9th ICEEE – 2018 International Conference on
"Climatic Change and Environmental (Bio) Engineering"
22nd - 24th of November, 2018
Budapest, Hungary

PURIFIED SEWAGE AS AN ALTERNATIVE SOURCE OF WATER

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In the 21st century, water scarcity is one of the biggest global problems affecting all societies. Almost fifth of the world's population live in a real physical water deficit, and quarter of the population face economic water shortage, which means they do not have the infrastructure that would allow for the extraction of water from surface or ground sources. Additionally, climate change has also an effect, which has already been accepted by most of the world's scientific community and found that the major cause is the greenhouse gas emissions from human activities - industrial activity, motorized transport, industrial agriculture - carbon dioxide, nitrous oxide). The consequence of this is the more acute water cycle, the change in evaporation conditions, which is further strengthened by change of the surface (change of plant cover, change in the ratio of enclosed or built-up areas, drainage of surface water, etc.) and direct heat emission of buildings, plants, vehicles, etc. in built-up areas. The growing population and the changing climate result water demand increase. This fact, and the limited access to water, plus the fierce competition for water sources, have created the need for today's so-called "non-traditional" sources of water, like low-yielding wells and springs, rain water, rainfall precipitation, urban rainwater and that's why waste water recycling should be also considered in water management. The reuse of purified sewage in safe and cost-effective manner is a valuable, but not sufficiently exploited way to enhance water supply and reduce the pressure on excessively exploited water resources. The purpose of this study is to present practical solutions that contribute to implementation of integrated water management through purified waste water recycling.

Keywords: *wastewater recycling, climate change, circular economy, sustainable water management*

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