

Alternatives of Different Refinement and Transmission System Applications in Refining and Reusing of Wastewater at Namık Kemal University

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Aim of the study: In order to achieve sustainable goals, the detection and application of methods, which could reduce or bar waste of water, wastewater and waste electricity, are very important in establishing techniques and systems which could be used to combine social and economic aims with ecological needs.

Material and Methods: The wastewater of university is a kind of domestic wastewater, and at least 60% of the total wastewater usage consists of grey water, and this water will be reused. Domestic wastewater will primarily be collected in 2 different systems. These could be two side by side piping systems, as well as a different system to be obtained by passing a smaller diameter pipe through the same pipe.

As material in this system;

- 1- Waste water storage tank,
- 2- "Discontinuous suction and force pump",
- 3- A different suction pipe for negative purposes and all kinds of materials,
4. All the equipment of the existing wastewater treatment plant will be used.

Results: The more the demands and standards of environment rise, the more necessary it has become to figure out and apply effectively different and innovative solutions. Particularly, it is really important for the countries or cities whose foundation of facilities or running those facilities cost a lot to be able to reuse wastewater. For example, the need for water increased by 45% in Istanbul (Turkey) and increased by 20 % in Sydney (Australia) and 14, 8 % in Monterrey (Mexico) in the last ten years.(2008, OECD research). It is seen that, in the countries where tourism has developed, the usage of electricity overnight is between 3-6 kWh per bed and water 600-1300 liters per bed. Ultra refining, combined purification and transmission technology (membrane, UV, transmission by vacuumetc.) which have been reconstructed and used after the 1990s, have been researched within the scope of the present study. Reactivating the existing water purification system at Namık Kemal University central campus, which is convenient for daily usage in the summer months, and ultra-refining methods purified from bacteria and utility of the systems that are determined to use in the transfer of waste water, have been presented comparatively in the present research.

Key words: Reuse, vacuum canal system, grey water, membrane.