Microbial Enhanced Oil Recovery Market Research Report – Forecast to 2023

Report / Search Code: MRFR/E&P/2025-HCRR

Publish Date: May, 2019

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Description:

Global Microbial Enhanced Oil Recovery Market Research Report by Bacterial Injection (Cyclic MEOR (Huff & Puff process), Microbial Flooding, Feeding Existing Bacteria), by Application, by Well Types (Offshore and onshore), and Region - Forecast till 2023

Market Scenario

With increasing demand for energy fuels, the demand for crude oil also rises. Very large quantities of valuable oil remains trapped in the reservoir even after implementation of primary and secondary oil extraction process. Enhanced oil recovery processes seek advantages from dire to increase oil production from the reservoirs, to fulfill the worldwide demand for crude oil. Enhanced oil recovery processes provide the maximum cost effective and production optimization of oil from the reservoirs to enhance the overall efficiency of upstream processes. The tertiary processes which are also called enhanced oil recovery are capable of extracting more than 50% oil that is trapped in the rocks.

Microbial enhanced oil recovery acts as a solution for the obstacles in the way of optimizing oil production including high viscosity of petroleum, impermeability of the rocks and reservoirs, and high capillary forces that retain the oil in wells. The microbial enhanced oil recovery technique uses bacteria and their by-products for increased mobility of oil from the reservoirs. Microorganisms are injected in the oil well that release certain products like gas, acid, bio-surfactants, exo-polymers and others that are capable to reduce the viscosity of the oil and the oil moves up to the surface.

Microbial enhanced oil recovery market is driven by the facts such as increasing number of mature wells globally, rising demand for cleaner sources for extracting oil, and recovering prices of crude oil. North America and Europe have largest number of mature wells and the largest number of oil companies. This leads to increasing deployment of microbial enhanced oil recovery technique in the oil fields. Besides there are strict regulations against the use of chemicals in the oil fields for recovery of oil as they pose threat to the land ecosystem. This leads the rising market for microbial enhanced oil recovery. Recent researches suggests that at least 50% of oil rigs in North America especially in U.S. and Canada are suitable for microbial enhanced oil recovery. However, its poor performance of technique against the peer chemical techniques is restraining the market.

Microbial enhanced oil recovery market has been segmented on basis of bacteria injection, application, well type and region. Based on bacteria injection, the market is classified as cyclic or huff & puff, microbial flooding, and feeding existing bacteria. Among these microbial flooding segment are expected to dominate the market share as the technique provides advantage of continuing production without any pause and water is flooded along with the bacteria. On the basis of application, market is further segmented as Interfacial tension reduction, Emulsification and De-emulsification, Selective plugging, Wettability Alteration, Gas Production, and Bio Degradation. Amongst these applications, interfacial tension reduction segment is the major market share holder. Oil and water have high interfacial tension which can be reduced with help of the microbes. This drives the market for interfacial tension reduction segment. Also the microbes can replicate in high temperature of oil well which helps in viscosity reduction of oil. Based on well types, the microbial enhanced oil recovery market is categorized as onshore and offshore wells. Onshore well segment is expected to capture
the market share owing to lower cost of research and tests in onshore than in offshore coupled with increasing number of mature wells, onshore.

MEOR industry is expected to have huge number of advancements over the forecast period owing to continuous developments in end use industry coupled with growing demand for exploration and production expenditure in oil industry. The market is also expected to have high expansion activities by multinationals and well-established companies.

The global microbial enhanced oil recovery market is expected to expand at ~20% CAGR during the forecast period.

Market Segmentation

Global Microbial Enhanced Oil Recovery Market

Global Microbial enhanced recovery market is expected to witness exponential growth during the forecast period due to high number of mature wells, rising demand for oil, and increasing expenditure on research and tests by upstream players. North America and Europe region are expected to dominate the market share of the microbial enhanced oil recovery. The oil fields in these regions have reached their peak life and require tertiary methods to recover the untapped oil in the rocks. According to Titan, a major oil company, the microbial EOR technique has potential to increase the success rate of the oil well by 84%. U.S. has been conducting various research and trails projects in the oil fields to find the success rate of implementing the MEOR technique. Asia Pacific and the Middle East region is likely to follow the market share owing to increasing demand for fuel from the growing nations. China and India are net largest importers of crude oil in the world.

Key Players

The key players of microbial enhanced oil recovery market are RAM Biochemicals (U.S.), Weatherford International (U.S.), Occidental petroleum (U.S.), Synthetic Genomics (U.S.), Titan Oil Recovery (U.S.), and BP (UK). National Oilwell Varco, Inc. (U.S.), Halliburton (U.S.), Wintershall (Germany), Genome Prairie (Canada), Glioti Energy Inc. (U.S.), and Chemiphase (UK) are among others.
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