



# New Challenges and Opportunities in the Global Oil and Gas Industry

*Dr. Fereidun Fesharaki, Chairman*

*37<sup>th</sup> JCCP International Symposium*

*January 24, 2019*

*Tokyo, Japan*

---

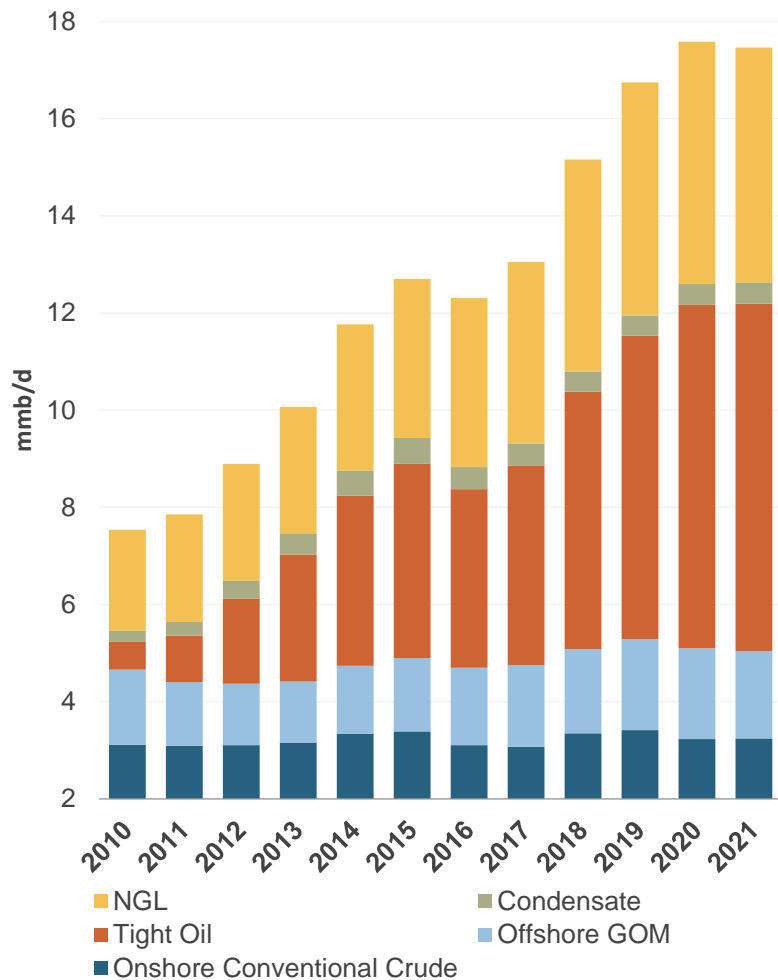
This presentation material contains confidential and privileged information intended solely for the recipient. The dissemination, distribution, or copying by any means whatsoever without FGE's prior written consent is strictly prohibited.



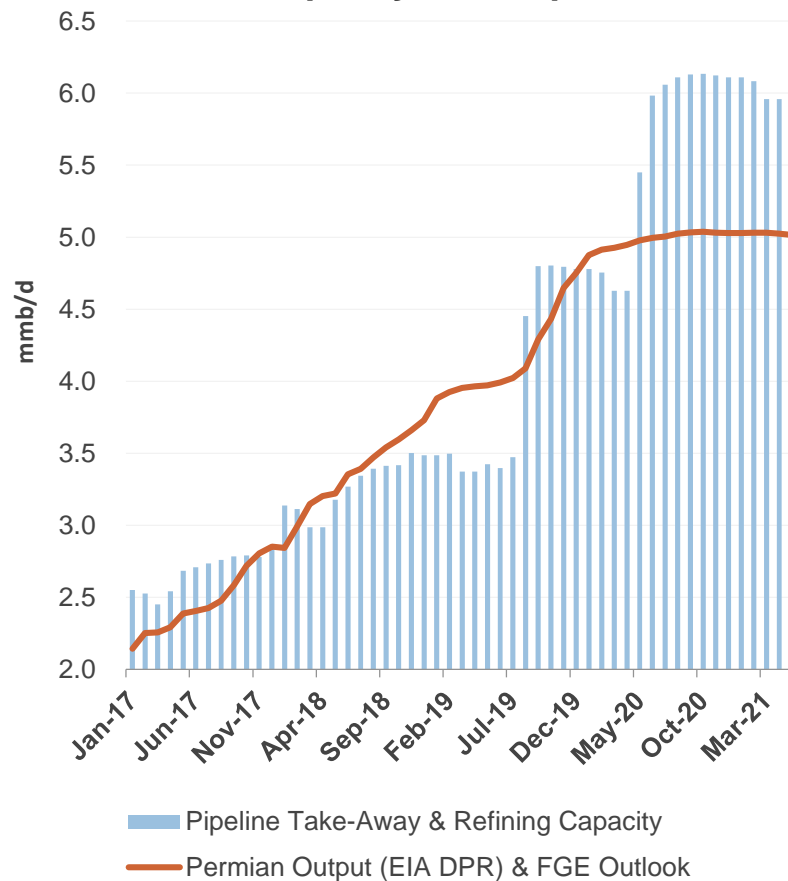
# Oil Market Outlook: A Bumpy Ride

# Oil Market Movers—Strong US Growth Despite Bottlenecks

## US Oil Production Outlook

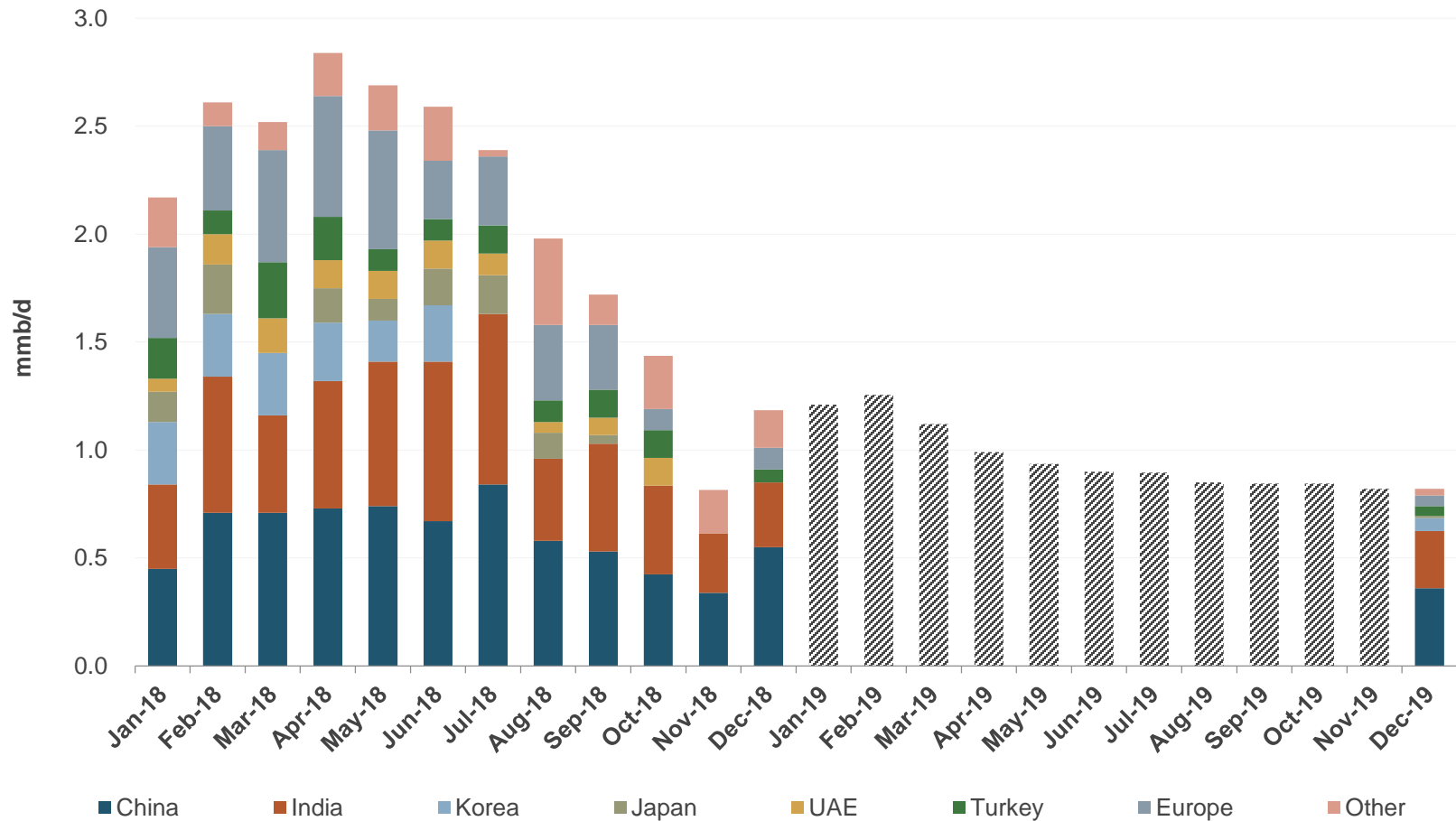


## Permian Pipeline and Refinery Capacity vs. Output



# Oil Market Movers—Declining Iranian Exports

## Iran's Exports of Crude/Condensate



# Oil Production Wild Cards

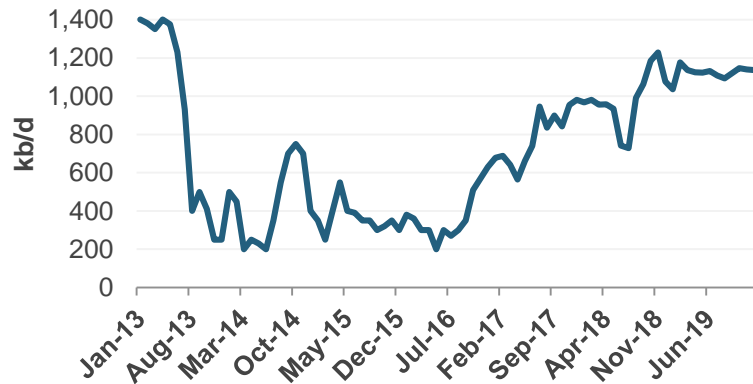
## Venezuela



## Mexico



## Libya

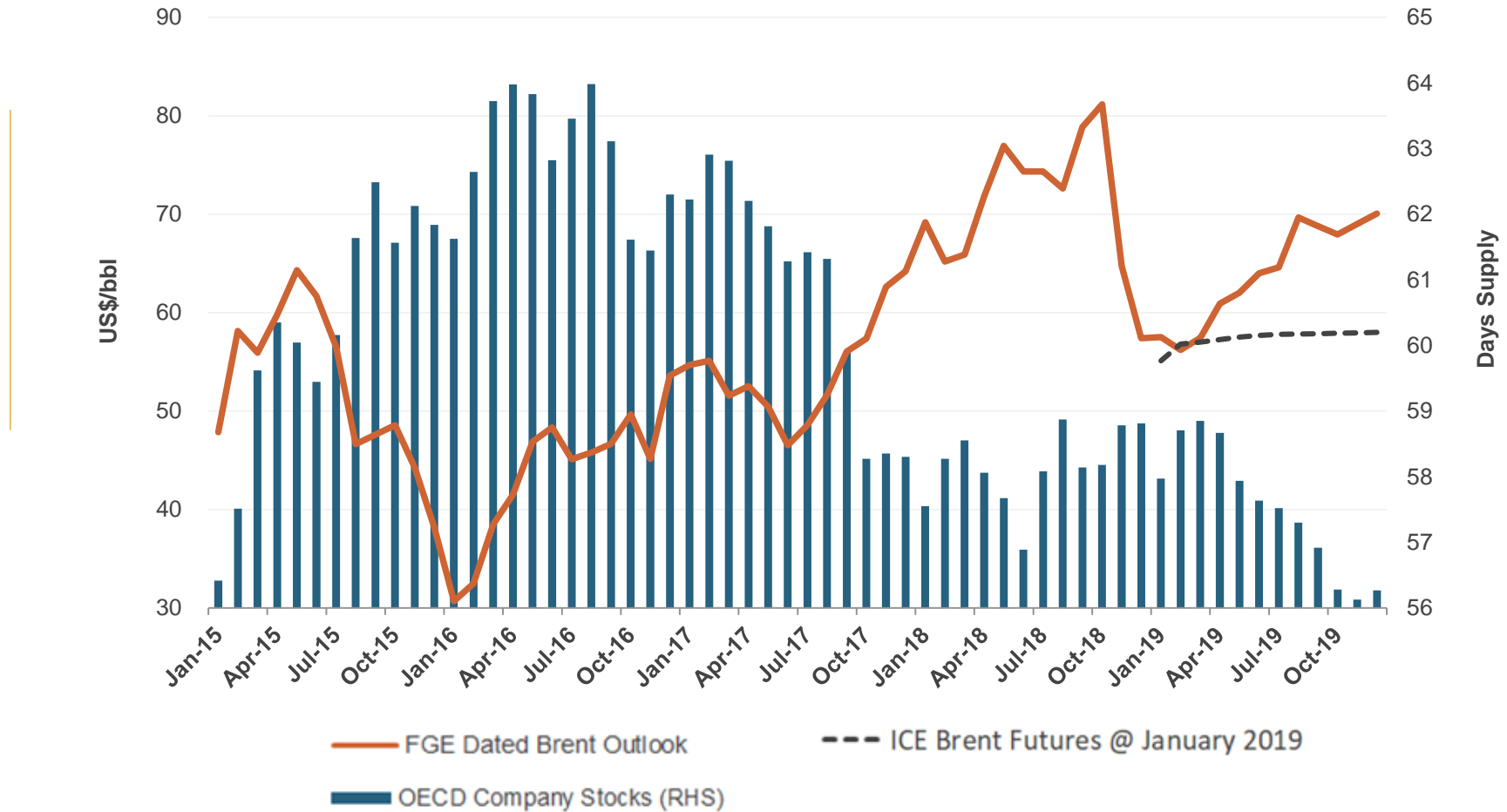


## Nigeria



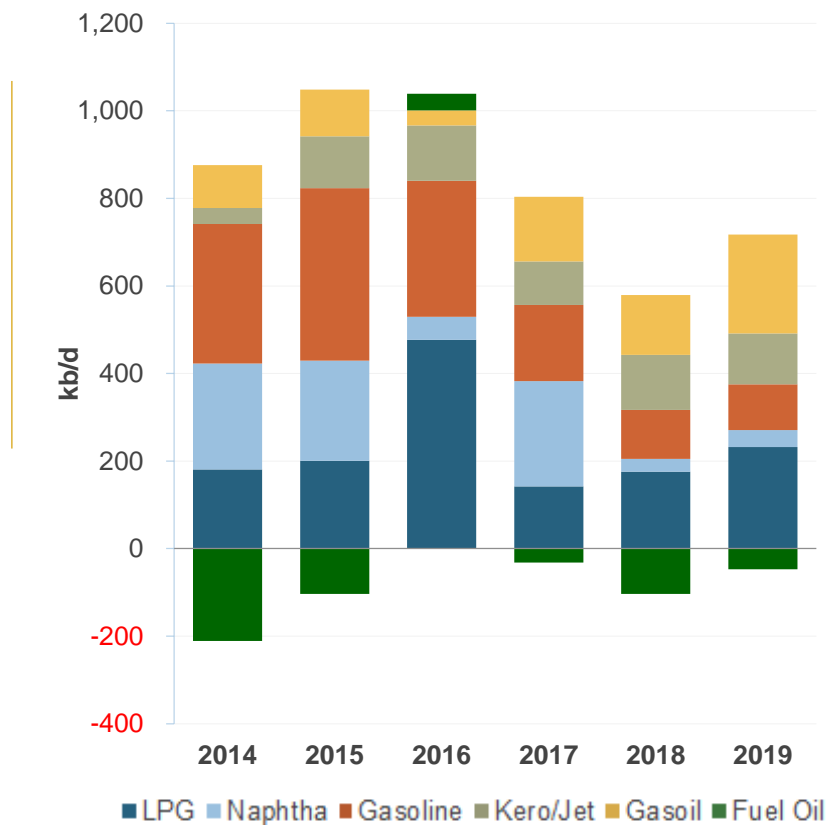
# Dated Brent Outlook: Downside Risk?

## Dated Brent vs. OECD Company Inventories



# Asian Demand: Still Solid, But Shifting Patterns of Growth

Asia Pacific Main Product Demand Growth

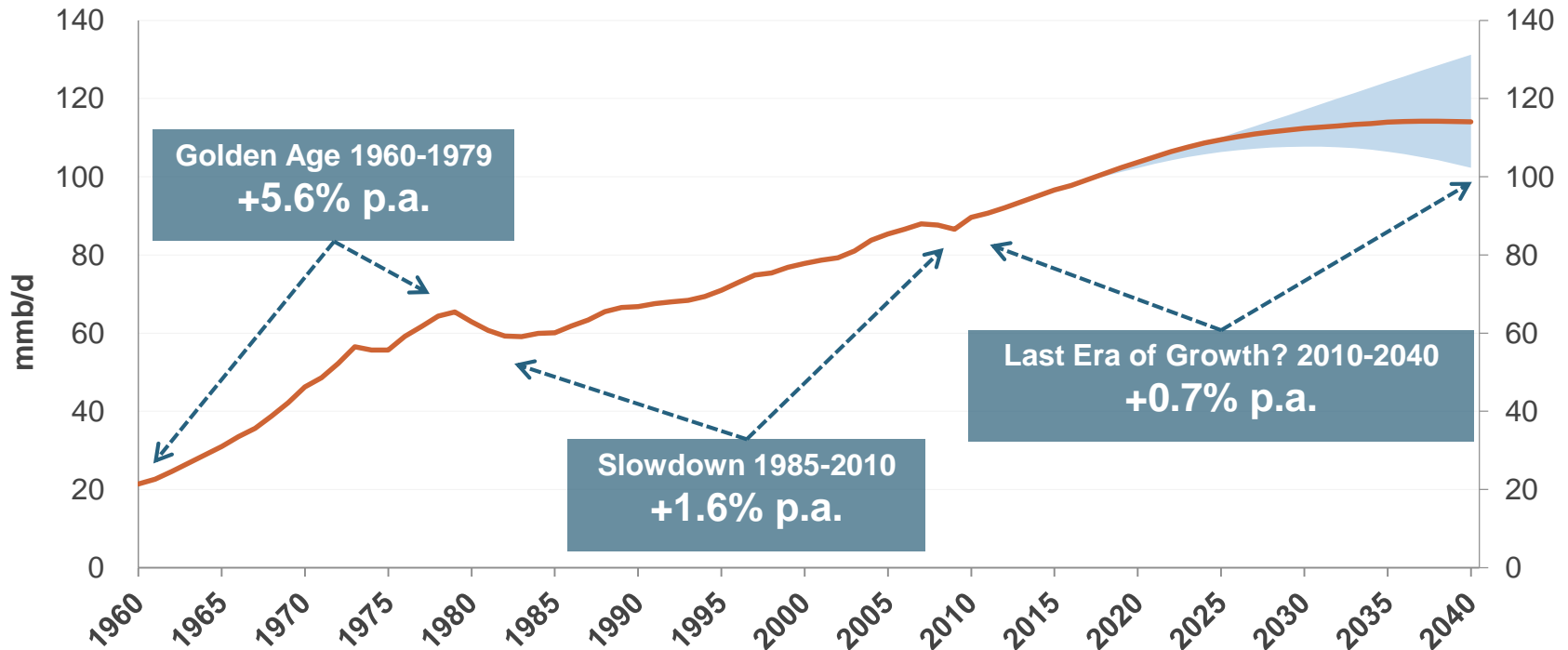


Total Oil Demand Growth,\* kb/d

|                     | 2015  | 2016  | 2017 | 2018 | 2019 |
|---------------------|-------|-------|------|------|------|
| <b>China</b>        | 481   | 359   | 431  | 271  | 280  |
| <b>India</b>        | 363   | 386   | 133  | 258  | 231  |
| <b>Japan</b>        | -126  | -157  | -134 | -133 | -47  |
| <b>South Korea</b>  | 181   | 189   | 39   | -7   | 30   |
| <b>Rest of Asia</b> | 108   | 316   | 387  | 184  | 260  |
| <b>Total</b>        | 1,007 | 1,093 | 855  | 574  | 755  |

\*Includes other products and direct crude burn for Japan

# World Oil Demand Outlook

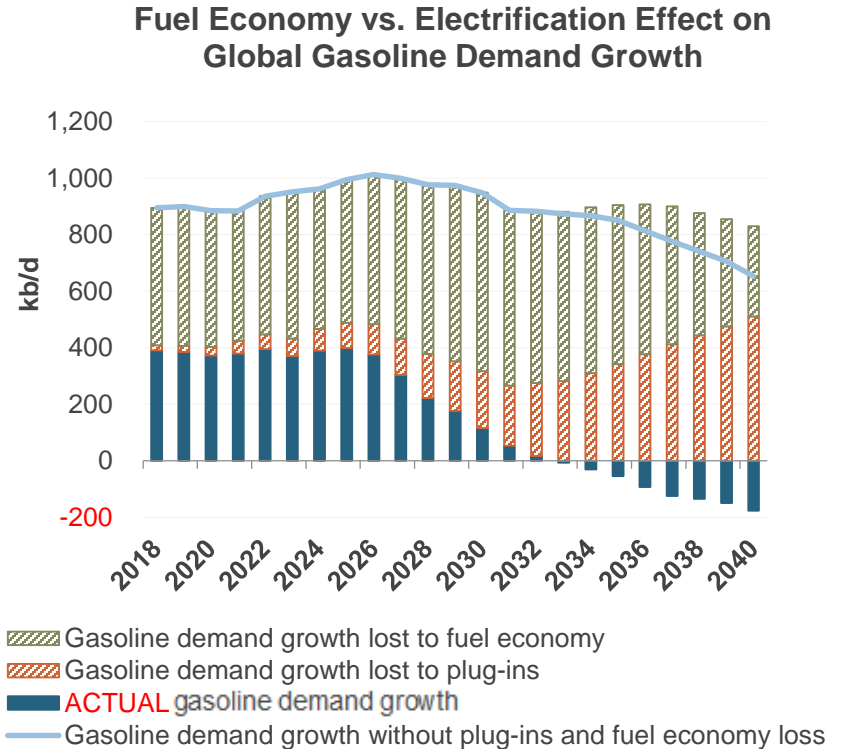
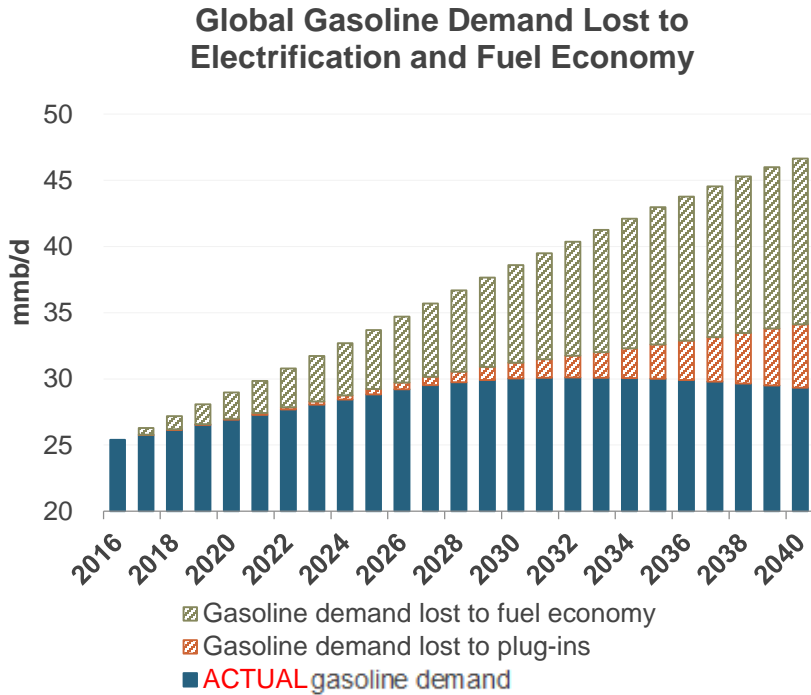


- Base case: 115 mmb/d by 2040, compared with 98 mmb/d in 2016.
- High case: 131 mmb/d by 2040, supported by low oil prices and strong consumer demand.
- Low case: peak at 108 mmb/d around 2030, strict implementation of environmental policies and strong efficiency gains.



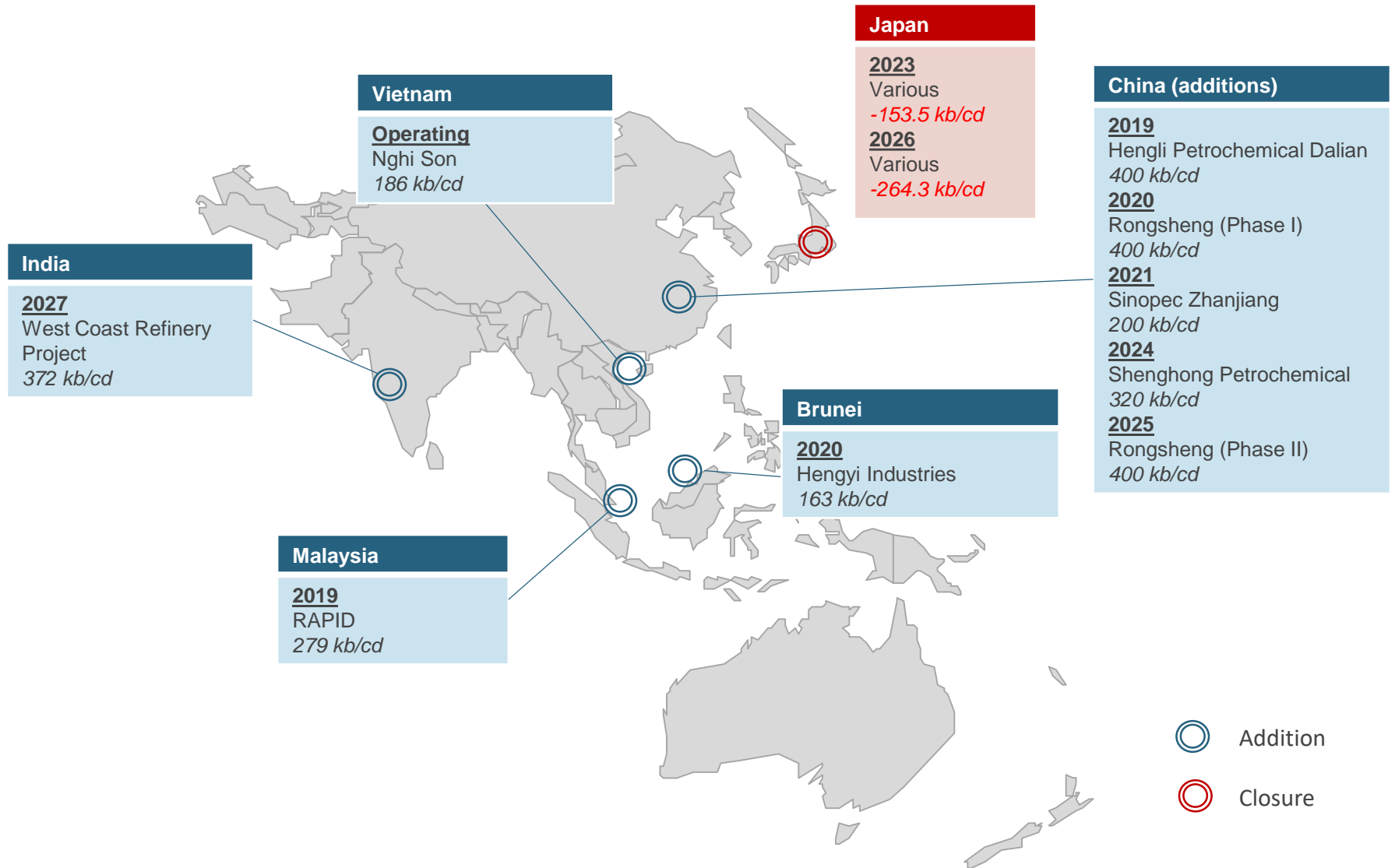
# Gasoline Not Going Away, But EVs Hit Growth By Late 2020s

Source: [FGE Long-Term Global Oil Market Outlook to 2040 / Road Transport and Electric Vehicle Section](#)



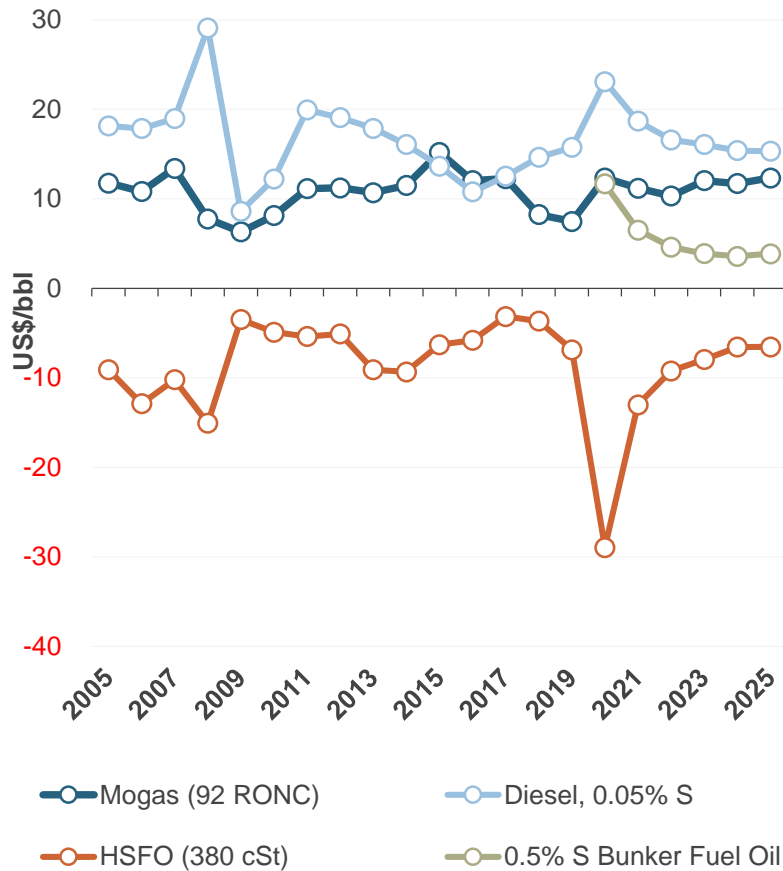
- We expect the effect of plug-ins to become increasingly noticeable from around 2025 onwards.
- Global gasoline demand will continue to grow, however growth rates will be significantly lower and ultimately turn into negative around 2033.
- Without the plug-ins, global gasoline consumption would be 34 mmb/d in 2040, compared to 29 mmb/d in our base case.

# Asia Grassroots Refinery Additions and Closures, 2018-2027

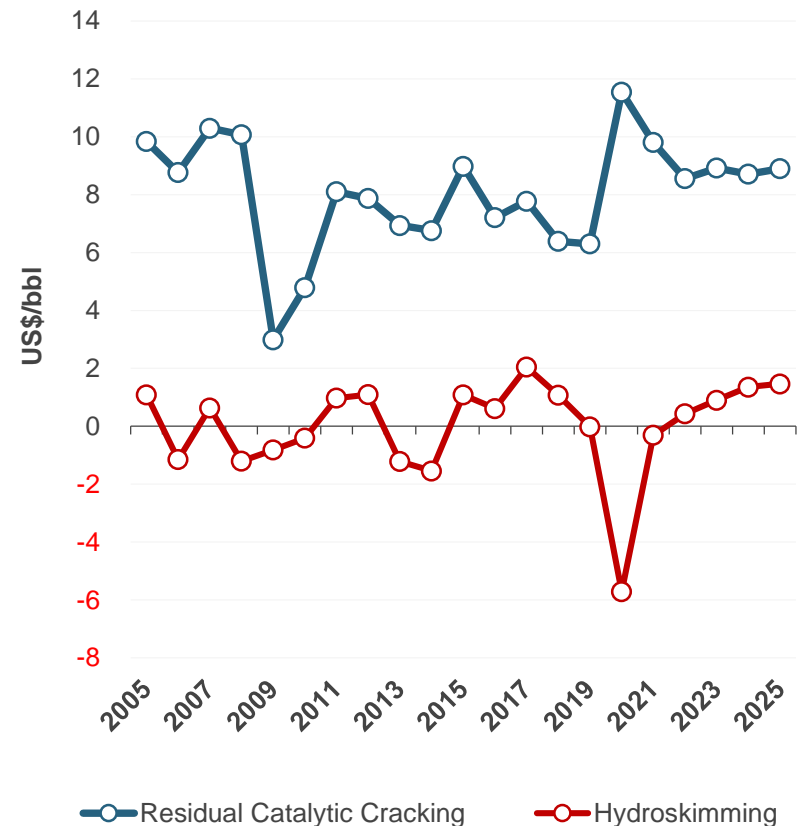


# Big IMO Impact: Singapore Oil Products Cracks and Refining Margins vs. Dubai Crude

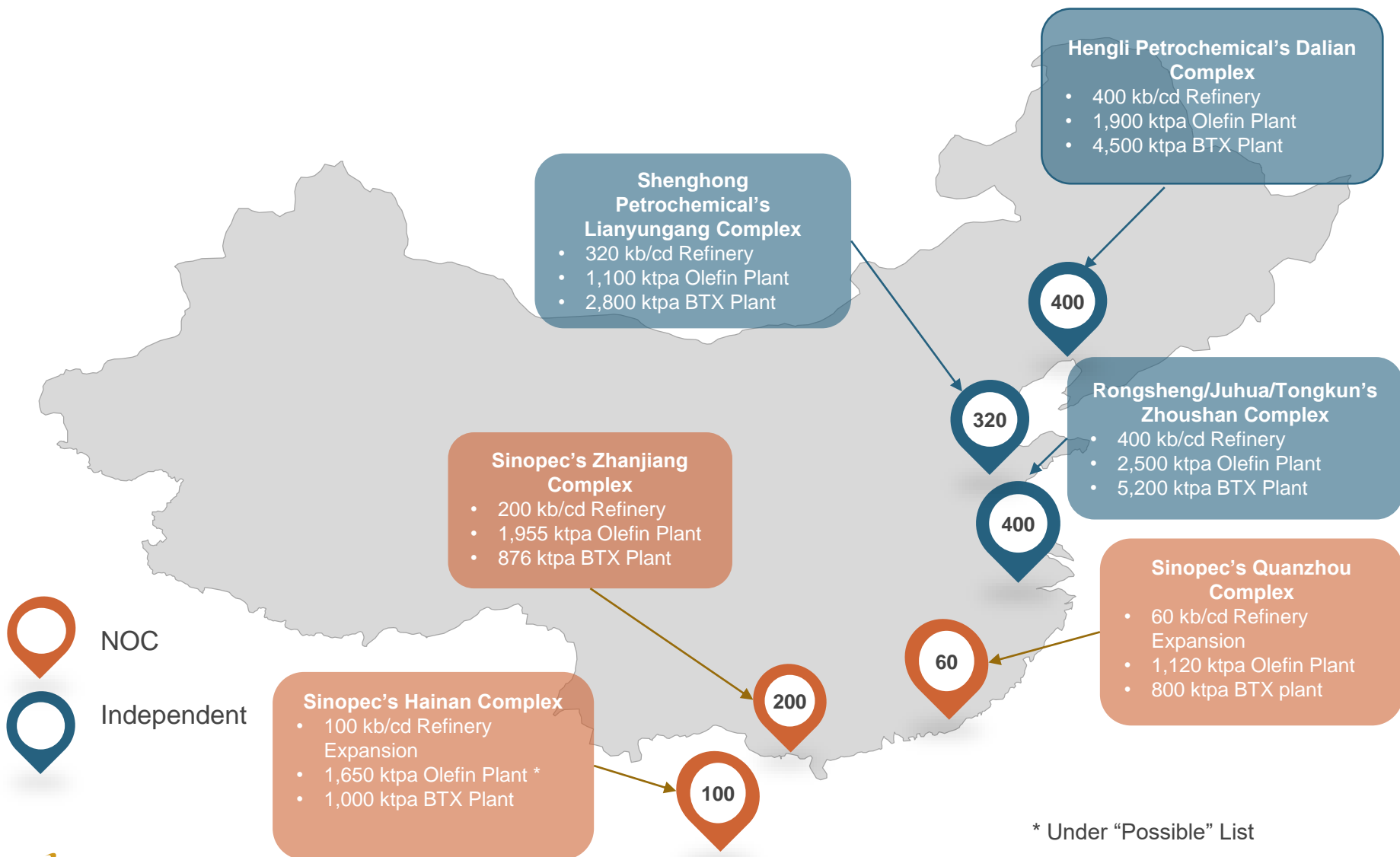
## Selected Product Cracks



## Refining Margins

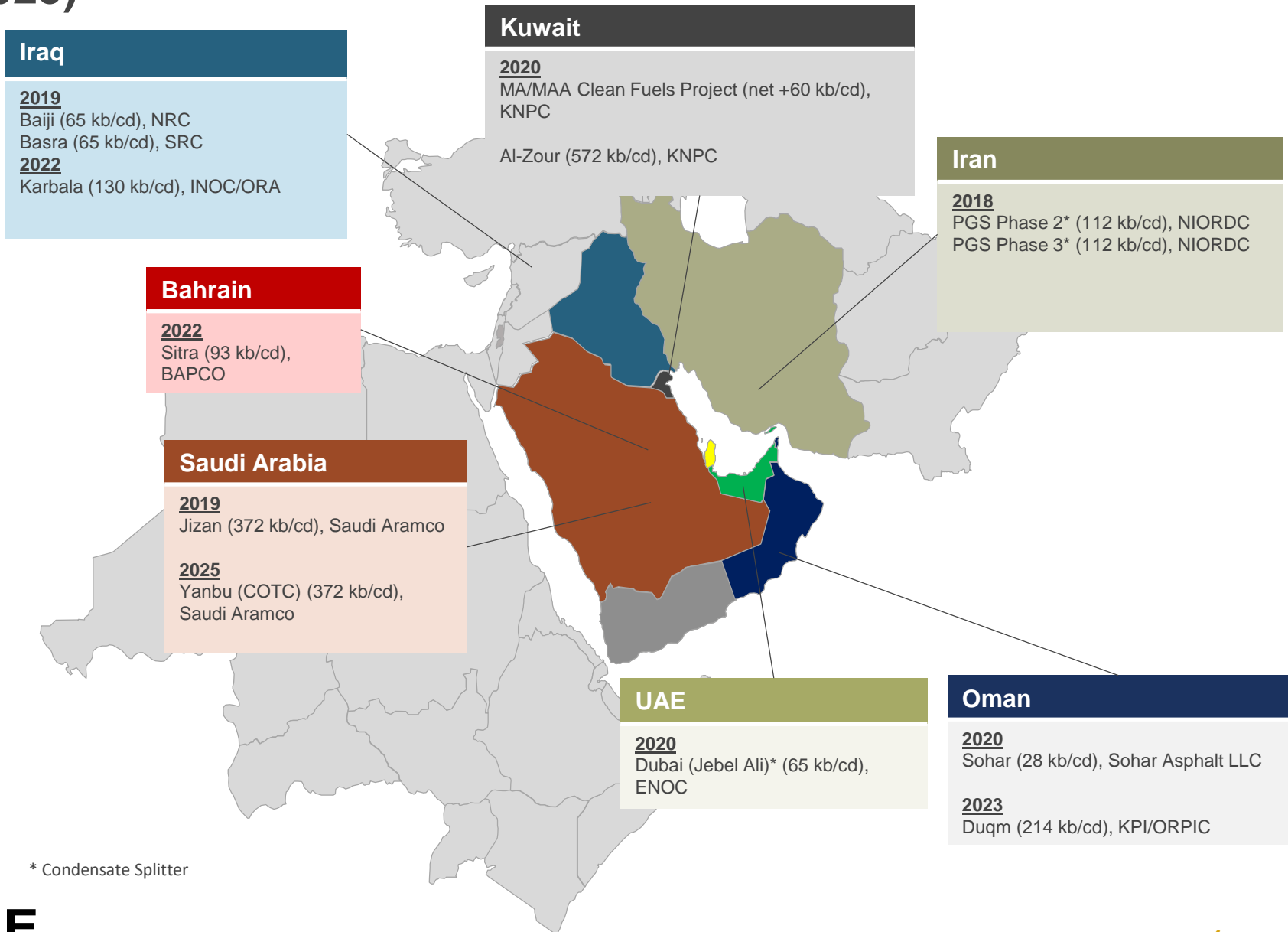


# Petrochemicals Drive Future Refinery Additions



\* Under "Possible" List

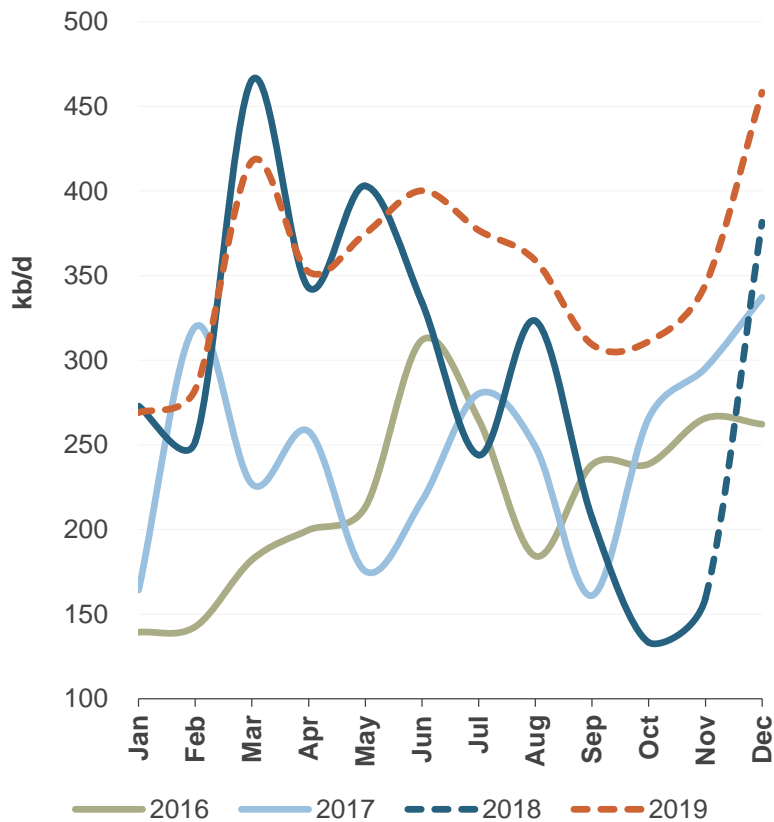
# Middle East—Refinery CDU Projects (Firm & Likely, Up to 2025)



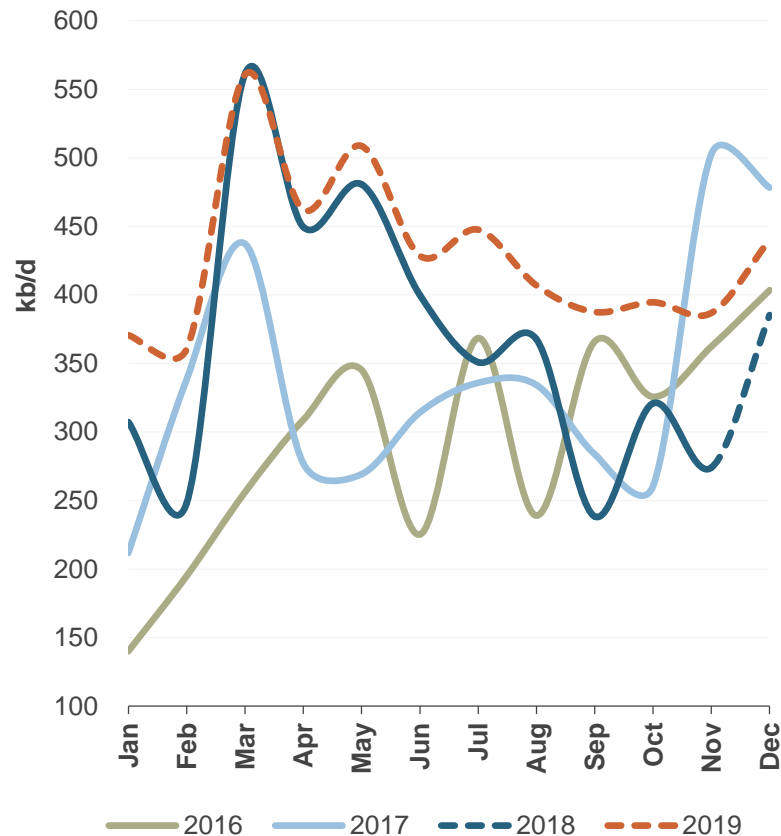
\* Condensate Splitter

# Wild Card: China's Exports Rise, Pressuring Regional Cracks

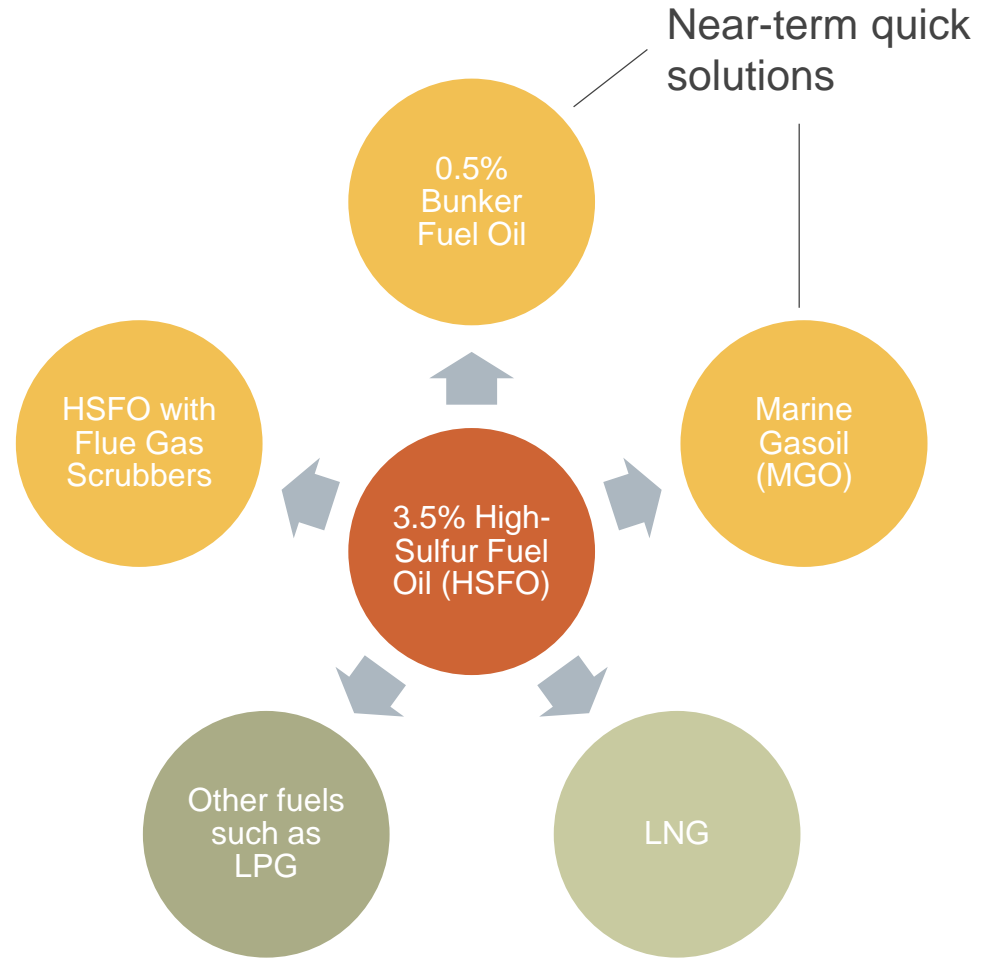
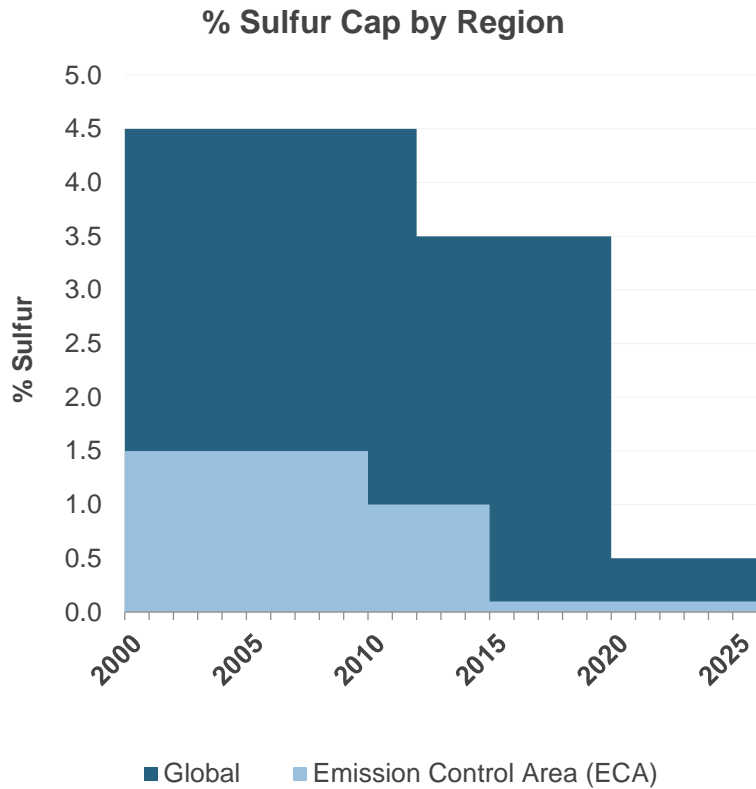
## China's Gasoline Net Exports



## China's Gasoil Net Exports

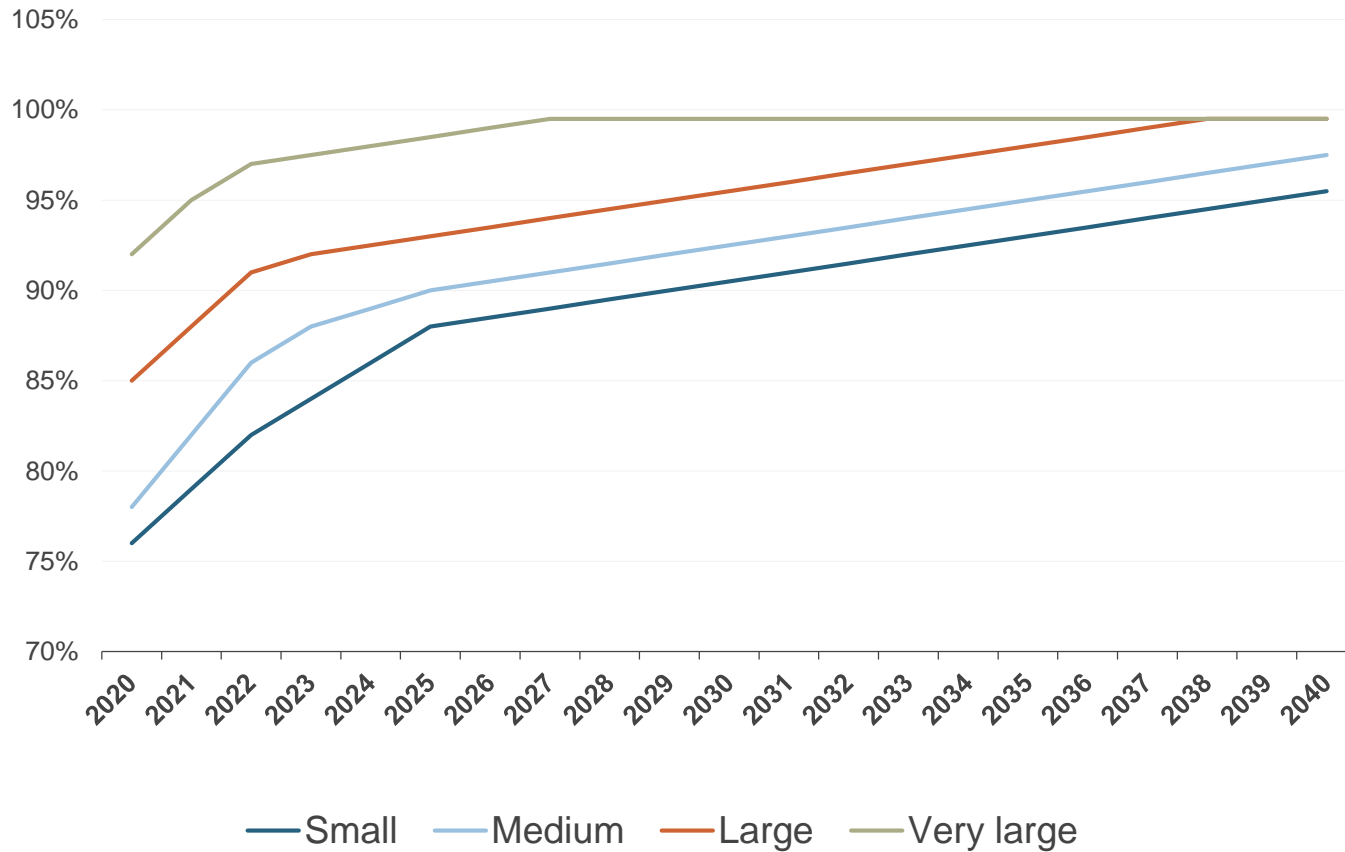


# IMO 2020...Several Solutions, All Costly



# Compliance Largely Self-Regulated—But Likely High

## Global Sulfur Cap Compliance by Vessel Size

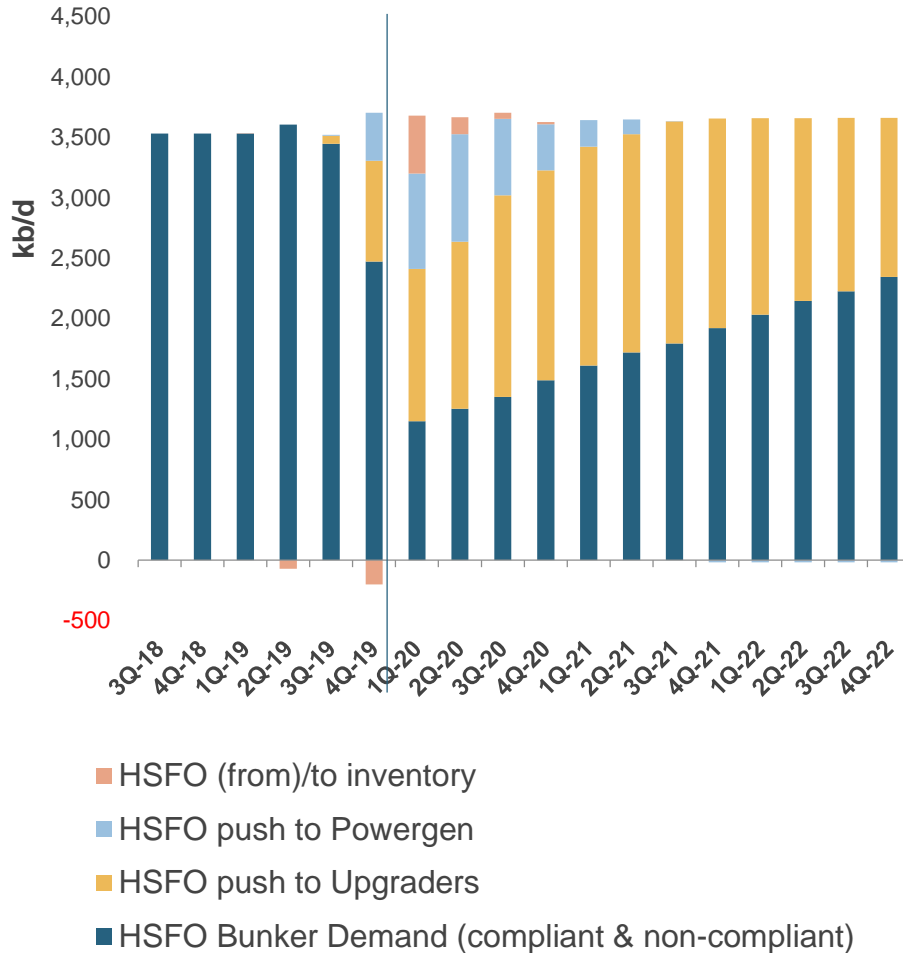




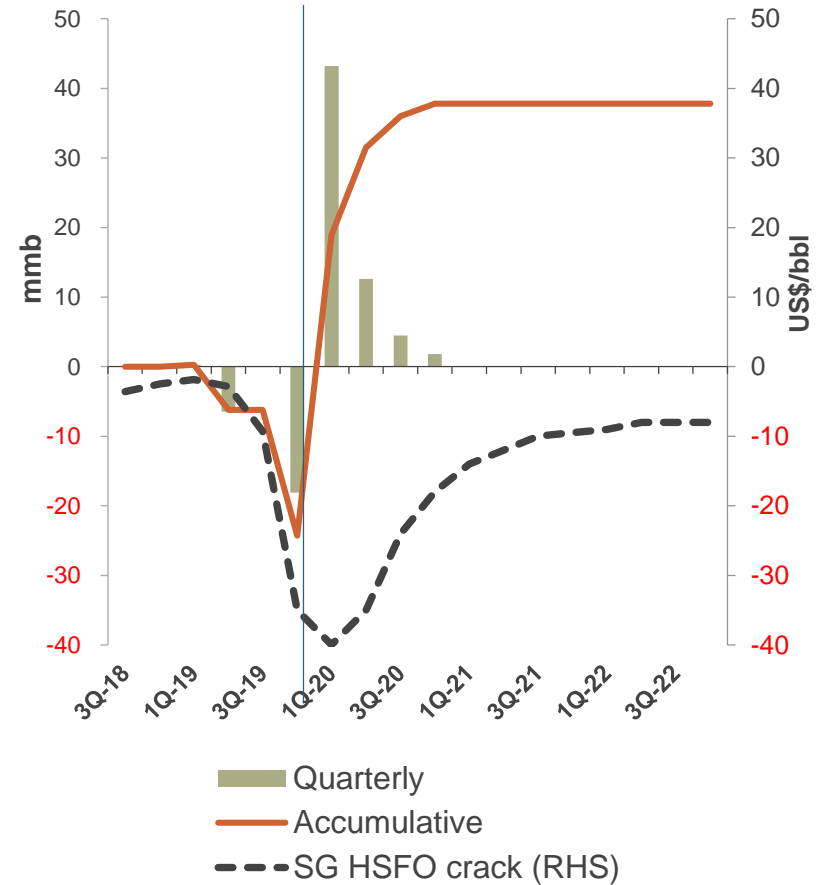
# Managing the IMO Fuel Oil Surplus...it Looks Like a 2-year Problem!

HSFO price needs to drop enough to incentivize shippers to continue installing scrubbers, refiners to maximize upgrading, and to create new demand from the power generation sector

## Managing HSFO Around IMO 2020



## HSFO Inventory Draw/Build & HSFO Crack





# Thank You

Research & Analysis | Consultancy Services | Data Analytics | Commercial Advisory Services | Multi-Client Studies

[www.fgenergy.com](http://www.fgenergy.com) | [FGE@fgenergy.com](mailto:FGE@fgenergy.com)

## Global Headquarters

**FGE London:**  
FGE House  
133 Aldersgate Street  
London, EC1A 4JA  
United Kingdom  
Tel: +44 (0) 20 7726 9570

## Asian Headquarters

**FGE Singapore:**  
8 Eu Tong Sen Street  
#20-89/90 The Central  
Singapore 059818  
Tel: +65 6222 0045  
Fax: +65 6222 0309

## Global Offices

|                     |                    |
|---------------------|--------------------|
| <b>Tokyo:</b>       | +81 (3) 6256 0299  |
| <b>Dubai:</b>       | +971 (4) 457 4270  |
| <b>Honolulu:</b>    | +1 (808) 944 3637  |
| <b>Los Angeles:</b> | +1 (714) 593 0603  |
| <b>Beijing:</b>     | +86 (10) 5106 8410 |
| <b>Houston:</b>     | +1 (281) 819 1983  |