

Energy Input–Output Analysis for México with an Extension of the Hybrid Model

Topic: Energy Policy

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In 2014, the Mexican government approved energy reform to allow greater participation of private companies in this sector. The purpose of this reform is to increase the benefits for the economy and energy efficiency of the country. Even before the reform, the role of oil exports in Mexico has been crucial for the economy, for example, in the 70s the government revenue for the oil account for about 40% of the public budget and at the 2000 was 37%[1]. Mexico also has a large untapped potential of renewable energy [2]. For these reasons it is important to study this sector.

The work presented here analyzes the relationship between the structure of the energy sector and energy consumption in Mexico and the structure of the Mexican economy and economic growth.

The analysis is carried out with the primary-to-final energy input-output model, developed by Guevara (2014) [3] with input-output matrices generated by INEGI [4] (for the years 2003, 2008 and 2012) . This model allows isolating the energy sector without losing the information accounted for by the conventional hybrid-unit energy input-output model. Through the primary-to-final model a high level of detail can be given to the energy sector in terms of structure, conversion efficiency and variety of energy products. In this study, particular attention is paid to the oil extraction and refinery industries. This research is a precedent for reform analyze energy sector.

[1] See <http://cuentame.inegi.org.mx/economia/petroleo/pib.aspx>

[2] See <http://www.energia.gob.mx/portal/Default.aspx?id=2669>

[3] Guevara, Z., 2014. Three-level energy decoupling: Energy decoupling at the primary, final and useful levels of energy use. Ph.D. Dissertation. University of Lisbon.

[4] National Institute of Geographic and Informatic Statistics (INEGI) is the statistical institute in Mexico