INNOVATIVE HYBRID MBR-(PAC-NF) SYSTEMS TO PROMOTE WATER REUSE

COORDING BENEFICIARY:

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OBJECTIVES:

The final objective of the aWARE project is to promote the use of reclaimed water within water management organisations thus, reducing the negative environmental impact related to natural water resources overexploitation. The main technological challenges related to water reuse can be summarised as reliability, removal of recalcitrant compounds and environmental impact (decrease of energy consumption, low reagents use, etc.). To this end the aWARE project aims at demonstrating the technical feasibility and assessing the economic and environmental viability of two different MBR-PAC-NF configurations as advanced treatments for wastewater and reclamation facilities. The configurations considered will be: i) a side stream Membrane BioReactor (sMBR) composed of UltraFiltration (UF) membranes, coupled to NanoFiltration (NF) membranes and enhanced by Powdered Activated Carbon (PAC) addition; ii) a sMBR composed of NF membranes also improved by PAC addition. The proposed innovative hybrid systems will especially target emerging contaminants removal, which nowadays are only partially eliminated in reclamation processes and thus, may pose an obstacle to water reuse implementation. Additionally, these systems will provide an increase in the steadiness and overall quality of the reclaimed water produced, as well as reducing costs and environmental impact.

DESCRIPTION:

The aWARE project will demonstrate the technical feasibility and assess the economic and environmental viability of different MBR-PAC-NF configurations for wastewater treatment and water reclamation facilities. The proposed innovative hybrid technologies will especially target emerging contaminants removal, which nowadays are only partially eliminated in water treatment and reclamation processes. The MBR/PAC/NF based prototype will be modular so that a high degree of flexibility will be achieved, enabling the testing of various configurations.

INDUSTRIES:

Identification of potential reclaimed water consumers from the region will be conducted, covering agriculture, industries and municipalities. Its potential demand will be quantified in terms of volume (in an hourly basis) and water quality required.

MORE INFORMATION:

http://www.life-aware.eu/