

RECENT ADVANCES IN BIOENVIRONMENTAL ENGINEERING

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CHAPTER 6

Production of Process Water from Biologically Treated Palm Oil Mill Effluent (POME) using Ultrafiltration Membrane

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Introduction

Global water consumption has doubled every 20 years along with population growth, urbanisation and expanding economic activities and this increase has resulted in intensified pressure on water resources. The world is also facing the dilemma of the lack of access by the poor to safe drinking water. There are 884 million people, or 13% of the world population, who do not use an improved source of drinking water (WHO and UNICEF 2010). If the current trends of water demand continue, water shortages will become even more intense - approximately half of world's population will suffer from high water scarcity in 2030. Coupled with this, climate change has emerged as a driving force in increasing stresses on water resources by changing the physical condition of water resources and water consumption patterns, which could account for about 20% of the increase in global water scarcity (UNESCO-WWAP 2009). The increasing pressures on water supply and the problems of wastewater disposal can be solved by water reuse. Palm Oil Mill Effluent (POME) is a highly voluminous liquid waste which is non toxic, has an unpleasant smell and very polluting. There is an urgent need to find a compromising way that will enable the balance between the environmental protection and sustainable reuse of the water in POME.