Abstract

Natural gas has a great potential because of the large reserves that currently exist at a worldwide level and because it is a cleaner source of energy than petroleum, but having the disadvantage of requiring high costs for its transportation. For this reason many alternatives for the development of reserves have loomed. Among these is the conversion of natural gas into synthetic ultra-clean fuels, called GTL, or Gas-to-liquids. Through this process, Fischer-Tropsch for the production of diesel, naphta and specialized products, which are used not only to effectively utilize natural gas reserves, but also, to cover at the need of more environmentally-friendly fuels. This article will shed light on GTL technologies, presenting on a first instance an analysis of the different stages of the Fischer-Tropsch process, then the current status of this technology, afterwards the costs of investment and the necessary conditions for a project of this kind to be carried out and finally, and analysis of the applicability or projection for this technology in Colombia. Based on recent studies, it has been observed that is technology has surpassed its demonstrations stage and it is now at a maximum point of interest where companies like Sasol (the largest worldwide company in the area of synthetic carbon-based fuels), Chevron Texaco, Syntroleum, ExxonMobil, ConocoPhillips, BP, Rentech and Shell. These companies have performed successful studies for the applicability of the Fischer-Tropsch technology at a large scale, and they will begin to build a number of large plants within the next few years, principally motivated by the low costs of gas and high prices of crude oil.

Keywords

gas-to-liquids (GTL), Fischer-Tropsch, Syngas, hydroprocessing, refining, conversion, natural gas, synthetic ultra-clean fuels, diesel, catalytic reforming, slurry.