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The potential for industrial wastewater reuse

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Description / Abstract

Continuous extraction of water has resulted in depletion of available water sources in and around the industrial areas. In addition, wastewater discharge into natural watercourses has caused surface and groundwater pollution, leaving water unsafe for potable use and impairing industrial use without major and costly treatment. The current low cost end-of-pipe treatment approach will become increasingly expensive as effluent discharge standards become more stringent. Meanwhile, technological advancements now make it possible to treat wastewater for variety of industrial reuse. Most industries in even developing countries are already moving towards wastewater reuse and source separation and treatment of separated effluents is gaining more attention. Wastewater reuse potential in different industries depends on waste volume, concentration and characteristics, best available treatment technologies, operation and maintenance costs, availability of raw water, and effluent standards. Radical changes in industrial wastewater reuse have to take into consideration rapidly depleting resources, environmental degradation, public attitude and health risks to workers and consumers.

This chapter discusses the potential for industrial wastewater recycling and reuse and treatment technologies attaining such a goal, in increasingly competitive market and stringent regulatory environment.

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