Abstract

Nowadays, the whole world is facing an energy shortage, especially in underdeveloped countries. Usually, we burn fossil fuels to meet our energy requirements but major drawback of using these resources is in the form of environmental pollution. We must maintain the demand and supply of energy to meet the world's consumption target of energy and, with a challenge protect our environment with various undesired elements like carbon monoxide, oxides of nitrogen and sulfur. Now the world is focusing on renewable and clean fuels that can become the alternative to conventional fuels. This study was done to get the conclusion based on different research on using diethyl ether as an alternative for environmentally friendly fuel or as an additive for fuel engines. Basically, there are three different methods are present to eliminate harmful exhaust emissions in engines. Firstly, engine design and fuel injection system can be modified but it is costly and consumes more time for engines. Secondly, exhaust gas devices such as catalytic converter or filters can be used but these devices cause to decrease the overall engine efficiency. Final solution could the use of any other substitute for fuel or fuel additive. Major pollutants which are leaving negative impact on our environment are carbon monoxide, hydrocarbons, and oxides of nitrogen, particulate matter, and smoke. There are many studies and research are available that encourages to use other substitutes to fulfill the need of energy like, natural gas, biogas, bio diesel and other additives, Especially, this study concerns with the use of diethyl ether as an engine fuel or fuel additive after completing the practical work in laboratory and by comparing the physical and chemical properties of DEE and also the performance characteristics with other available fuels in market. Studies indicates that the ethanol can minimize the total dependence on fossil fuels by leaving positive impacts on the environment. In Pakistan, molasses is used as a raw material for bioethanol production at industrial level by fermentation. By blending of ethanol in gasoline or by making diethyl ether after the dehydration of ethanol using sulfuric acid as catalyst environmental benefits, energy need and reduction in harmful exhaust emissions can be achieved.

Keywords:

Diesel engine performance, Diethyl ether, Exhaust emissions, Fuel additives, DEE a Clean fuel, DEE Alternative to Diesel, Biofuels, Renewable fuels.