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Phoenix Park Gas Processor's Energy Transition

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ABSTRACT

The world energy crisis has stimulated the commitment of companies and countries around the world to reduce their GHG emissions. Phoenix Park Gas Processors Limited (PPGPL) has initiated energy efficiency projects in the past to reduce its carbon footprint to secure the current business. However, during abnormal operations and plant outages it was a challenge to maintain a lower carbon footprint. In an effort to improve operational excellence in 2023 the company decided to implement an ISO 50001 Energy Management System. An Energy Policy was implemented to make efficient use of energy at our facility while minimizing greenhouse gas emissions through management leadership and teamwork. This Energy policy was also supported by a multidisciplinary Energy Management Team in order to create a transformative level of energy consciousness across the organization. In 2024 the team developed a five-year Energy Management Plan to promote energy conservation and energy efficiency. Making every methane molecule matter has led to focused effort in sustaining a culture of energy efficiency throughout our operations.

The strategic objectives of plan were as follows:

1. Flare Reduction – Increased monitoring and tracking of all flows to the process flare and taking action to minimize flaring.
2. Natural gas Fuel Optimization – The creation of fuel maps to track all users of natural gas, conducting combustion air balancing on our fired heaters and optimization of all fuel controller.
3. Reduction in Methane (GHG) Emissions –Using optical imaging surveys throughout the facility to identify leaks and working the Asset Integrity Team on an aggressive repair strategy.
4. Optimization of Electricity Consumption – By encouraging employees to power down, the use of LED Lighting and the procurement energy efficient equipment.
5. Energy Awareness – Creating a culture of energy efficiency by reporting Energy performance and promoting energy management at the Organizational, Community and National level.

The overall impact of the Energy Management System has been a **10.3% improvement in Total Energy Utilization (mmBtu/BBL)** due to Energy Management initiatives from 2023 to 2024.

Therefore, by measuring, monitoring and managing every methane molecule PPGPL has not only reduced our carbon footprint but reduced our operating costs. Energy Efficiency is a viable solution for companies looking to reduce their carbon footprint. Since, with little financial investment there

are many ‘low hanging fruit’ which can result in huge monetary gains by reducing overall Energy Cost in addition to significant reduction in Methane Emissions.

KEY WORDS

Making every methane molecule matter

BIOGRAPHY

I am a Chemical & Process Engineer with over 22yrs petrochemical experience and hold an MBA with specialization in leadership and negotiation from Heriot-Watt University and have formal training as a Certified Mechanical and Reliability Professional and in ESG investing by Columbia Business School.

Over the last 15years I have been at Phoenix Park Gas Processors Limited and currently Head, Technical Services, where I lead Energy Management, Equipment Performance Monitoring, Plant Optimization and Process Safety Management. My passion involves creating a sustainable future for the next generation as our actions today create our future tomorrow.

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