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MITIGATION OF WATER SCARCITY IMPACT THROUGH WATER DEMAND PLANNING IN INDUSTRIAL AND URBAN AREAS OF EASTERN ECONOMIC CORRIDOR IN THAILAND

Chavalit Ratanatamskul
Center of Excellence in Innovative Waste Treatment and Water Reuse Faculty of Engineering, Chulalongkorn University, Bangkok, Thailand
chavalit.r@chula.ac.th

Abstract

Water demand for industrial and urban areas in EEC area is rising more and more when full development is achieved. At present, industrial, tourism, and urban water demand in the EEC area has reached higher than 800 million m3/year. For next 20 years, the water demand will be higher than 1,000 million m3/year. Therefore, water shortage will occur without new alternative water resources. The objective of this research is to manage water demand by water use reduction, saving and wastewater reclamation for the EEC area. From the research investigation, the appropriate wastewater treatment and recycling for urban area can be suggested for 3 models as a large-scale wastewater treatment with water recycling unit; a cluster wastewater treatment with water recycling unit for small-scale community; an individual on-site wastewater treatment and water recycling unit for office and commercial buildings. High potential of water demand management will be achieved for water saving of 600 million cubic meter per year in 2020 when water consumption can be reduced by 15% for industrial sector, 10% for service sector and 10% for agricultural sector together with

urban wastewater recycling in the case of 7 large cities in EEC with large volume of wastewater (larger than 40,000 m3/day). Moreover, legal and economic measures are also important to support the water saving and wastewater reclamation policy for efficient water demand management in EEC zone.

Keywords:
Water Demand, Water Scarcity, EEC Area, Water Use Reduction, Wastewater Reclamation