

# Chinese Methanol Industry - Struggle to grow in a post COVID-19 and Carbon Neutral Era

*Prepared for*

**2021 International Methanol Conference (in conjunction with IMPCA)  
November 2<sup>nd</sup> – 3<sup>rd</sup>, 2021**

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# MMSA – Global Insight, Asian Perspective™



- **18<sup>th</sup> Year of Operation, based in Singapore**

- Employee owned, Independent
- Dedicated Consultants with over 104 years of Methanol industry experience: Singapore, Shanghai, Houston, Seattle, United Kingdom, Oslo



- **Multi-Client Services**

- **Methanol & Derivative Analysis**

- Methanol, Formaldehyde, Acetic Acid, MTBE, MMA, Energy Use in global detail – 700+ pages; data updated quarterly

- **Methanol Notes™**

- One-page topics of relevance, weekly

- **MMSA Weekly Methanol Analysis**

- Global market analysis and price assessment every Friday Singapore time – limited to 8 pages

- **China Monthly Methanol Analysis (CMMA)**

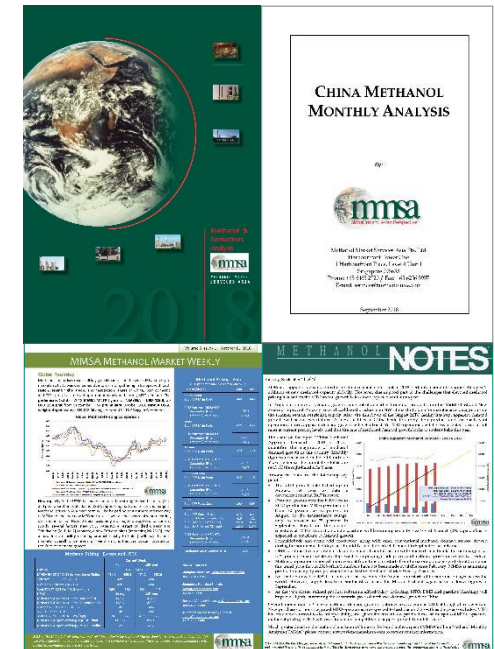
- Quantitative analysis of world's largest methanol market

- **Project Services**

- Market and Technical Due Diligence Support, Bankable Project Assessments, Valuation
- Methanol (including “low carbon” meOH), Acetic Acid, Formaldehyde, MMA, MTBE

- **MMSA IMPCA International Methanol Conference – November 2 – 3, 2021**

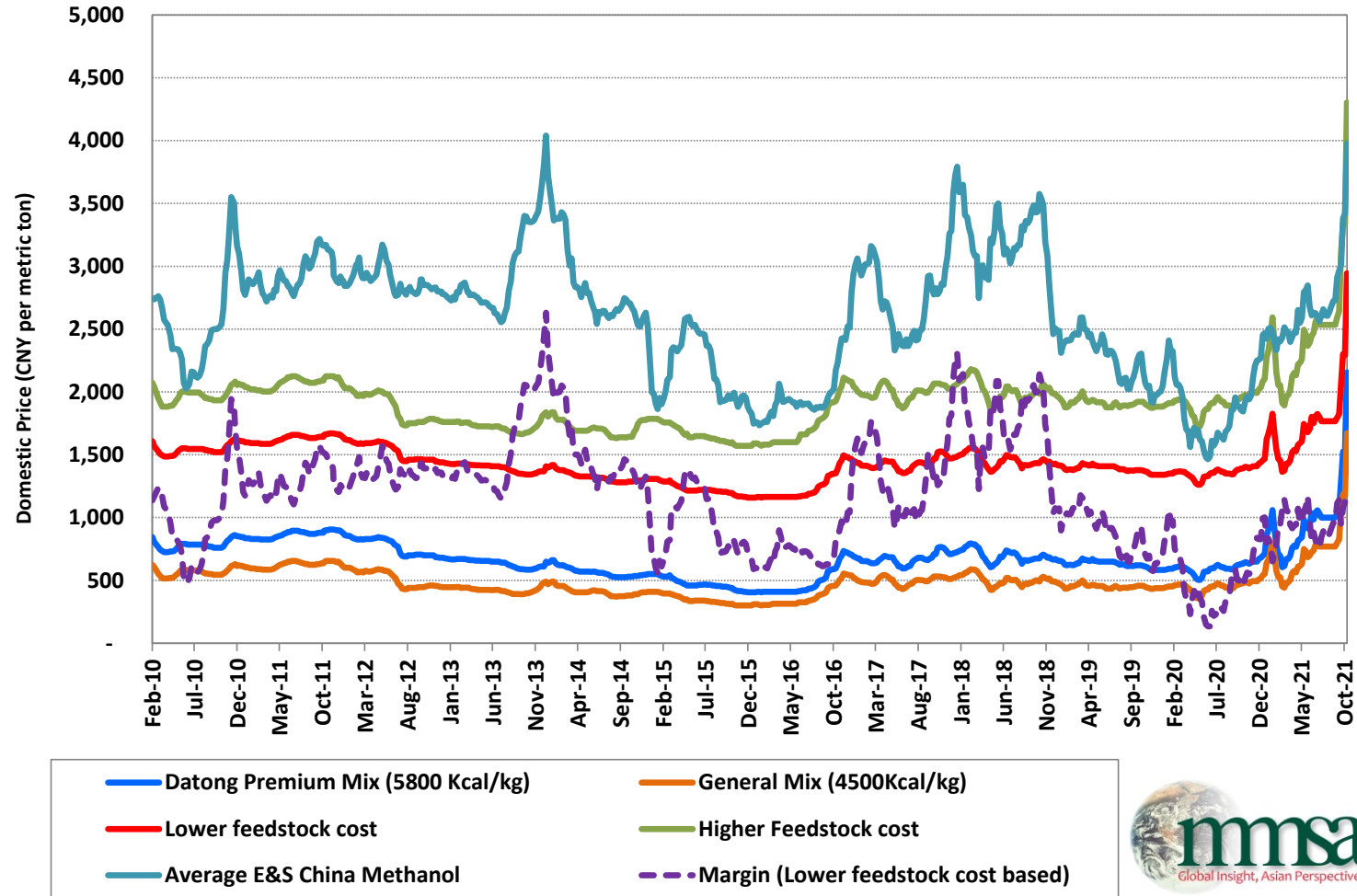
- **2021 MMSA/IMPCA Methanol Forum - December 1-2, 2021**



- China Methanol Demand Drives World Market recovery.
- Carbon Neutral, may become a long - term price driver for energy prices, and chemical costs
  - Carbon Neutral Target, and the recent Energy Control Policy restricted the energy(coal/electricity) supply.
  - Decarbonization outpaced the growth of substitute green energy which yet to cover the gap.
  - Coal output reduction contributed to hiking coal/natural gas prices since August, pushing up methanol costs, shut down of major high-cost methanol facilities through October. The methanol prices hiked through end October.
- Energy/Electricity demand recovered much higher than expectation in a post COVID-19 era.
- Supply disruption outweighed demand loss.
  - MTO economics are undermined on hiking methanol prices and lower naphtha cracker economics, leading historic lows of MTO ops
  - The demand destruction effect of other derivatives.
- Methanol price and margin significantly lifted up by the carbon neutral target.
  - Short term energy restriction amid decarbonization campaign remains, supporting prices. China has been working hard to restart coal mines to ensure coal and heating demand ahead of cold winter, as a short-term remedy. Methanol prices began to soften as a result end October. Boom bust cycle is likely to happen.
  - Long term carbon neutral target is an irreversible commitment/process. The Industry need to accept higher carbon cost.
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# The story begins from coal.....

## Coal Cash Cost vs. Methanol Price



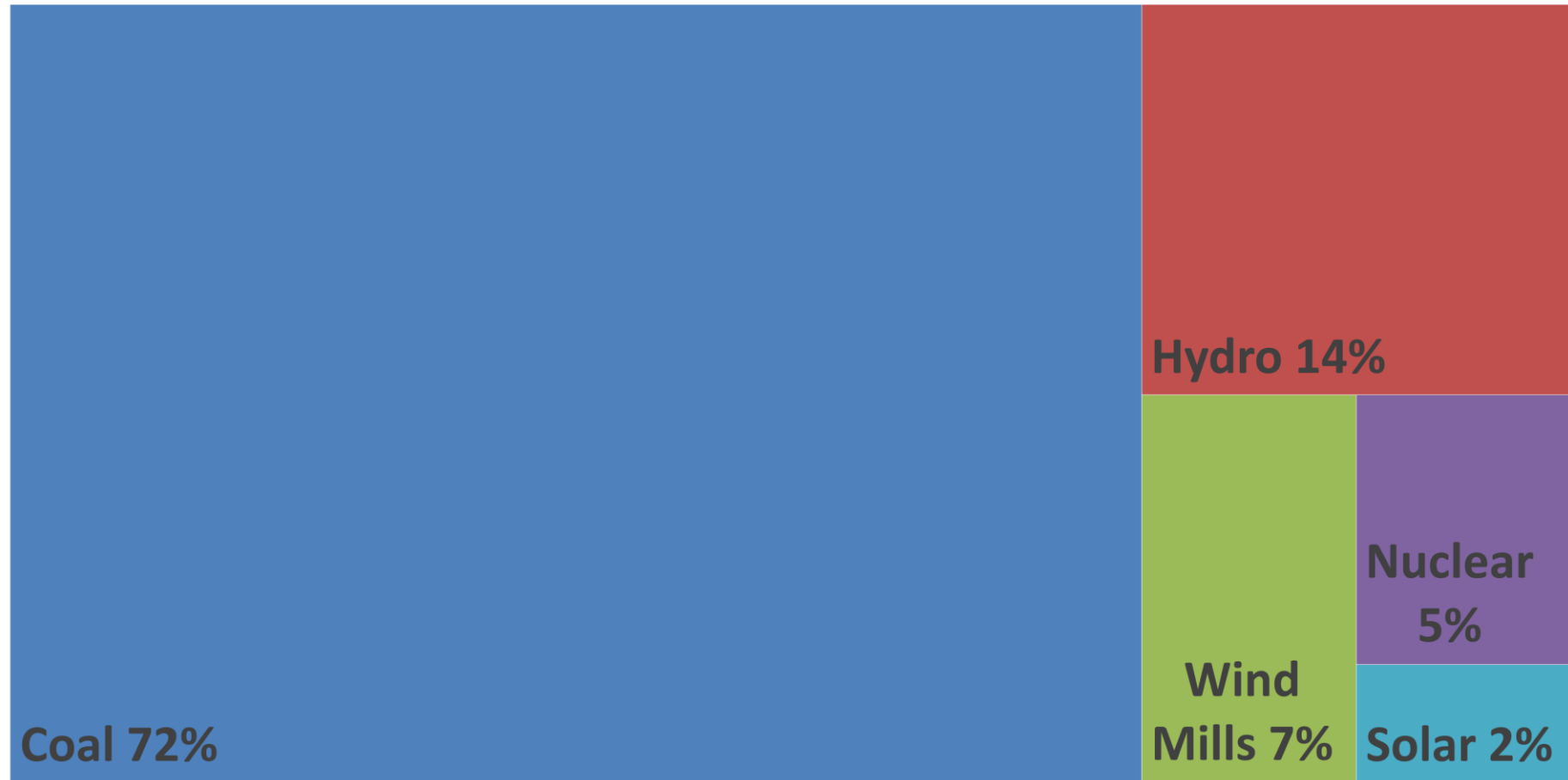
# The story begins from coal.....



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- Coal prices hiked since August on the shutdowns of capacities in the past couple of years, and much higher-than-expectation demand post COVID-19.
- Coal Prices tumbled after NDRC crackdown on overspeculation and the cumulative efforts of restarting coal mines up to 200 million tons, and 50 million tons backup on the way.

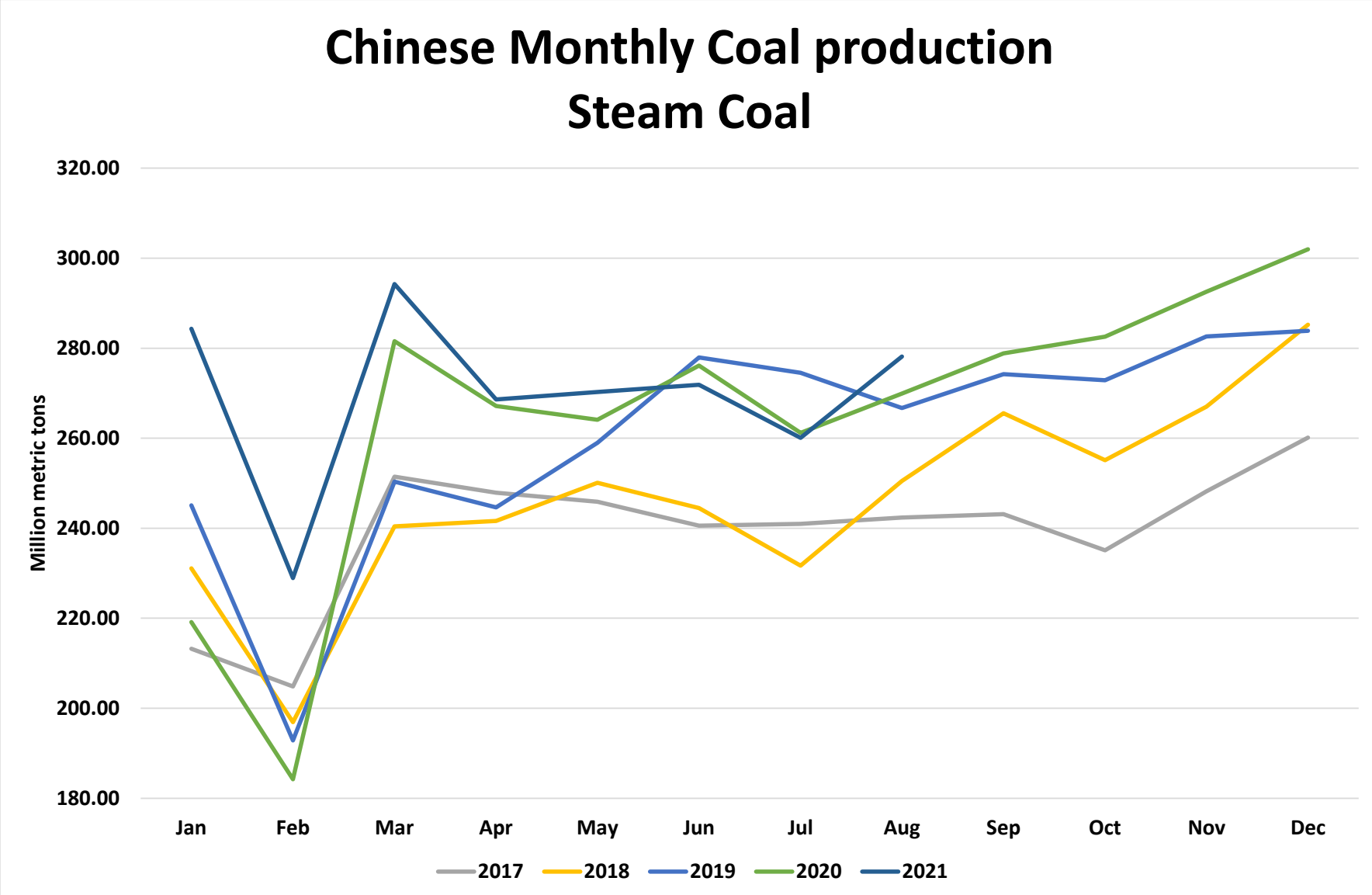
# Why China is in Coal/electricity shortage? Starting from Carbon Neutral Target and Power Generation

## Chinese Power Generation Grid By Feedstock Jan-Aug. 2021



■ Coal ■ Hydro ■ Wind Mills ■ Nuclear ■ Solar

# Chinese coal output lag behind demand growth

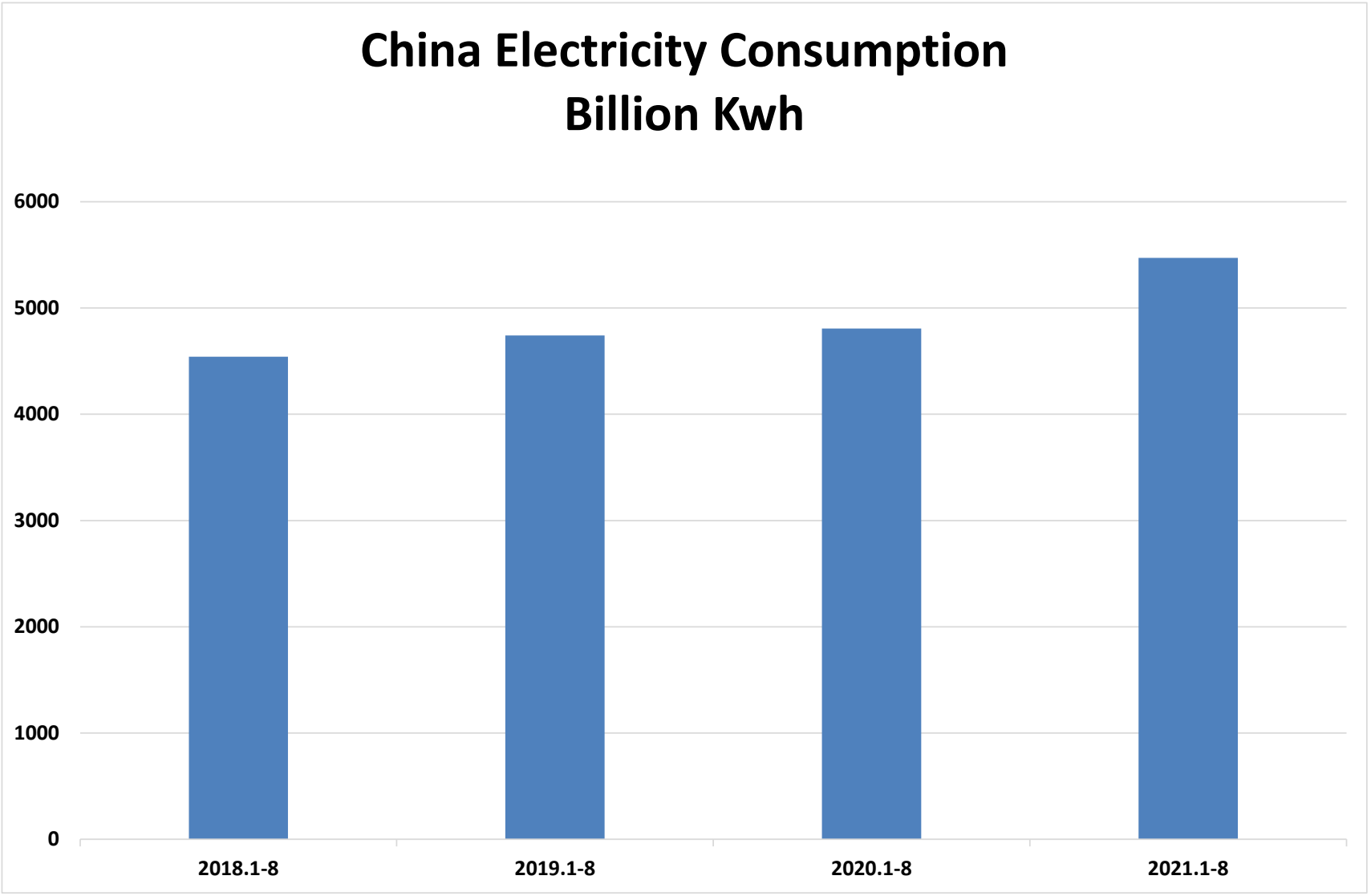


# China Coal output AGGR slowed in the past five years

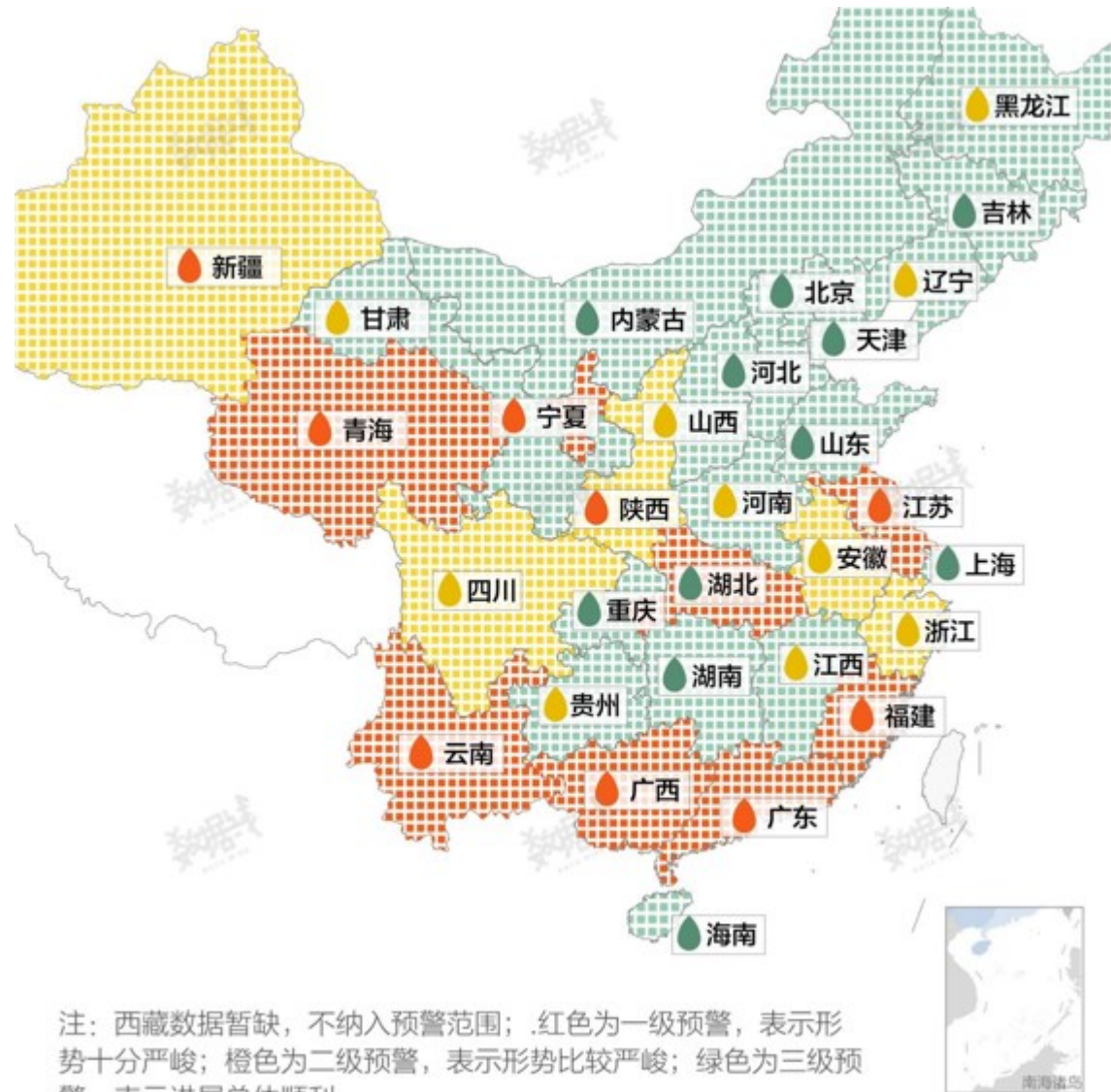




# China Electricity demand recovering post COVID-19 era, much higher than expectation.....



# Major provinces' energy consumption are much higher than target for 1H 2021, leading to “Energy Control”

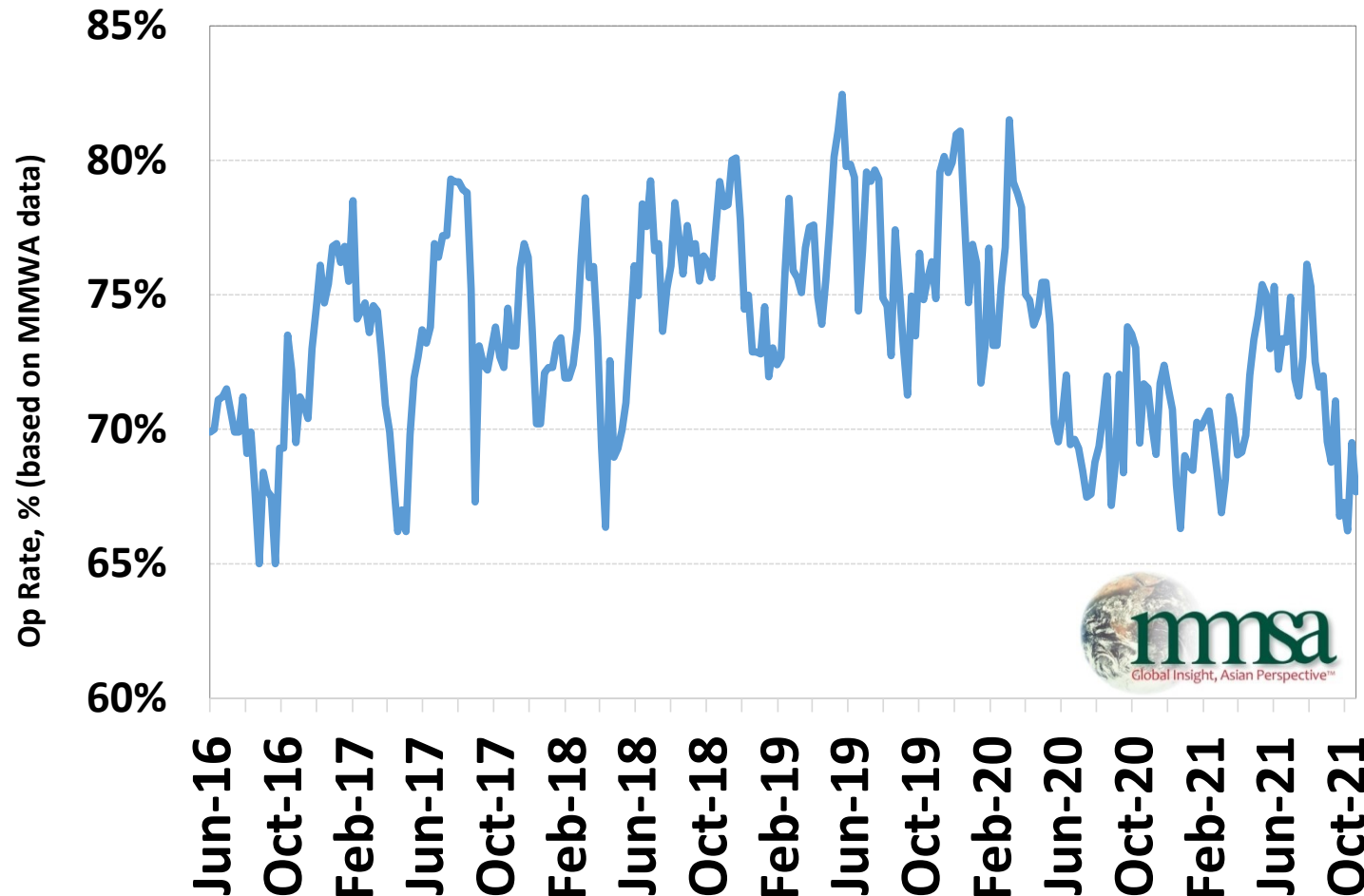


- Red for first class warning, Orange for II warning, Green for III warning.
- Most of the power house of China triggered red warning on their energy consumption volume, due to higher than expectation demand recovery from COVID-19 and booming export.
- This leads to the hiking coal prices, and following energy control policy.

# Supply destruction outweighed the demand loss by coal/electricity restriction. Impact Time sequence from Upstream to downstream.



### Major Global Methanol Producer Aggregate Op Rate

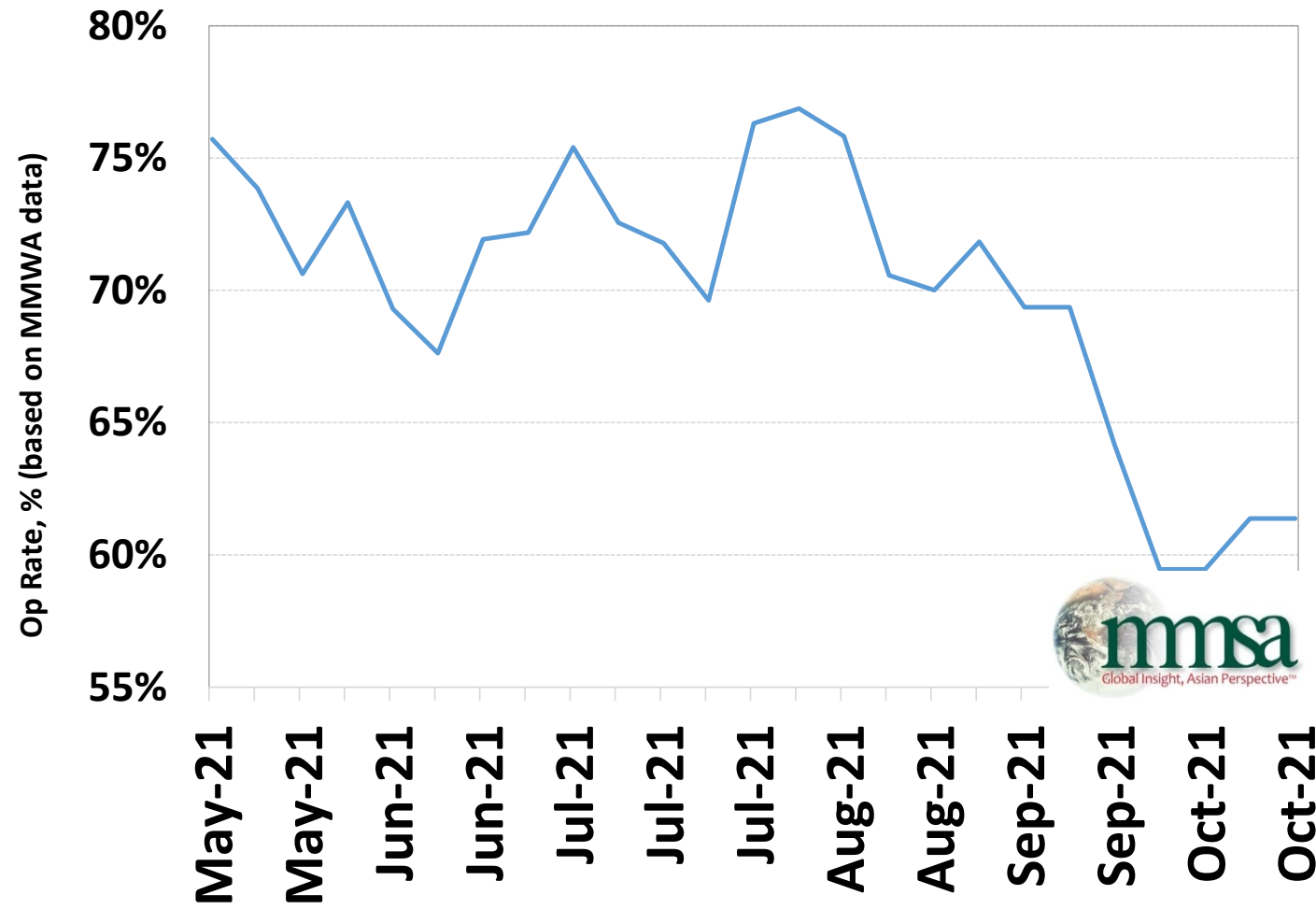


- Coal/electricity restriction impact for both supply and demand side.
- Supply side loss outweighed demand side.
- Impact Time sequence from upstream to downstream, from coal, electricity, methanol and derivatives, drive the price increase.

# Supply destruction outweighed the demand loss by coal/electricity restriction. Impact Time sequence from Upstream to downstream.



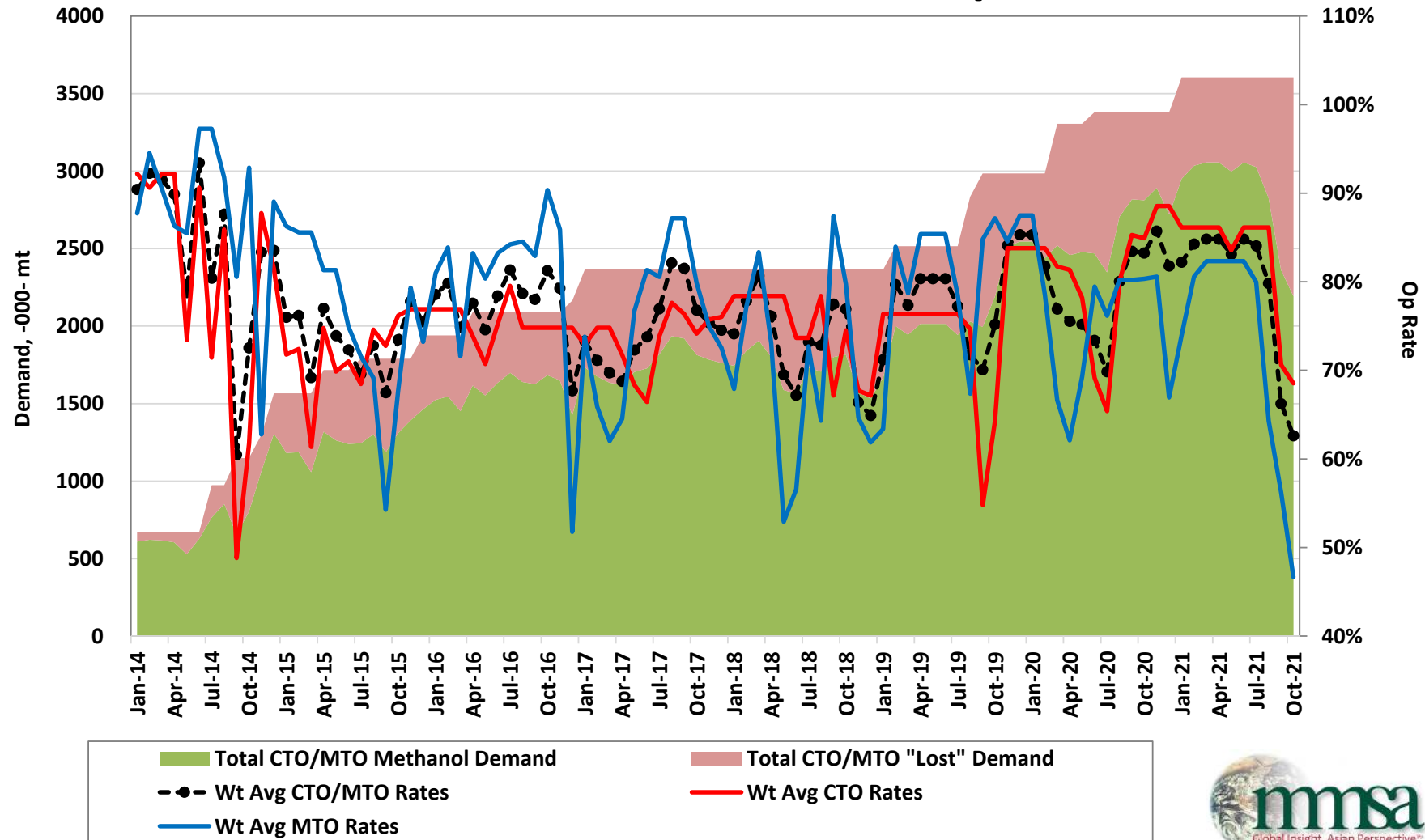
### China Methanol Aggregate Operation Rate



# China MTO Industry ops dropped to historic low



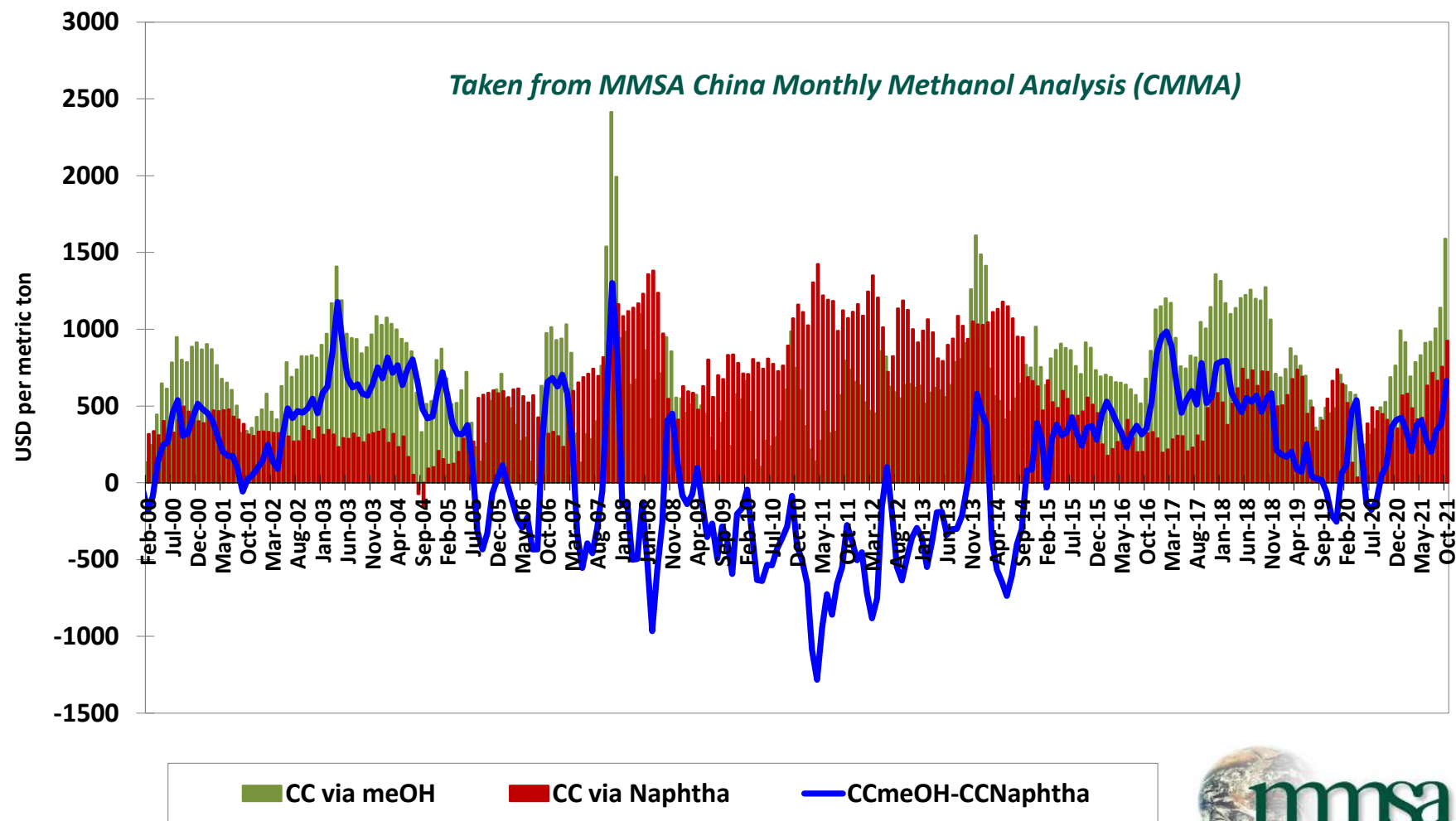
## CTO/MTO Methanol Consumption



# MeOH has become less competitive vs naphtha

## Ethylene Cash Cost vs. Feed Type

Hypothetical Asia, 1.2 tonnes propylene/tonne ethylene



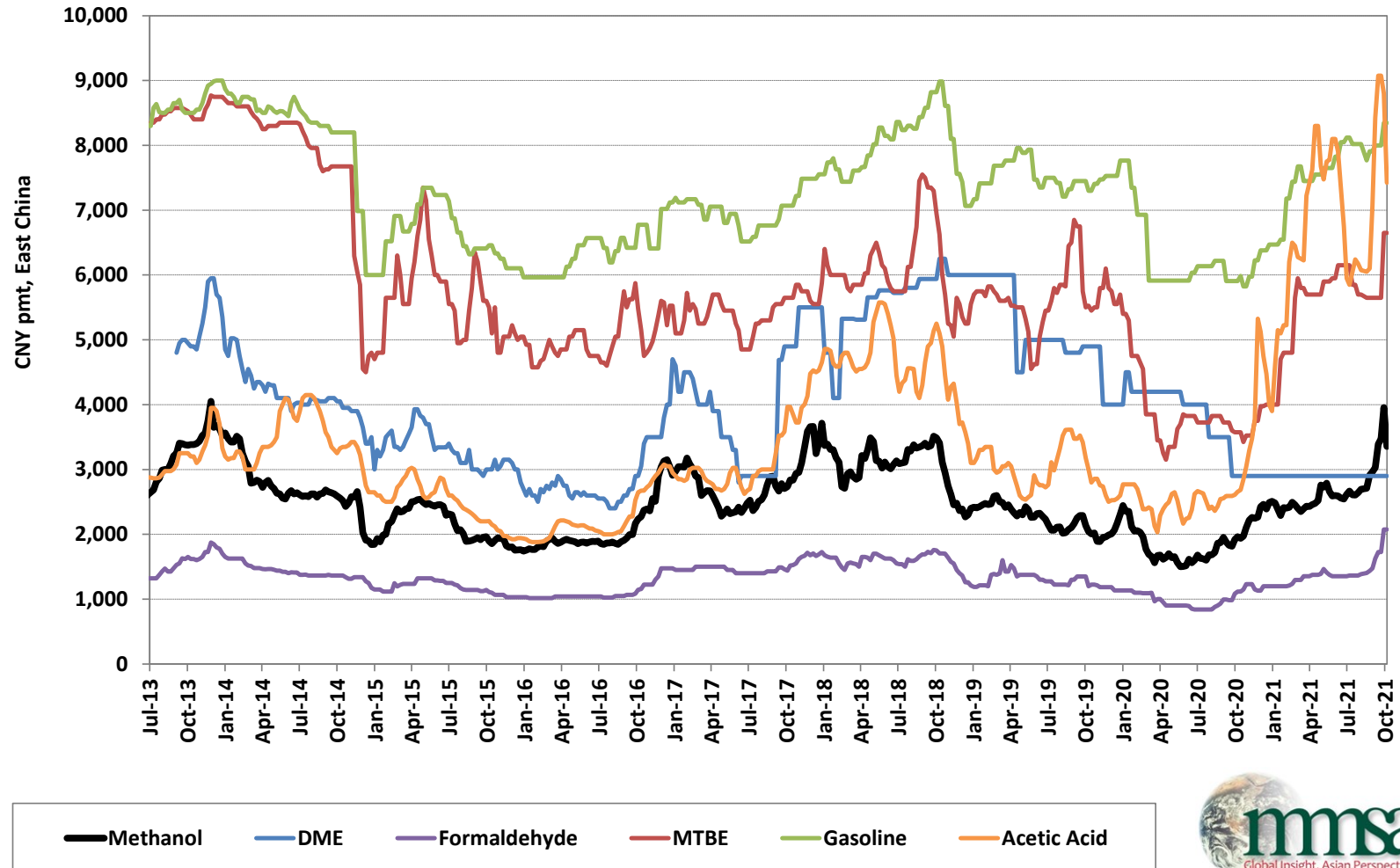
## The Implication of Electricity Control to Methanol Derivatives

Industry Operation Rates	MTO/MT P	Formaldehyde	DME	MTBE	Acetic Acid	DMF
1H Septemer	64%	65%	16%	50%	78%	65%
October	47%	45%	12%	38%	64%	55%
Change	-17%	-20%	-4%	-12%	-14%	-10%

# Major Conventional methanol derivatives prices spiked amid energy restriction



## Chinese Methanol and Derivative Prices





# China's efforts to taper coal prices:

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1. NDRC have been working to restart coal mines since August gradually to moderate the price increase of coal, but with little effect.
2. China administration vows to curb the price of coal ahead of winter season to ensure the health of economy and to residential heating, as by middle October, coal prices hiked to record high, above RMB2000 per metric ton. Major measures are :
  - Restarted 200 million tons of coal capacities, with 50 million tons of coal capacities on the way.
  - Introduce price cap according to Price Law.
  - Crackdown of the overspeculation in the coal spot and futures markets.
3. Chinese coal restrictions eased thanks to increasing coal production (up to 200m tpa), crackdown on coal futures speculation, and potential price caps. Coal prices fell to daily limits for 3 consecutive days.
4. Other coal-based commodities followed. Methanol operations improved just marginally. Economics for both MTO and CTO improved slightly from historic lows and are still in negative territory.

# China's efforts to taper coal prices:

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1. Inner Mongolia: Oct. 7<sup>th</sup> : To restart 72 coal mines, and increasing 98 million tons of coal capacity.
2. Shanxi: Oct. To increase 55.3 million tons of coal capacity.
3. Shaanxi: Committed to 26.62 million tons of coal supply
4. NDRC Oct. 19: Set target of coal daily production at 12 million tons

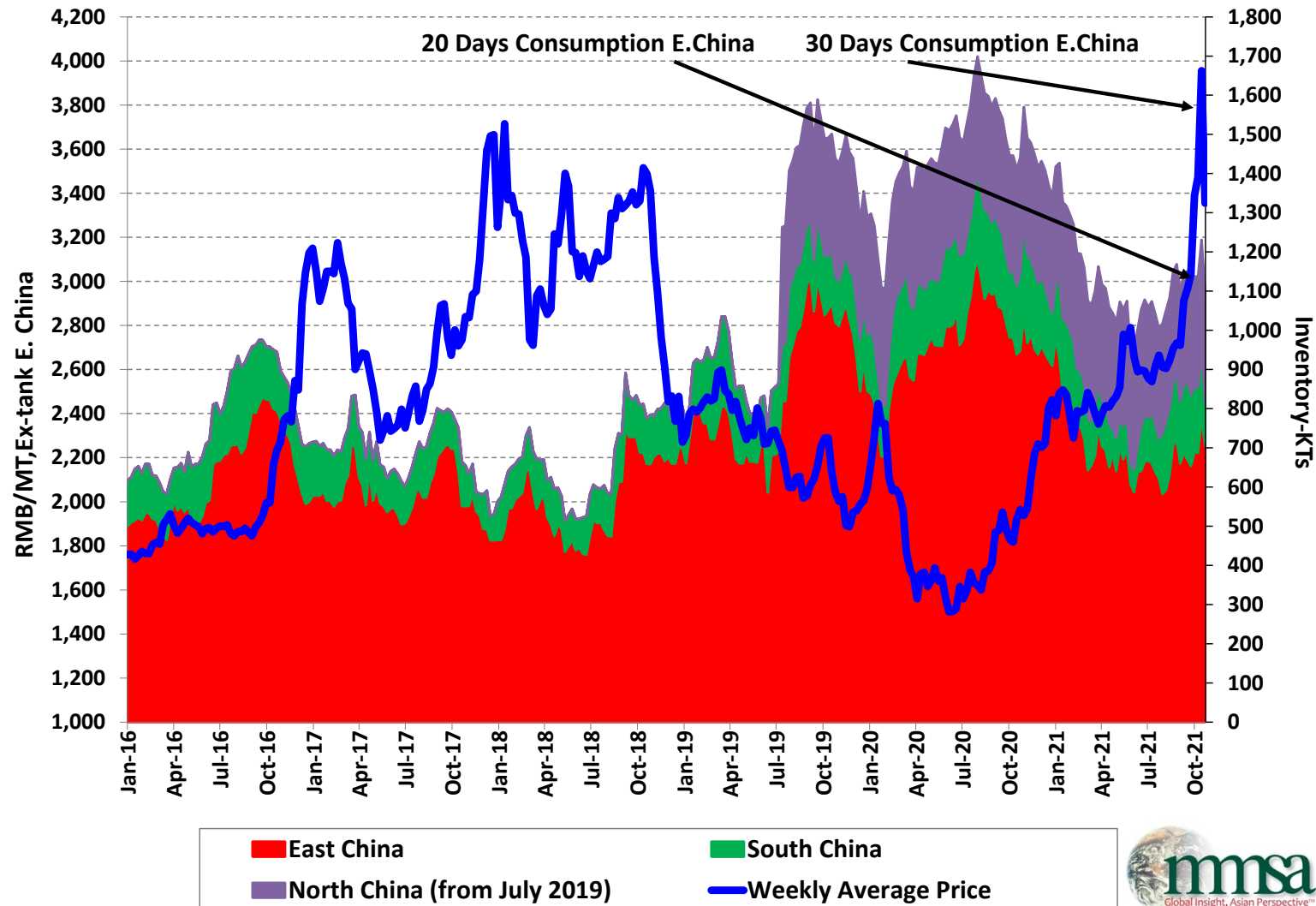
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Methanol prices are falling back towards “norm”, but still high for two most important methanol derivatives, still much room to go.

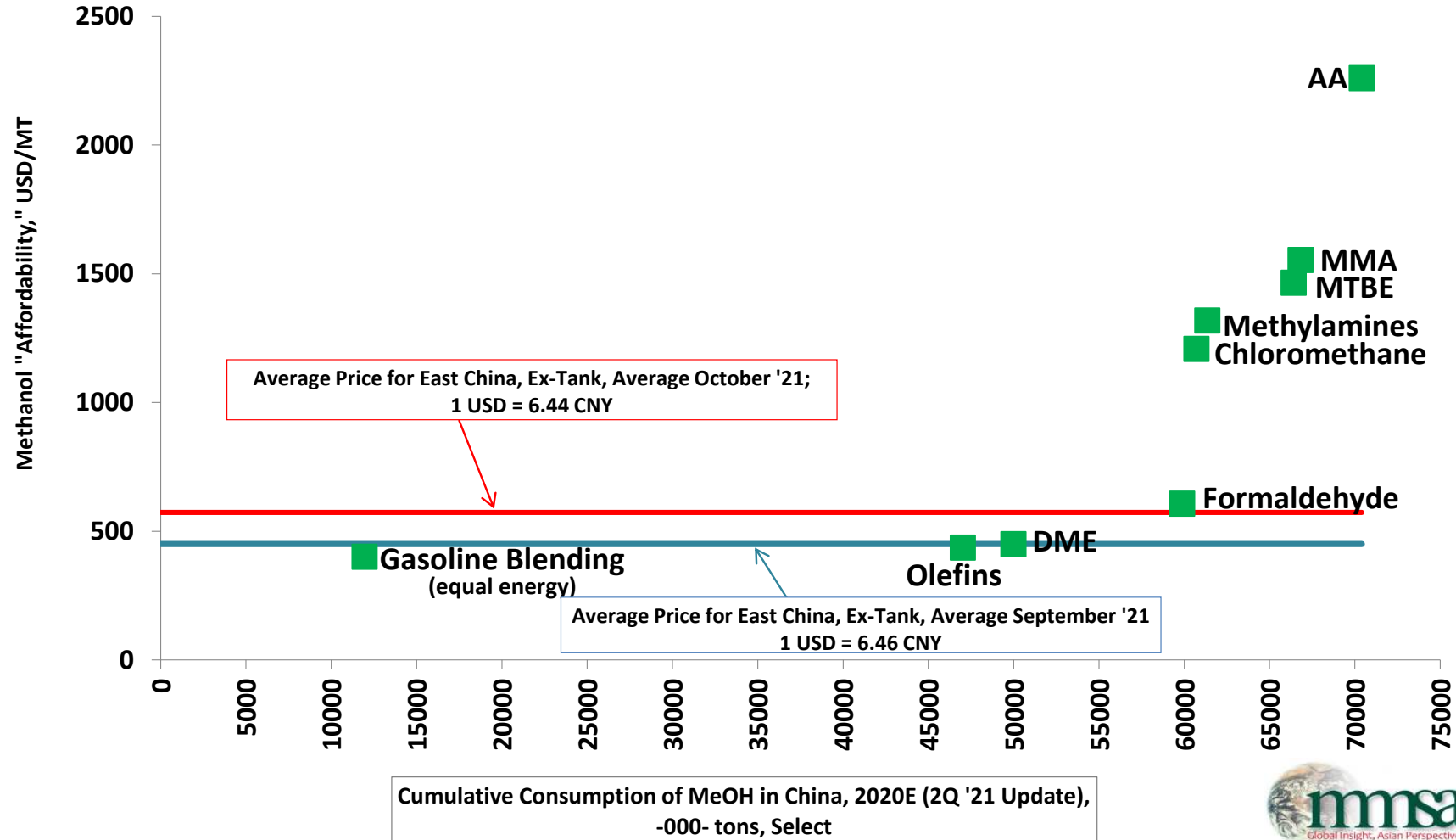
## China Methanol Coastal Inventory vs Pricing



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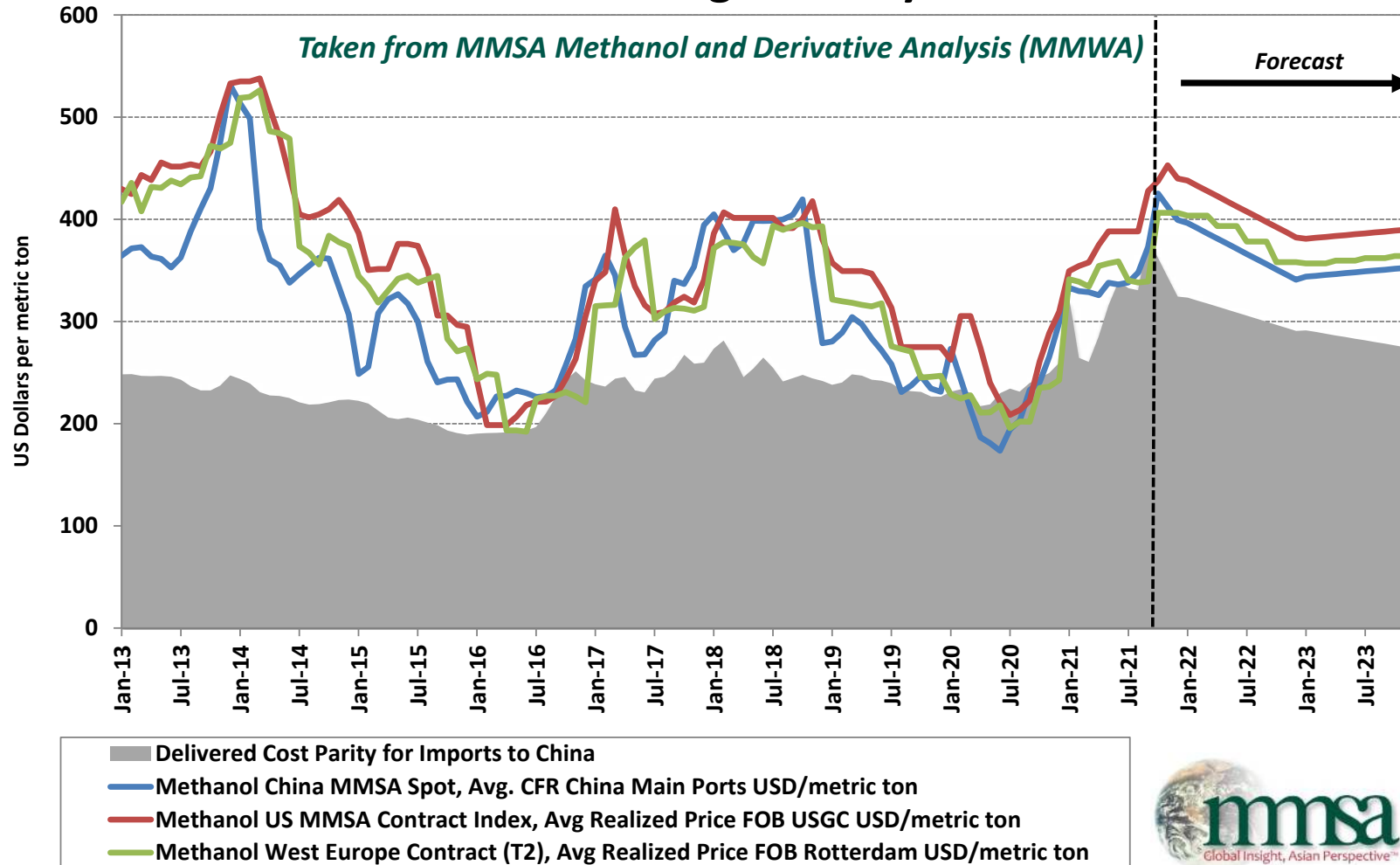


## Methanol Volume vs. Value - China October '21



# Methanol prices to correct further 4Q 2021 on the restarts of coal, but long - term bottom elevated

## Global Methanol Pricing - History and Forecast



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