

Barriers and Policy Instruments for Energy Efficiency Improvement in Buildings under Thailand's NAMAs

Abstract

Thailand pledged its Nationally Appropriate Mitigation Actions (NAMAs) at UNFCCC COP20 in Lima, Peru, following ongoing discussions since 2012. Improvement of energy efficiency in designated buildings is one of the main countermeasures under the proposed NAMAs. Data collection on the actual energy consumption of the buildings plays a key role in determination of the scope of countermeasures as NAMAs and implementation of Measurement Reporting and Verification (MRV). However, the issue of how these countermeasures will be implemented in the context of the unsatisfactory progress of existing policy instruments, particularly the Building Energy Codes (BEC) and energy management reporting system as specified in the 2007 Energy Conservation Promotion (ECP) Act and the Energy Efficiency Development Plan (EEDP) over the period of 2011-2030 remains to be addressed.

The objective of this study is to examine the potential of policy instruments and energy-saving measures to overcome the existing barriers. Firstly the literature is reviewed, with discussion of theory-based policy instruments for building energy efficiency in order to analyze the situations and gaps in policy instruments adopted in Thailand. The means of enforcement and implementation of alternative policy options are also examined. The study also incorporates interviews with relevant stakeholders involved in the NAMA process as well as in EEDP in order to compensate for limitations in the literature available on Thailand's situation. Furthermore, good practices implemented in other countries were considered for their suitability for application in Thailand.

The necessity of addressing legal and institutional barriers in order to overcome the information barriers was clearly evident in Thailand. The literature shows that regulatory measures have been implemented since 1995 under the ECP Act. However, these have only been implemented on an ad-hoc basis. In the case of existing buildings, there is no benchmark to identify electricity consumption involved in conducting the required energy management in each designated building. There are also limitations in the availability of information on technologies and technical information contribution to energy savings and operational management. The in-deep interviews indicated that BEC for the construction of new buildings and third-party energy audit have not as yet been implemented. The limitations in human resources and capacities to implement verification and monitoring of the submitted reports have prevented the consolidation of regulation measures as well as the revision of energy efficiency performance standards. Hence, this has given rise to a paucity of sufficient and credible data and made it difficult to achieve the understanding of the existing situation, future projections, and impact of policy instruments.

Results show that the targets of EEDP and Thailand's NAMAs will not be effectively achieved without improvement in the means of achieving compliance levels in the existing ministerial regulations. Progress on this front will be achieved through improved awareness of energy efficiency and co-benefits of implementing the actions through the development of benchmarking and information disclosure for buildings' energy performance, and providing tailor-made solutions. It is necessary to initiate process-oriented, interactive policy-making, with intensive technical training on the ground in order to enhance the credibility of governmental decisions and activities, and to collect and accumulate reliable data and information for energy efficiency toward the achievement of NAMA objectives.