

RESEARCH AND APPLICATION OF ANAEROBIC MEMBRANE BIOREACTOR FOR TREATMENT OF INDUSTRIAL WASTEWATER FROM BEER PRODUCTION IN VIETNAM'S CONDITION

A typical Anaerobic membrane bioreactor (AnMBR) system consists of an anaerobic bioreactor as a fermentation work for methane and a microfiltration membrane to separate wastewater and sludge. The results showed that AnMBR technology has many advantages over biological treatment technology such as: Reducing energy consumption; Reducing the volume of sludge; Recovering biogas for bioenergy; Treating large amounts of pollutant load; Water after treatment is of good quality...etc

Beer industry is strongly developing in Vietnam, by the end of 2017 the beer output was about 3.9 billion liters per year. In order to produce 1 liter of beer, from 3 to 10 liters of wastewater is generated. The wastewater characteristics of the wastewater from Beer are rich in organic compounds. AnMBR technology is an application potential for achieving two goals as recovering the energy and improving wastewater quality for reuse. Therefore, the application research of AnMBR technology to treat wastewater from Beer production is necessary.

Subjects of the study

- wastewater from Beer production
- Anaerobic membrane bioreactors (AnMBR)

Objectives of the study

- Application of AnMBR anaerobic membrane bioreactor technology and to propose suitable treatment technologies in Vietnam condition.
- Evaluate and propose solutions to enhance energy recovery through biogas recovery
- Evaluate and compare the efficiency of membrane fouling by adding Polyethylene glycol (PEG) and the traditional technology