

# Inventory and distribution of energy subsidies of China

## Executive Summary

Owing to the comparatively high fossil energy production cost and the ambitious renewable energy development target, the energy industries in China are heavily subsidized in forms of direct funding, interest rate discount, tax rebate, free assets transfer, etc. However, negative impacts often come with the distortion brought forward by energy subsidies. Besides, implementing energy subsidy usually brings significant budgetary pressure and crowds out government's expenditure with higher public priority.

In order to provide manageable support for the government to identify reform priority and to design reform policies, this study compiles the first comprehensive energy subsidy inventory of China combining government and corporation statistics. The distributional effect of energy subsidies is also investigated by tracing subsidies from direct recipients to final users including households, the government, investors, and foreigners. Besides, welfare distribution among seven income levels of urban resident groups has been investigated. Comparing to the estimations based on price-gap approach, the inventory provides better correspondence between subsidy policies and their recipients, which makes it possible to identify reform priority based on welfare consideration (e.g., should the largest subsidy or the most regressive subsidy be dealt with first?) regarding the recent energy reform. Besides, when the traditional price-gap approach measures both internal and external factors leading to energy price deviation, the inventory approach identifies only the government policies and thus provides manageable reference to policymakers.

The lower boundary estimation of annual energy subsidies was 90-202 billion CNY during 2010-2014, in equivalent to 0.22%-0.37% of the GDP or 0.95%-1.21% of the government expenditure. When

renewable energy contributed to around 10% of the primary energy supply in China in 2012 (CESY, 2014), it received one third of the total energy subsidies, implying the preference of the Chinese government to promote renewable energy development. Thanks to the funds and government expenditure for rural grid construction and residential transportation, 72% of the energy subsidies were received by household consumers in 2012. However, since the energy subsidies were regressive amongst urban residents, poorer people received not only less subsidies but also lower subsidy rate. Moreover, when richer people tend to have much more fixed capital such as real estate which embodies significant subsidies, the actual wealth gap broadened by energy subsidies is even larger than the results shown in this study. After identifying the reform priority based on the results of this study, further research can be performed to design adequate policy instruments to remove energy subsidies with supplemental measures to provide consumption aid to lower income residents in an effective way. Related reform has the potential to reduce wealth gap of the society on the one hand while relieve budgetary pressure for the government on the other.