

Seawater desalination as an option to alleviate water scarcity in South Africa: the need for a strategic approach to planning and environmental decision-making

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Abstract

In the last decade, seawater reverse osmosis (SWRO) has come to be seen by policy-makers as a novel technology that will significantly advance water security in South African coastal regions. Water purveyors, from the private sector, local/district municipalities and provincial authorities, are undertaking studies to explore the feasibility of SWRO to meet growing demand and relieve mounting pressure on current bulk water supply infrastructure. With this in mind, it is suggested that national strategic planning should be introduced to present the opportunities and constraints of the desalination option within the national water and energy policy. In absence of this, piece-meal decisions will be made at local authority levels and the construction of SWRO plants will be determined by regional circumstances (e.g. drought) as opposed to national water policy agenda. This paper explores the value of such a strategy by considering the drivers of SWRO in South Africa, the risk of unplanned large-scale SWRO implementation (with a focus on environmental impacts) and the initial steps that could be taken toward a Strategic Environmental Assessment for SWRO in South Africa.