

## Study of Dual Fuel Engine as Environmentally Friendly Engine

**Authors :** Nilam S. Octaviani, Semin

**Abstract :** The diesel engine is an internal combustion engine that uses compressed air to combust. The diesel engines are widely used in the world because it has the most excellent combustion efficiency than other types of internal combustion engine. However, the exhaust emissions of it produce pollutants that are harmful to human health and the environment. Therefore, natural gas used as an alternative fuel using on compression ignition engine to respond those environment issues. This paper aims to discuss the comparison of the technical characteristics and exhaust gases emission from conventional diesel engine and dual fuel diesel engine. According to the study, the dual fuel engine applications have a lower compression pressure and has longer ignition delay compared with normal diesel mode. The engine power is decreased at dual fuel mode. However, the exhaust gases emission on dual fuel engine significantly reduce the nitrogen oxide (NO<sub>x</sub>), carbon dioxide (CO<sub>2</sub>) and particulate matter (PM) emissions.

**Keywords :** diesel engine, dual fuel diesel engine, emission reduction, technical characteristics

**Conference Title :** ICSR 2020 : International Conference on Scientific Research and Development

**Conference Location :** Chicago, United States

**Conference Dates :** December 12-13, 2020