



Reuse and minimization of desalination brines: a review of alternatives

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ABSTRACT

Desalination is currently one of the available solutions to the problem of the lack of water present in most countries due to the global increase in water demand. One of the desalination plants main problem is the large amount of reject brine produced, which can very often severely damage the receiving environment. Nowadays, the management of this residue is based mainly in the dilution prior to the discharge. However, there are many emerging alternative technologies that can be combined to achieve a minimization and valorization of brine and thus an appropriate management. This article introduces and describes briefly the set of available techniques. Each alternative has been assessed in terms of technology, economic and environmental merits, resulting in a numeric table.

Keywords: Discharge; Valorization; Zero-discharge; Brine; Reverse osmosis; Reduction

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