

Cost-based analysis about hybrid FO, crystallization and RO seawater desalination process for feasibility study

박기호, 박은현¹, 김도연², 양대륙[†]
고려대학교; ¹현대중공업; ²Imperial College London
(dryang@korea.ac.kr[†])

Many researchers have investigated new hybrid seawater desalination technology for improving energy efficiency in the desalination system. Even though there are quite number of suggestion of hybrid process, they cannot surpass cost and energy efficiency of reverse osmosis process. In our previous study, we suggested a new hybrid process, which is comprised of forward osmosis (FO), crystallization and reverse osmosis (RO) units. For realization of this new process, draw solute should be carefully selected. So we investigated draw solute candidates for the process. In this present study, cost estimation of the process is performed based on the experimental results and reverse osmosis plant data. The results show that the hybrid process with appropriate draw solute has a sufficient potential as an alternative of RO process.