

Topic: Effect of Energy Efficiency Policy on Avoided Investment Cost for Electricity Utilities

Name of student: Mr. Watsapon Tharana

Student ID : 55300700530

Name of supervisor: Dr. Athikom Bangviwat

ABSTRACT

A continuous increase in energy demand in Thailand affects the future, including energy supply security, energy costs, dependency on energy imports as well as increasing pollution and carbon dioxide (CO₂) emission. As a result, the Ministry of Energy announced 20 years Energy Efficiency Development Plan (EEDP) to reduce energy intensity in 2030 by 25% compared to that in 2005. The improvement of energy intensity will result in a reduction of 20% of final energy consumption in 2030. In order to support EEDP, energy efficiency obligation program which is an obligation of the electricity utilities to support their customers to improve their efficiency in electricity usage, is introduced and analyzed in this research. The analysis is focused on the benefits from reducing electricity demand by implemented measure of EERS, which is one measure of EEDP, and its related cost saving from 2016 to 2030. With the target stated in measure of EERS, which is aimed to reduce 1% of electricity demand a year, it is estimated that the reduction in the year 2030 will be 48,612 GWh, which is equivalent to 60% of EEDP target of electricity consumption reduction. The cumulative saving due to the decrease in electricity consumption during 2016 and 2030 can be calculated to be 12,066.37 Million Bath for utilities and cumulative reduction of CO₂ emissions by 160,485.36 kilotons

Keywords: Energy Efficiency, EEDP, EERS, Saving costs, CO₂ emissions, Utilities