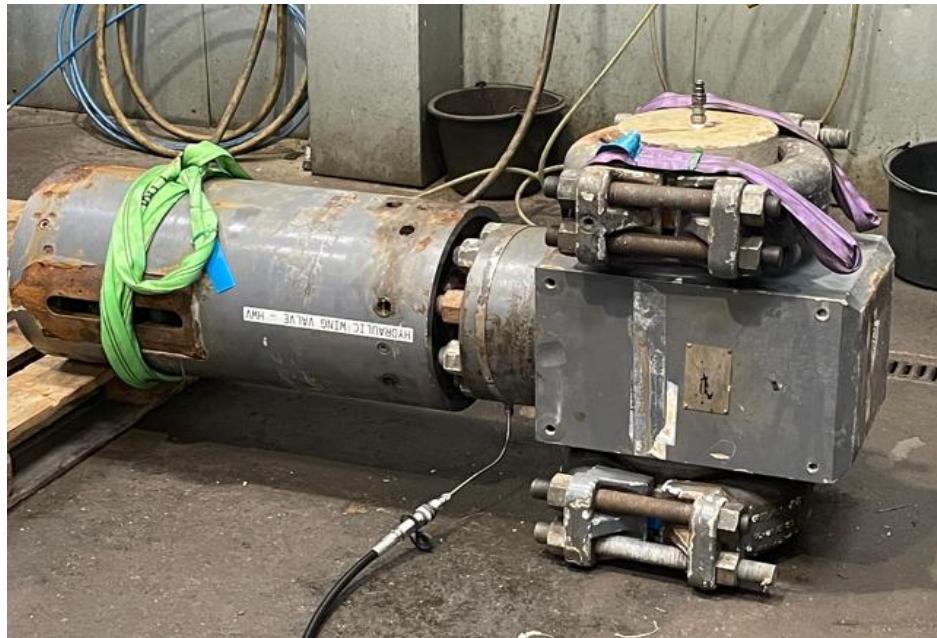
Methane Emissions Reduction

What's the Issue?

TotalEnergies Denmark identified an issue with leaking Stem Seals on a few of their Hydraulically Actuated Tree Valves where they leaked when in travel.

After initial discussions, an onshore trial took place in Denmark with a leaking Valve.

The leak path was further damaged by repeatedly using a hacksaw.



Methane Emissions Reduction

What's the Risk?

As well as the Environmental Damage these Leaking Wells create, there is a higher Primary Risk to humans:

H2S (Hydrogen Sulphide) Gas.

- H2S Gas is Colourless, Flammable & Toxic.
- H2S can leak from these Wells.
- Anything Over 100ppm (parts per million) is immediately dangerous to life.
- Anything Over 700ppm can cause immediate collapse, and death, within just one or two breaths.

Methane Emissions Reduction

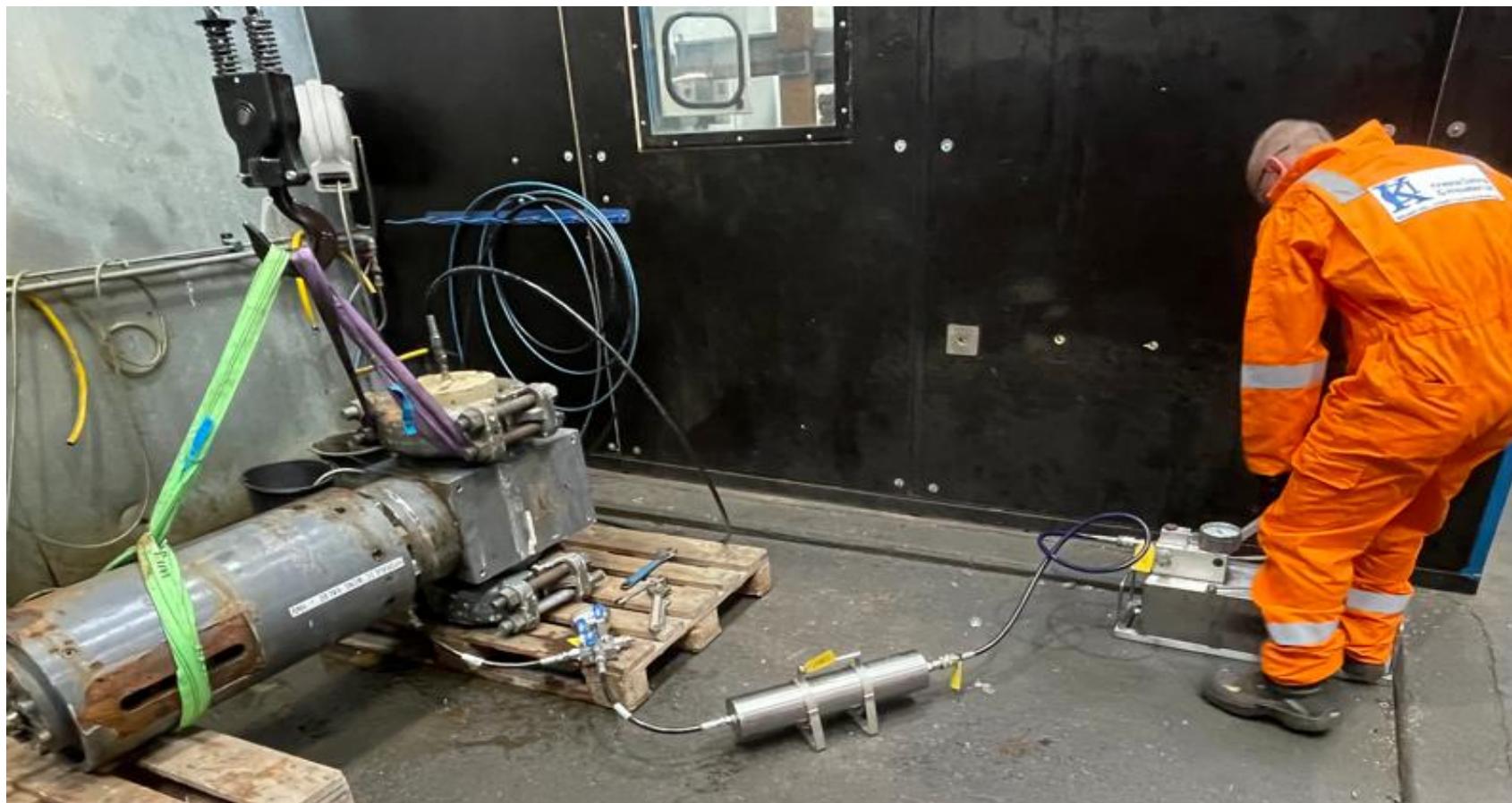
□ What's the Solution?

- KCI have a unique product called Mac-Pac which is a Sealant & Lubricant.
- Mac-Pac is proven to isolate leaking Stem Seals & Gate/Seat interfaces.
- Mac-Pac remains soft and pliable so allows complete movement of the valve to be retained.
- Mac-Pac's Operational Temperature -50° C to + 250° C.
- It remains in its high viscosity form throughout its temperature range but does not cure.
- Hundreds of successful operations carried out in the last 20 years.

Methane Emissions Reduction

What's the Solution?

Simply deploy Mac-Pac into the Valve using KCI's bespoke Tooling via the standard Grease Port fitting.

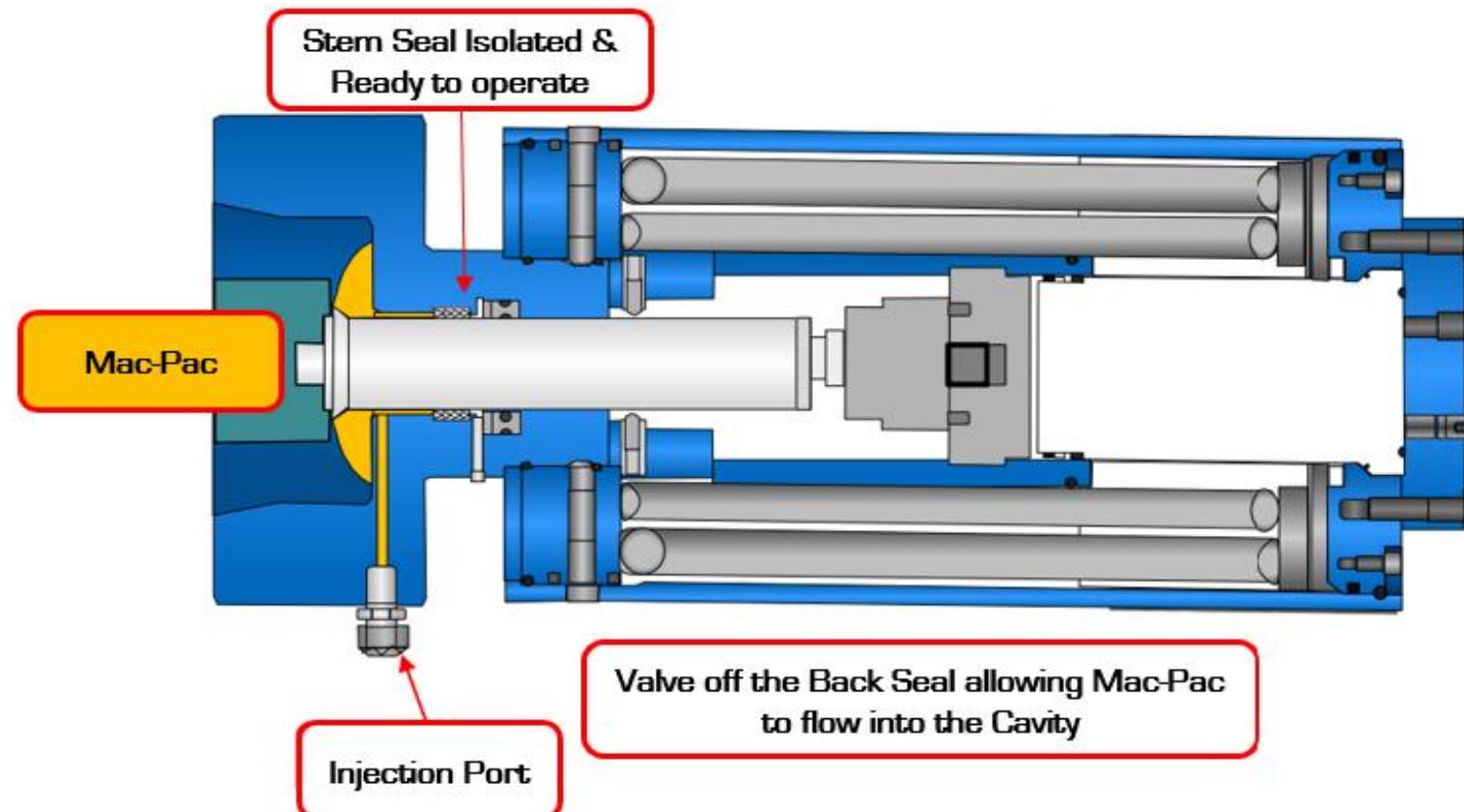


Methane Emissions Reduction

What's the Result?

The result was a successful isolation operation on Halfdan HBA-15 & 19 PWV's.

TotalEnergies Denmark were very happy with the operation and the successful isolation.



Thanks for your attention



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