

## **Biochemical Evaluation of Air Conditioning West Water in Jeddah City: Concept of Sustainable Water Resources**

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**Abstract :** As the need for water is increasing globally, and the available water resources are barely meeting the current quality of life and economy. Air conditioning (AC) condensate water could be explored as an alternative water source, which could be considered within the global calculations of the water supply. The objective of this study is to better understand the potential for recovery of condensate water from air conditioning systems. The results generated so far showed that the AC produces a high quantity of water, and data analysis revealed that the amount of water is positively and significantly correlated with the humidity ( $P \leq 0.05$ ). In the meantime, the amount of heavy metals has been measuring using ICP-OES. The results, in terms of quantity, clearly show that the AC can be used as an alternative source of water, especially in the regions characterized by high humidity. The results also showed that the amount of produced water depends on the type of AC.

**Keywords :** air conditioning systems, water quantity, water resources, wastewater

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