

## Investigating of the Fuel Consumption in Construction Machinery and Ways to Reduce Fuel Consumption

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**Abstract :** One of the most important factors in the use of construction machinery is the fuel consumption cost of this equipment. The use of diesel engines in off-road vehicles is an important source of nitrogen oxides and particulate matter. Emissions of nitrogen oxides and particulate matter 10 in off-road vehicles (construction and mining) may be high. Due to the high cost of fuel, it is necessary to minimize fuel consumption. Factors affecting the fuel consumption of these cars are very diverse. Climate changes such as changes in pressure, temperature, humidity, fuel type selection, type of gearbox used in the car are effective in fuel consumption and pollution, and engine efficiency. In this paper, methods for reducing fuel consumption and pollutants by considering valid European and European standards are examined based on new methods such as hybridization, optimal gear change, adding hydrogen to diesel fuel, determining optimal working fluids, and using oxidation catalysts.

**Keywords :** improve fuel consumption, construction machinery, pollutant reduction, determining the optimal working cycle

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