

6th World Congress on

BIOFUELS AND BIOENERGY

September 05-06, 2017 | London, UK

Economic study on the potential of bio-based-industry in UAE

Naeema I Aldarmaki and Maryam AIShehhi
UAE University, UAE

Economy of the United Arab Emirates (UAE) depends mainly on fossil fuels. Crude oil, and natural gas drive the wheel of industry, providing energy for heat and manufacture, and the raw materials for production, while distillates from the petroleum industry have reformed the face of modern life. Fossil fuels are finite in amount and their combustion makes gaseous products. The increase in atmospheric greenhouse gases (GHGs) has led to a major climate changes. Combining the need to renewable energy resources and the need of cleaner energy with less impact on environment have led the change towards a low-carbon bio-economy and renewable energy, which are products of bio-based industry. It is very important for the UAE to avoid the depletion of the oil and to reduce the greenhouse emission (GHGs). Futuristic studies are essential to understand, predict and therefore make the suitable decisions. In this study a UniSim simulation was built for the biodiesel production from the oil extracted from date pits in a continuous-stirred reactor (conventional method) to study the effect of different variables on the total yield of biodiesel. A comparison on economic analysis using various biomass oils as a feedstock was also conducted.

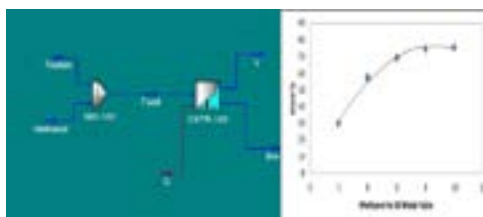


Figure 1: UniSim design of biodiesel Production using CSTR, with the results obtained of Yiled% as a function of Methanol to oil molar ratio.

Biography

Naeema I Aldarmaki has joined UAE University as first female faculty member in Chemical and Petroleum Engineering. She received her PhD in Chemical Engineering from Birmingham University, UK, in 2012 in the area of Supercritical Fluids Technology where carbon dioxide is used as solvent media for the separation and extraction of high valued lipid compounds. Her research interests are mainly in supercritical fluids technology, extraction and purification processes from biomass, phase equilibrium studies and mathematical modeling. She has worked as Visiting Researcher in Tohoku University (June-July 2013), Japan, in the area of Gas Hydrates and its application in the area of hydrogen storage. She received the UNESCO-L'ORÉAL Award 2013, Pan Arab Regional fellowship.

naeema.i@uaeu.ac.ae

Notes: