# Chapter **4**

### **Conclusion and Way Forward**

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## Chapter 4

## Conclusion and Way Forward

#### 4.1 Conclusion

During the past 6 years, energy consumption increased rapidly at an average annual growth rate of 6.9 percent for total final energy consumption (TFEC) and 7.3 percent for total primary energy supply (TPES). Electricity significantly increased in the same period, followed by petroleum product. Biomass, on the other hand, increased at a slower rate. Nonetheless, biomass is still an important energy source for Cambodia with a share of about 36 percent in 2015.

Electricity was generated from oil, hydropower, and coal power plants. Generation from hydropower and coal power plants increased largely after 2013. For petroleum products, Cambodia has been depending dominantly on diesel oil followed by gasoline and liquid petroleum gas (LPG). Diesel oil is used widely for vehicles as well as for manufacturing and agricultural activities. In addition, large buildings and factories use diesel oil for backup power generation. The share of diesel oil in 2015 was almost 60 percent.

Cambodia achieved high economic growth at 7.2 percent per year from 2010 to 2015. Consequently, the gross domestic product (GDP) elasticity of TPES will be nearly equal to 1.0. This result is still acceptable for Cambodia. However, if biomass is excluded from TPES, its growth rate could be more than 10 percent and energy elasticity per GDP, defined as  $\Delta$ TPES/ $\Delta$ GDP, will become worse (more than 1.0). The elasticity was actually more than 1.0 in 2014 and 2015, indicating a more rapid growth in TPES compared with GDP. In this regard, Cambodia should consider the promotion of energy efficiency and conservation, especially for saving electricity demand in the industry, commercial, and residential sectors.

#### 4.2 Way Forward

Through this project, Cambodia has achieved its first publication of official energy statistics. The General Department of Petroleum and General Department of Energy are expected to update the publication annually and, since it can be conveniently accessed through the Internet, upload the pdf file to the Ministry of Mines and Energy website. Parts of the energy statistics come from energy market players and the feedback of national data is useful for them.

Therefore, the General Department of Petroleum and General Department of Energy have been recommended to set up an energy statistics team that will be in charge of the update work. In addition, the General Department of Petroleum should continuously receive petroleum demand supply data from petroleum companies. On the other hand, the department should be in charge of conducting an energy consumption survey across the final consumption sectors applying sampling.

Based on the experiences from this project, the General Department of Petroleum should conduct energy consumption surveys and use results of the surveys to make accurate energy statistics or energy balance tables. Furthermore, the results should be analysed to set up appropriate energy policies, such as energy efficiency programmes.

The energy statistics team should improve the quality of the energy statistics. This publication includes some estimated numbers, but they should be collected from the data source or estimated from survey results. A more important matter is to analyse the energy statistics. If coal consumption increased rapidly, the reason for this increase needs to be clarified, all the while paying attention to human errors such as typos, differences in units, and so on.

The key role of the General Department of Petroleum and General Department of Energy is to release timely, complete, and accurate energy statistics of Cambodia supported by regulations, good relations with market players, and capacity building training conducted by international and regional organisations.

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