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Reducing Compression Costs Without Sacrificing Performance: APA's Path to Lower Emissions

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ABSTRACT

As part of our commitment to achieving net zero emissions, APA has implemented advanced production modelling techniques and leveraged the OSI PI system to significantly reduce fuel consumption in gas pipeline transportation. By integrating technical innovation with cultural transformation, we have achieved substantial reductions in fuel gas usage, compressor run hours, maintenance costs, and safeguard liabilities.

Over the past 18 months, our cross-functional teams have meticulously analysed operational data, refined strategic approaches, and executed impactful changes. Utilising the OSI PI tool, we have harnessed real-time data visualisation to monitor and optimise pipeline compression operations. These enhancements were accomplished without any capital expenditure, relying solely on our existing infrastructure and tools.

This presentation will delve into the technical fundamentals of pipeline compression operations, elucidate the role of production modelling and data visualisation in driving efficiency, and demonstrate how cultural shifts have been as pivotal as technical advancements. We will also highlight the tangible benefits anticipated in FY24/25, showcasing the practical outcomes of our initiatives.

KEY WORDS

Emission reduction, compressor efficiency, energy, modelling, visualisation

BIOGRAPHY

Rupert is the Operational Emissions Lead at APA and has extensive experience in emissions reduction and operational efficiency. He has extensive skills in process engineering, modelling and visualisation. Rupert has been instrumental in driving APA's initiatives towards net zero emissions. He holds a Bachelor's degree in Chemical Engineering and Economics from The University of Queensland..

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