# Executive Summary

The importance of energy efficiency and conservation (EE&C) is commonly discussed amongst policymakers. However, in reality, expected EE&C investment is not necessarily executed due to high upfront costs and financing difficulties. This study aims to (i) help promote EE&C investment in the Association of Southeast Asian Nations (ASEAN) region though two analyses, (ii) organise a possible financing method for EE&C investment, and (iii) analyse its costs and benefits.

It is assumed that by applying EE&C investment efficiency in Japan (measured by the necessary investment amount to reduce electricity by unit [$/kilowatt-hour]), ASEAN can expect $15.4 billion in annual net benefits and a very high (30%) internal rate of return from EE&C investment over the next 20 years. In addition, thanks to reduced electricity demand, the region can reduce investment in coal and natural gas power plants by a cumulative $136.8 billion from 2020 to 2040. Furthermore, the region can reduce carbon dioxide emissions by a cumulative 423.6 million tonnes during the same period.

The study identified the following recommended actions to materialise the potential for EE&C in a region and realise its full benefits:

(i) re-recognise the benefit of EE&C investment;

(ii) establish a special agency to strengthen policy implementation; and

(iii) maximise EE&C potential by

  (a) building up EE&C education and public relations, and

  (b) providing low-cost and free EE&C diagnosis services.

Even if a country implements these actions, the fulfillment of EE&C investment may still encounter bottlenecks. One of these is financing, as no investment, regardless of its profitability, can be made without funds. This kind of obstacle is most evident in small and medium-sized enterprises. Therefore, financial support can play an important role in promoting EE&C investment. It is first necessary to determine which of the possible financing instruments is most effective or preferable. To this end, this study proposes four recommendations: (i) choose a method that will have a small impact on the government's financial burden, (ii)

remove any energy price subsidy to improve the EE&C investment climate, (iii) set aside a government budget through a special purpose tax, and (iv) build up financing capability.

**Table 1: Annual Net Benefit and Internal Rate of Return of Energy Efficiency and Conservation Investment**

| Country | Gross benefit/year ($ billion) | Required investment/year ($ billion) | Net benefit/year ($ billion) | IRR (%) | (Reference) Electricity price ($0.01/kWh) |
|---|---|---|---|---|---|
| Cambodia | -0.4 | 0.1 | -0.3 | 57 | 17.1 |
| Indonesia | -6.7 | 2.4 | -4.3 | 26 | 8.1 |
| Lao PDR | -0.1 | 0.0 | -0.0 | 28 | 8.6 |
| Malaysia | -2.7 | 0.8 | -1.9 | 31 | 9.6 |
| Myanmar | -0.3 | 0.2 | -0.1 | 13 | 5.0 |
| Philippines | -4.1 | 0.6 | -3.5 | 49 | 14.9 |
| Thailand | -5.0 | 1.2 | -3.8 | 49 | 11.4 |
| Viet Nam | -2.5 | 1.1 | -1.4 | 37 | 9.3 |
| ASEAN | -21.7 | 6.3 | -15.4 | 29 | - |

ASEAN = Association of Southeast Asian Nations, IRR = internal rate of return, kWh = kilowatt-hour, Lao PDR = Lao People's Democratic Republic.

Note: Brunei Darussalam and Singapore are not included in ASEAN.

Source: Author.