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China should prevent fossil energy subsidies from making a comeback

ECONOMICS

By LIN BOQIANG

The issue of fossil energy subsidies remains a global problem in the context of combating climate change. It is generally acknowledged that these subsidies could cause inefficiency in energy use, giving rise to excessive consumption of energy and environmental pollution.

During the G20 Pittsburgh Summit in 2009, G20 leaders affirmed a commitment to rationalize and phase out inefficient fossil fuel subsidies that encourage wasteful consumption over the medium term while being conscious of the necessity to provide targeted support for the poorest. The summit called on G20 members to outline a specific timetable for the phase-out. Since then, they have drawn up plans on fossil fuel subsidies reform. However, little progress has been made by the group as a whole.

Subsidies phase-out

Carbon emissions mainly result from consumption of fossil energy. As the world's largest energy consumer and carbon emitter, China has consistently promoted reforms to fossil fuel subsidies.

Before reform and opening up, fossil energy prices were heavily subsidized by the government to keep them low. Since the early 1980s, China has achieved rapid economic growth while paying a high price in terms of environmental damage.

Before the G20 Pittsburgh Summit in 2009, fossil energy received large subsidies in China. In particular, scholars estimated that China's total subsidies in the field reached about 800 billion yuan in the year 2008 as energy prices continued to rise. According to the estimate of the International Energy Agency, subsidies reached \$35.6 billion (equivalent to about 230 billion yuan based on the average exchange rate at the time) in 2011.

The reform in China has greatly contributed to the worldwide effort to cut fossil energy subsidies. After the 2009 Pittsburgh Summit, China unveiled various measures aimed at promoting price reform in all areas of the energy sector. Starting from 2013, subsidies have been significantly cut back in China. The rapid decline can also be attributed to the drastic fall in energy consumption growth rate and energy prices.

Now, it is necessary to evaluate the effects of several years of reform in oil, gas, coal and power as well as to investigate fossil energy subsidies at present. After reviewing the



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price reform in previous years, the China Center for Energy Economics Research at Xiamen University estimated the amount of subsidies from 2013 to 2015 and observed the dynamic changes from the perspective of financial and environmental cost. And on that basis, it devised the optimal energy prices and subsidies.

Thanks to the drop in energy prices and slowdown in energy consumption growth as well as progress in reform of energy pricing, China has sharply cut down fossil energy subsidies in recent years. By 2015, subsidies in the form of financing had been eliminated.

With the improvement in the refined oil pricing mechanism and the extended downturn in international crude oil price in 2013, subsidies on refined oil products decreased year by year. Also, China concentrated reform on natural gas subsidy, which decreased to less than 59 billion yuan in 2015 from more than 182 billion yuan in 2013. In addition, gas subsidy has been basically eliminated in the industrial and commercial sectors.

Residential cross subsidies

It should be noted that significant cross subsidies still exist in residential power and gas use. The cross-subsidy approach involves the use of profits from one activity to cover losses from another, such as the use of high prices for some utilities to enable other utilities to be offered below cost.

Compared with Europe, the United States and other developed countries, the electricity price for residential use has been lower than that for the industrial sector for a long time in China. The former was up only about 15 percent while the latter rose by around half from 2001 to 2015. Moreover, residential power consumption has been increasing with the progress of urbanization, which has worsened the cross-subsidy phenomenon.

Even though the government implemented a ladder pricing sys-

tem for residential electricity use, cross subsidies in the area topped 486 billion yuan in 2015. Nearly 307 billion yuan from the profits of the industrial sector were used to subsidize residential use and the agricultural sector.

In addition, residential gas use is not involved in pricing reform, and the price for residential gas use is still far below that for industrial use. In 2015, subsidies for residential gas use reached more than 47 billion yuan, accounting for 81 percent of total gas subsidies.

There is a slight reduction in residential fossil energy subsidies considering that the price for residential energy use—power and gas in particular—remained almost unchanged despite sustained increase in consumption in recent years. From 2013 to 2015, residential fossil energy subsidies decreased only by less than 13 billion yuan. Though yearly consumption increased, the subsidy on residential gas decreased by more than 6 billion yuan due to the ladder pricing mechanism and the rise in gas prices. Meanwhile, the subsidy on refined oil products for residential use was significantly cut back as a result of the improvement in refined oil pricing and sustained slowdown in refined oil price.

If environmental costs are taken into consideration, there is still a large potential subsidy on coal use. Though China marketized coal pricing in 2013, the effects on environmental pollution and human health have not been included into the coal pricing mechanism. Due to the reduction in coal consumption, the environmental cost caused by coal use decreased by more than 156 billion yuan from 2013 to 2015. However, it is hard for China to change an energy structure based mainly on coal in the short term. The government needs to develop clean and alternative energy because dealing with air pollution caused by carbon emission can be costly.

Pricing reform

Through reform, the government needs to prevent energy subsidies from rebounding. The decrease in subsidies in recent years is to a great extent a result of the drop in energy prices and slowdown in energy demand growth. It may cause a hike in subsidies if energy prices and demand pick up.

At present, a surplus of energy and low energy prices have laid the foundation for energy reform. The government should seize the opportunity to promote market-oriented reform on energy pricing and resolve cross subsidies on residential energy use while reducing environmental costs in order to prevent a rebound in subsidies.

China will face the problem of energy subsidies and the necessity of dealing with environmental pollution in the long term. In addition to developing clean energy and pro-

moting market-oriented pricing, the government should enhance transparency and efficiency in pricing and subsidies.

Academia should strengthen studies on an optimized fiscal and taxation system that can balance energy supply, environmental protection and social development. Also, attention should be paid to research on the designing of targeted and transparent subsidies that can be properly distributed to groups with different incomes to maximize the effects of subsidies while enhancing equity in the process.

Global advocacy of reduced energy subsidies has never stopped. Nevertheless, these efforts have not achieved remarkable progress. Subsidies are indispensable to maximize economic development. For developing countries, it is necessary to implement proper subsidies while being aware of the importance of cutting ineffective subsidies to maintain sustainable economic growth.

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No rebound of fossil fuel subsidies

Cartoon by Gou Ben; Poem by Long Yuan

In apartment buildings, there shines a light,
On the stove, gas is burning bright.
People enjoy a modern living situation,
Paying fees without much complication.
Many benefit from cross-subsidization,
But at the cost of energy conservation.
Higher energy prices are starting to show,
As demand continues to grow.
Phasing out fossil fuel subsidies is a hard task,
Reform needs to plot out a new path.