

Economic Evaluation of Geothermal-VMD hybrid Process

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Water scarcity is one of the most serious global challenges of our times. As global population is increasing by 80 million a year, the challenge of providing enough and safe drinking water is becoming the most significant problem in the world. Seawater desalination is regarded as the solution of this problem. The most efficient technology of seawater desalination is reverse osmosis(RO). But because of the high pumping cost of RO process, the effort for searching the alternative of RO process has been performed. Geothermal-VMD hybrid process is the one of the technologies of seawater desalination. The virtues of this technology is the high capacity factor to operate the power plant at full capacity for 24 hours per day.

In this study, economic evaluation of geothermal-VMD hybrid process is performed to decide the feasibility of this process. Based on the NPV(Net Present Value), the break-even point of this process is 5.36 year. Sensitivity analysis is also performed to indicate the most significant variable of this process when the circumstances of this process is changed.