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Abstract

Objectives/Scope

The Bokor Betty Rejuvenation & Brownfield Project aligned with PETRONAS sustainability initiative and its aspiration to achieve Net Zero Carbon Emission as part of its holistic approach towards supporting Sustainability Agenda. The project successfully reduced Greenhouse Gas (GHG) 2.25 mmtCO₂e/year from the 3 rejuvenation activity which equivalent to 500,000 passenger cars driven/year.

Methods, Procedures, Process

The main scope of this project are;

- a. Decommissioned two (2) of the existing old remote vent platform BEV-A and BOV-A platform, where it was successfully decommissioned in 2019 and 2021, respectively;
- b. Monetised the gas produced from the wells by installing Ejector Vapor Recovery Units (EVRU) to recover any gas emitted from surge vessel, to prevent gas emissions to the flare;
- c. and performed the conversion and integration of the existing venting system with the new Central Processing Platform (CPP) flare system via staggered RFSU strategy to provide a smooth start-up and in minimised existing plant interruption and production deferment.

The major scope and project journey toward the Zero Continuous Flaring and Zero Venting is shown as per Figure 1: Brownfield and Rejuvenation Scope.

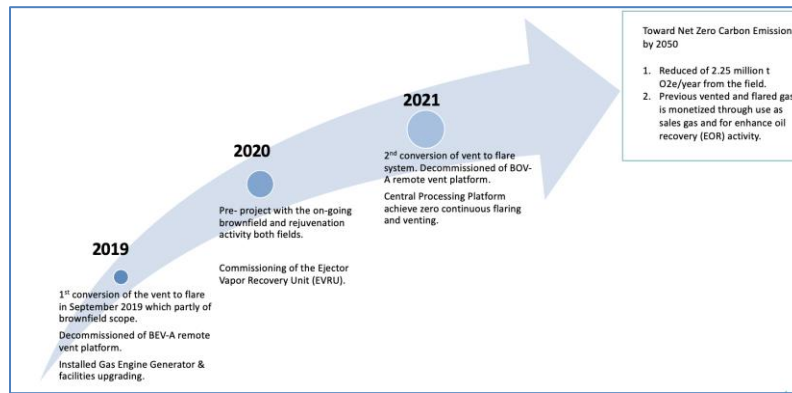


Figure 1: Brownfield and Rejuvenation Scope

Result, Observations, Conclusions

In conclusion, from the initiative that has been taken out by PETRONAS to achieve the Net Zero Emission by 2050. The company completed its target to reduce the Greenhouse Gas emission from the project's initiation. The brownfield and rejuvenation project executed from 2018, 2019, 2020, and 2021 finally reached zero continuous flaring and venting. It was recorded that 2.64 million tCO₂e/year in 2018 decreased from the following year through some initiatives to monetise further the LP gas produced from the wells with the low-pressure screw compressor (LPSC) and some of the operational improvement.

After the full integration in 2021, after a long journey of the project from 2018, the project was not only able to reduce the impact on GHG, the company also successfully increased the gas sales, which jump double from previous actual sales gas.

The company achieved an overall estimated reduction of the venting gas of 16 mmscfd per year and flaring of 3 mmscfd per year from this brownfield and greenfield project. The company materialised reducing the GHG impact with the estimated 2.25 mmtCO₂e/year which equivalent to 500,000 passenger cars driven/year.

Novel/Additive Information

This paper addresses the strategy and planning taken by PETRONAS to manage gas disposal and reduce Greenhouse Gas emission to environment which can be shared and replicated within energy provider in supporting global Sustainability Agenda.