

Overview of sustainable water management in the MENA green industries

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ABSTRACT

Water is a key ingredient in many industrial processes and supporting activities. Considering the extreme water scarcity and the rapid rise in demand in the Middle East and North Africa (MENA) region, it is paramount that industries in the MENA region place as a top priority sustainable management of water resources and the reduction of the impact of their operations on the environment in general and fresh water bodies in particular. This paper discusses these water-related issues in the MENA region, which is at the core of the UN green industry initiative. The paper explores the range of industries, technologies, initiatives and governance issues in the MENA region where water plays the central or a significant role through greening existing industries or in creating new green industries. In particular, the paper discusses backed by case studies water conservation in industry, industrial infrastructure, desalination using renewable energy, research and development and governance. The study shows that the region is witnessing increasing use of renewable energy – particularly solar energy – in desalination. However support of research and development in increasing water use efficiency and reuse is still lacking. Although several countries in the region have strict laws and regulations with respect to wastewater treatment and reuse they are not adequately enforced. The study recommends adopting water and energy pricing schemes that properly capture the real cost of these scarce resources and send clear signals to the industrial sector to adopt more effect water conservation and reuse measures. The region should also increase their investment in research and development in the green industry sector.

Keywords: Green industry; Water; MENA; 3Rs; Sustainability; Wastewater

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