

Executive Summary

Energy efficiency indicators (EEl)s are indispensable to promoting a country's energy efficiency and conservation (EEC) programs. The EEl)s can bring about many benefits, such as monitoring and measuring the effectiveness of EEC strategies and programs. If the EEl)s decline year by year, it will be evidence of the effectiveness of promoting EEC in a country. EEl)s can also be used to quantify energy savings achieved in end-use sectors and sub-sectors, providing that sufficient and quality data could be collected to establish the respective benchmarking. Thus, it is recognised that this survey which collected 2 years of data from 2018 to 2019 has limitations. Furthermore, meaningful data is limited due to insufficient sample numbers (less than 100 as targeted) and the low capacity of local consultants on energy consumption surveys. However, this report made clear that indicative (2018 and 2019) energy efficiency levels in the Philippines could be derived as follows, albeit with limitations and constraints:

- Commercial sector
 - Office building sector
 - Range of average energy utilization intensity (EUI): 213–336 kWh/m²/y
 - Median EUI: 275 kWh/m²/y
 - Retail building sector
 - Range of average EUI: 324–458 kWh/m²/y
 - Median EUI: 391 kWh/m²/y
- Industrial sector
 - Cement sector average EUI: 3,097 MJ/MT/y
 - Sugar sector average EUI: 42,058 MJ/MT/y
 - Food sector average EUI: 3.14 MJ/kg
 - Beverage sector average EUI: 0.61 MJ/litre

The EUI)s mentioned above suggest that the Philippines' industry and commercial sectors might have energy-saving potential compared with neighboring countries such as Singapore and Malaysia. Thus, the Energy Utilization and Management Bureau (EUMB) should set up feasible and effective EEC action plans for both sectors and continuously monitor the EUI produced from the energy consumption data submitted by designated factories and buildings periodically under the Energy Efficiency and Conservation Act.

This project also provides many lessons learned to all the stakeholders who participated in the study, such as (i) the methodology of energy consumption survey and validation of sampled data, and computation and analysis on average EUI)s; (ii) the usefulness and

benefits of EEIs, and challenging tasks in building respondents' trust and confidence in energy consumption surveys; (iii) hands-on experiences in data collection, and methodology on analysis and validation of the sampled data.

This project is an initial step for the EUMB/Department of Energy Philippines (PDOE) to start preparing EEIs in the industry and commercial sectors, referring to the lessons learned mentioned above, The EUMB/PDOE should continue to prepare more quality EEI data and continuously monitor them to assess how EEC action plans have contributed to EEC programs.