# Sustainable Energy Management From Seawater Desalination Sludge With a Circular Economy Approach

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In recent years, the demand for fresh water has been increasing with the increase in the world population and seawater desalination has attracted global attention. The concentrated waste resulting from the desalination process of seawater is called sludge. Since the disposal of sludge in the environment is limited due to factors such as high disposal costs, and some legal restrictions, it is necessary to find a suitable method for managing seawater treatment sludge. In this study, various methods of recycling sludge from seawater treatment have been investigated and compared. Recycling methods based on the concept of circular economy include the reuse of sludge as coagulants, in the agricultural and construction industries and in fabrication of electronic energy storage devices. Studies have shown that converting bulky sludge produced in seawater treatment systems into value-added products can be a very suitable and environmentally friendly alternative method for sludge management.

**Keywords: Seawater Desalination Sludge, Circular Economy, Coagulant, Agriculture, Construction, Energy Storage**

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