

## Design of Seawater Desalination Process Using Hybrid SWFO, Crystallization and SWRO

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Membrane based seawater desalination and wastewater reuse are widely considered as promising solutions to augment water supply and alleviate water scarcity. In pursuit of energy reduction, many studies have been done to improve existing water treatment technologies, particularly with regard to increasing the effectiveness and lowering the cost of membrane-based treatment methods. In this study, a new hybrid SWFO, Crystallization and SWRO process as a alternative existing desalination membrane process is suggested. The simulation through mathematical model which consist of mass and energy balance equation is used to estimate the required energy of the hybrid SWFO, Crystallization and SWRO process. Also, the simulation through mathematical model which consist of mass and energy balance equation is used to estimate the required energy of the hybrid process.