

This abstract will be presented during LNG2023 conference on 10-13 July in Vancouver, Canada among many other innovative projects, ideas and outlooks. LNG2023 will provide a unique platform for the global LNG industry and key stakeholders to discuss, debate, and showcase the latest industry developments and opportunities.



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LNG APPLICATION ON INDONESIAN GENERATOR RAIL CAR CONVERSION (A PILOT PROJECT IN INDONESIA)

A state-owned Indonesian Railways Company, PT KAI, has been using Diesel Fuel. In 2019, Indonesian Downstream Oil & Gas Regulatory Agency ("BPH Migas") had given more than 246 million Liter of the subsidized Fuel for PT KAI. Therefore, BPH Migas urged PT KAI to reduce Diesel Fuel consumption and to consider other alternatives. In late 2021, PT PGN LNG Indonesia ("PLI"), got a blessing from PT KAI to conduct pilot project study to convert one of PT KAI's diesel engine generator rail car, P06704. It was a 500KVA diesel engine.

The conversion was done by installing a Bi-fuel Converter Kit on the engine, LNG regasification unit, tanks, gas & fuel meters, crammed into limited space inside the rail car. The study was intended to see performance of bi-fuel engine and to study LNG operational in rail car. Series of tests were carried out successfully, mainly: diesel engine test, static & dynamic test. The dynamic test itself were conducted on Jakarta-Surabaya commercial passenger route, witnessed by BPH Migas.

The study showed that on certain load, the bi-fuel engine offered higher performance & efficiency compared to its full-diesel. It was consistent both on static & dynamic tests. It also showed that this engine was capable of working on bi-fuel conversion in long travel route.

Further study also suggested that removable VGL tank should be used in order to solve space and operational flexibility problem. Next, PLI are aiming to convert more into bi-fuel in Java Island.

To view the full conference agenda, visit <https://www.lng2023.org/lng-programme-overview>