Large-scale water desalination methods: a review and new perspectives

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ABSTRACT
In this paper, modern large-scale industrial water desalination technologies are briefly reviewed and a comparison between their technological characteristics and field of application is presented to indicate possible areas for technology advancement. In addition, recent developments in distillation processes and new desalination methods are introduced for relevant technologies, offering more accessible water supplies. The research was based on both work with analytic materials from large information agencies involved in the desalination industry and research carried out by individual authors and research institutions. The authors discuss the possibility of applying their own technology for water distillation, so called supercavitating evaporation. Analysis of the current situation indicates an increasing trend for reverse osmosis technology for water desalination, the rise of newer technologies and further limitation of thermal methods for heat utilization purposes.

Keywords: Desalination; Distillation; Reverse osmosis; Thermal methods

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