



IHS ECONOMICS & COUNTRY RISK

IHS Financial Seminar

The Road to Growth

Dealing with China's Overcapacity:
A Five-Year Outlook

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IHS FINANCIAL AND CAPITAL MARKETS

CHINA'S NEW ENERGY REALITY

Oversupply as Catalyst for Reforms

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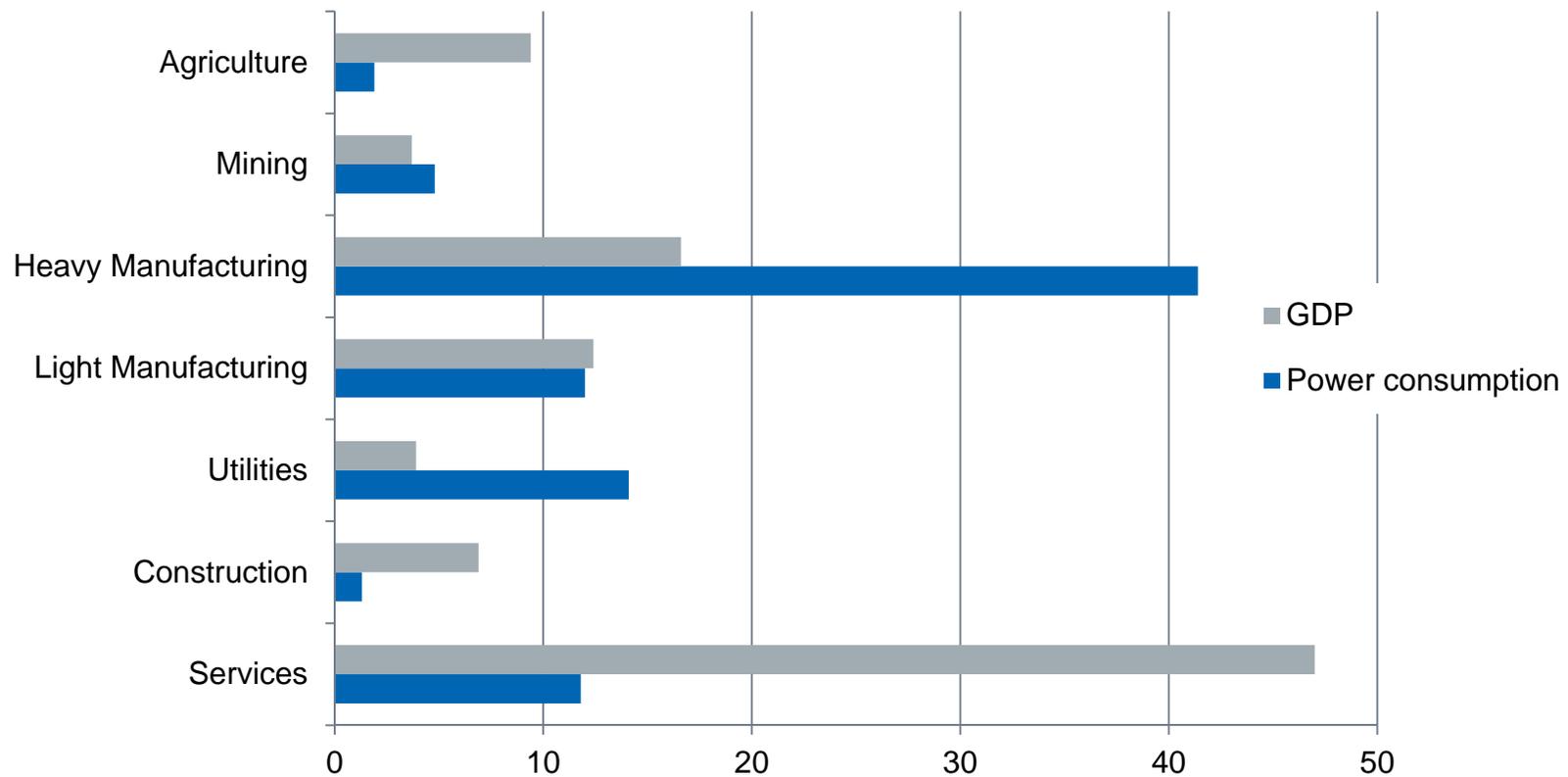
Key implications

- **China's economic restructuring leads to hard landing for energy.** This has had a major dampening impact on energy demand, as industry accounted for a majority of the country's energy consumption.
- **Oversupply in China has spilled over into the international market.** The oversupply that had been creeping up on China's energy markets emerged dramatically in 2015. Exporters targeting China must reset their expectations.
- **Low prices and oversupply are the catalyst for market reforms.** Across all sectors, the government has sought to push out further reforms in a period when participants are more willing to embrace change. Low fuel prices have reduced the risk of spikes from tentative moves toward more market-based pricing and highlighted inefficiencies in incumbent state-owned enterprise suppliers.

Changes in economic structure and growth have affected energy demand

The heavy industrial “hard landing” has an outsize impact on power consumption

Chinese GDP and power consumption by sector, share of total, 2013

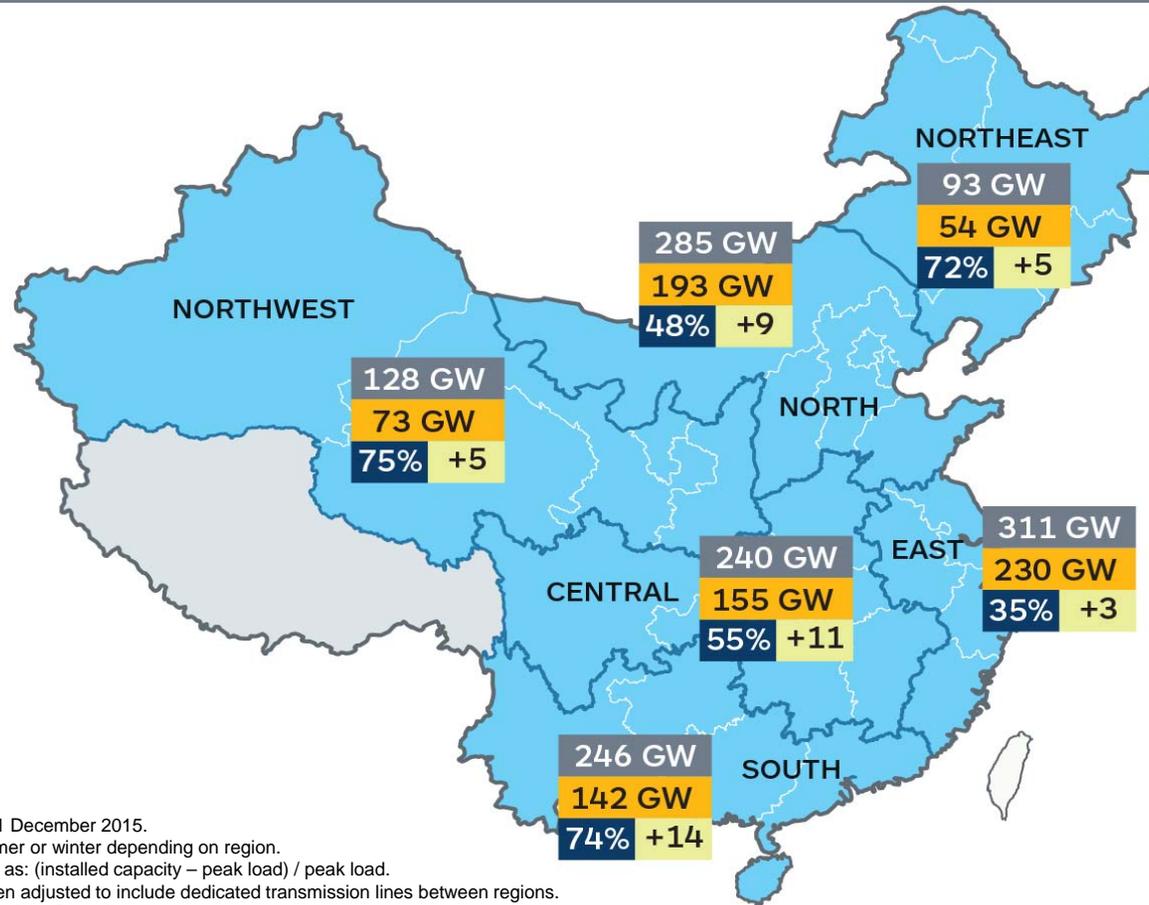


Source: IHS

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Nationwide system reserve margin has reached an all-time high

Reserve margins in regional grids (2015)

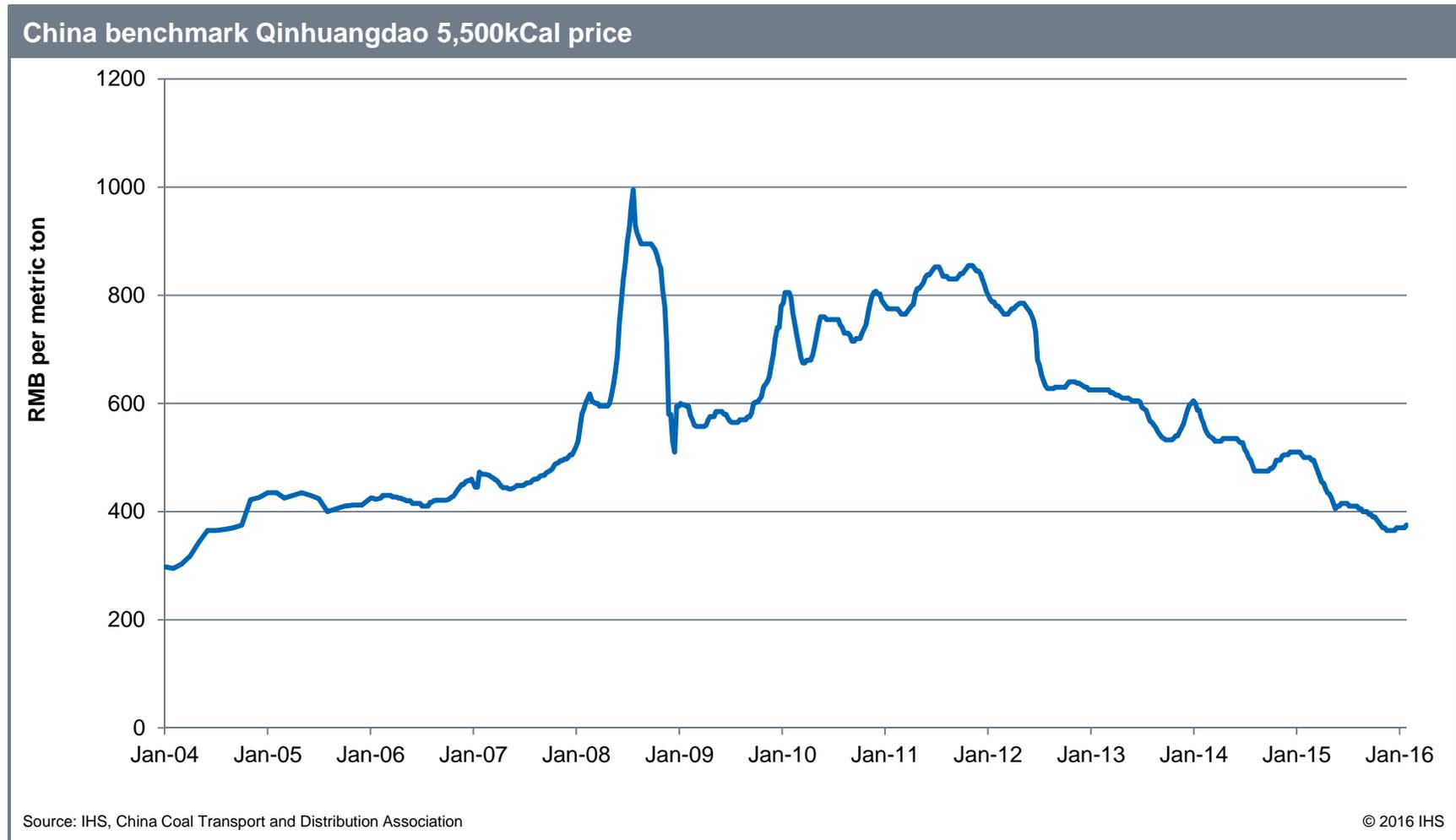


- Dependable^{1,4}
- Peak load²
- 2015 reserve margin³
- Year-on-year percentage point change³

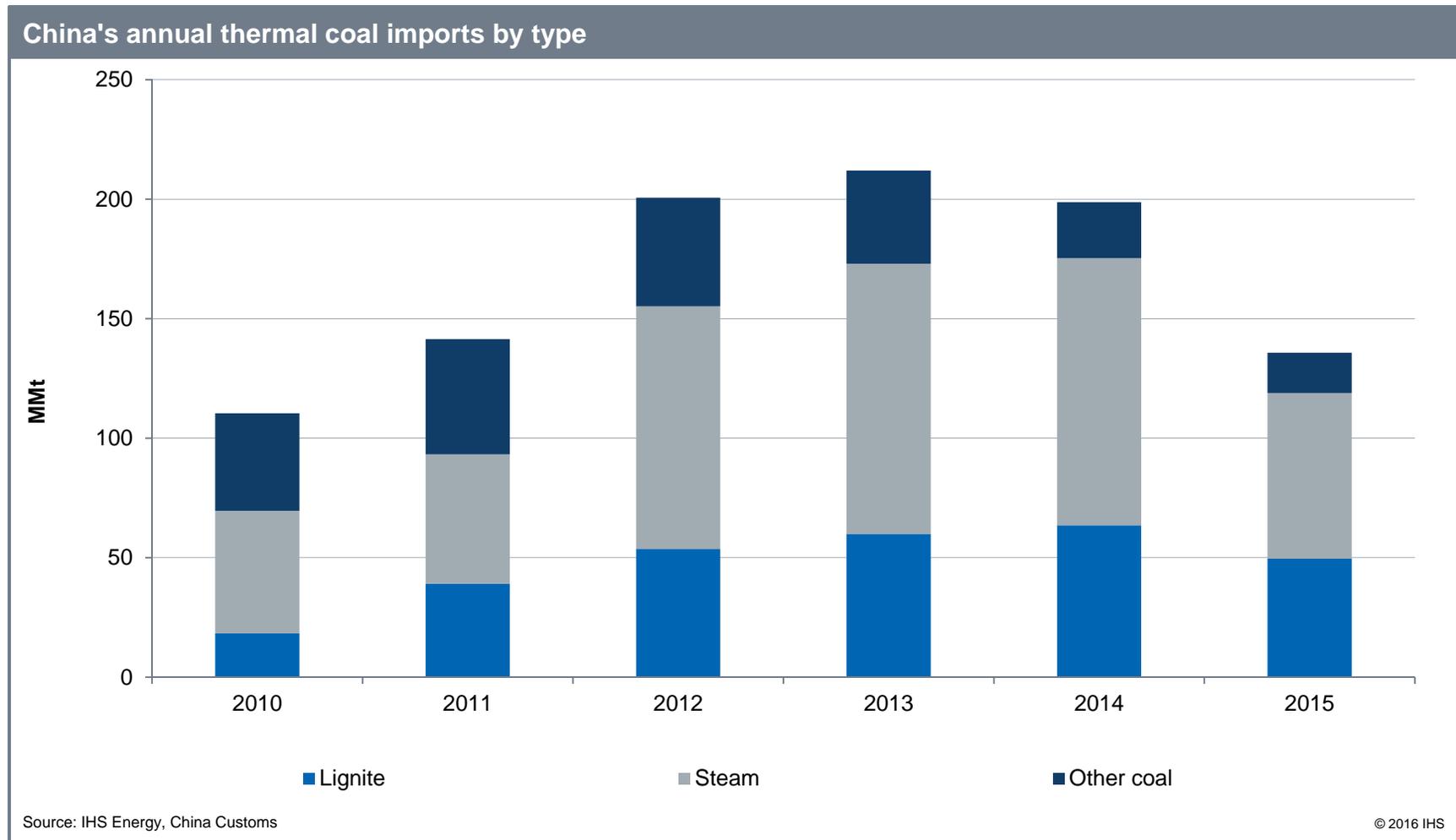
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Notes:
 1. Dependable capacity as of 31 December 2015.
 2. Peak load may be from summer or winter depending on region.
 3. Reserve margin is calculated as: (installed capacity – peak load) / peak load.
 4. Dependable capacity has been adjusted to include dedicated transmission lines between regions.
 Source: IHS Energy, China Electricity Council

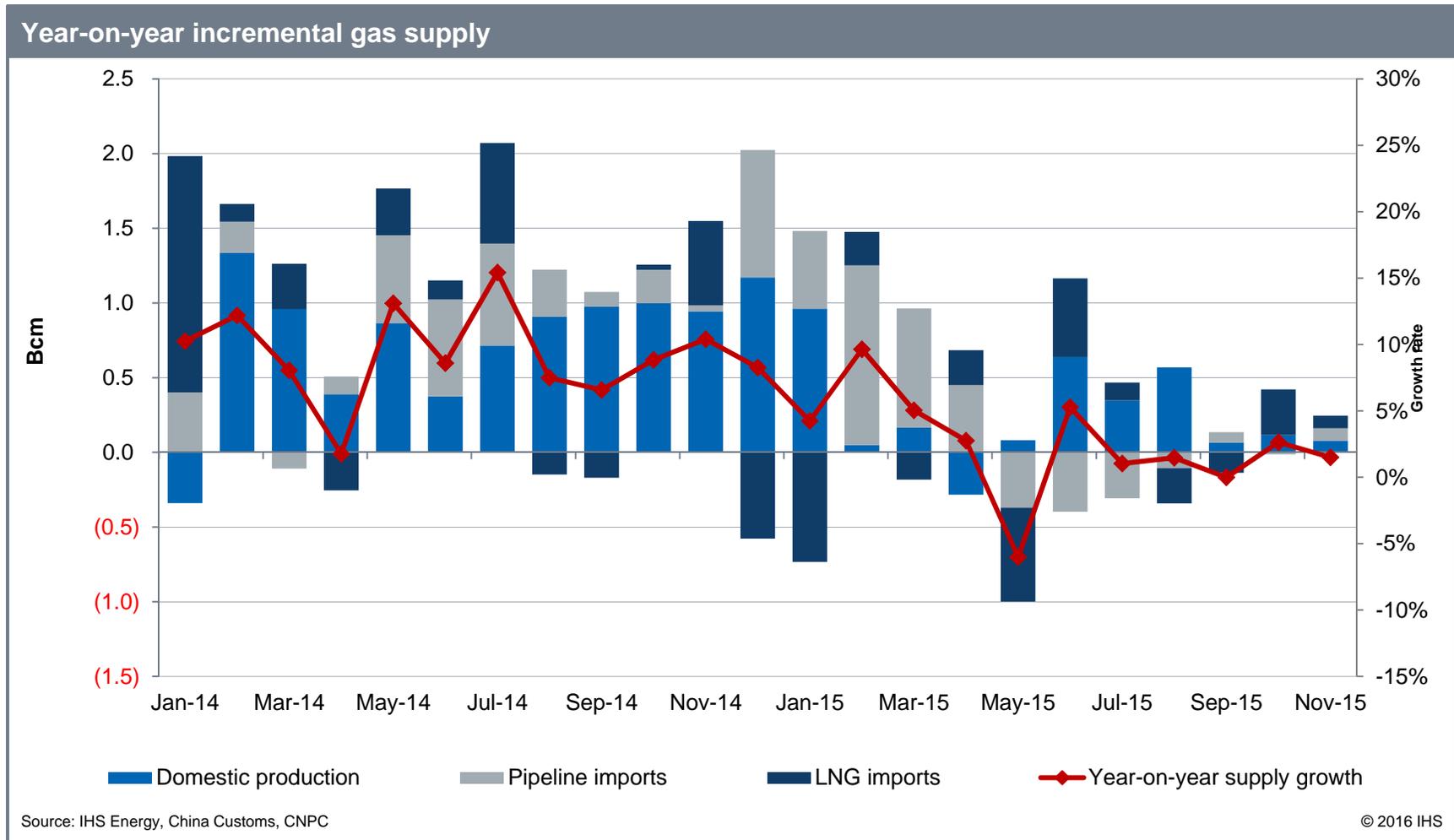
Coal oversupply continued, with Qinhuangdao FOB price further down 27% in 2015



Coal imports have contracted two years in a row and will likely continue to in the future

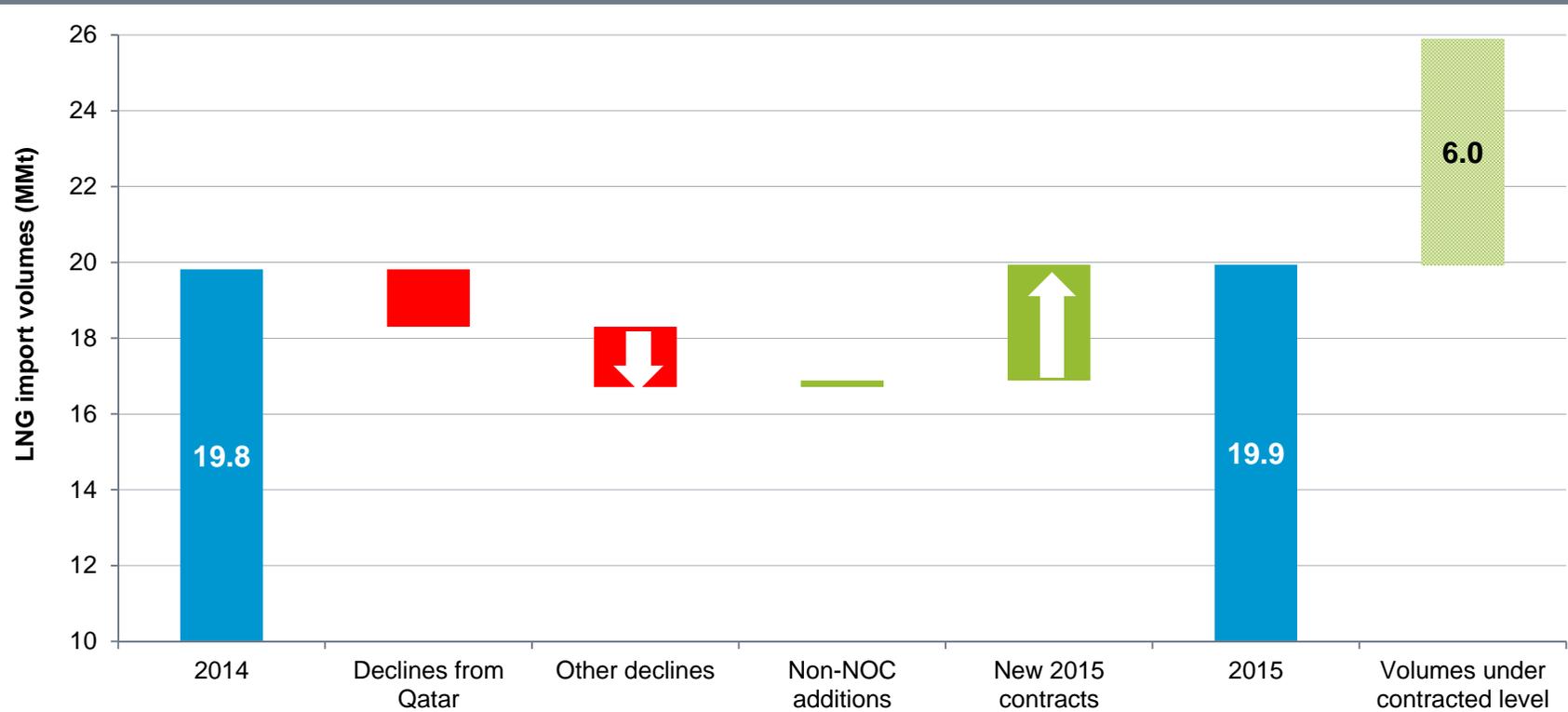


Gas demand growth fell to 2.4% in 2015, affecting both imports and domestic supply



China has taken in LNG imports 6 MMt below contracted volumes owing to demand growth deceleration

China received 6 MMt below contracted volumes in 2015



Notes: Other declines include net volumes from CNOOC's Malaysia LNG and Northwest Shelf contracts, and CNOOC and CNPC's portfolio contracts with BG, BP, TOTAL, and Engie. Non-NOC additions include cargoes by Shenergy, Jovo, Guanghui Energy, and Pacific Oil and Gas. New 2015 contracts include Papua New Guinea and Queensland Curtis LNG contracts.

Source: IHS Energy, IHS Waterborne LNG

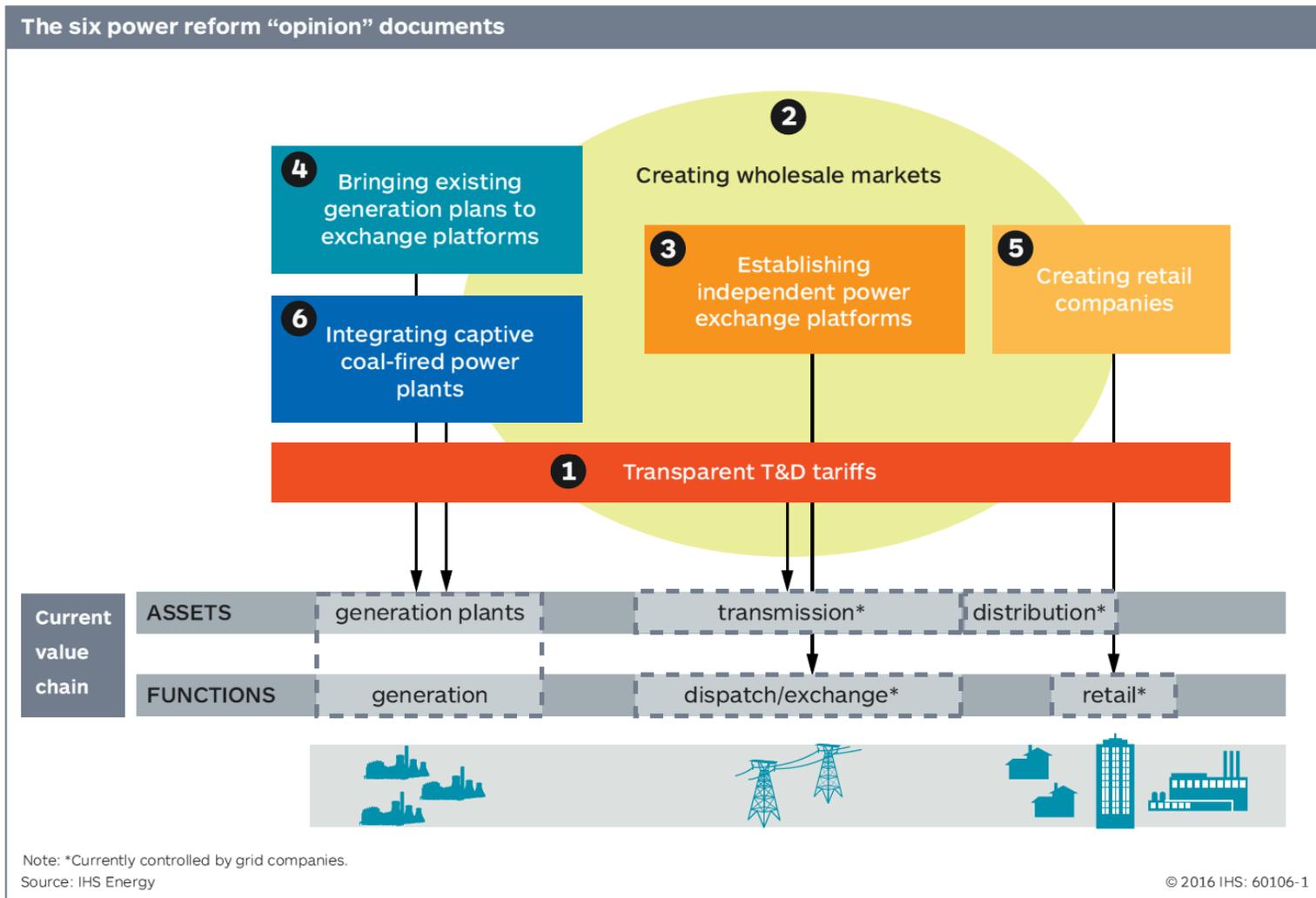
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Oversupply as a catalyst for market reforms

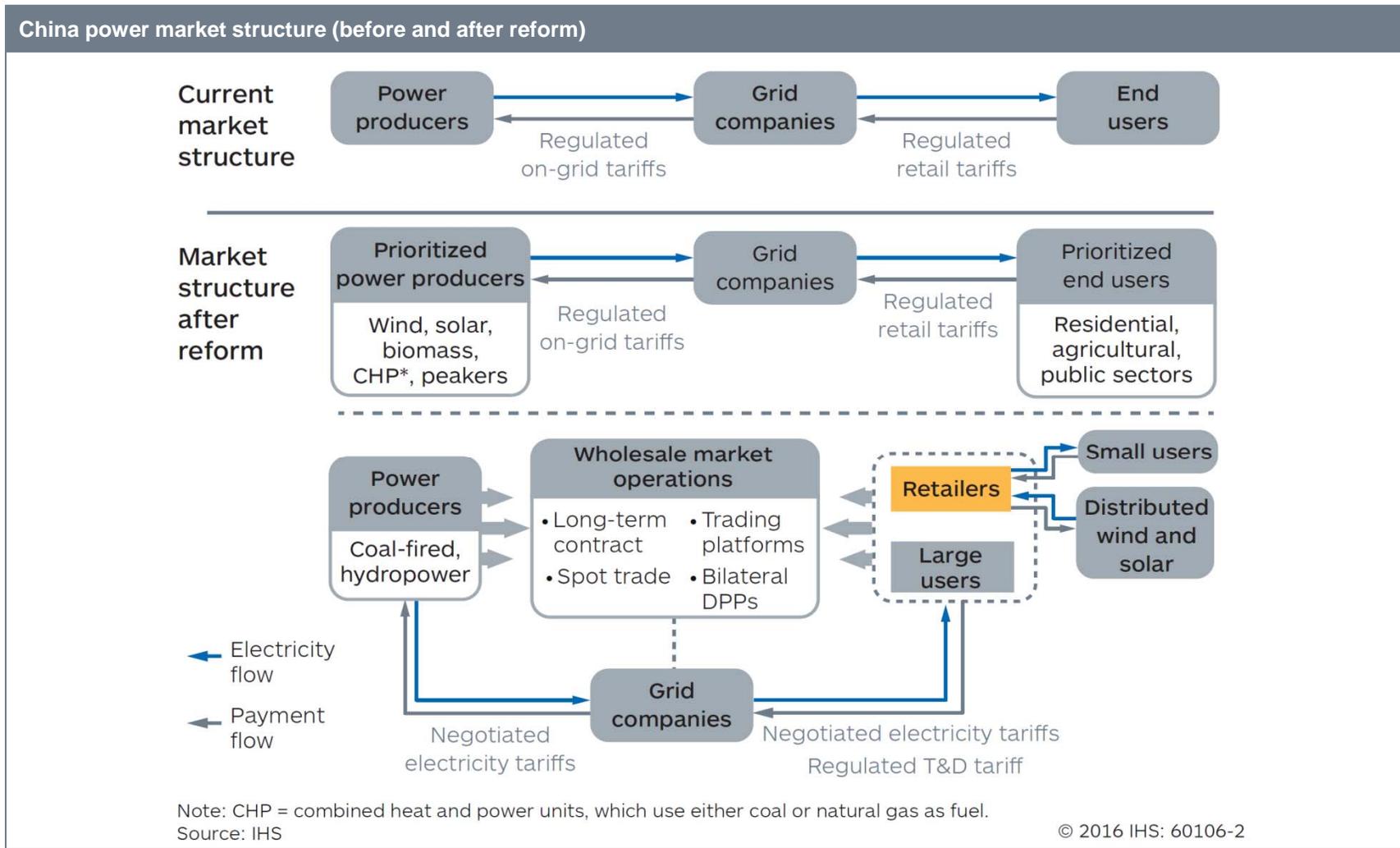
Weak fuel prices present a fertile environment for reforms

- **A series of energy market reforms are targeting different parts of the value chain.**
 - Low fuel cost provides an important opportunity for policymakers to start on **power wholesale and retail market reform**.
 - **Upstream sector** opening will create new opportunities for non-NOCs, while continuing to support the NOCs amid the low oil price environment.
 - **Third party access and midstream unbundling** has already started, but drastic changes will take time.
 - **Oil and gas market reform is closely related to the reform of state-owned enterprises.** Mixed ownership has been one of the most acceptable measures for different stakeholders.
- **Reforming the Chinese energy market is a complex process that requires coordination among different stakeholders.** Reform objectives include securing energy supply, promoting investment, improving operational efficiency, and maintaining market stability. The prioritization of each depends on market conditions and stakeholders involved.

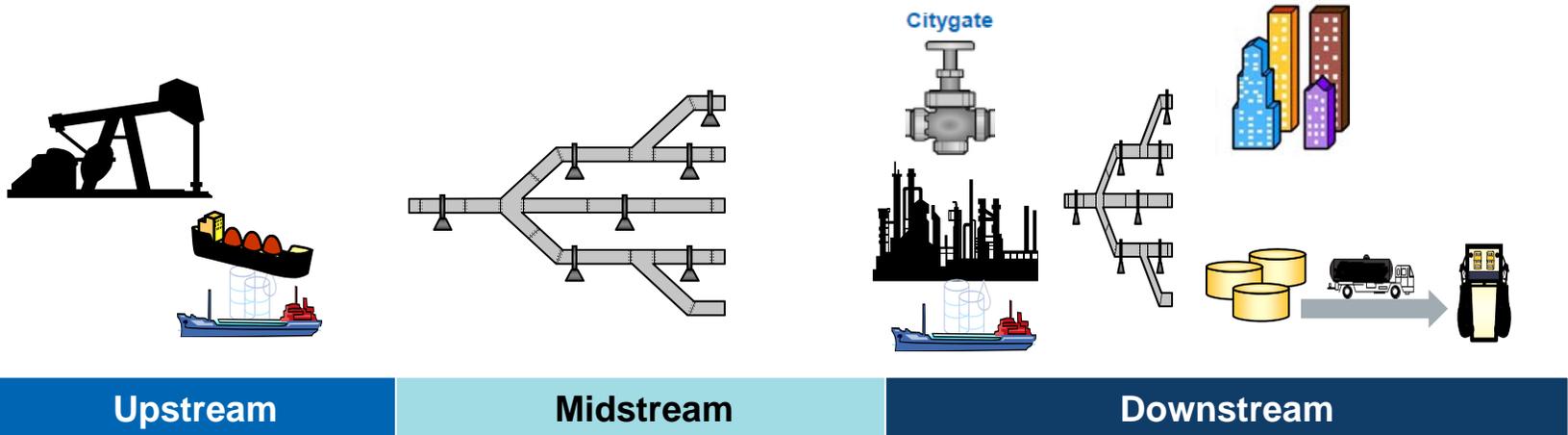
A series of reform documents represent a holistic approach to power market reforms



The China's power market structure will be significantly altered following power market reforms



Multiple reforms are ongoing along the oil and gas value chain, with varying levels of progress

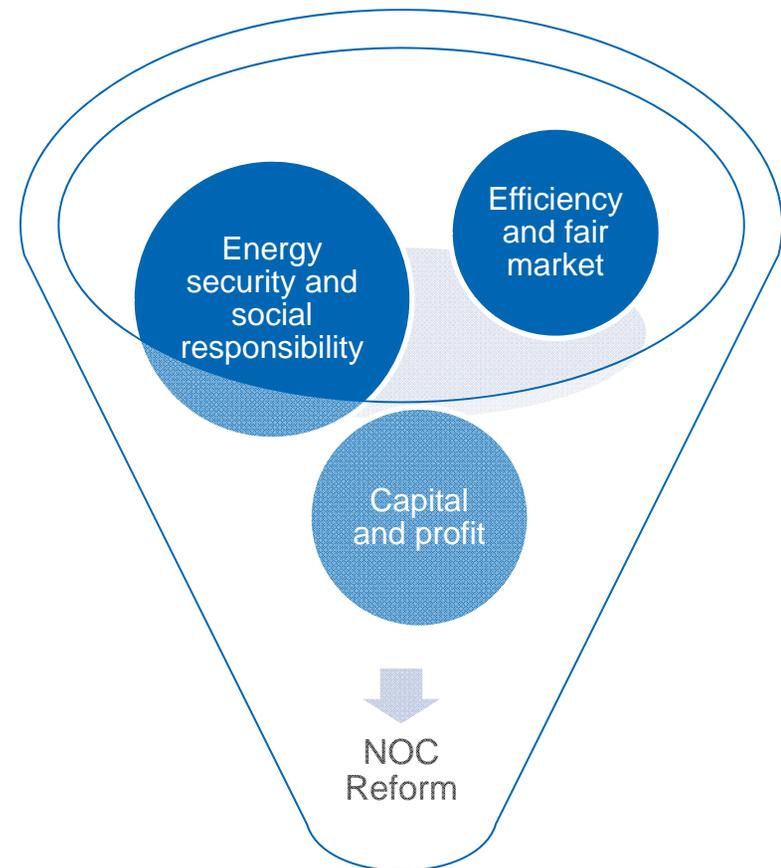


	Upstream	Midstream	Downstream
NOC	NOC reform; Mixed-ownership	NOC reform; Mixed-ownership; Potential midstream unbundling	NOC reform; Mixed-ownership
Non-NOCs	Exploration and production licensing system	Third party access	Crude import licensing
Fiscal and pricing	Tax adjustment; Subsidies adjustment		Oil and gas trading platforms Price adjustments

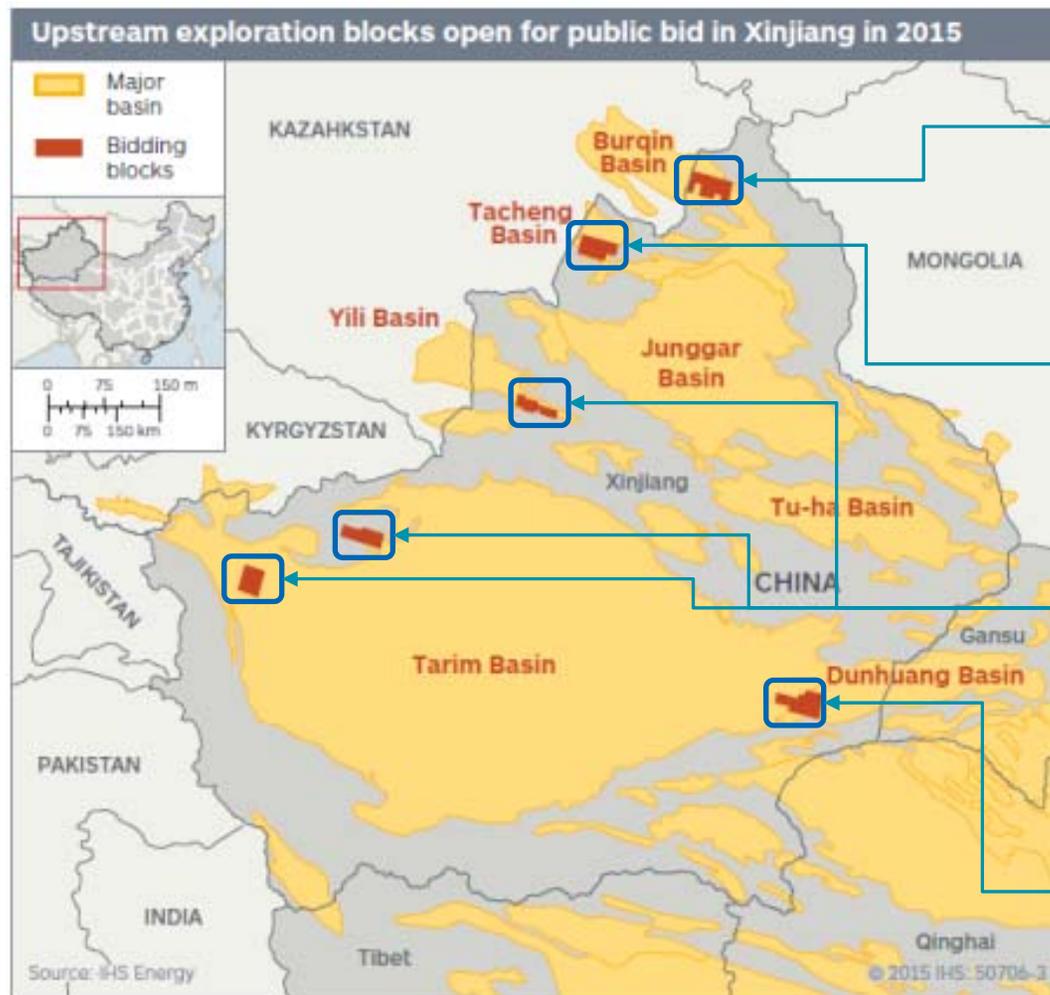
NOC reforms are only part of the broader SOE reforms

September 2015, “Guideline for deepening the state-owned enterprises’ reform” (深化国有企业改革的指导意见):

- The state should be the controlling equity holder for SOEs in key strategic sectors.
- The mixed-ownership model will continue.
- SOEs will need to turn in more profit to the state.
- State investment and operation companies (国有资本投资运营公司) will be established



Upstream: Six conventional blocks opened to non-NOCs with modest market response



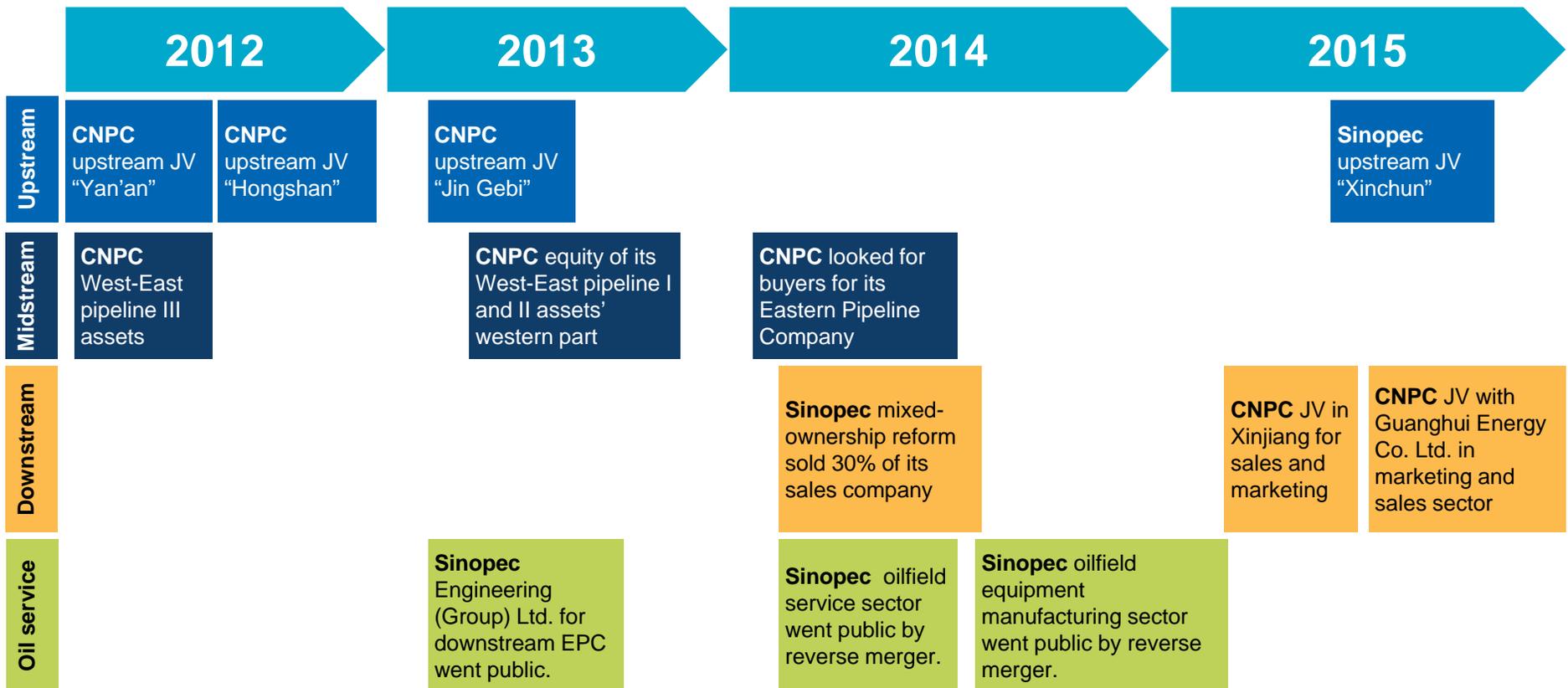
Shandong Polymer Bio-chemicals Co., Ltd.
 山东宝莫生物化工股份有限公司

Did not attract the required minimum of three bidders.

Beijing Energy Investment Holding Co., Ltd.
 北京能源投资（集团）有限公司

Removed from list by Ministry of Land Resources due to "technical reasons"

Mixed-ownership has become an acceptable reform direction for many different market players



NOCs: Increase investment while maintaining the operator roles.
Non-NOCs: Access to unprecedented opportunities to invest in oil and gas assets
Local governments: Higher tax payment and improved local employment from JVs

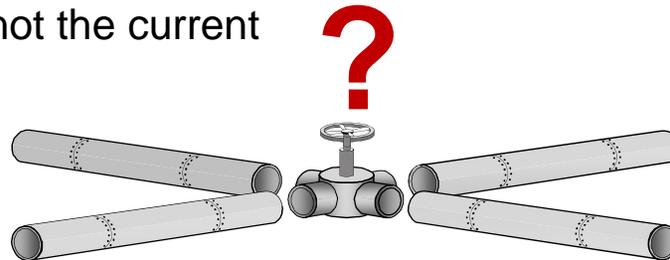
Midstream: Independent pipeline operator(s) under discussion

What will it include?

- Long-distance gas transmission will almost certainly be included, but will still be majority state-owned.
- LNG terminals and gas storage facilities are more difficult to break off because more players are involved.
- Provincial-level transmission and local distribution networks are not the current focus.

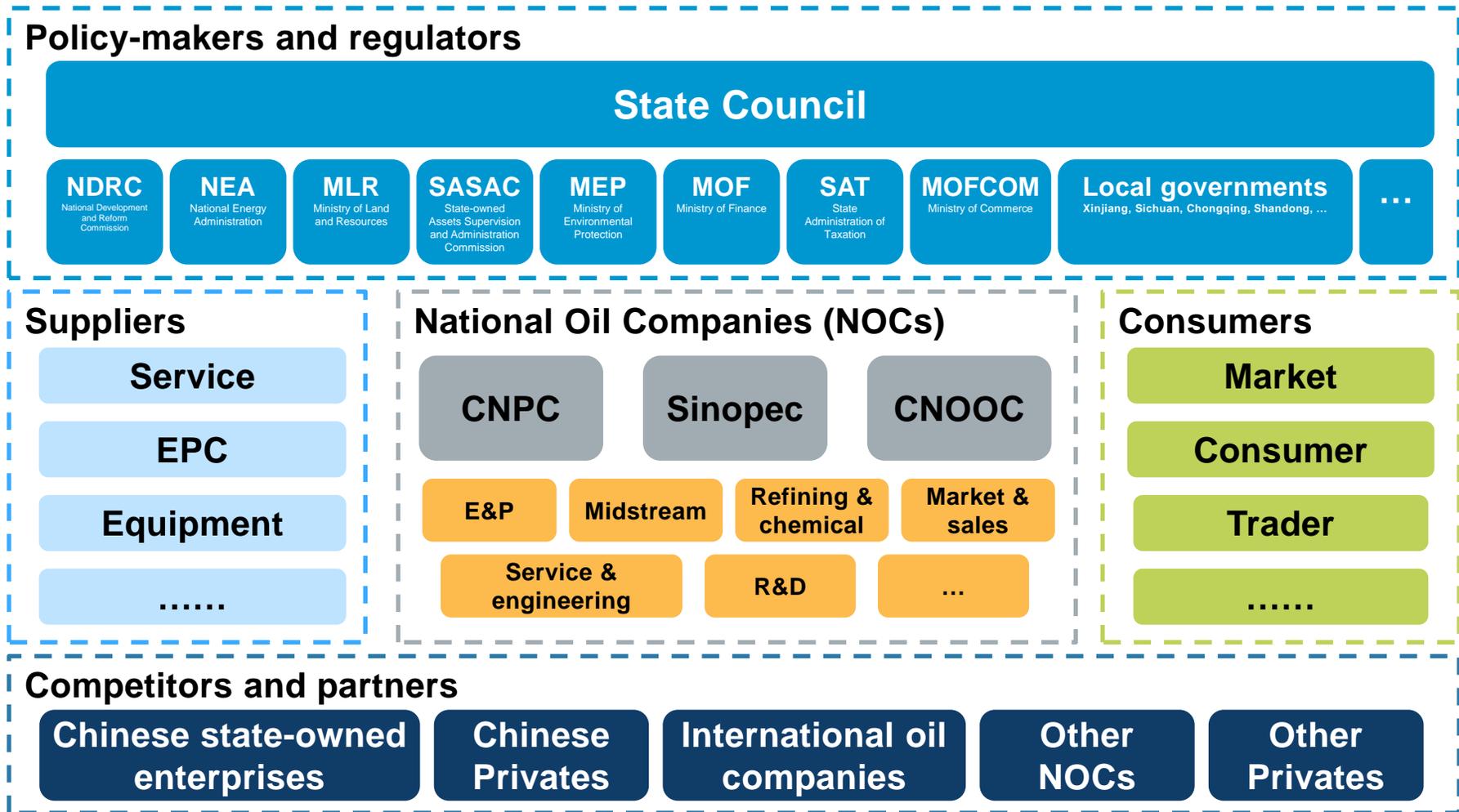
What will the ownership structure look like?

- The new company could own and operate all midstream gas infrastructure.
- Alternatively, it could only control system operations, allowing companies to maintain ownership while freely allowing others to access midstream infrastructure.



•Midstream unbundling, legally or physically, can take a long time to be truly effective. In our base case, an independent national pipeline company takes shape only towards the end of this decade.

Reforms must balance the interests of a multitude of market participants and governmental entities





Q & A

Thank You

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