

2nd International Conference and Exhibition on **Industrial Engineering**

November 16-18, 2015 Dubai, UAE

Technical and economical investigation on utilizing used cooking oils as an energy source in the State of Kuwait

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A study was conducted in order to determine the feasibility of using used cooking oil as an alternative source of energy in Kuwait. The method used in this study involved data collection of all raw cooking oil produced in Kuwait and exported between the period of 2011 and 2014, which represents the overall amount of cooking oil within the country. This is followed by a calculation of the estimate used cooking oil produced from its initial stage. The estimated amount is then forecasted using linear trendline for forward data to determine the future changes in quantities and compared to diesel fuel in terms of cost, energy production, and environmental effects. The research findings showed that used cooking oil can be utilized as a supportive source of energy in Kuwait with less cost and environmental impact compared with diesel fuel. It also showed that energy output from such source is partially less than diesel but can be enhanced using metal based and oxygenated additives.

Biography

Naser Ali has completed his MSc in Thermal Power Fluid Engineering from Manchester University. He has 3 years of teaching experience as an instructor in the Department of Mechanical Engineering at the Australian College of Kuwait (ACK) and 4 years of research experience in Kuwait Institute of Scientific Research (KISR). He lead several projects in the field of nuclear safety and risk assessment, nano coatings for enhancing energy efficiency, reverse engineering of wind turbines, biofuel, and improving diesel fuel.

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