Preface

Energy efficiency and conservation (EEC) is one of the key energy policies. Some may say that EEC is akin to new oil and gas discoveries; that is why it is also referred to as hidden energy. Many countries, including developing countries, have EEC policies. However, their implementation is often a different story as most developing countries cannot implement EEC programmes substantially due to a lack of EEC expertise and experience. Therefore, the preparation of general EEC guidelines will be useful and effective for EEC planning and implementation in developing countries.

In essence, EEC contributes towards reduced energy consumption of factories and commercial buildings. The final energy consumption computation has two other subsectors – transport and residential – but they have different energy benchmarking criteria. For the transport sector, improving fuel economy means fuel consumption divided by drive distance. In contrast, for the household sector, this means education and campaign as well as minimum energy performance standard and labelling of appliances. Thus, the Economic Research Institute for ASEAN and East Asia (ERIA) prepared the EEC guidelines for commercial buildings because of commercial buildings' significant increase. Yet energy-intensive industries, such as iron and steel as well as paper and pulp, are not major economic activities in ASEAN countries.

This EEC guideline for commercial buildings comprises three major parts: technical, regulatory, and economical. The technical part consists of passive and active design measures. Passive design measures introduce energy conservation through architectural design. On the other hand, active design measures introduce energy efficiency methodology through engineering design and the selection and operation of energy-efficient equipment and systems such as air-conditioning, chillers, boilers, and lighting. The regulatory part introduces a standard & labelling system for appliances, building energy intensity labelling, or energy efficiency indicators. The EEC concept and implementation will bring monetary benefits to EEC investors. The chapter on economic analysis describes methods of economic evaluation, illustrative exercises, and energy service companies.

We highly recommended the following to realise significant energy savings: (i) appropriate energy efficiency regulations prepared by the concerned government agencies and offices; and (ii) the appropriate EEC technologies from passive and active design measures with reference to results of economic analysis, such as the internal rate of return and payback period as outlined in this guideline. ERIA hopes this guideline will contribute to promoting and successfully implementing EEC in the Philippines and other ASEAN countries.

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