



Tank Storage Perspective

StocExpo Conference

Rotterdam 2020



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Market research company

Create better functioning energy markets by enabling intelligent decisions

- Provide insights and market transparency to support our clients
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- Creative solutions

Well known products:

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- ARA oil product stocks
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Online platform for terminal market data, news and information

New features:

- Market share analysis
- Summary statistics
- Infrastructure benchmarking of terminals
- Tank capacity evolution & projection
- Logistical performance benchmarking

..... and more to come...



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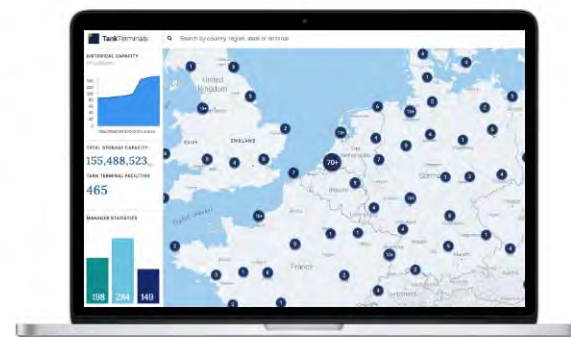
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GET ACCESS

We provide detailed terminal data you need to make smart business decisions

GET ACCESS



1,043,969,514
Total storage capacity (m3)

4,872
Tank Terminal Facilities

2,282
Ports / Cities

TODAY 9AM
Last database update - GMT+1



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Tank Terminal's Relevance & Market Update



Functions of Tank Terminals

Tank terminals can have various functions. Commercial clients' operational requirements tend to focus on the logistics/hub and trading platform functions.

Good terminal supports trading business

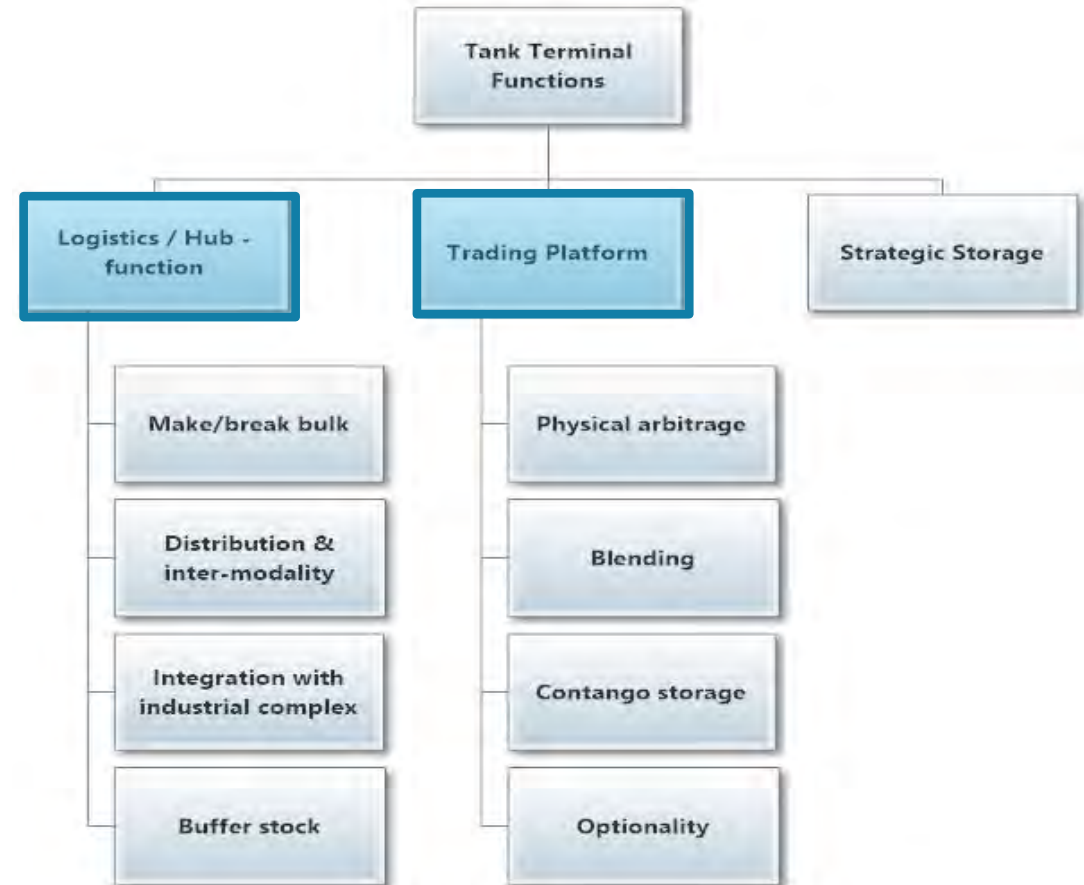
Important factors:

- Flexibility
- Cost control

Key terminal characteristics:

- Location
- Storage capacity
- Ability to handle various vessels
- Connectivity / transport modes
- Jetty infrastructure
- Etc.

No constraints
No demurrage

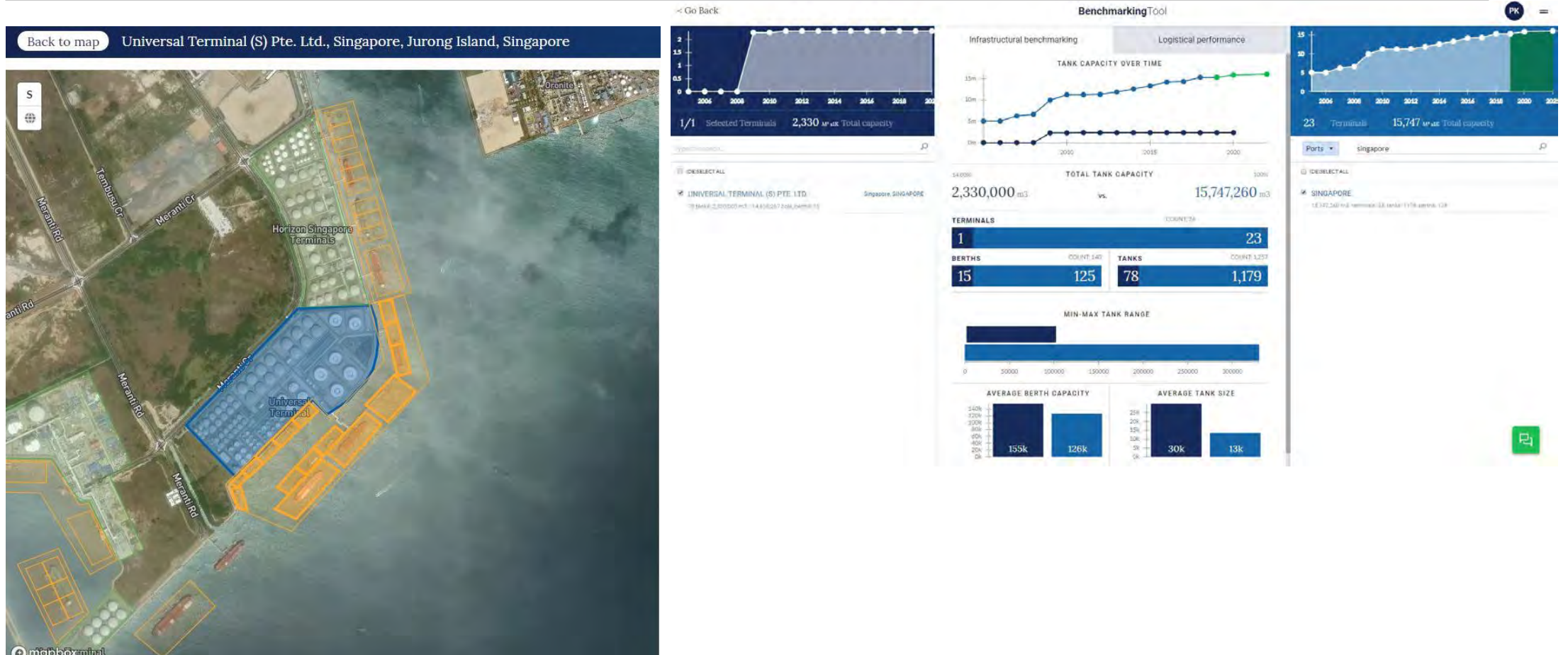




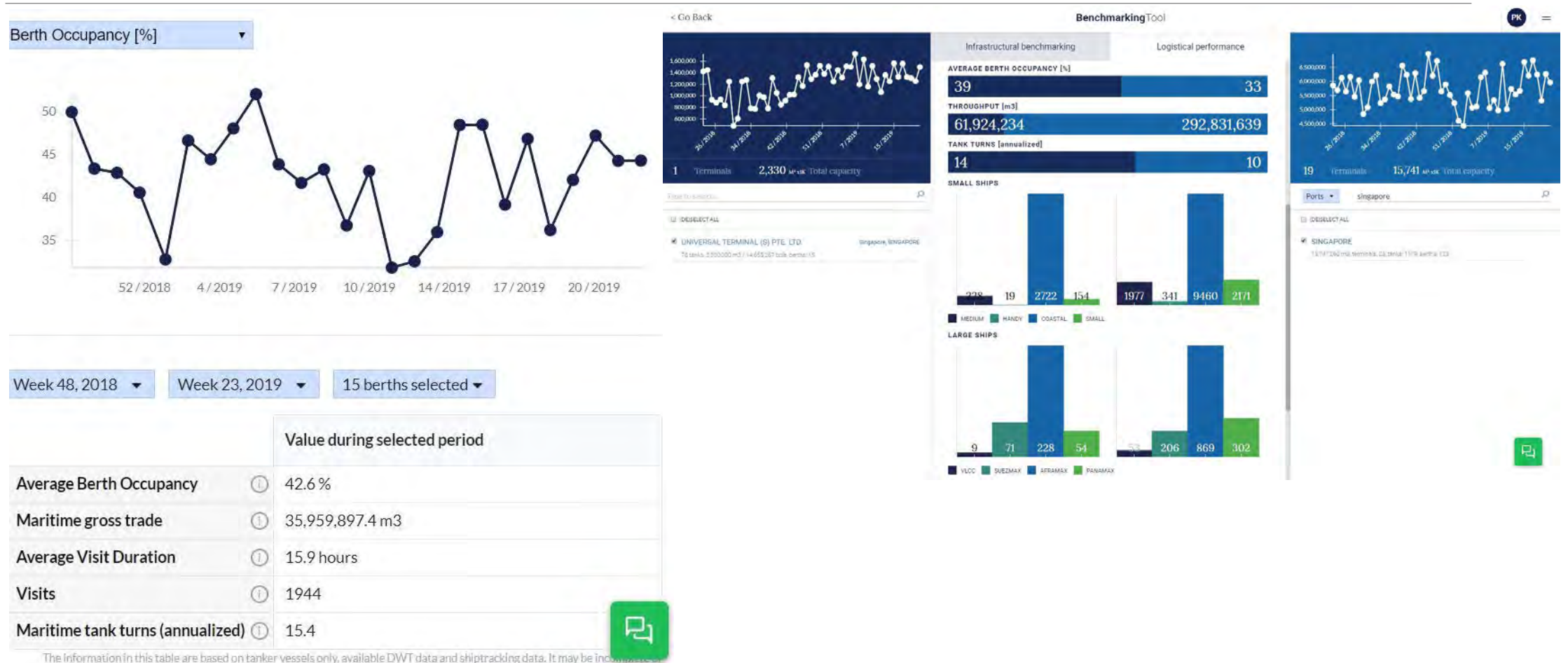
How to find a good terminal?



Benchmarking of Terminals: Location, Connectivity, Infrastructure



Benchmarking of Terminals: Logistical Performance



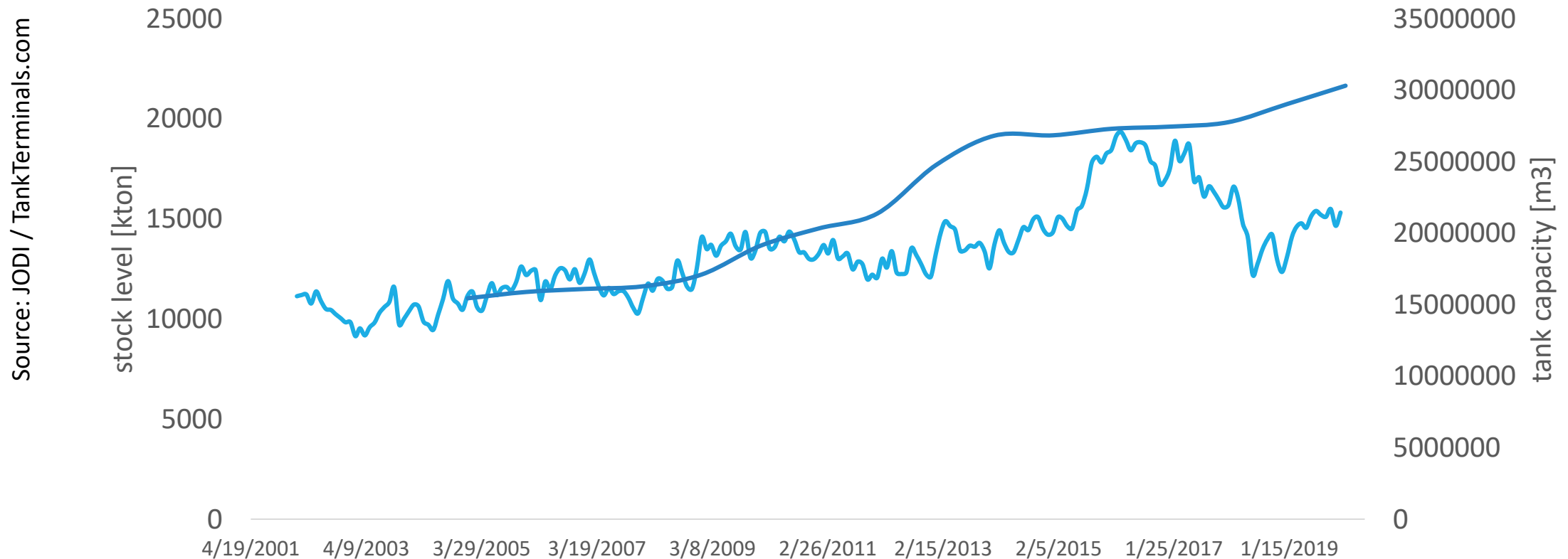


How is the Terminal market doing?

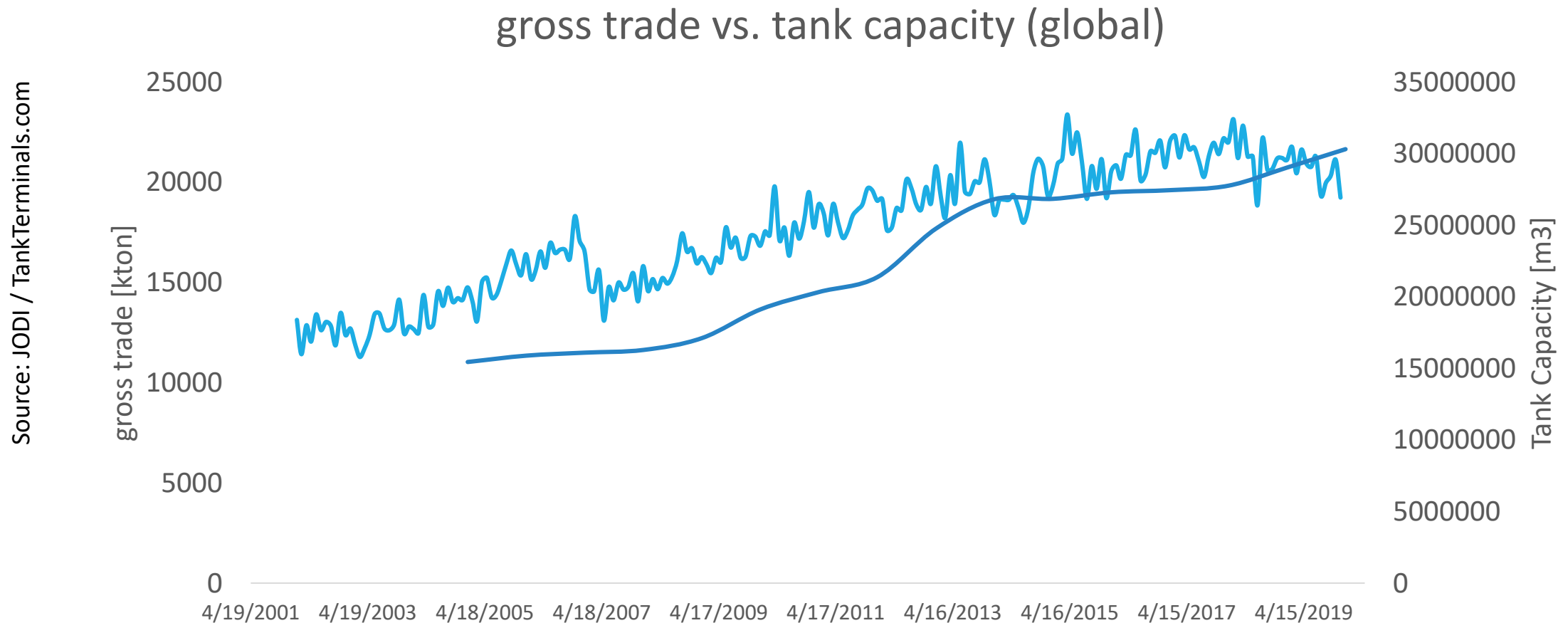


Tank Storage Demand versus Supply: **Stocks/Capacity**

Global stocks versus tank capacity

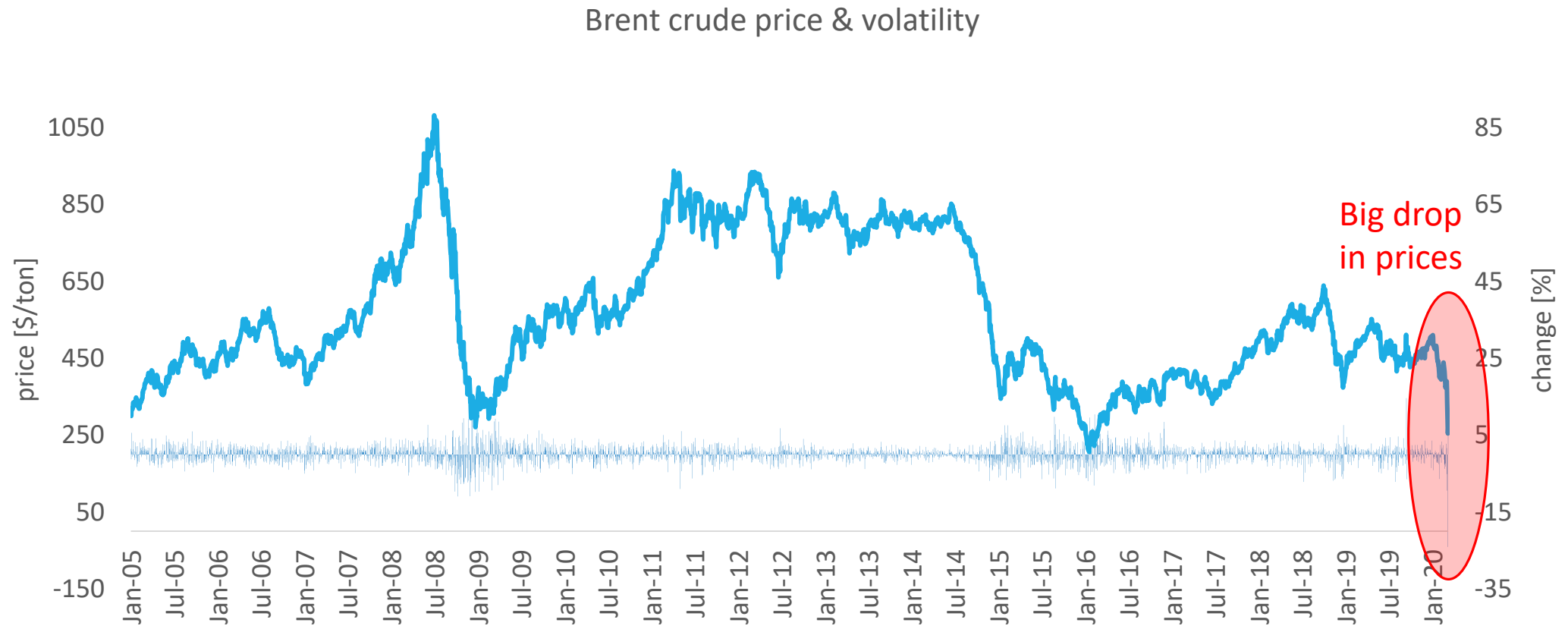


Tank Storage Demand versus Supply: **Gross Trade/Capacity**



Oil prices & Volatility

Oil prices are low and show above average volatility. This is positive for oil trading.



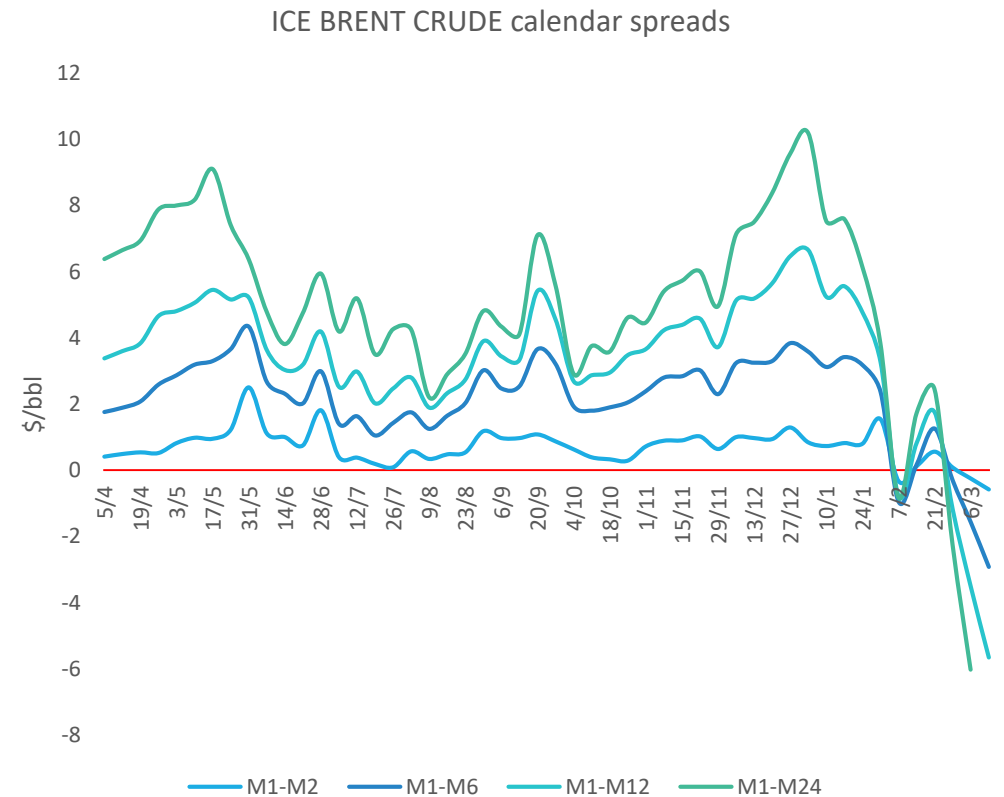
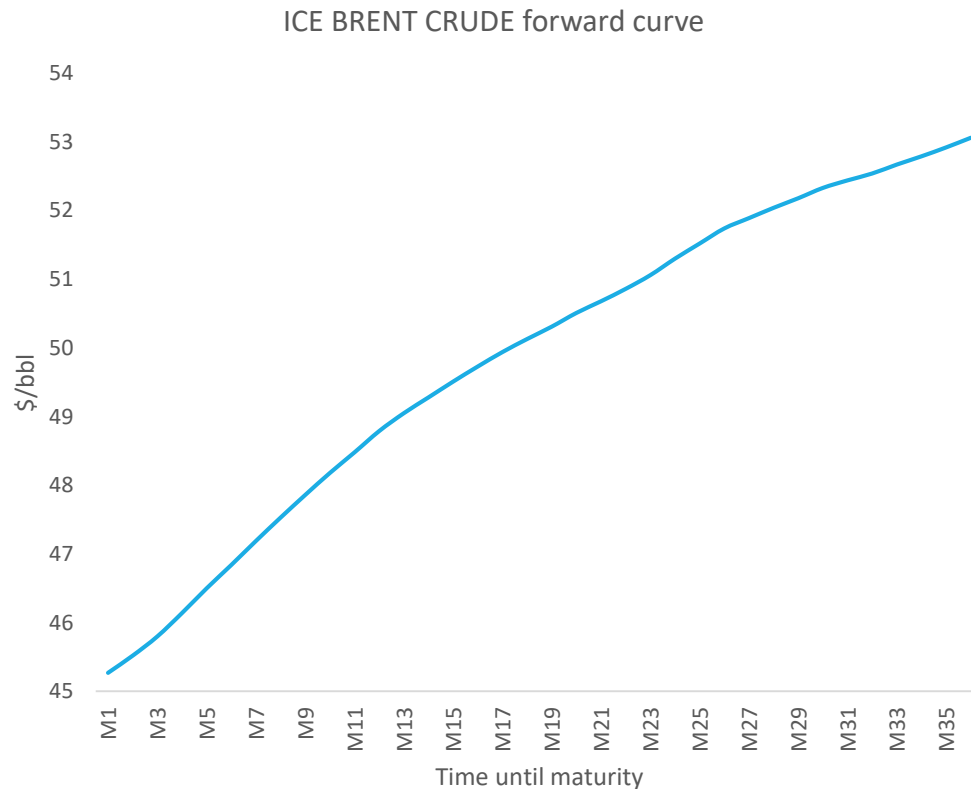


End of OPEC + (for now?)



Forward Curves / Calendar spreads: Brent Crude

The forward curve has switched to contango, which is supporting tank storage demand.

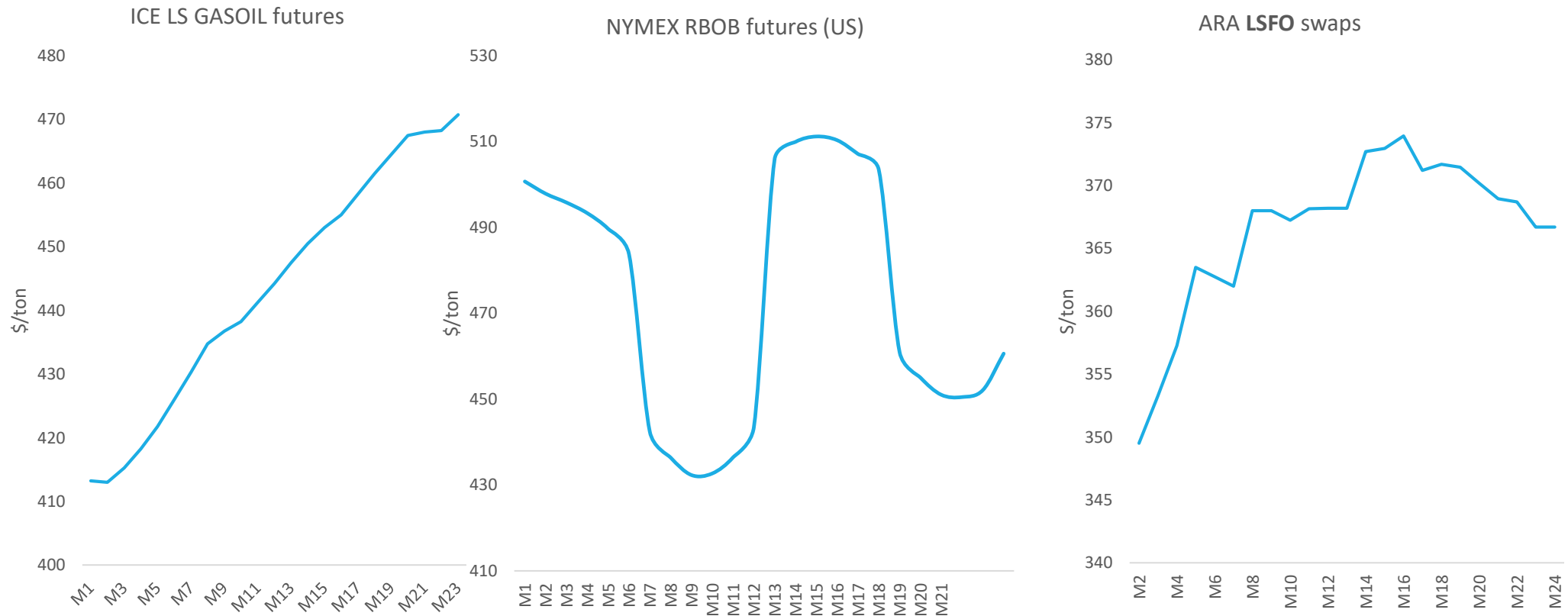


Source: ICE Europe



Forward Curves / Calendar spreads: Oil Products

Other petroleum product price forward curves are also in contango, which will support tank storage markets as well.

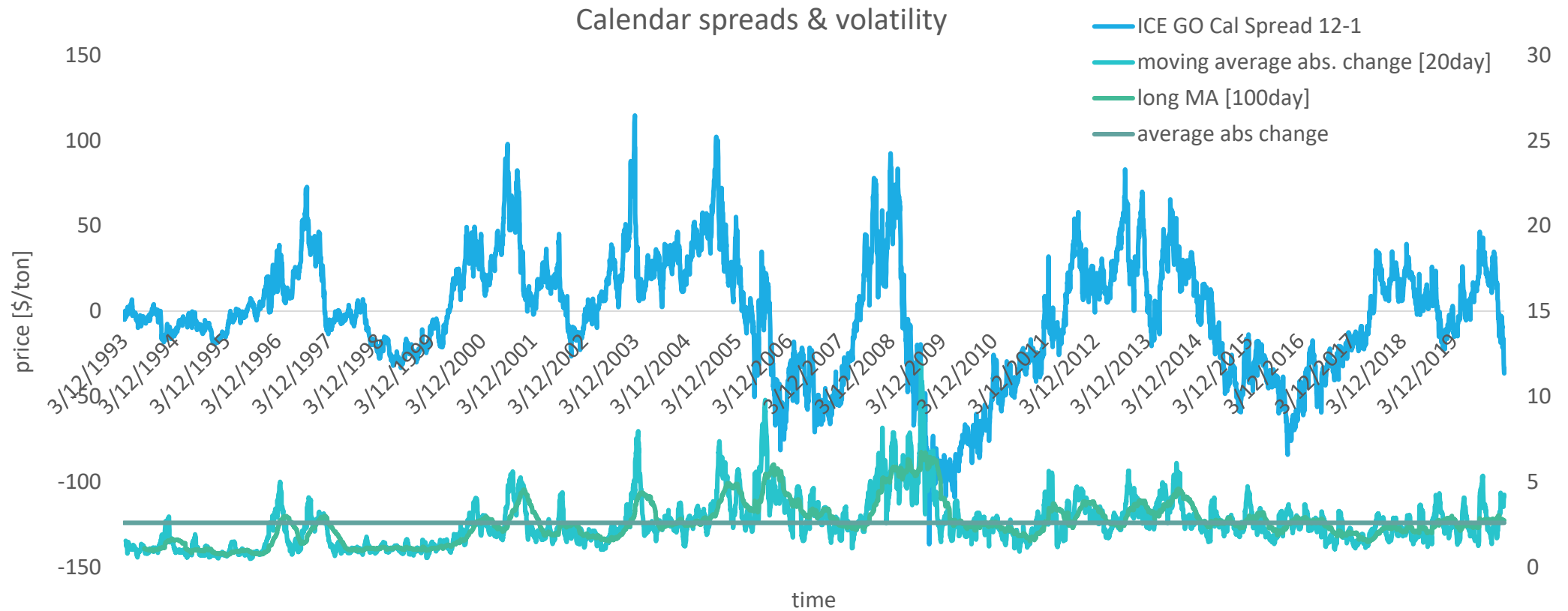


Source: ICE Europe / Refinitiv



Option value of storage:

(realized) calendar spread volatility above average levels

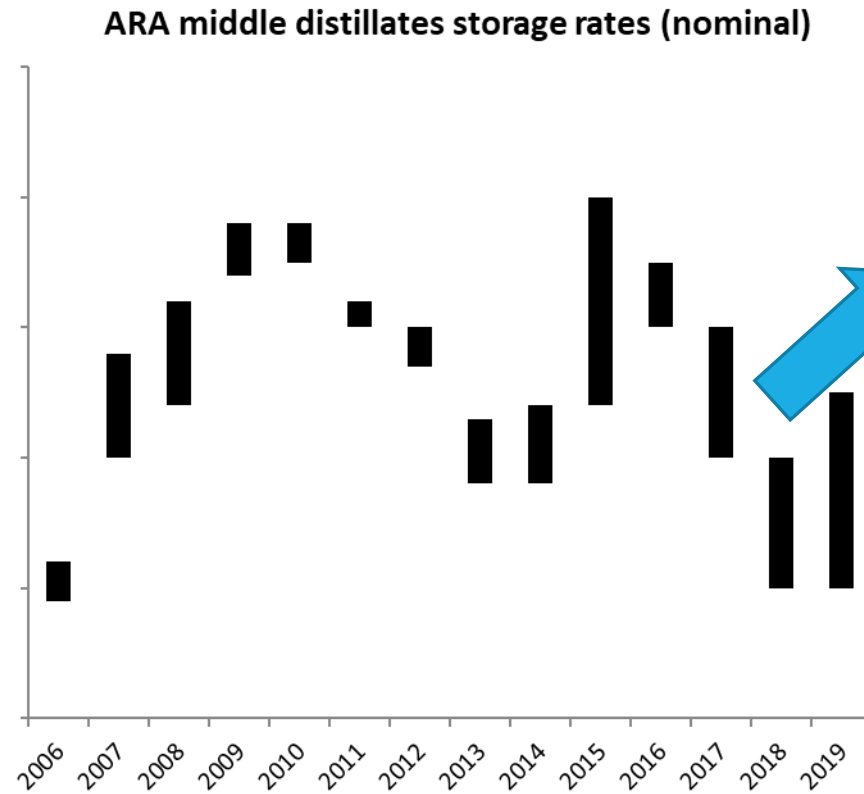


Source: ICE Europe / INSIGHTS GLOBAL analysis



Conclusion on Current (MD) Storage Market: Below average storage rates

Source: INSIGHTS GLOBAL



Upward potential:

Short term dynamics leading to increasing rates:

- Switch to contango
- Above average volatility
- More demand due to IMO 2020





Key Themes impacting structural demand



Key Themes Impacting Tank Storage:

MY FOCUS TODAY

- IMO 2020 Marine Fuel Regulation
 - Climate policies / Electric Vehicles
-
- Aviation demand growth
 - Refinery output scenarios





Impact IMO 2020



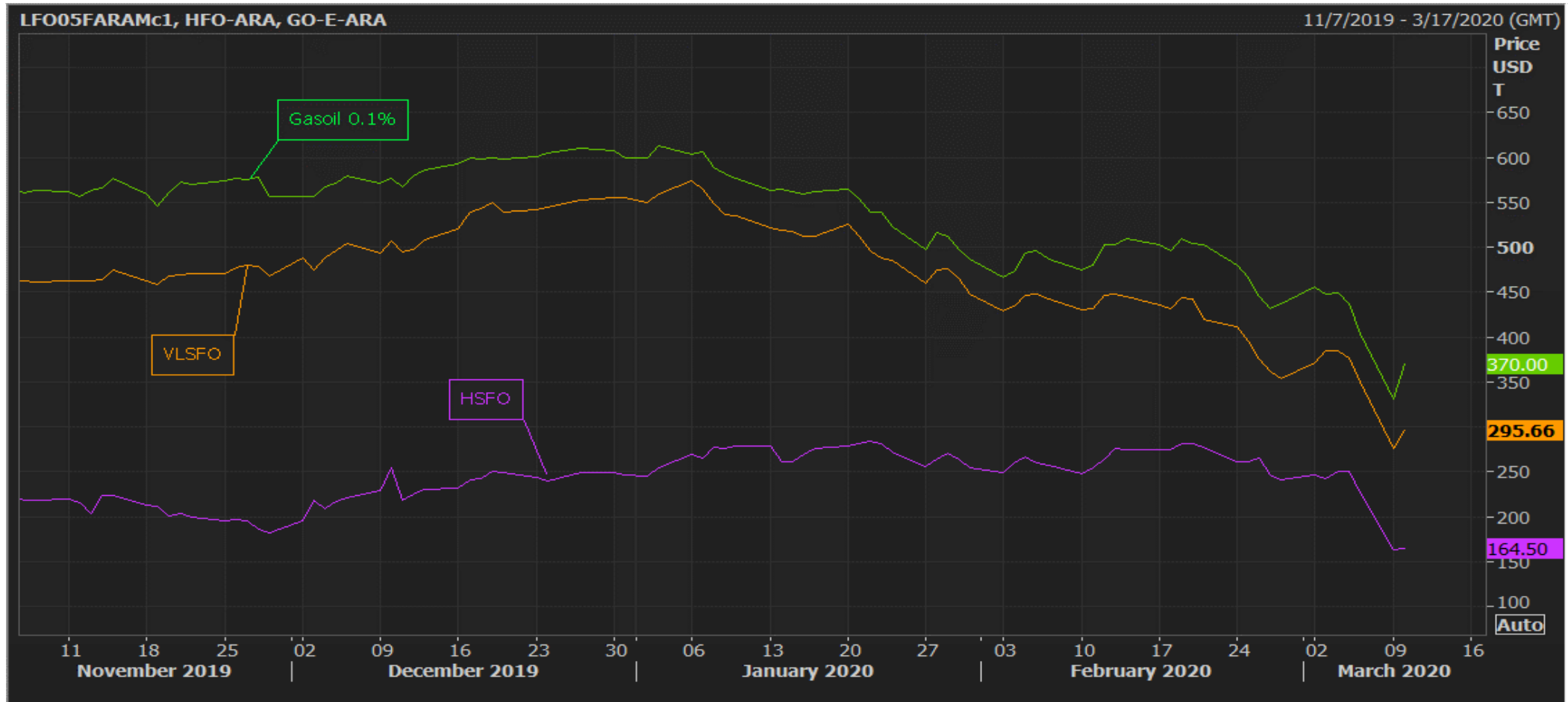
Four weeks after IMO2020 implementation: observations so far

1. VLSFO has mostly replaced HSFO volumes
2. HSFO / VLSFO approximately 10 to 20% / 80% to 90%
3. VLSFO compatibility issues between residue and distillate streams
4. MGO volumes only slightly increased by +5% to +10%
5. Arbitrage flows changed:
 - Rotterdam – Singapore (HS) Fuel oil flow marginalized
 - HSFO going from Baltics directly to USA: coker feed



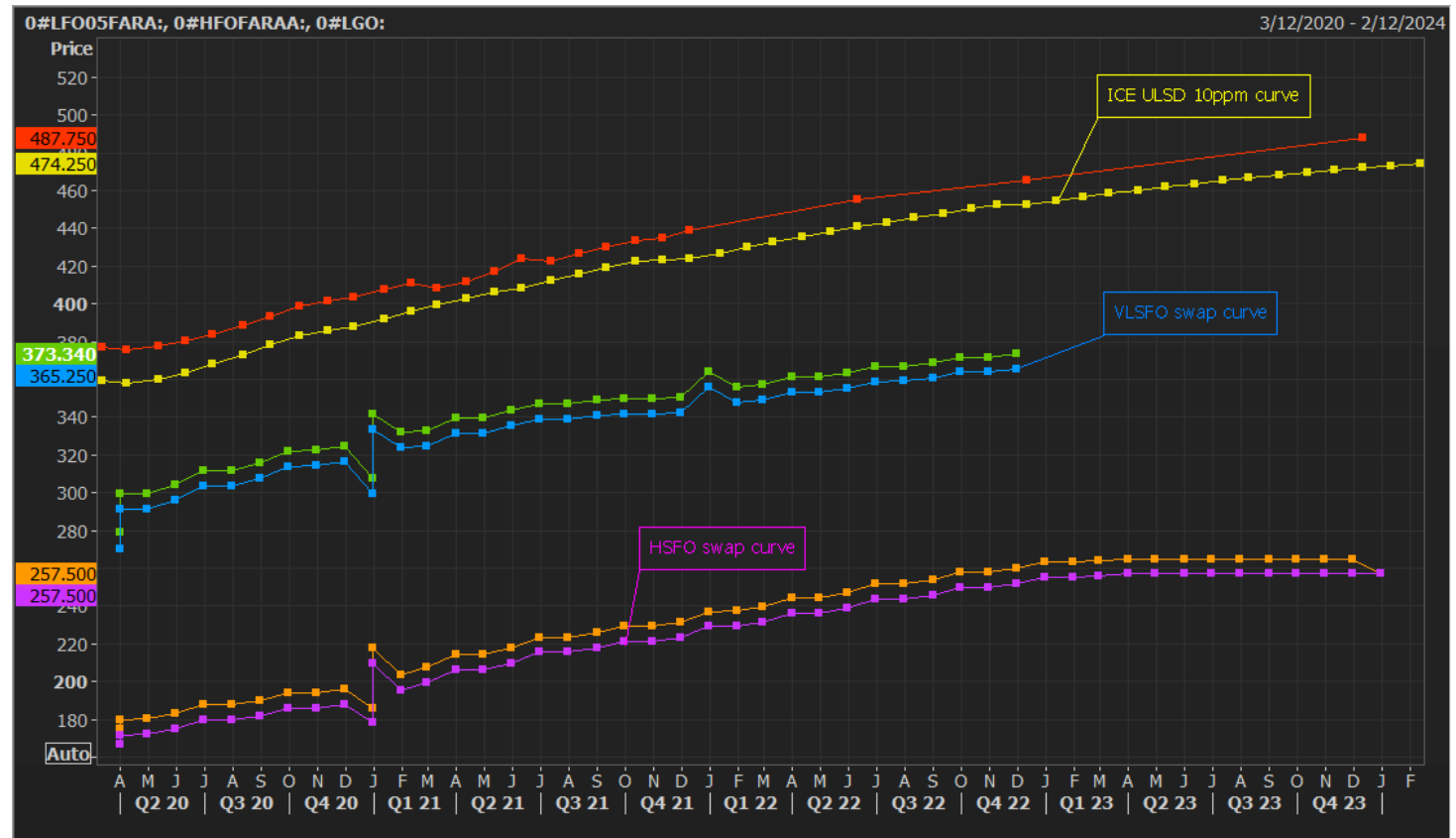
Bunker fuel pricing: VLSFO slightly below MGO

Source: Refinitiv



Bunker fuel price structure

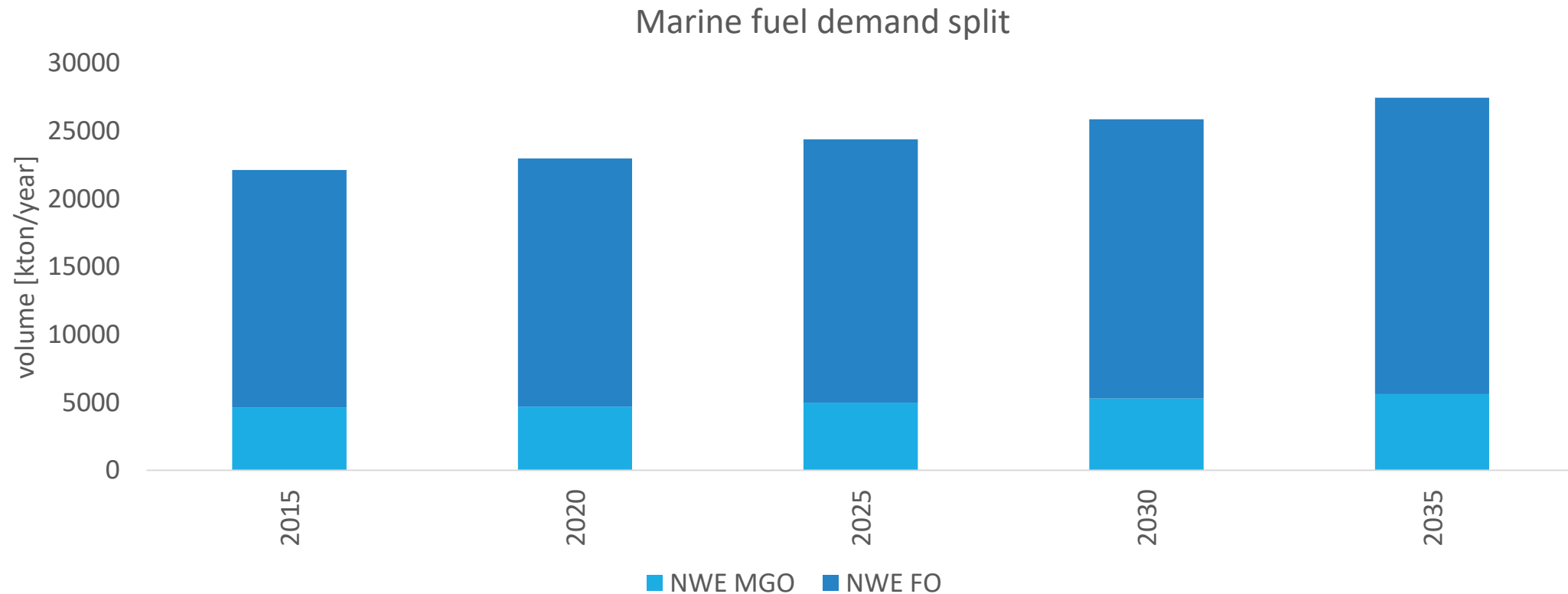
- All curves in contango
- Similar shapes



Source: ICE / Refinitiv



NW European bunker fuel outlook



Source: INSIGHTS GLOBAL CONSULTANCY



Impact IMO on Tank Terminal Business

The impact is mainly positive for ARA Tank Terminal Business:

- A. More tanks needed to store:
 - I. Blend components (residu streams, distillate streams)
 - II. Fuel grades: (HSFO, VLSFO (residu & distillate streams), ULSFO, MGO)
- B. Less FO arbitrage flows from ARA → less demand for big fuel oil tanks
- C. Effect on CPP /refinery yields is still uncertain as market still needs to adapt
- D. Long term growth expected in bunker sales which will support tank demand





Electric Vehicles and their impact



Electric Vehicles in the EU

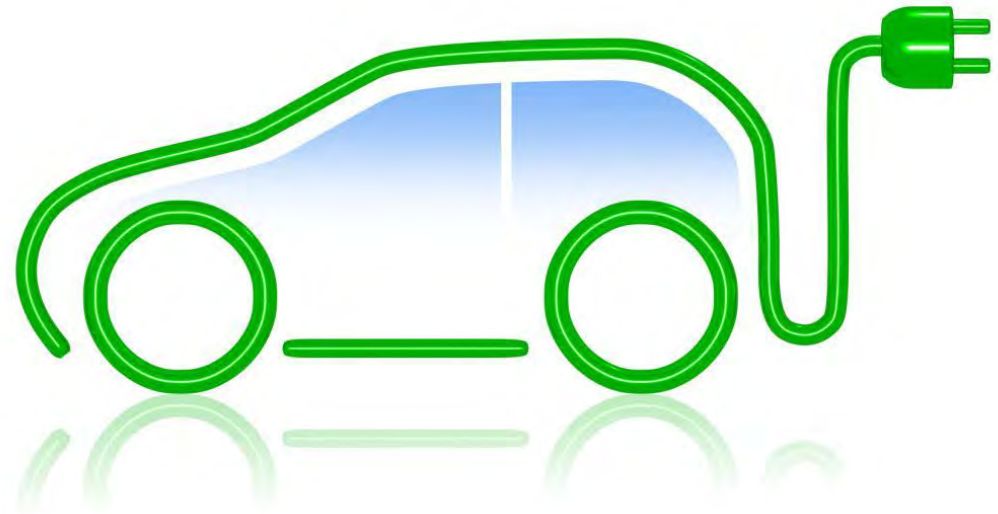
EU EMISSION TARGETS

2021: 95 gr. CO₂ / km

2025: -15% relative to 2021

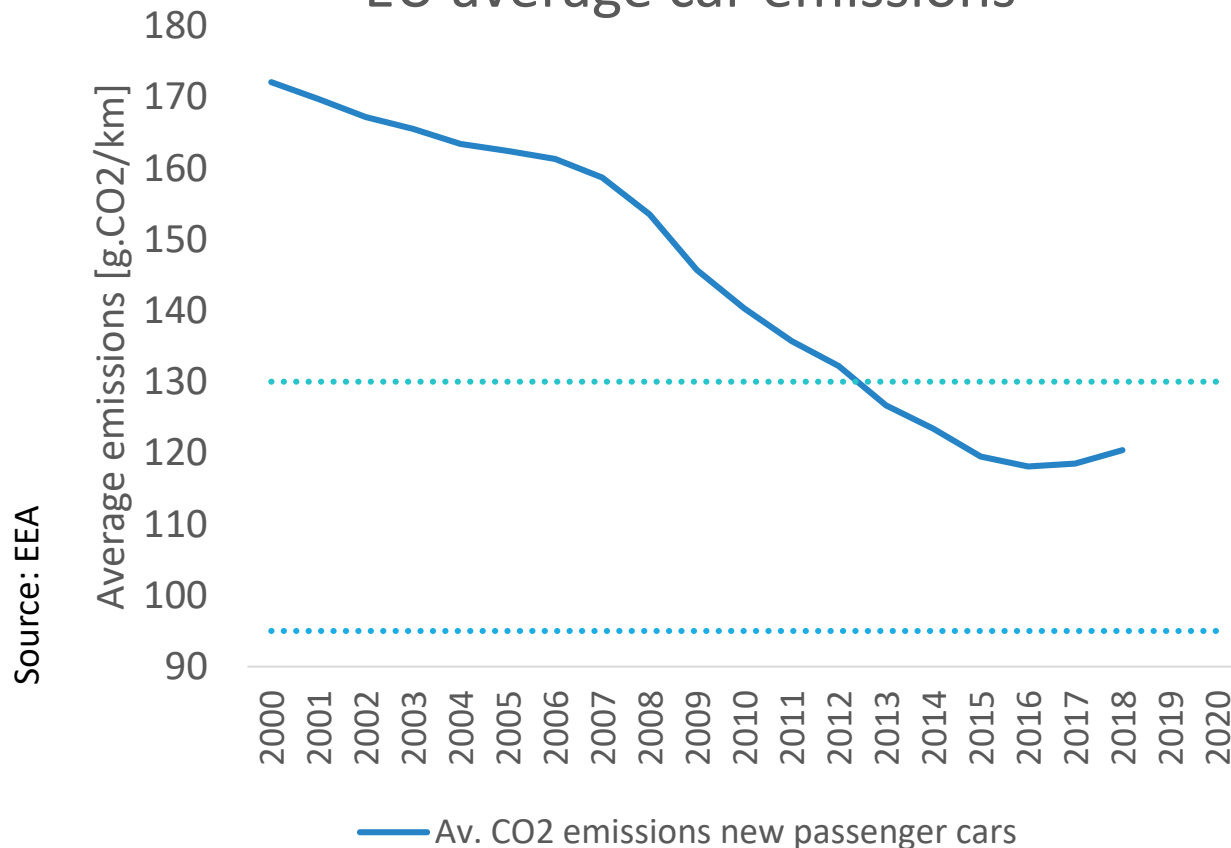
2030: -37.5% relative to 2021

- Imposed on car manufacturers
- Penalty for non-compliance
- BEV applies as zero emissions



EU target versus reality.....

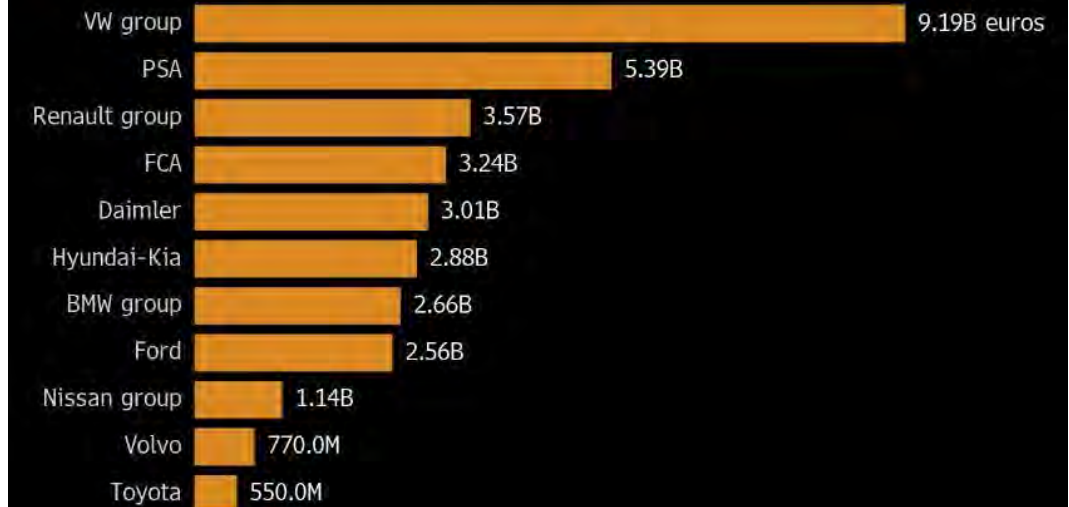
EU average car emissions



Tailpipe Toll

Carmakers could see billions in fines starting in 2020 under new regulation

■ Potential penalty payments for excess emissions



Note: Fines calculated from 2018 reported emission levels and assuming no changes until 2021

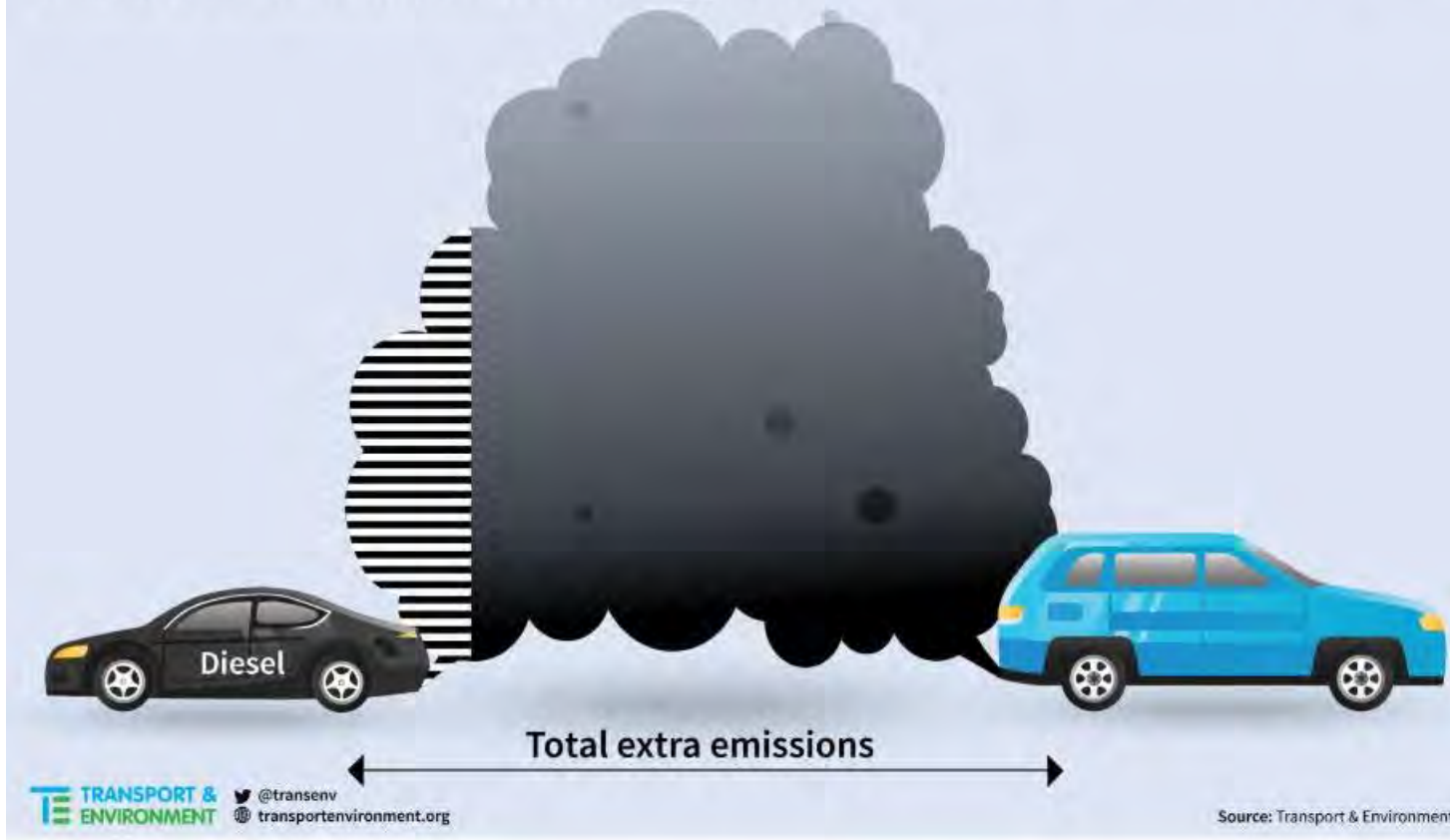
Source: Jato Dynamics

Bloomberg

Source: Bloomberg

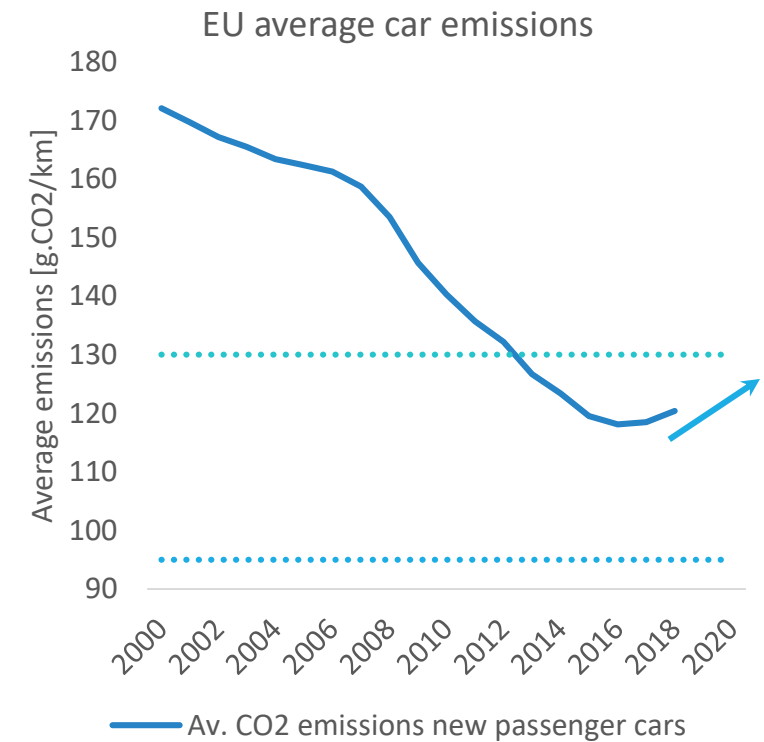
Higher SUV sales (not diesel decline) is to blame for the surge in CO₂ emissions from new cars

Since 2013 SUV sales surge has resulted in 2.6g/km CO₂ increase, 10 times more than the emissions attributed to diesel decline (0.25g/km)


















Source: TRANSPORT & ENVIRONMENT

SUV sales are driving higher emissions



How many electric cars carmakers need to sell in 2021 to avoid fines

% of total vehicle sales

Carmaker	EV shares needed to meet 2021 EU CO ₂ targets		
	Scenario 1 More combustion engine improvement	Scenario 2 1 + lower CO ₂ variants	Scenario 3 1 + 2 + stop sales of highest emitters
 TOYOTA MAZDA	Business as usual scenario is enough with 1%		
 PSA	8%	3%	2%
 GROUPE RENAULT	10%	5%	3%
 Ford	13%	5%	3%
 FCA	13%	8%	5%
 VW	13%	8%	5%
 HYUNDAI KIA	13%	7%	5%
 EU average	12%	7%	5%
 HONDA	16%	12%	11%
 NISSAN	16%	9%	6%
 BMW GROUP	16%	11%	8%
 DAIMLER	18%	12%	10%
 JAGUAR LAND ROVER	19%	13%	10%
 MITSUBISHI	24%	18%	16%
 VOLVO	23%	19%	16%

Options for car makers:

1) more BEV's

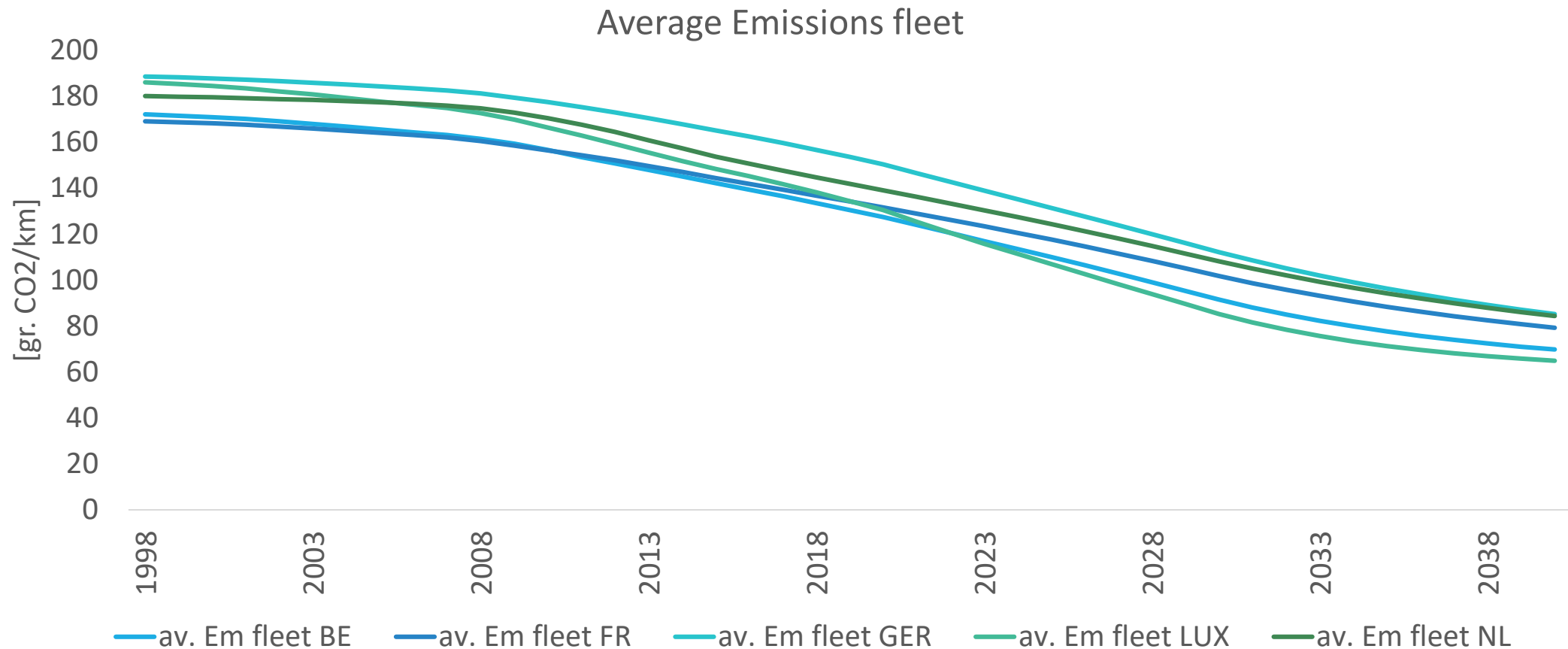
2) less high emitting cars



...or will the EU
come to the
automobile
industry rescue?

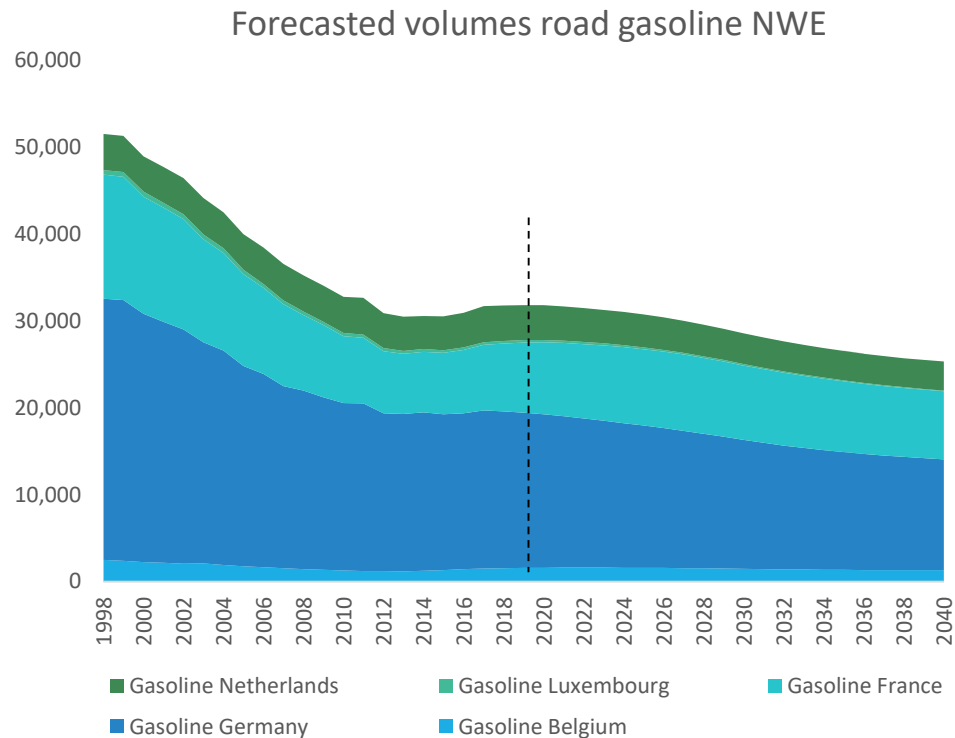
Emissions fleet if targets are met....

Source: INSIGHTS GLOBAL CONSULTANCY

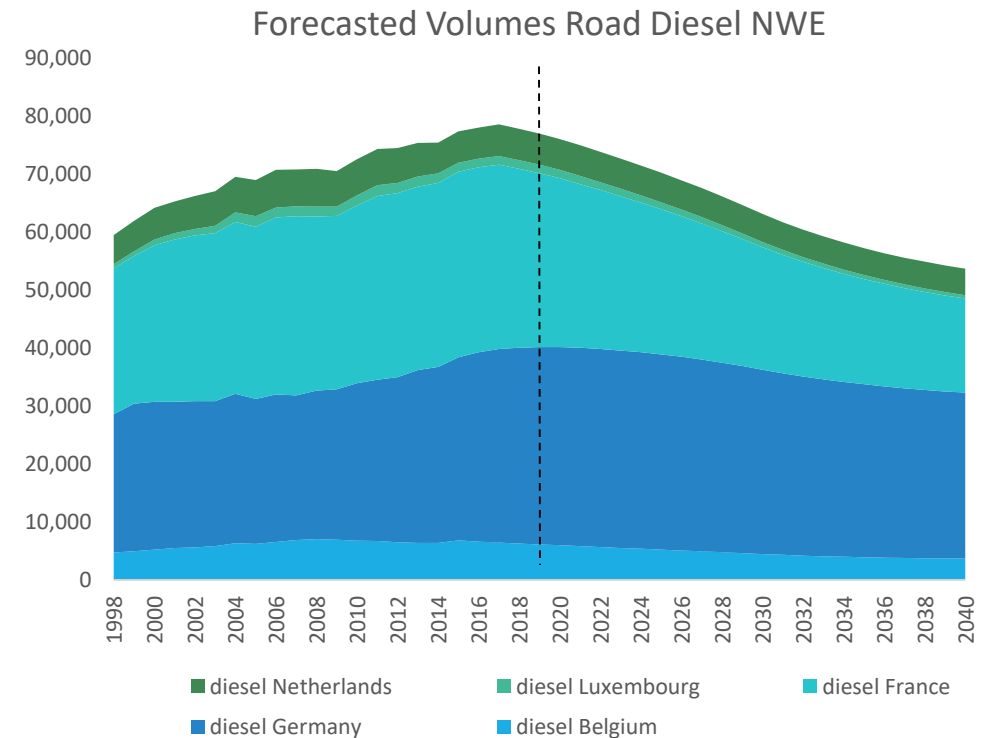


Impact on car fuel demand if targets are met...

GASOLINE DEMAND DECLINE IS VERY SLOW



DIESEL DEMAND GOES DOWN MORE RAPIDLY



Source: INSIGHTS GLOBAL CONSULTANCY



Impact on Tank Storage Demand if targets are met...

		change imbalance '25 / '19			change imbalance '40 / '19		
	current S/D balance	good	bad	ugly	good	bad	ugly
naphtha	net-exporter	125%	97%	74%	125%	97%	99%
gasoline	net-exporter	319%	146%	136%	647%	474%	368%
gasoil	net-importer	43%	72%	83%	-39%	-10%	1%
fuel oil	net-exporter	66%	-62%	-84%	-366%	-495%	-516%

Source: INSIGHTS GLOBAL CONSULTANCY

- Light end imbalances go up
- Gasoil/Diesel imbalances go down
- Fuel oil imbalances, especially in the longer run, will switch and go up



Conclusion



Conclusions Tank Terminal demand: Medium term upside *but* longterm mixed picture

IMO 2020 BUNKER FUEL REGULATIONS SUPPORT TANK DEMAND

- More tanks are needed to segregate blend and fuel grades
- Less arbitrage flows limit demand for large tanks
- Long term bunker demand growth and rising imbalances will support tank demand

EMISSION REGULATIONS CAUSE DECLINE IN DEMAND

- EU car emission targets are likely to be missed in 2020/2021

If medium term emission targets are met:

- Gasoline and diesel consumption will go down
- Imbalances for light-ends will go up
- Imbalances for gasoil/diesel will go down





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**THAT'S ALL FOLKS
THANKS FOR YOUR ATTENTION!**

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