

# Salinity Gradient Power Generation : PRO process

## Technology Overview

- Pressure retarded osmosis (PRO) is a membrane-based process that generates power from salinity gradients
- This PRO process is based on the pairing of seawater and river water as a salinity gradient resource
- PRO requires a back pressure on the high-salinity draw solution side that retards the permeate water flow and generates power by depressurizing the solution through a turbine

## Core Technologies

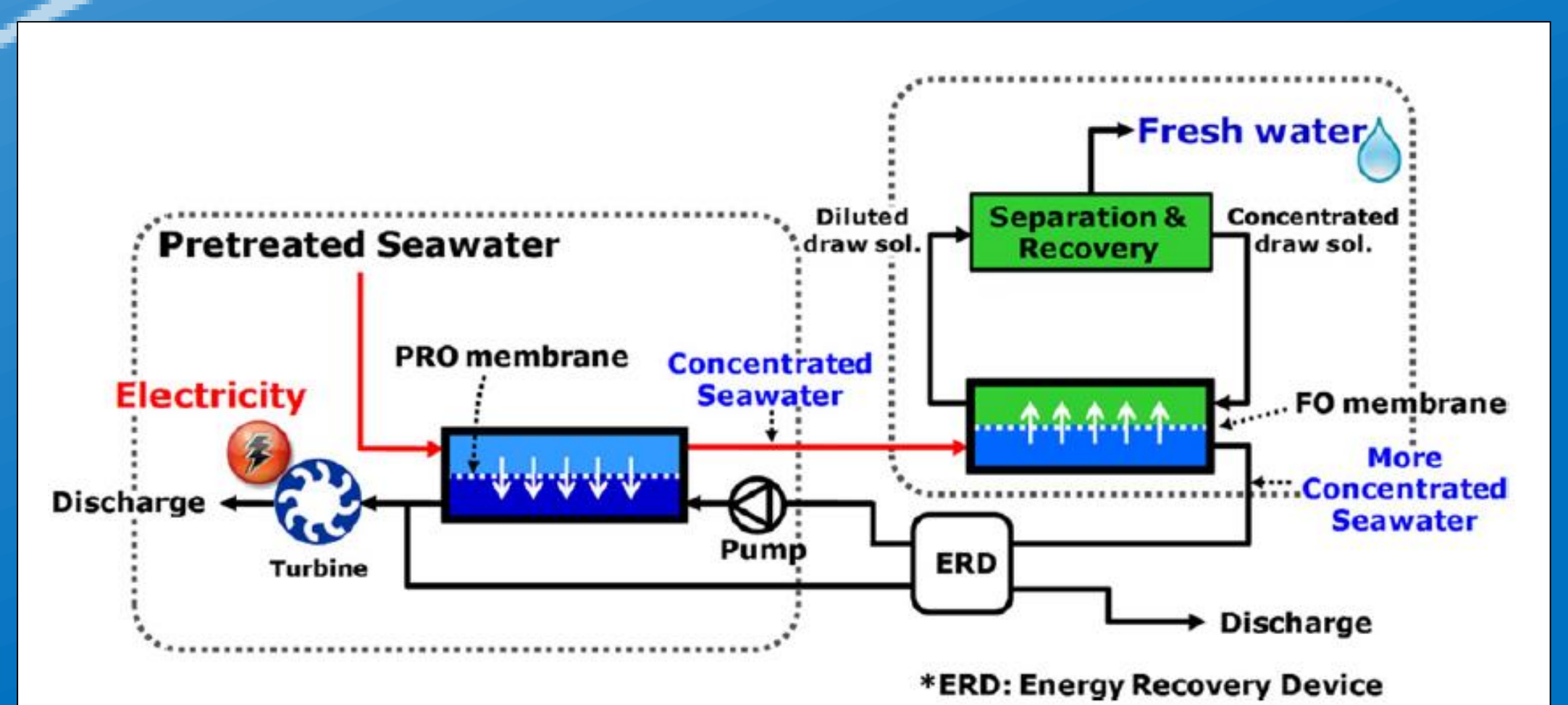
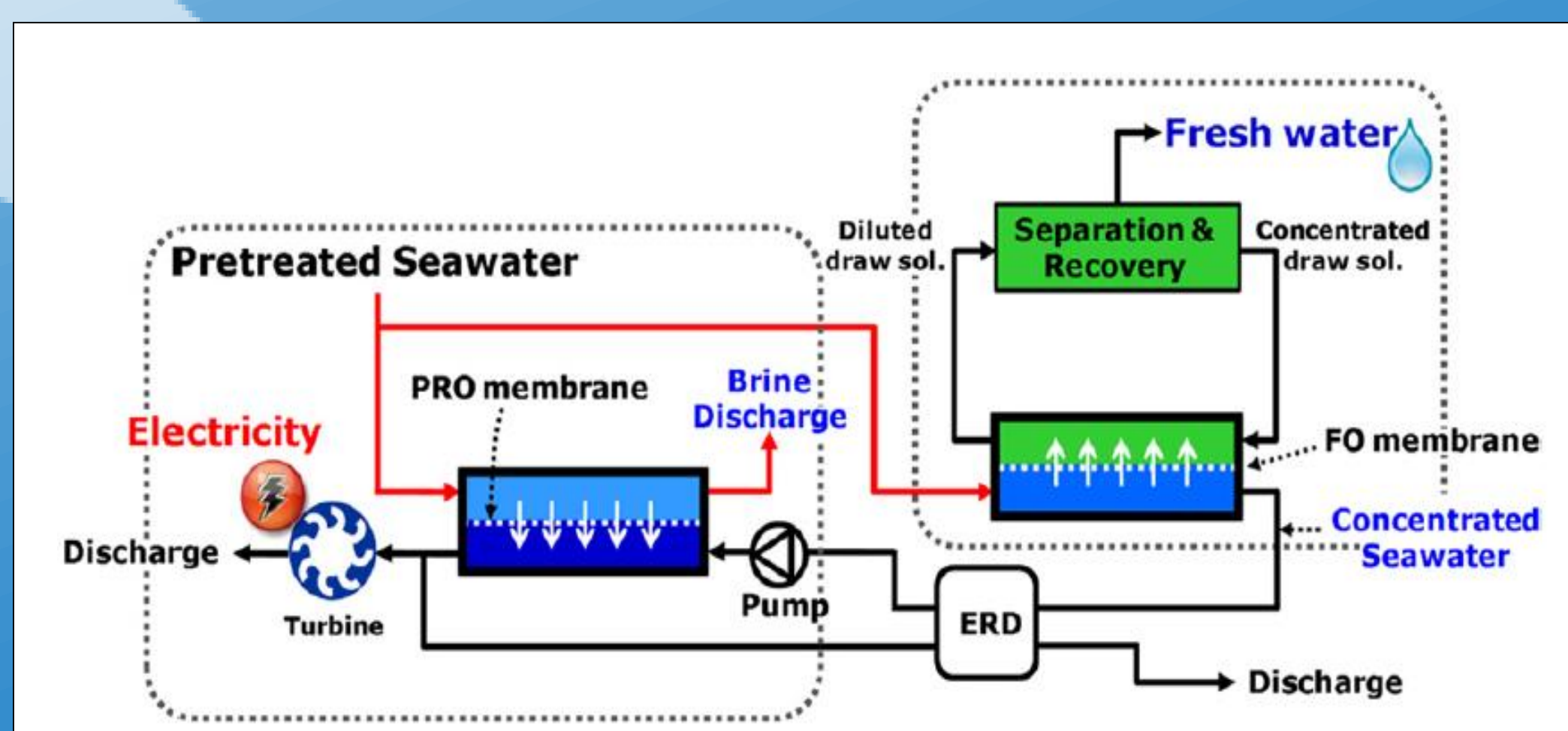
- PRO process and system design
- Hybrid process of RO/FO desalination and PRO power generation
- Membrane process design for salinity energy conversion

## Application Area and Advantages

- Renewable energy power generation
- Salinity energy recovery for a desalination plant
- Seawater as a salinity source is vast and the salinity gradient energy is non periodic

## Accomplishments

- 2 patents in the related technology, 4 international journal article (SCI)
- Preferred partnership ([technology transfer](#), [technology licensing](#))



\*The above PRO systems use seawater as feed solution and concentrated brine from a desalination plant as draw solution