

# ***PEER REVIEW ON ENERGY EFFICIENCY IN THE PHILIPPINES: A FOLLOW-UP***

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## **Overview**

The Philippine economy has long been a champion of energy conservation. Learning from major setbacks such as oil price hikes, supply shortages, power outages, and others; strict measures to conserve energy are being implemented. In August 2004, the government through the Department of Energy (DOE) together with its attached agencies launched the National Energy Efficiency and Conservation Program (NEECP) aimed at strengthening the implementation of energy efficiency and conservation by promoting awareness on the efficient utilisation of energy in the economy. Through the NEECP, every Filipino is encouraged to make energy conservation a way of life: hence the tag “EC Way of Life” as the government’s promotional theme. (APERC, 2012)

In 2012 and 2014, the Philippines hosted both the Peer Review on Energy Efficiency (PREE) and a Follow-up PREE, respectively. These served as avenues where peers from APEC member economies review the host economy’s energy efficiency performance as well as energy efficiency and conservation policy measures.

As a secondary phase of the first activity, Follow-up PREEs helps previous PREE-hosting economies implement recommendations from a previous report, or provides a more detailed analysis with recommendations for a particular sector or sectors. The FuP in the Philippines was focused on the industrial sub-sectors of sugar, cement and glass, and the commercial buildings sector. This paper highlights the Achievements of the Philippines, showing the progress that the Philippine Government has made towards energy efficiency, especially on the sectors mentioned, since the 2012 PREE.

## **Trends in Energy Consumption**

The total energy consumption of the Philippines for 2013 was 28.4 MTOE. The residential (8.6 Mtoe) and transport (8.5 Mtoe) sectors each absorbed one-third of the total. The industry followed with 23% (6.3 Mtoe) share and the remaining 14% from the commercial (3.1 Mtoe), others (0.5 Mtoe) and non-energy sectors (0.3 Mtoe) (Fig. 1) (APERC, 2015).

The APEC Energy Demand and Supply Outlook 6<sup>th</sup> Edition projected a final energy demand growth of 3.4% annually between the periods 2013-40. The industry sector is projected to rise nearly fourfold accounting for about 40% of total final energy demand in 2040 in view of the government’s manufacturing revival program. (APERC, 2016)

Over the last 10 years, it is unclear whether decreasing energy intensity in the industry and commercial sectors is directly correlated with ongoing improvements in energy efficiency. Since 2000 the Philippines’ economy has grown, meanwhile energy consumption has decreased. This has led to considerable improvements in final energy intensity, from 6.6 toe/million pesos (constant 2000) in 2000 to 4.0 toe/million pesos (constant 2000) in 2013 (Fig. 2). This could potentially be attributed to the Philippine Department of Energy’s increased efforts to improve energy efficiency and conservation through some of the associated policies in the country. (APERC, 2014)

## **Methods**

Peer review

## **Results**

1. **Overarching achievement:** Most of the industrial establishments are ISO certified (ISO 9001:2008) for quality management and safety. Meanwhile, commercial establishments are increasingly becoming more energy efficient with their own new environmentally responsive concepts and designs.

2. **Sugar industry:** More energy efficient sugar refining plants (i.e. award winning) generally, continue to improve the sugar refining process to reduce energy consumption and operate efficiently compared with other countries.
3. **Glass industry:** The visited energy efficient and award winning glass manufacturing plant had implemented a range of energy efficiency initiatives from lighting replacement, to installing inverters for the pumps, fans and compressed air. All together, the initiatives have led to a 3 per cent saving in bunker fuel oil and 10 per cent saving in electricity.
4. **Cement industry:** The energy efficiency award winning plant that was visited used agricultural biomass, rice husk and municipal waste as alternative fuels sources and admixtures. Luzon Island's rice producing industry supplies the rice husk, and the municipal waste comes from metro Manila. And the overall energy conservation in the cement industry in the Philippines is improving year by year.
5. **Buildings sector:** The Philippines is closed to achieving the targets set in 2012 in the buildings sector, such as but not limited to installation of high efficient lighting (CFL or LED), strengthening ESCOs and establishing of green building ratings.

## Conclusions

Since the PREE in 2012, the Philippines Government has made considerable progress in its energy efficiency policies, including the review of the draft Energy Conservation Bill which happened to be undergoing discussion in the legislature during the peer review. The Philippine Government has carried out several activities to further promote new technology and high-energy efficient products in order to reduce the energy consumption and carbon emissions. The peer reviews conducted in 2012 and a follow-up in 2014, conclude that the implementation of NEECP gave overwhelmingly positive results as proven by the energy savings and energy efficiency improvements across all sectors of energy.

## References

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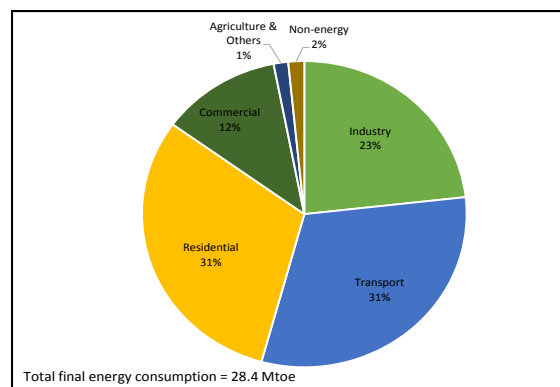
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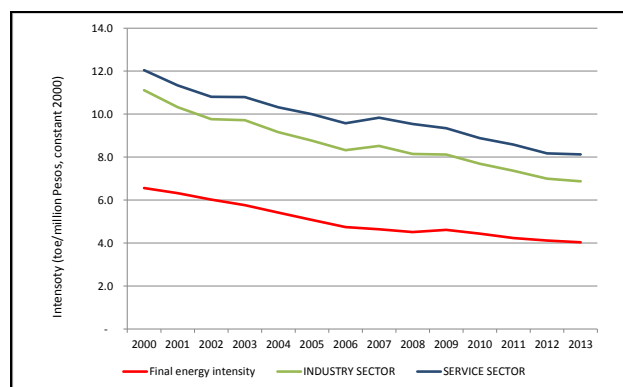
## Figures

Fig 1. Total final energy consumption (Mtoe), 2014



Source: APERC

Fig 2. Final energy intensity (toe/million Ph constant 2000)



Sources: APERC (energy data), PSA (Gross value added)