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25-27 OCTOBER 2016



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INTERNATIONAL
FERTILIZER ASSOCIATION

2016-2017
China DAP and Urea
Market Analysis & Forecast

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BAINFO Lian Yajie



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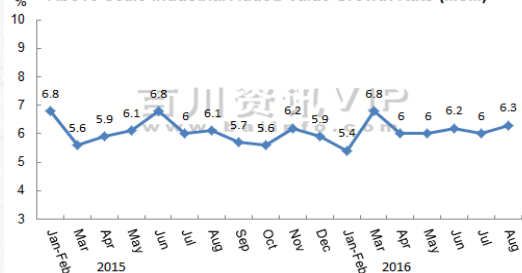
China DAP and Urea Market Forecast

China Economy: Investment Decline, Worrying Foreign Trade and Stable Consumption

Facing bearish economy and downward pressure of traditional industries, the government introduced measures to promote the economy, so it's turning stable with structural optimization and better efficiency.

In the first half of 2016, the government expanded the demand moderately and promoted the supply-side structural reform through entrepreneurship and innovation, so the GDP ran stable overall.

Above Scale Industrial Added Value Growth Rate (MoM)



China GDP Growth Rate Analysis (by Quarter)



With the above measures, China's industry economy showed an upward trend. New industries and new products became main support for industrial stability. Industrial structure adjustment, power conversion, transformation and upgrading progressed orderly. In the coming period, the economy will have a good development trend with steady progress.

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China DAP and Urea Market Forecast

China Urea and DAP Capacity & Production Analysis in 2016-2017

Urea Capacity 2016

In 2016, China urea capacity was 79.00 million tonnes, among which most were located in Shandong, Shanxi, Henan, Xinjiang and Inner Mongolia, accounting for 53% of the total.



DAP Production 2016

In 2016, China DAP productions were expected to be around 16.20 million tonnes, down 7.5% over 17.50 million tonnes in 2015.



Urea Production 2016

In 2016, China urea production were expected to be 68.00 million tonnes, down 9.5% over 75.12 million tonnes in 2015.



DAP Capacity 2016

At a rough estimate, in 2016, China DAP capacity was around 23.00 million tonnes, among which most were located in Yunnan, Guizhou and Hubei, accounting for 71% of the total.



China Urea Capacity Analysis in 2015-2017



2015

Total capacity at 84.55 million tonnes, hitting the high level



2016

Total capacity at 79 million tonnes, down than that in 2015



2017

China Urea capacity will keep down, and total capacity will be around 77 million tonnes.



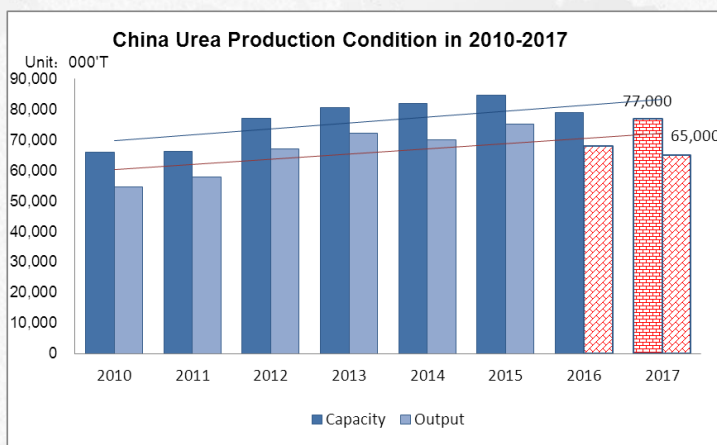
For nitrogenous industry, to eliminate capacity, to replenish short board, to govern environment pollution are the main task for 13th Five Year Plan.

Main Reason

China Urea Capacity & Output Analysis in 2010-2017

Fast Growth of Capacity, oversupply for total amounts

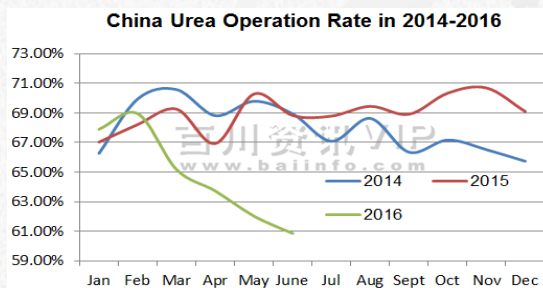
New capacity keep rising, while outdated capacity was hard to left the market. So capacity ran in oversupply. In the past ten years, the average yearly growth rate of urea reached 6.3%. During the 12th Five-Year Plan, the yearly growth rate was 5%. The total new capacity reached 30.6 million tonnes, while outdated capacity was lack of 13 million tonnes. Oversupply capacity get above 10 million tonnes.



China Urea Operation Rate Analysis

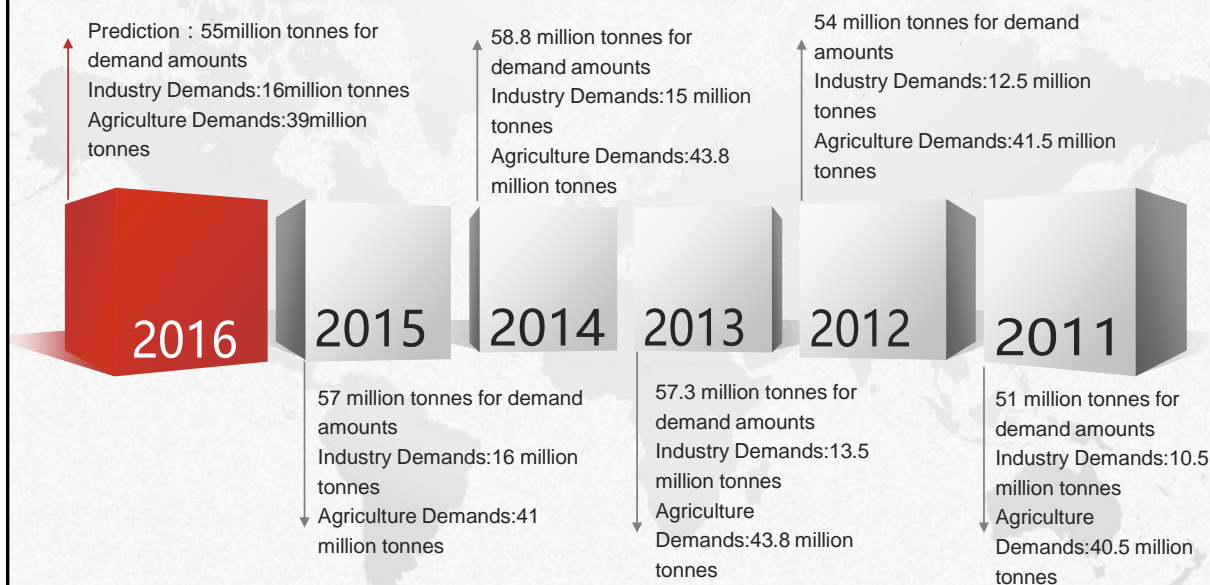
Operation Rate Ups & Downs

Date	2014	2015	2016
Jan	66.27%	67.03%	67.90%
Feb	69.95%	68.22%	68.95%
Mar	70.58%	69.26%	65.18%
Apr	68.82%	66.93%	63.73%
May	69.79%	70.28%	62.03%
June	68.94%	68.83%	60.86%
July	67.09%	68.79%	
Aug	68.63%	69.45%	
Sept	66.35%	68.91%	
Oct	67.17%	70.34%	
Nov	66.52%	70.69%	
Dec	65.74%	69.10%	



China urea kept down in the first half of 2016. Operation rate declined in 2013. China urea capacity added continually, the demand of industry and agriculture was limited. Exports were limited because of bleak international market. Most of enterprises stopped or cut production after hit the cost line.

China Urea Demand Analysis



China Urea Tariff Policy

Urea (tax number 31021000), other minerals & Chemical nitrogenous (tax number 31029090); peak season (Jan-June, December, November) 15% , plus RMB40/t; Bleak season (July-Oct) RMB40/T.

To cancel traffic tax in peak & bleak season, RMB80/t for the whole year

2013

It executes tariff tax 75% (special tax rate) + 2% (Temporary tariff) in peak Season (Jan-Jun, Nov. Dec.). If export price is not higher basic price in July-Oct, it will executes 2%; if export price is higher basic price, tax rate is $(1.02 - \text{basic price} / \text{export price}) * 100\%$ (basic price is calculated by RMB2.26/kg).

2014

2015

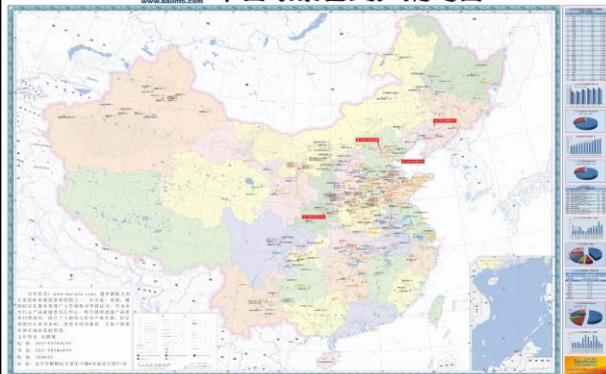
To cancel peak and bleak season, the traffic tax is RMB80/t in the whole year. It imposes 13% VAT for taxpayers and importers since Sept. 1, 2015.

2016

2017

It will open export policy.

中国尿素企业产能地图



China Urea Capacity Map

China Phosphate and NPK Capacity Map

中国磷复肥产业链产能地图



China's DAP capacity in 2016-2017



2015

China's DAP capacity was about 22.5 million tonnes. According to the statistics of BAIINFO, market demand was 4.5 million tonnes in Spring, and 3.5-4 million tonnes in Autumn; and its demand totaled at 8-8.5 million tonnes in 2016. Whereas, exports totaled at 8.02 million tonnes, and its, and DAP apparent consumption was 16-16.5 million tonnes. Therefore, there are 6-6.5 million tonnes for excess capacity.

stable-to-up



2016

It is predicted that 2016's China DAP capacity will be at 22.9 million tonnes, Inner Mongolia Dadiyuntian Chmeical's 600,000 tonnes new unite has put into production in Sept.



2017

It is predicted that 2017's China DAP capacity will be at 23 million tonnes



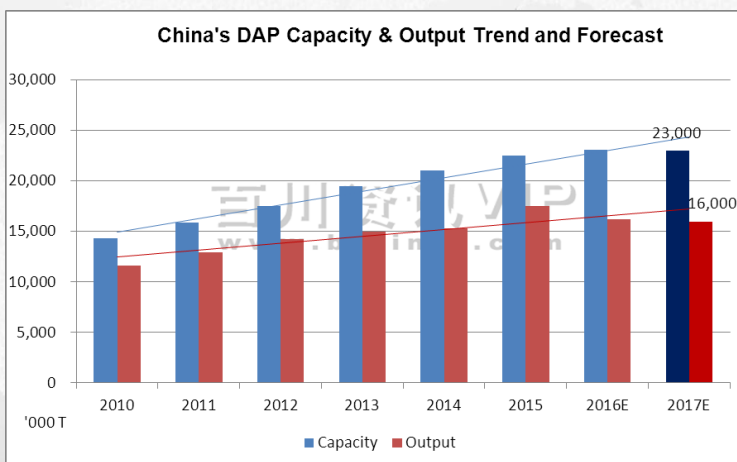
The State Council issued the guidance and adjustment on transferring structure of petrochemical industries, strictly controlled new capacity of urea and ammonium phosphate, used advanced technology of equal or reduction replacement and carried out global cooperation on production capacity to build overseas industrial parks.

Factor

China's DAP capacity & Output in 2016-2017

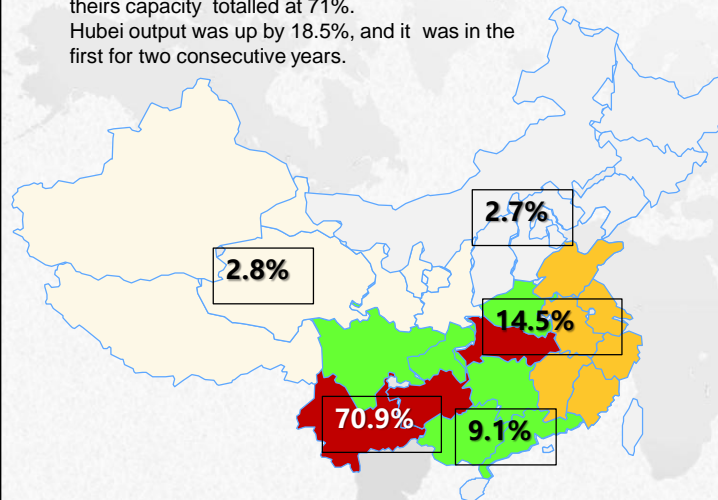
With the supports of demands and exports, DAP output was up by 13.8% to 17.5 million tonnes in 2015.

Up to Jun 2016, domestic DAP output was 8.1 million tonnes, down by 5% YoY. It is expected DAP output was 16.2 million tonnes in 2016, down by 7.5% YoY.



China's DAP capacity & Output in 2016-2017

According to the statistics of BAIINFO, DAP units mainly locate at Yunnan, Guizhou and Hubei, and theirs capacity totalled at 71%. Hubei output was up by 18.5%, and it was in the first for two consecutive years.



China DAP Capacity TOP 10		
No.	Enterprises	Capacity ('000 T)
1	Yuntianhua Group	4,600
2	Wengfu Group	2,650
3	Kailin Group	2,600
4	Yihua Group	1,800
5	Xiangfeng Group	1,200
6	Hubei Dayukou	980
7	Hubei Dongsheng	600
8	Anhui Liuguo	600
9	Guangdong Zhanhua	600
10	Yidu Xingfa	450
	Others	6,220
	Total	22,300

- Three provinces of phosphates production 70.9%
- East China 14.5%
- South China & Chongqing 9.1%
- North China & Northeast 2.7%
- Northwest 2.8%

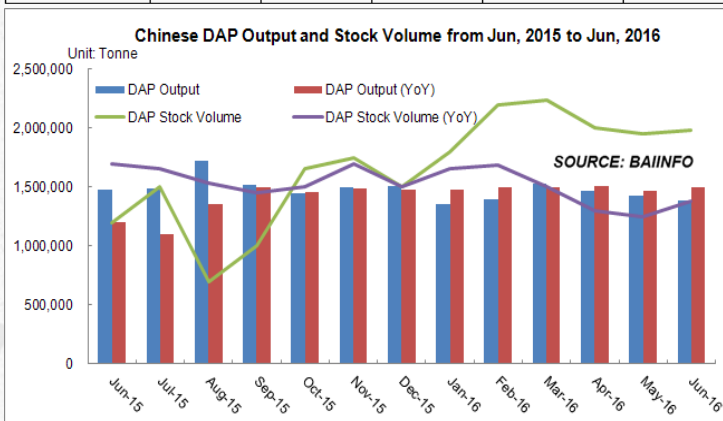
China DAP Output, Sales Volume and Stocks

The right-hand chart shows the data of the output, sales volume and stock of DAP in China, 2016. (Data source: China Phosphate Industry Association)

	Jun(Tonne)	MoM(%)	YoY(%)	Jan-Jun(Tonne)	YoY(%)
Output	1,260,000	-5.7	-12.6	8,108,000	-5.2
Sales Volume	1,242,000	-25.3	-10.0	7,620,000	-9.9
Stock	1,926,000	1.3	58.0	--	--

It is predicted that Chinese DAP output in 2016 will be 16.2 million tonnes and the sales volume will be 15 million tonnes. The ratio of production and marketing is about 94%. Supported by the encouragement policy of increasing efficiency by producing reduction or keeping output unchanged, the ratio of production and marketing in 2017 will be the same with that in 2016.

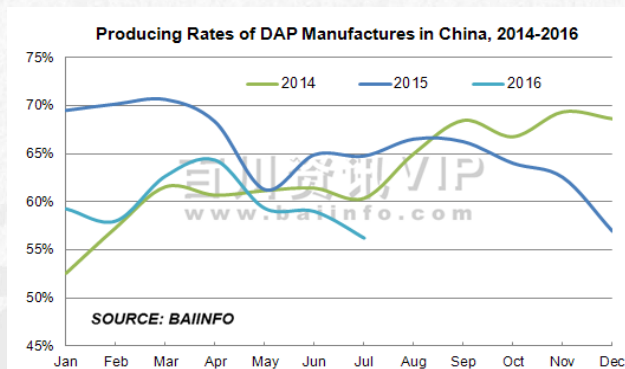
Domestic DAP manufactures got narrowed benefits in 2016, in line with declining outputs and increasing stockpiles. Some enterprises in Yunnan and Guizhou produced DAP goods according sales. Therefore, the whole producing rate in the regions decreased obviously. It is expected that the output, sales volume and stock of DAP in 2017 will be flat with that in 2016, and DAP enterprises with proper inventories will maintain the sales strategy of producing according to sales.



China DAP Operating Rate

Data of DAP Operating Rate in Fluctuation

Month	2014	2015	2016
Jan	52.58%	69.50%	59.27%
Feb	57.31%	70.16%	58.00%
Mar	61.56%	70.63%	62.67%
Apr	60.69%	68.31%	64.33%
May	61.16%	61.27%	59.32%
Jun	61.42%	64.89%	59.00%
Jul	60.37%	64.76%	56.23%
Aug	65.00%	66.52%	
Sep	68.46%	66.24%	
Oct	66.76%	64.00%	
Nov	69.34%	62.54%	
Dec	68.63%	56.94%	
Average	62.77%	65.48%	59.83%



The whole operating rate of DAP in Chinese market was in a downward trend in the first half of 2016. In Sep-Oct, as the peak season of the consumption of fertilizer is coming, the operating rate will go up to a certain extent. However, the whole operating rate of 2017 will be in a stable trend mainly.

In 2015, DAP operating rate was at the highest, being pulled by the export statuses that year. In 2014, DAP enterprises hiked up operating rates because of obviously increasing market demands, when newly increasing capacities had not been put into running.



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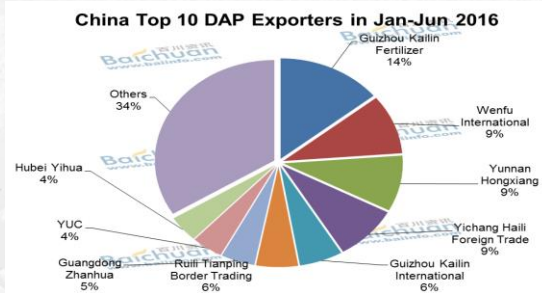
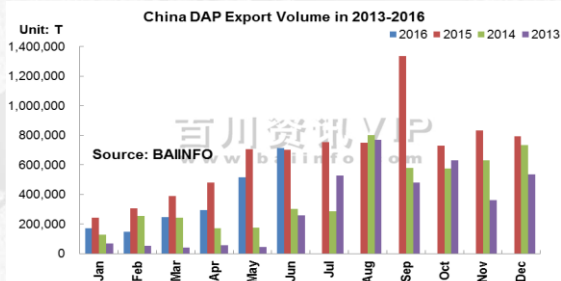
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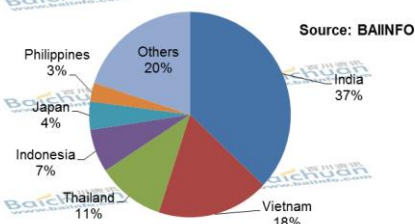
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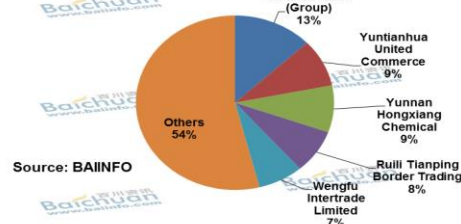
China DAP Exports Analysis



China DAP Export by Countries in Jan. to Jun., 2016

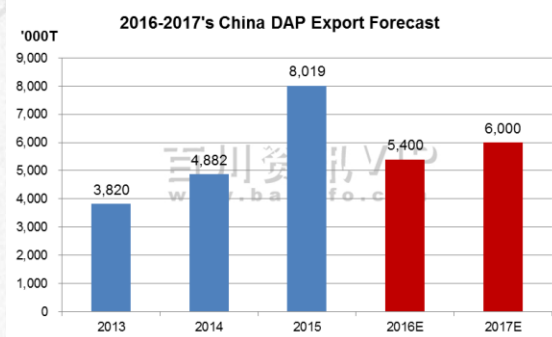


China DAP Export by Enterprises in Jan. to Dec., 2015



Forecast of China's DAP Exports in 2017

It is estimated that total DAP export volume of China may be about 6 million tonnes in 2017, on the assumption that Chinese fertilizer export tariffs would be canceled or relative policies could be loosened. Two main reasons are as follow:

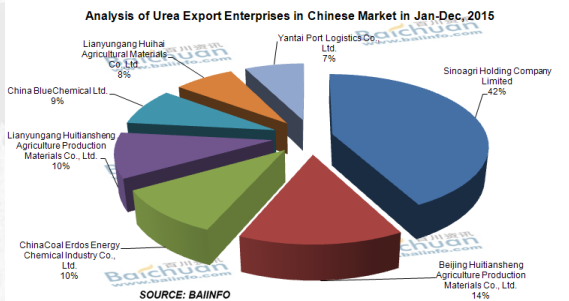
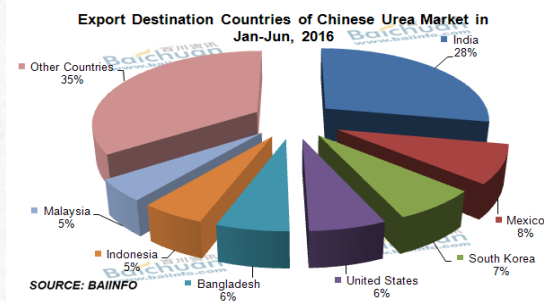
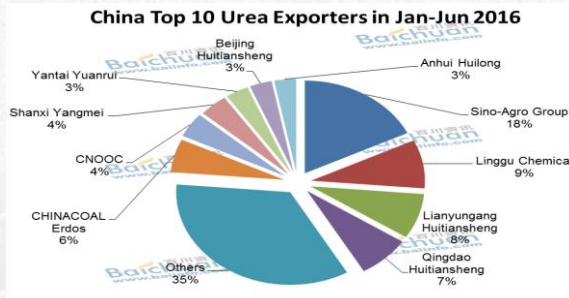
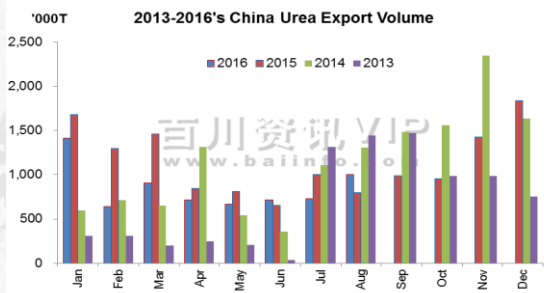


Firstly, market demands all around the world remain huge. It was heard that India predicts to import 5.5-6 million tonnes in 2017. India, as the biggest export destination country, takes about 50% DAP export volume of China. Moreover, Mosaic Company, the biggest producer of phosphate fertilizer in the world, may be confronted with limited supply due to the issue of ardealite storage yard.

Year /'000T	DAP Export Volume	Jan-Aug	India (Jan-Aug)	Jan-Dec (India)
2015	802	433	216	387
2016E	540	359	159	260
2017E	600	-	-	288

Secondly, DAP capacity in China is excess. DAP export remains being the main development power of Chinese phosphate fertilizer industry. If the export tariff is canceled, the cost of DAP export will reduce; and then, the international competitiveness of Chinese phosphate fertilizer industry could be strengthened.

China Urea Exports Analysis



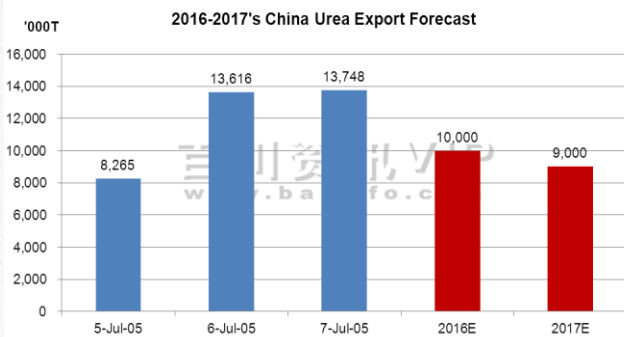
Forecast of China's Urea Exports in 2017

China urea export volume is estimated at around 10 million tonnes in 2016. Statistics showed that in Jan. to Aug., China urea export volume was at 6.78 million tonnes, including 1.76 million tonnes to India, which was 46% downward compared with figure of 3.25 million tonnes last year. Also, China's total export volume saw year-on-year decrease as well. It was mainly because that the popularized application of India's NCU urea negatively impacted the purchase for agricultural urea. Besides, the recovered export from Iran, the new capacity release in the Middle East and higher self-sufficiency ratio in USA were also at play.

Year / '000T	Urea Export Volume	Jan-Aug	India (Jan-Aug)	Jan-Dec (India)
7/Jul/05	1,375	854	325	595
2016E	1,000	678	176	250
2017E	900	-	-	-

China's export volume of urea is estimated at 9 million tonnes around in 2017.

There are two reasons. Firstly, the cost of urea increases year-on-year. In the second half of 2016, the preferential electricity price policy for fertilizer enterprises was cancelled, then urea production cost increased. Besides, in the fourth quarter, natural gas price is expected to increase by 20%, and the preferential policy will be cancelled gradually. In general, urea production and circulation cost will rise along with the cancelled preferential policies of transportation, natural gas, electricity and tax, directly weakening China urea's competitiveness in international market. Secondly, international suppliers with urea at low price keep putting new capacity into operation, which squeezes China urea's market share, such as suppliers in Iran and Middle East.





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China Fertilizer Market Highlights 2016

Chinese Ministry of Agriculture released **Action Plan of No Growth of Fertilizer Usage Till 2020**, stressing the performance evaluation mechanism of relevant actions and action plans to keep no growth of fertilizer usage.

In Hubei, Jiangsu, Henan, Hebei and other regions, rainstorm disaster caused great loss of crops and affected usage of fertilizer.

Policy Guidance

Natural Disaster

Market Focus

Resource Tax Reform

Export Tariff

Resource tax reform was fully implemented from Jul. 1, 2016, which means, fertilizer enterprises need to pay taxes based on the price of phosphate ore. So later cost of DAP will move down as tax for phosphate ore will only be RMB7-8/T.

In 2017, fertilizer export tariff is expected to be eliminated to enhance domestic enterprise competitiveness and profit.

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China Urea Market Forecast

Lost of Export Advantage

Along with the stronger urea export from Iran and Middle East, China has to keep reducing price to win more orders due to lack of cost advantage. As can be seen from India's first two tenders in 2016, China has already lost bargaining power. In the second half of 2016, China fertilizer producers have to make concessions consecutively in urea export along with the weaker domestic demand.

Domestic Demand Structure Transformation

Grain price slides down as a whole, which weakens farmers' enthusiasm for planting and changes plant structure and area. In previous years, downstream industrial products had good export performance, but export volumes of rubber plate, compound fertilizer and other downstream products of urea shrink greatly this year. Those affect domestic demand for urea.

Excess Production Capacity

Except that Sinopec took the initiative to halt its units of urea, other producers only halted or switched to other production after running at losses for consecutively several years. That exacerbated the overcapacity.

Climate Abnormality

After May Day holiday, the low temperature affected the fertilizer usage in agriculture, thus there was no concentrated release of demand. In Jun., heavy rain, hail or even tornado came to most regions of China, then some farmlands were destroyed. Urea demand from farmers was seriously weakened as a result.

China DAP Market Outlook

DAP Market Outlook

Export

Export is the core drive of China phosphate fertilizer market, leading to stable operation rate. The production depends on the export market.

India market is not only the half of global market, but also is the half of China market.

Production and Sales

China DAP capacity was still increasing, but the consumption decreased.

Compared with the same period last year, phosphate output showed decline but compared with the whole year, it still increased greatly. Imbalanced supply and demand indicated that it is necessary to cut production.

Integration

Supply side reform in fertilizer industry is necessary.

As fertilizer industry kept tepid and enterprises suffered losses, it is necessary to have reform in supply side. Enterprises reorganization, capacity control and output reduction will be the development trend.



Thank You!

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FIRST SESSION

Fertilizer Project Financing and Trade Perspectives

Session Chair: Brent HEIMANN, Arab Potash Company, Jordan
and Chairman of the IFA Technical & SHE Committee

- **Kremena TENEV** and **Hayoung LEE**
IFC - International Finance Corporation (World Bank Group), USA
- **Marina SIMONOVA**
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