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## Personnel responsible for energy capacity building programs for sustainable energy efficiency in Thailand

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### Abstract

Since 1992, the designated factory and commercial building in Thailand have to officially appoint their own personnel responsible for energy (PRE) under the Energy Conservation and Promotion Act B.E. 2535 (A.D. 1992). PRE is an important element for each designated facility to drive the energy management system and ensure its success of the program. In Thailand, one may become PRE from various methods, but most common way of becoming PRE is from PRE training programs under required educational background. This paper concludes the PRE training programs in Thailand which consists of five main curriculums as the following: 1) PRE for designated factory 2) PRE for designated building 3) Senior PRE theoretical training 4) Senior PRE practical training and 5) PRE for manager level. The first four curriculums are compulsory programs required by law while the last one is a voluntary program. The technical comparison between those five curriculums is presented. The driving mechanism to implement those five curriculums including barriers are also raised.

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### 1. Introduction

There has been a quick increase in energy demand for responding to the economic and social growth of Thailand. It becomes a heavy burden for the government to invest and obtain energy from both inside and outside country to

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match the current growth. Consequently, Department of alternative energy development and efficiency (DEDE) initially issues the draft of the Energy Conservation and Promotion Act B.E. 2535 (1992) (ECP Act) in order to supervise, promote and support activities associated with energy. This law defines the responsibilities of government, administrative financial arrangements, and duties and requirements for entities related in energy consumption. Finally, ECP Act has officially been passed and effective since 1992 [1-2].

As Thailand economic outlook and the transport infrastructure investment plans based on the government policy as well as the preparation for the ASEAN Economic Community (AEC) will affect Thailand overall energy consumption, the Ministry of energy in 2015 has therefore put together five main national energy plans, namely (1) power development plan (PDP) [3], (2) energy efficiency plan (EEP) [4], (3) alternative energy development plan (AEDP) [5], (4) gas plan [6], and (5) oil plan [7]. ECP Act plays an important role to the success of these plans. In order to achieve the energy conservation, there must be a person or a group of people to conduct or manage the energy usage in its factory or building. Therefore, one key issue, personnel responsible for energy (PRE), has been raised in this ECP Act.

## 2. Energy Conservation and Promotion Act

### 2.1. Structure of the law

Thailand Energy Conservation Promotion Act (ECP Act) has been employed in Thailand since 1992 [1] and revised to ECP Act (no.2) in 2007 [2]. It is a complete piece of legislation, laying out the common scope, requirements and responsibilities for important issues with respect to energy consuming sectors. This law outlines the responsibilities of government, administrative financial arrangements, and duties and requirements for entities related in energy consumption. It also has connection with Thailand key energy conservation programs and policies, such as Energy Conservation Promotion Fund (ENCON) and Energy Efficiency Plan (EEP).

However, there are some provisions in the ECP Act 1992 that are somewhat unsuitable with the present situation. It emphasizes merely on energy conservation measures in factory or building. ECP Act 1992 did not focus more on energy management system and value of the people who are the main driving force to the success of all energy conservation programs. As a result, the government agreed to alter and improve such provisions to be able to properly promote and provide guidelines for energy conservation together with standards for efficient machinery and equipment in accordance with present technology. Thus, the Energy Conservation Promotion Act (No. 2) 2007 has been issued by notifying on the royal gazette on December 4th, 2007, and has finally been effective since June 1st, 2008 [2]. ECP Act has 3 main objectives as follows:

- (1) To supervise, promote, and support entities in the energy consuming sectors according to the law to carry out energy conservation measures.
- (2) To promote and support the production and employment of high energy efficiency machinery and equipment, and materials used in the energy conservation within the country.
- (3) To promote and support the energy conservation by providing financial assistance to entities who need energy conservation according to the law.

The revised ECP act harmonizes with the current energy situation. It also focuses more on systematic management rather than engineering solution, i.e., emphasis on value of people more than machinery and equipment. Structure of Energy Conservation Promotion Act 2007 is shown in Fig. 1. One important regulation of this ECP Act is that designated factory or building must appoint personnel responsible for energy (PRE) to professionally conduct energy management and its related activities within designated facility.

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