At a time when Asia’s major LNG buyers are clamoring for natural gas prices to be delinked from oil, China is moving in the opposite direction in a move aimed at deregulating the market, putting a higher value on a clean and increasingly important resource as well as encouraging more upstream development in unconventional plays.

Natural gas currently makes up 5% of China’s energy mix, which is heavily dependent on coal but demand for gas has accelerated rapidly in the last five years, largely due to abundant domestic resources and strong political will backing adoption of the fuel across the economy.

At the heart of this support has been the government’s pledge to reform China’s domestic natural gas prices, which along with oil pricing, has been a key topic of debate in the current 12th Five Year Plan that will run till 2015.

Gas pricing reform was supported by the need:

- To place a higher value on gas thereby encouraging conservation;
- To align the prices of gas from different sources, both domestic and foreign, for end-users;
- To encourage more domestic output at the wellhead.

In July this year, Beijing started pegging incremental onshore, conventional gas to a basket price of alternative fuels, LPG and fuel oil. This was an extension of a reform introduced in late 2011, which linked natural gas prices in Guangdong and Guangxi provinces to about 90% of the 2010 basket of LPG and fuel oil prices in Shanghai.

At the same time as introducing the new pricing formula, the government also raised the prices for non-residential consumers – industrial and commercial users as well as central heating systems – which hiked citygate prices, effectively wholesale gas prices, by about 15.4% to an average Yuan 1.95/cu m, or about $8.90/MMBtu.

Two-tiered pricing system

As it stands, China will now have two tiers of gas pricing, one encompassing
91% of supply, where prices will be set by the government, and another affecting incremental supply volumes, estimated to be 11 Bcm this year, which will be correlated to the average price of fuel oil and LPG in the second half of last year.

The maximum citygate price for both tiers in each province and region has already been set by the government. Beijing’s ultimate aim is for both price bands to converge by 2015.

In major cities, incremental supply gas prices will now reach Yuan 3.3/cu m or about $15/Mcf across the eastern seaboard, according to calculations by analysts. This brings prices in some areas on par with imported LNG, leading Bernstein Research to say in a July research note: “The price will be similar to that of an LNG contract price resulting [in] international gas pricing for the first time.”

Gas prices in China were traditionally kept low largely because pricing was based on extraction of the gas at the wellhead, plus transport costs.

This, however, failed to keep pace with demand, which has surged exponentially and resulted in China’s dependence on imported gas rising steadily to more than 30% of total gas demand.

The burden then fell to commercially driven but state-controlled companies such as PetroChina, the largest importer of gas and LNG, to subsidize higher-priced imports that were being sold at a loss in the domestic market.

Last year, China’s total LNG imports stood at 14.7 million mt, averaging $10.77/MMBtu, up 18.8% year on year. Its total pipeline gas imports from Central Asia rose 41.2% year on year to 14.63 million mt or 20.2 billion cubic meters, averaging $10.44/MMBtu.

By the end of 2013, China is expected to have up to eight operating LNG import terminals with the capacity to handle nearly 30 million mt/year of LNG. In addition, up to 400,000 Mcf/day of gas is expected to start flowing from Myanmar via the Myanmar-China pipeline to the southern Yunnan province, while Central Asian supplies will likely receive a boost with more volumes coming from Uzbekistan and eventually, Kazakhstan.

The implication for upstream producers is significant as average netbacked wellhead prices – citygate prices less transport tariffs – are likely to double to $10/Mcf over the next three years based on the new price formula, according to Bernstein Research analysts.
PetroChina’s average natural gas prices are estimated to rise by 10% in 2013 as a result of the new pricing mechanism, and it will likely reach near breakeven point on its gas imports.

This will do much to spur upstream development for unconventional resources, particularly shale gas, which has the ability to be the same game-changer in China as it was in the US, provided technological, cost and infrastructural hurdles are overcome.

Companies are already complaining about the high costs of drilling and extraction involved in shale gas reservoirs. Added to this is the cost of building additional infrastructure and pipelines to monetize these sources.

The reform will also encourage development of increasingly complex gas fields in China, such as those with low-permeability reservoirs or high sulfur content.

The higher gas prices are also likely to attract more non-traditional oil and gas players into the sector. This is already starting to happen with a number of coal and power companies investing in plants for synthetic coal-to-gas production, utilizing the country’s abundant coal reserves.

**Affordability a concern**

National targets for energy are, however, notoriously hard to achieve given the nature of the multiple markets across the country. Bernstein estimates there is only a 50% probability of Beijing reaching price convergence between the two tiers, given the “uncertainty on implementation.”

A more important question is whether much of China can absorb gas at this high level and if this reform is indeed sustainable, said Gavin Thompson, lead consultant on China at Wood Mackenzie.

“Through the longer term, looking out to the end of the decade, China will have a huge amount of incremental gas supply and the impact of those citygate prices is actually quite significant,” he said.

He added that if the aim of this reform was to encourage unconventional gas supply, once the production from this development is realized, the cost of this gas will be much lower than imported supply. “Once that lower cost gas comes in, in the longer term, China has got pretty high gas prices. How long does the [pricing] policy last? That’s open for debate,” Thompson said.

According to JP Morgan, some segments might not be able to pay the...
new gas prices as they are already relying on government subsidies, which will need to be increased substantially. For gas-fired power plants in Beijing which use incremental gas supply and thus have to pay oil-linked prices, for example, the local government will have to raise its subsidy from Yuan 44/MWh to Yuan 186/MWh for them to remain viable, the bank estimated.

“The gas cost hikes will inevitably affect short-term demand, especially given that year-to-date supply growth [which is a proxy for demand], remains subdued,” it said.

**Promise of growth**

Gas is used mostly by residential and industrial consumers although consumption is growing rapidly among residential users, as city gas distributors expand their networks and hook up more households in second- and third-tier cities to their grids. Residential gas prices are now the lowest across user segments, about 20% lower than those paid by industrial customers and nearly half what the transport sector pays.

Companies such as PetroChina’s midstream gas subsidiary Kunlun Energy are building huge networks of distribution and gas refueling stations to serve the transport sector. The potential for gas consumption to rise in the transport sector is significant as selling LNG and compressed natural gas here is the only unregulated part of the onshore gas value chain in China and it is a much cheaper alternative to oil, according to Macquarie Research. Gas in this sector is effectively at a 40-50% discount to diesel retail prices, according to estimates by Macquarie Research.

In the last year there has also been a significant push by local governments to use more gas-based vehicles especially in view of China’s chronic pollution problems.

The capital Beijing, for example, is hoping to abolish 1 million gasoline and diesel-fired vehicles by 2017, replacing them with LNG and compressed natural gas vehicles.

At the moment, gas is still a rare feedstock for the power sector, which runs mainly on coal.

China’s power sector tariffs are controlled by the government and power producers frequently suffer losses because the on-grid tariffs, or wholesale electricity prices, are often not high enough to even cover the rising cost of coal, which is the cheapest and most abundant fuel in the country.

If the government extends pricing reforms to the electricity sector, however, it will pave the way for more power plants to switch to gas, which could significantly increase its share in China’s overall energy mix.

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**Source:** Government data