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Overview of produced water treatment technologies

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Abstract

One of the major requirements for sustaining human progress is an adequate source of water and energy. Large volume of water produced during oil and gas extraction, called produced water, are generated in drought prone locations that are also experiencing an increase in population. Produced water is the largest waste byproduct of the oil and gas industry; at some point the cost of managing the produced water exceeds the profit from selling the oil; however, with appropriate treatment, it can serve as a new water supply in the world. Many different types of technologies can be used to treat produced water. This article reviews current technologies for the management of produced water based on driving force: temperature driving force, pressure driving force, and electrical driving force. It also suggests that treatment technologies based on electrical driving force (ED/EDR) could be the future of the produced water management.

Biograph

Fattaneh Naderi Behdani is doing her PhD in Chemical Engineering at New Mexico State University. She got her B.Sc. and M.Sc. in Chemical Engineering at University of Tehran. She is working on water desalination project in Institute for Energy and the Environment (IEE) at New Mexico State University.