EPİAŞ

COVID-19 and Gas Markets

EXIST
ENERGY EXCHANGE ISTANBUL

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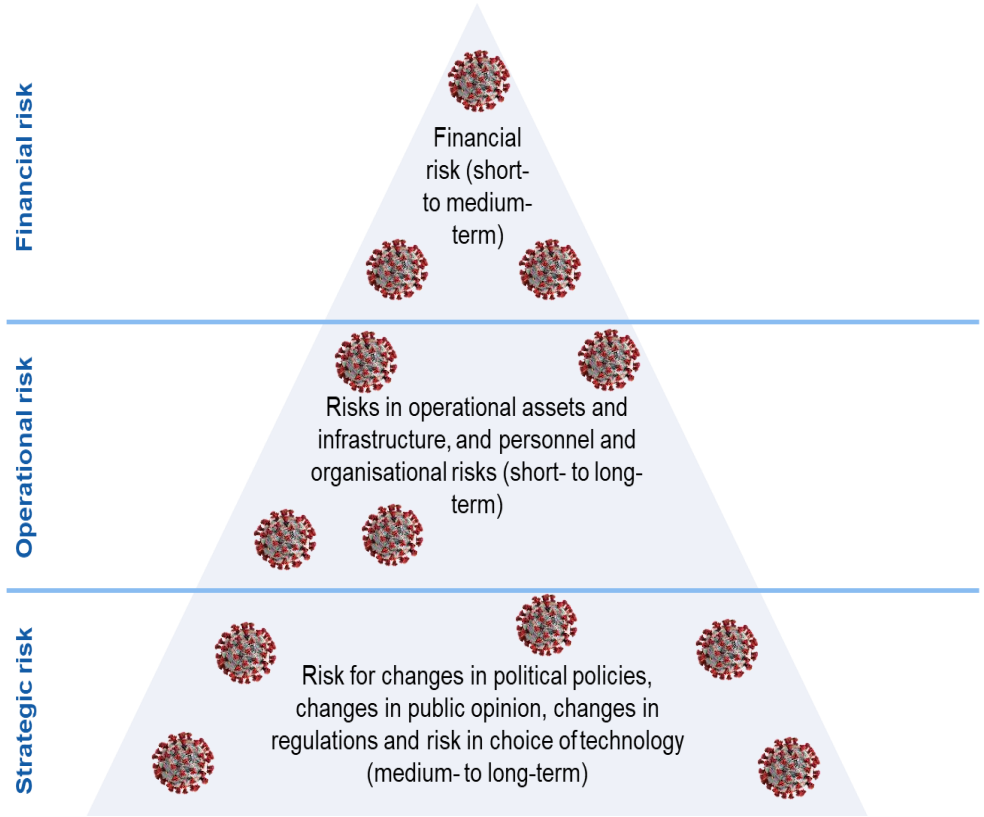
Risk Management İn Energy 2020

28.05.2020

Key questions for discussion today

- **What are the commercial/financial risks in the energy sector ?**
- **How does an energy exchange operate and manage these risks?**
- **What are the tools/products that are available to market players in energy exchanges for managing these risks?**
- **How can we expect the energy markets to evolve? What new risks, needs and products may arise?**

General overview of COVID - 19 risks for an integrated companies in gas markets



wholesale energy products, defined as the following contracts and derivatives:

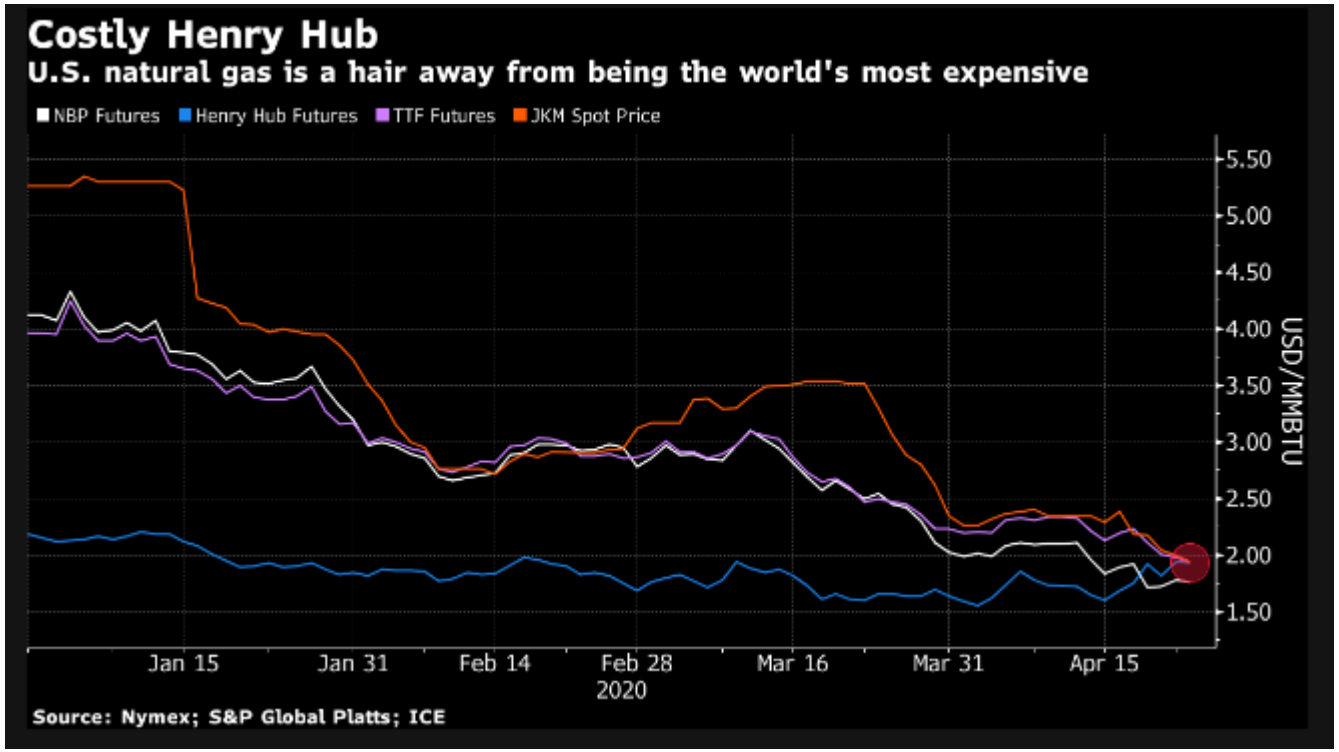
— contracts for the supply of natural gas **(high risk)**

— derivatives relating to natural gas produced, traded or delivered **(high risk)**

— contracts and derivatives relating to the transportation of or natural gas **(high risk)**

Source: Vattenfall

US Gas Prices vs. European Hubs

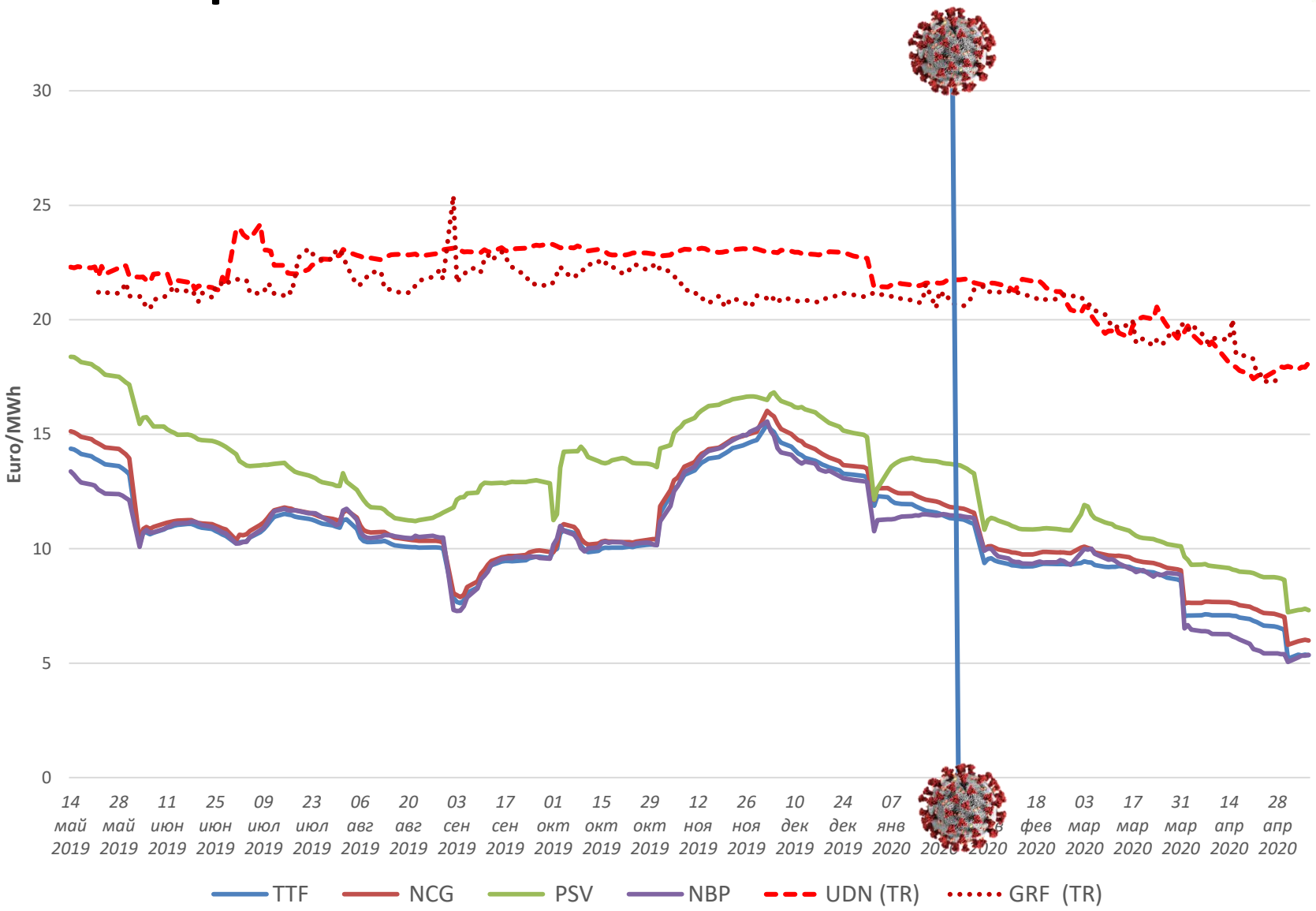


- US gas futures have rallied as a historic crash in oil prices is seen driving shale producers to halt more drilling and curb output of gas, which is extracted as a byproduct
- In Europe and Asia, prices are sliding to fresh lows due to a supply glut and languishing consumption amid the pandemic
- U.S. gas had consistently been the cheapest since the shale revolution, which flooded the country with fuel and turned it into the world's biggest producer
- To be sure, this is likely temporary and not the new normal

Source: Stephen Stapczynski (Bloomberg)

European Gas Hubs

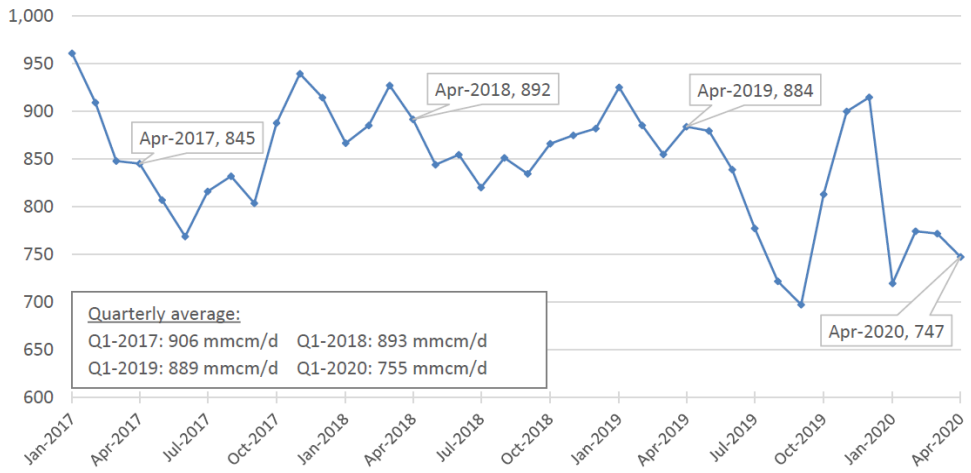
- Correlation between OTC and Spot for Turkish HUB
- Non-correlation between Turkey and EU hubs
- Decreasing prices in EU hubs as a result of competition



Source: Argus

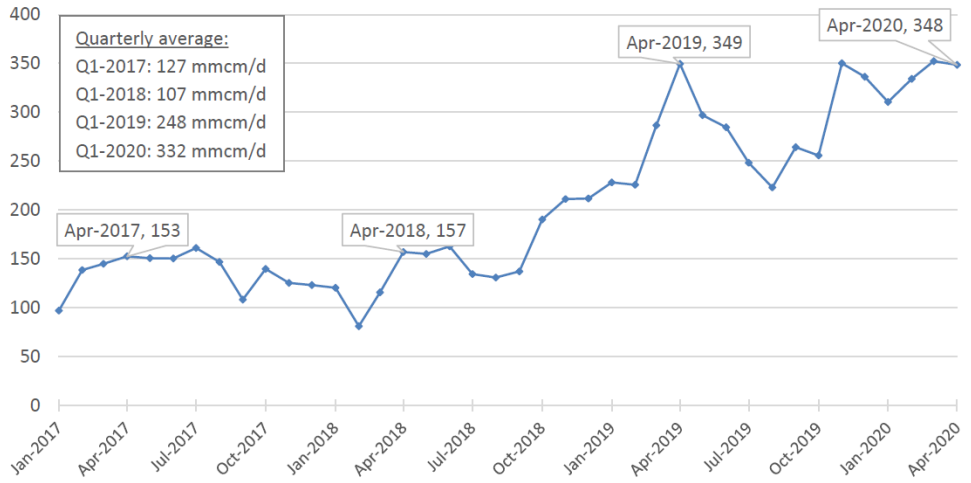
Natural Gas in Europe

Monthly average pipeline flows to Europe 2017-20 (MMcm/d)



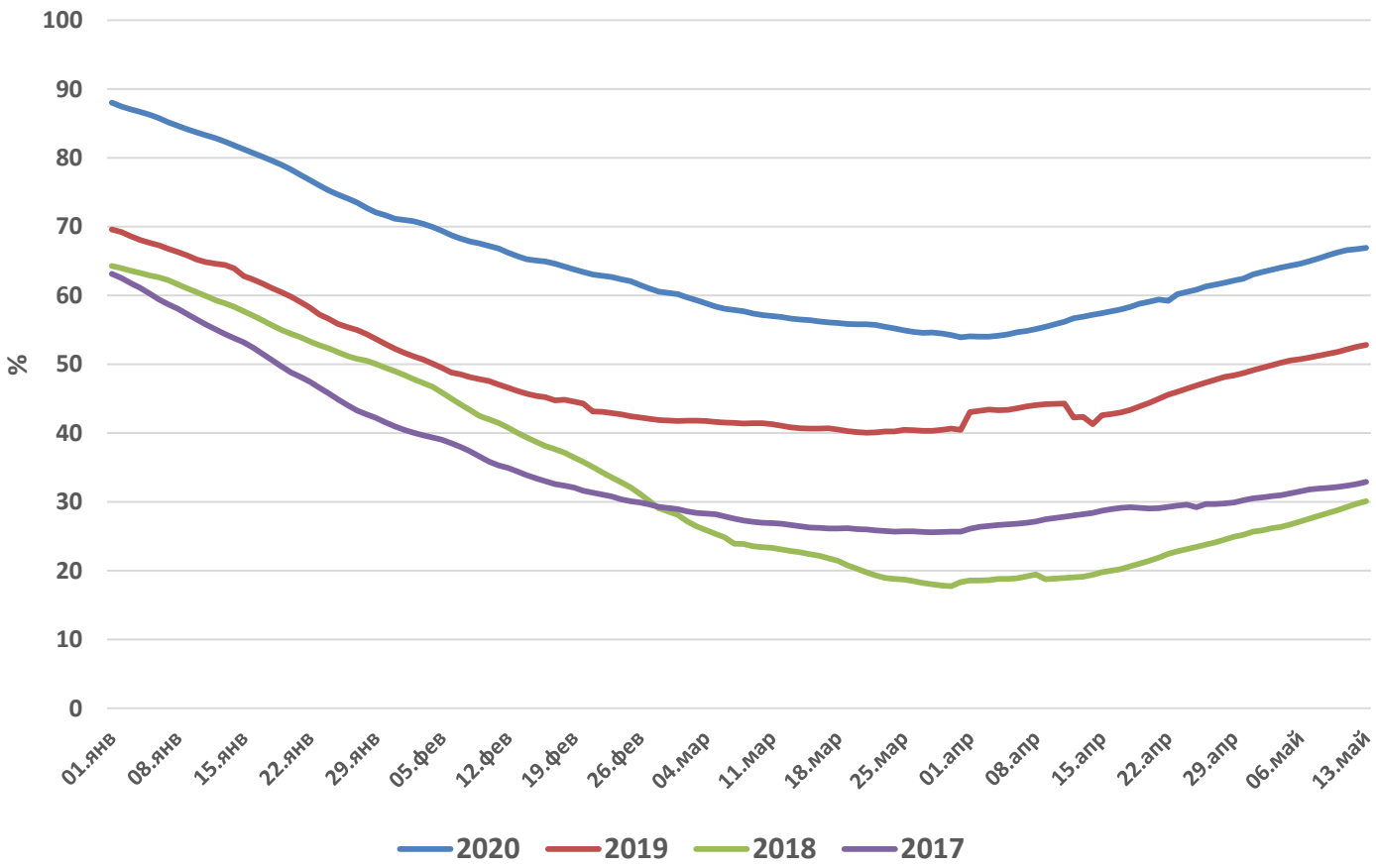
Source: OIES & ENTSOG Transparency Platform

LNG supplies to Europe 2017-20 (monthly average MMcm/d)



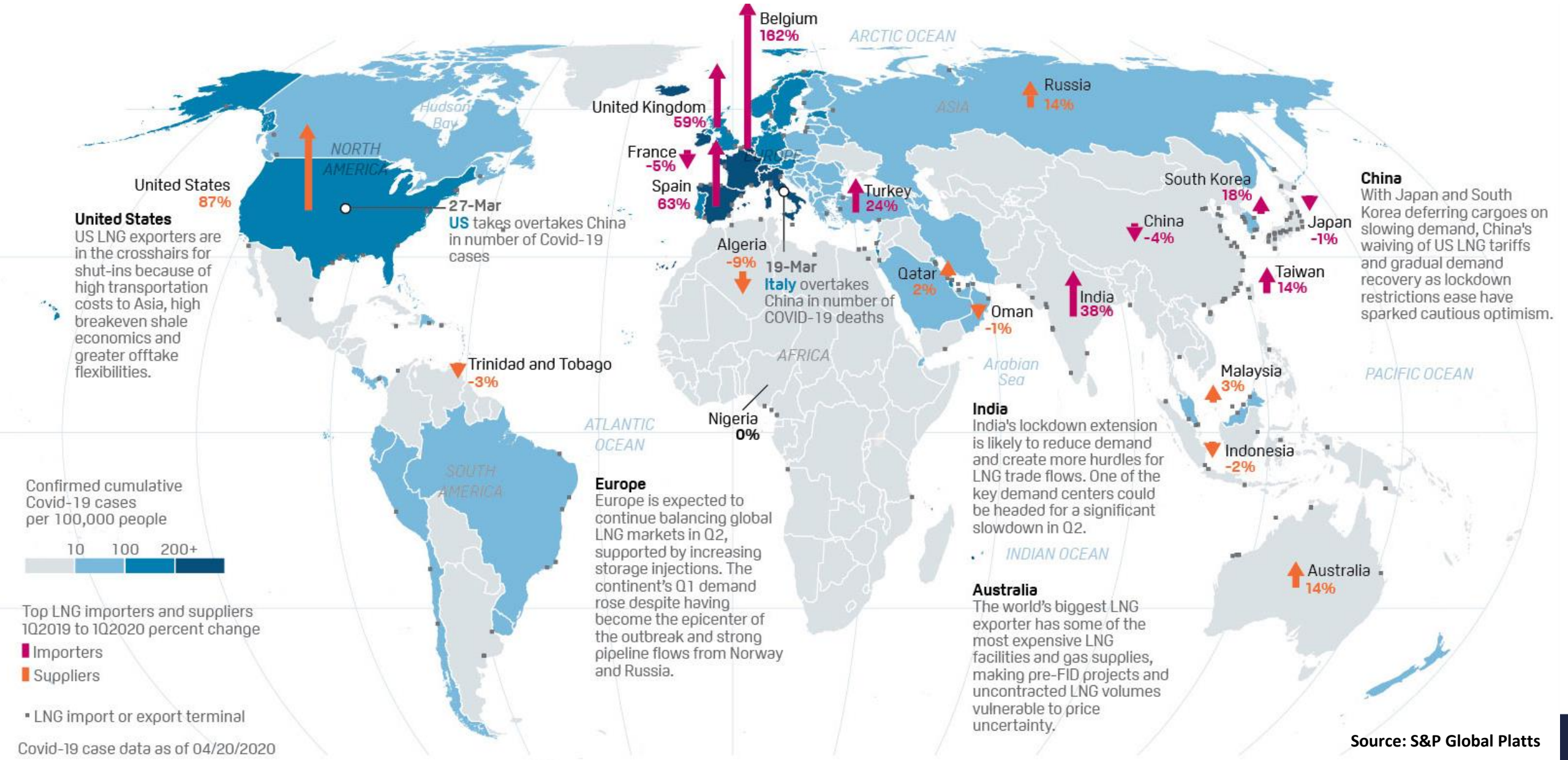
Source: OIES & Data from Platts LNG

Europe Gas Storage Levels



Source: AGSI

Global LNG markets



United States
US LNG exporters are in the crosshairs for shut-ins because of high transportation costs to Asia, high breakeven shale economics and greater offtake flexibilities.

China
With Japan and South Korea deferring cargoes on slowing demand, China's waiving of US LNG tariffs and gradual demand recovery as lockdown restrictions ease have sparked cautious optimism.

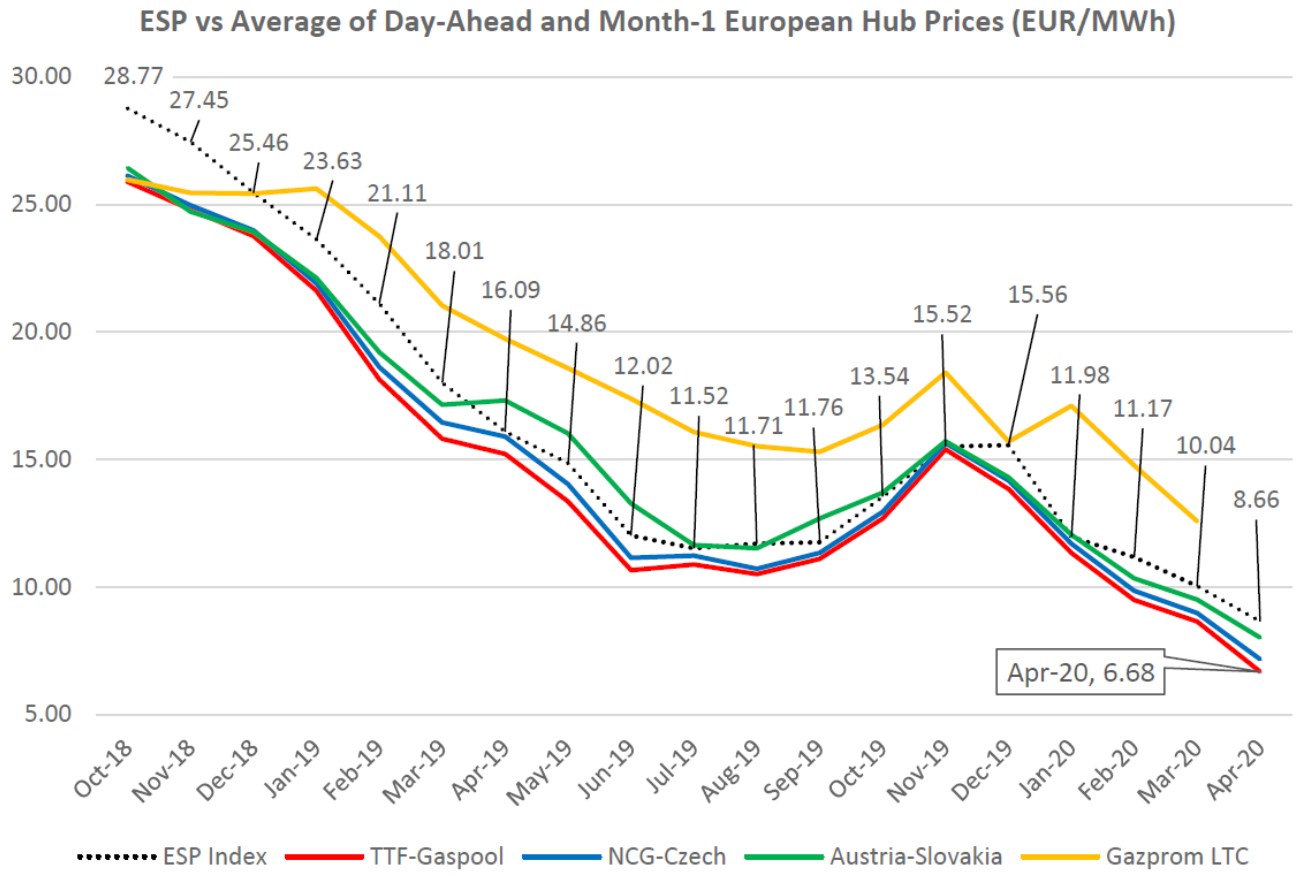
India
India's lockdown extension is likely to reduce demand and create more hurdles for LNG trade flows. One of the key demand centers could be headed for a significant slowdown in Q2.

Europe
Europe is expected to continue balancing global LNG markets in Q2, supported by increasing storage injections. The continent's Q1 demand rose despite having become the epicenter of the outbreak and strong pipeline flows from Norway and Russia.

Australia
The world's biggest LNG exporter has some of the most expensive LNG facilities and gas supplies, making pre-FID projects and uncontracted LNG volumes vulnerable to price uncertainty.

Source: S&P Global Platts

Europe balance year on year change

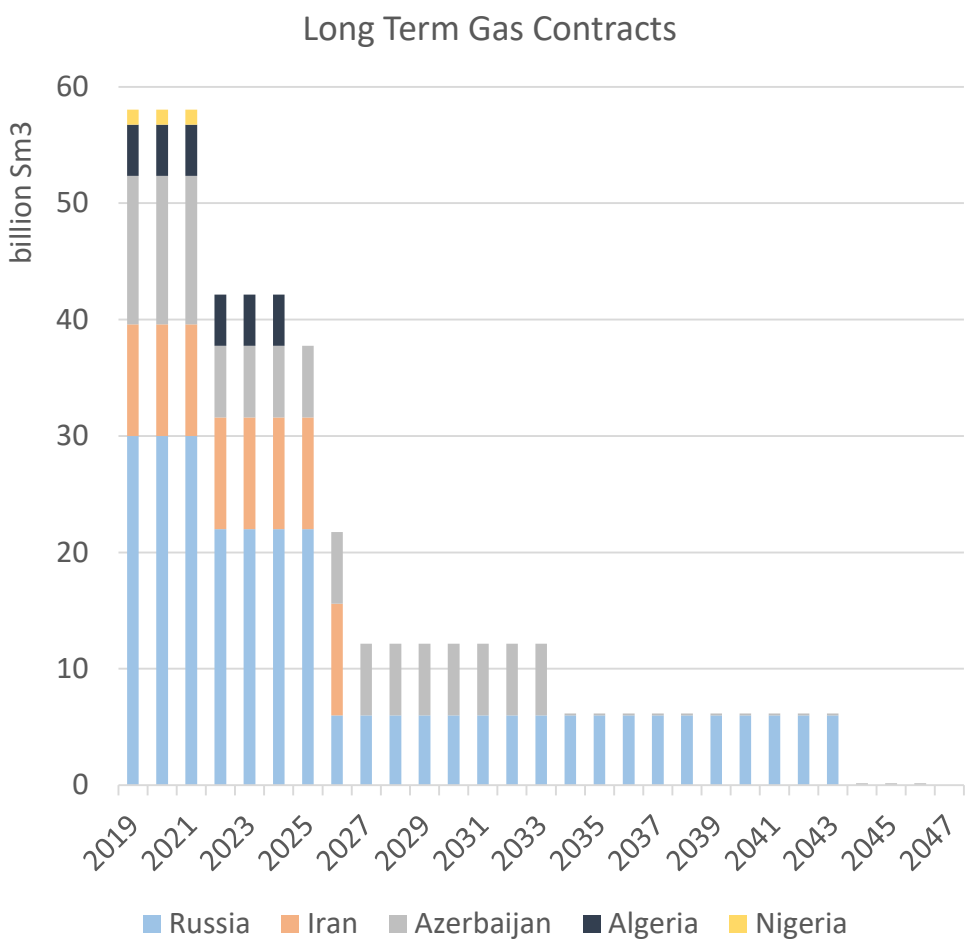


CHANGE OVER 2019					
BCM	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2020
Production	- 5.4	- 3.9	- 1.7	- 3.5	- 14.4
Pipeline Imports	- 8.4	- 8.1	- 9.5	2.3	- 23.8
LNG Imports	9.7	4.9	- 19.7	9.6	4.5
Storage withdrawal	5.9	-	-	- 3.5	2.4
Total Supply	1.9	- 7.1	- 31.0	4.9	- 31.3
Consumption	- 6.6	- 15.6	- 6.7	- 0.9	- 29.7
Pipeline Exports	0.6	- 1.7	- 3.3	1.6	- 2.8
LNG Exports	0.1	- 1.3	- 1.1	0.2	- 2.1
Storage injection	-	10.0	- 20.4	-	- 10.4
Total Requirement	- 5.9	- 8.6	- 31.5	0.9	- 45.0
Statistical Difference	7.7	1.5	0.5	4.0	13.7

Source: OIES

Source: OIES

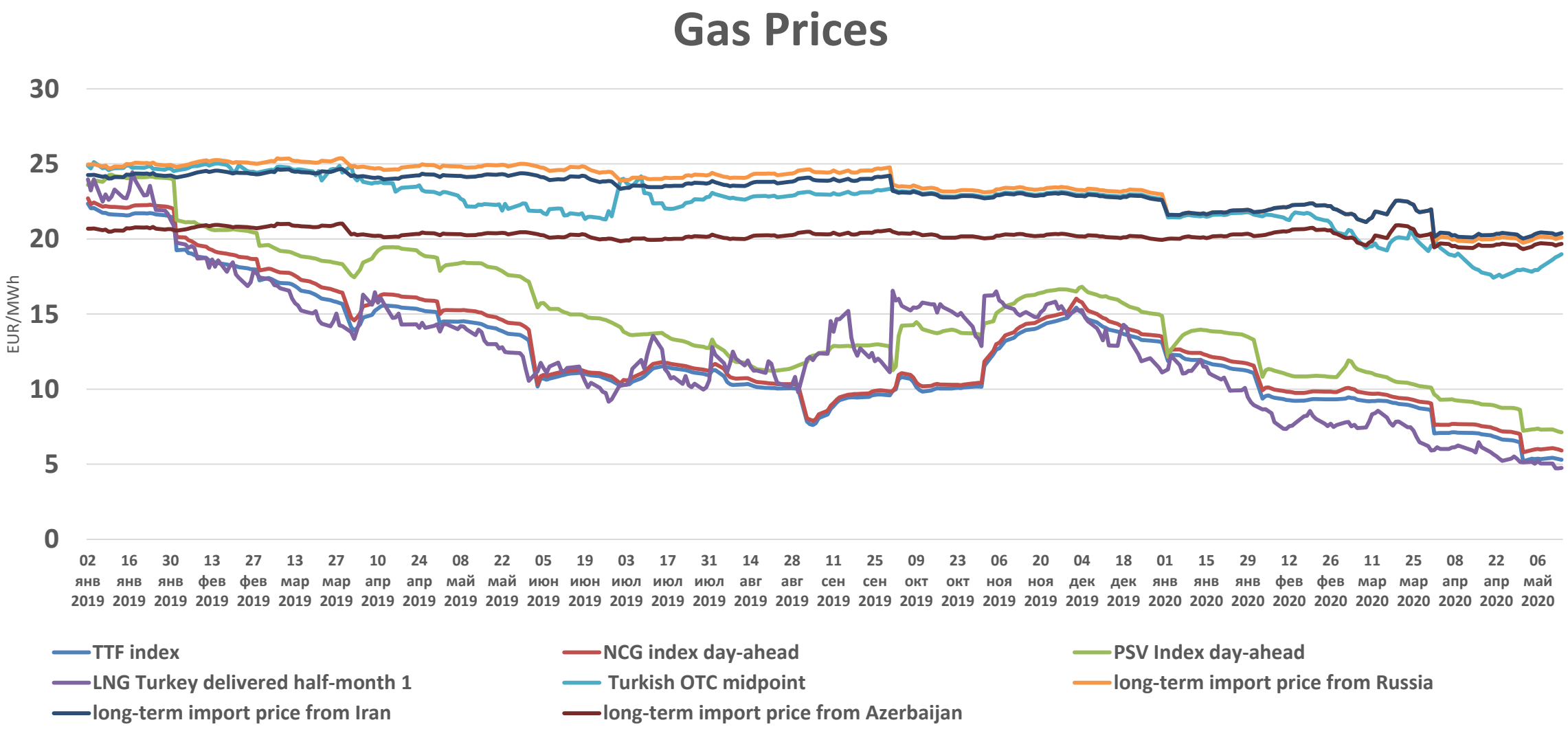
Turkish Gas Market



- Spot Gas Market under operation
- Futures Gas Market under development, expected 2021
- Natural Gas utilization
  - Distribution level
    - All cities have access to gas (air quality increased)
  - Industrial purposes
  - Power generation
    - Decreasing trend
- Supply security investments
  - LNG
  - Storage - 11 bcm,20% of yearly consumption, in 2023
  - Pipelines - TANAP, TurkStream

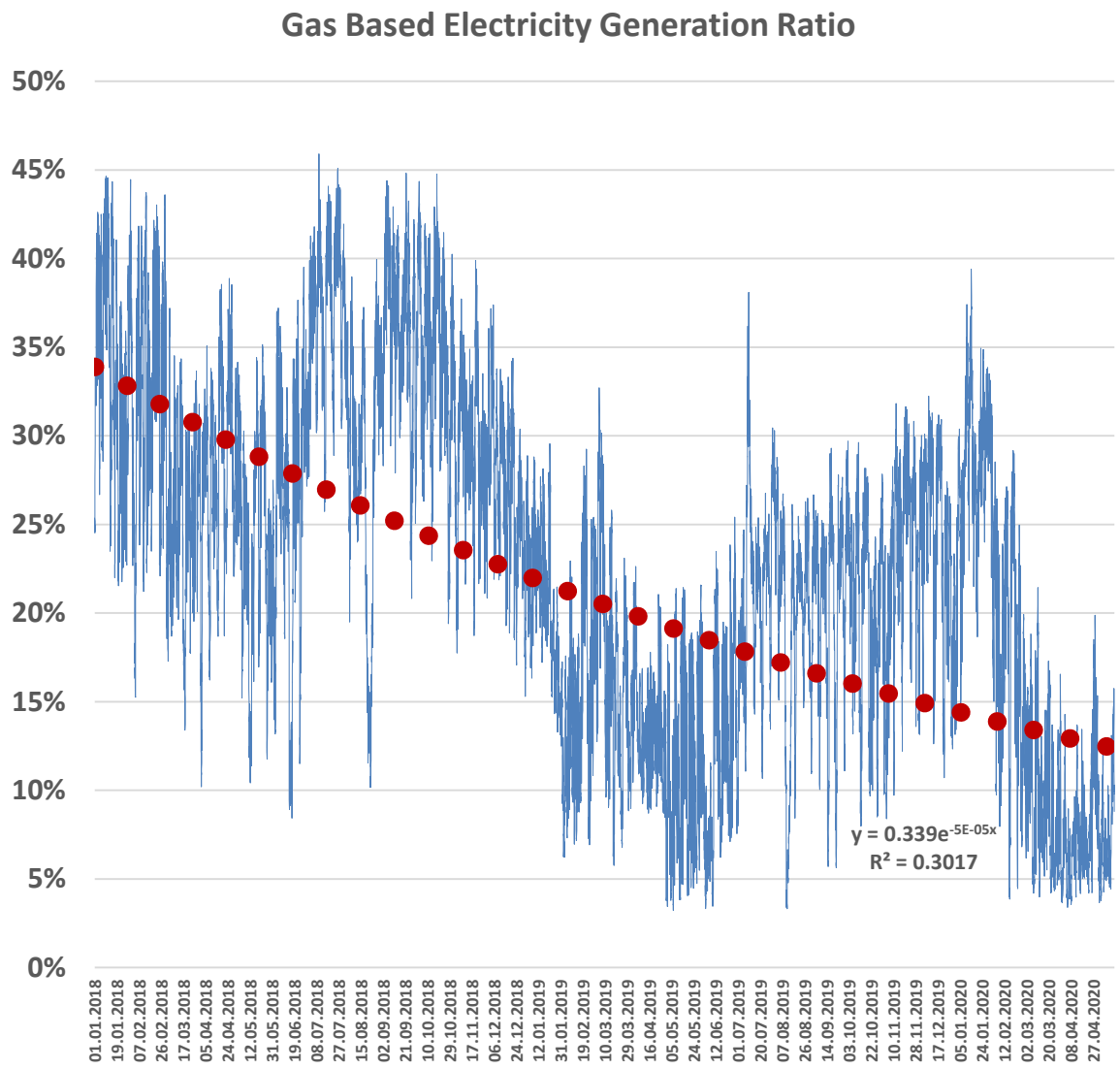
- 30% of long term contracts will expire by 2021
- LNG usage is increasing, market is getting more competitive

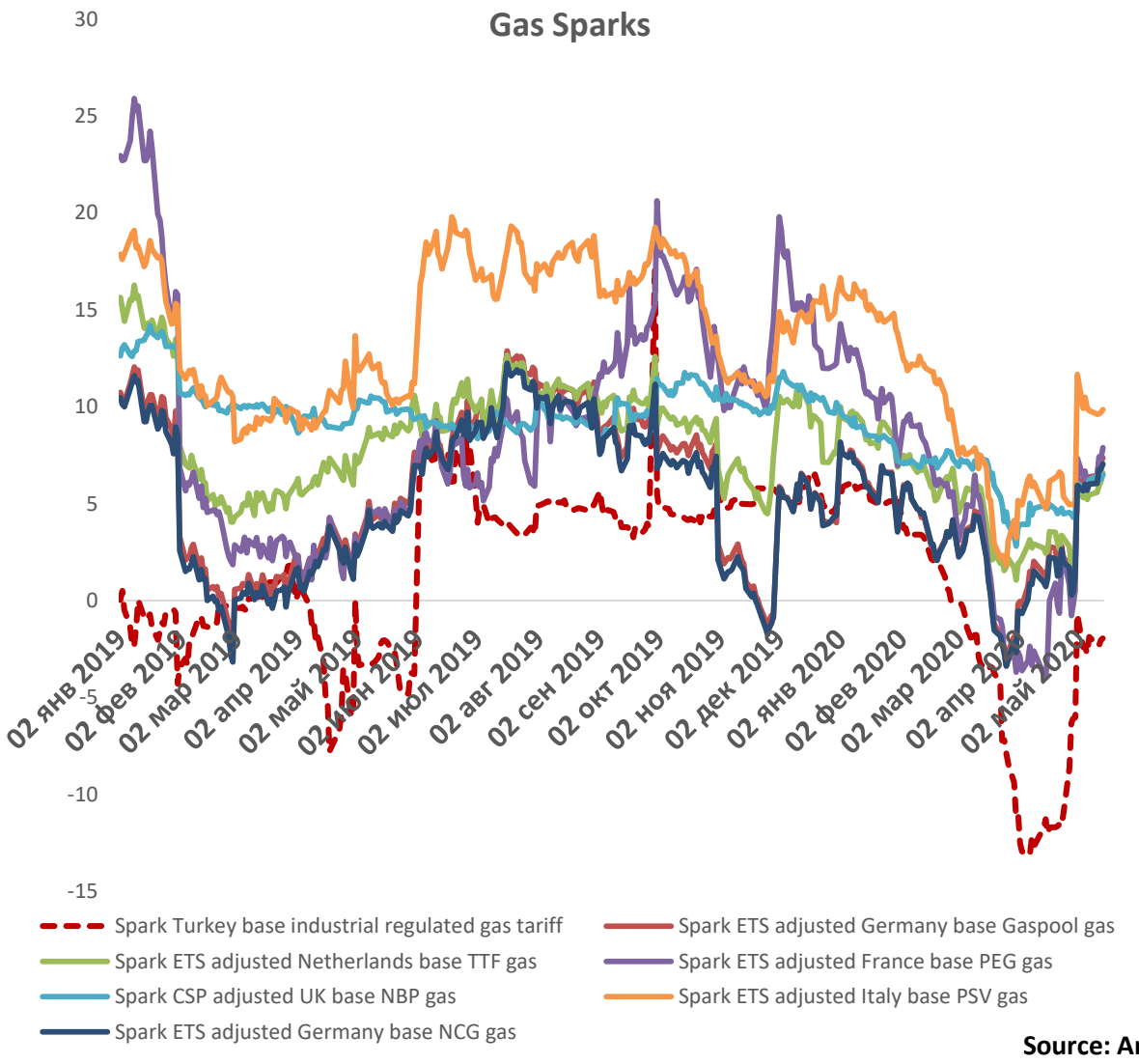
Turkish Gas Import vs. Europe



Source: Argus

Gas & Electricity in Turkey

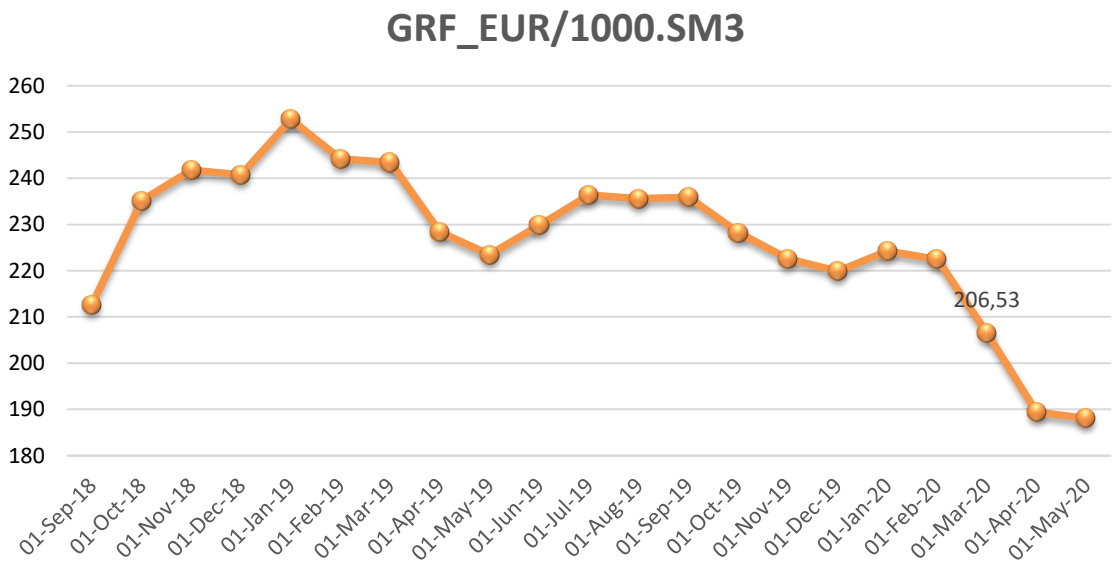




Source: Argus

Source: EXIST Transparency Platform

Turkish Gas Markets



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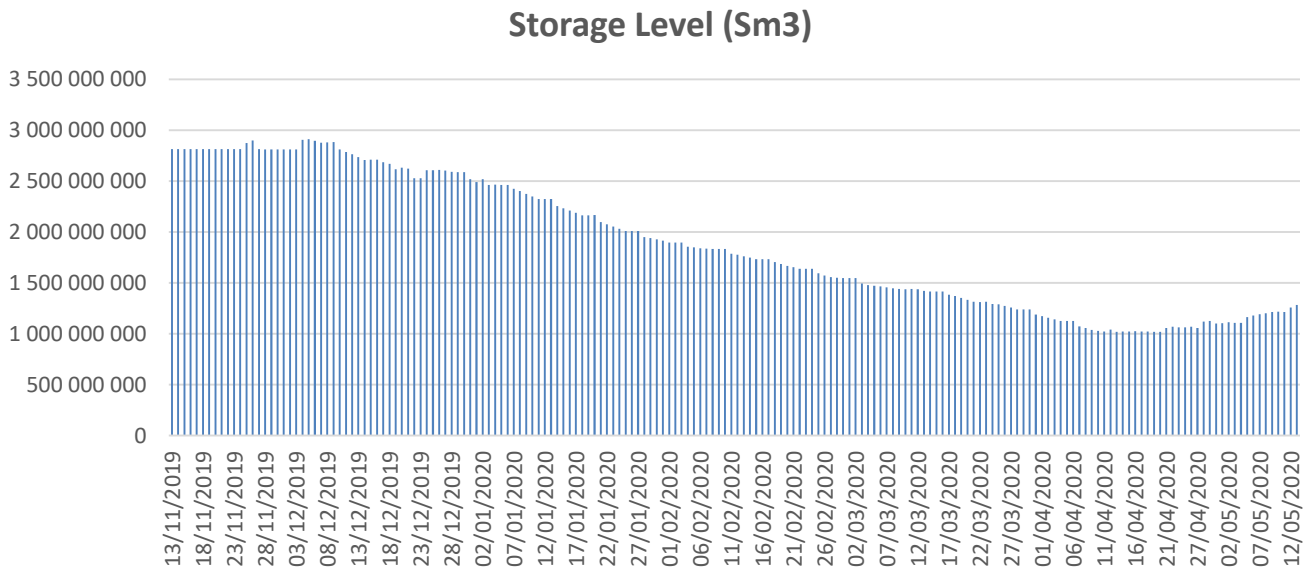

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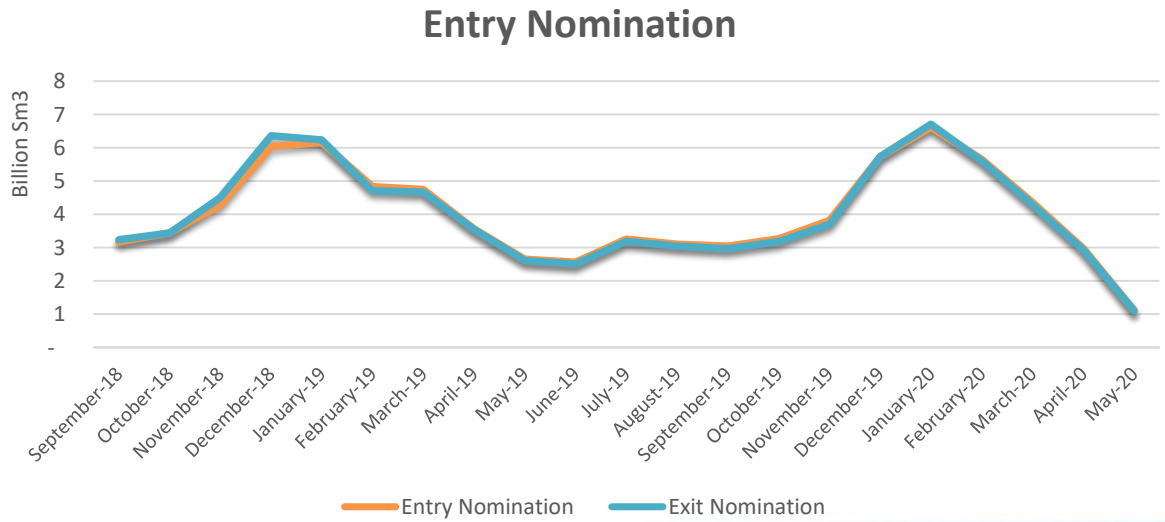
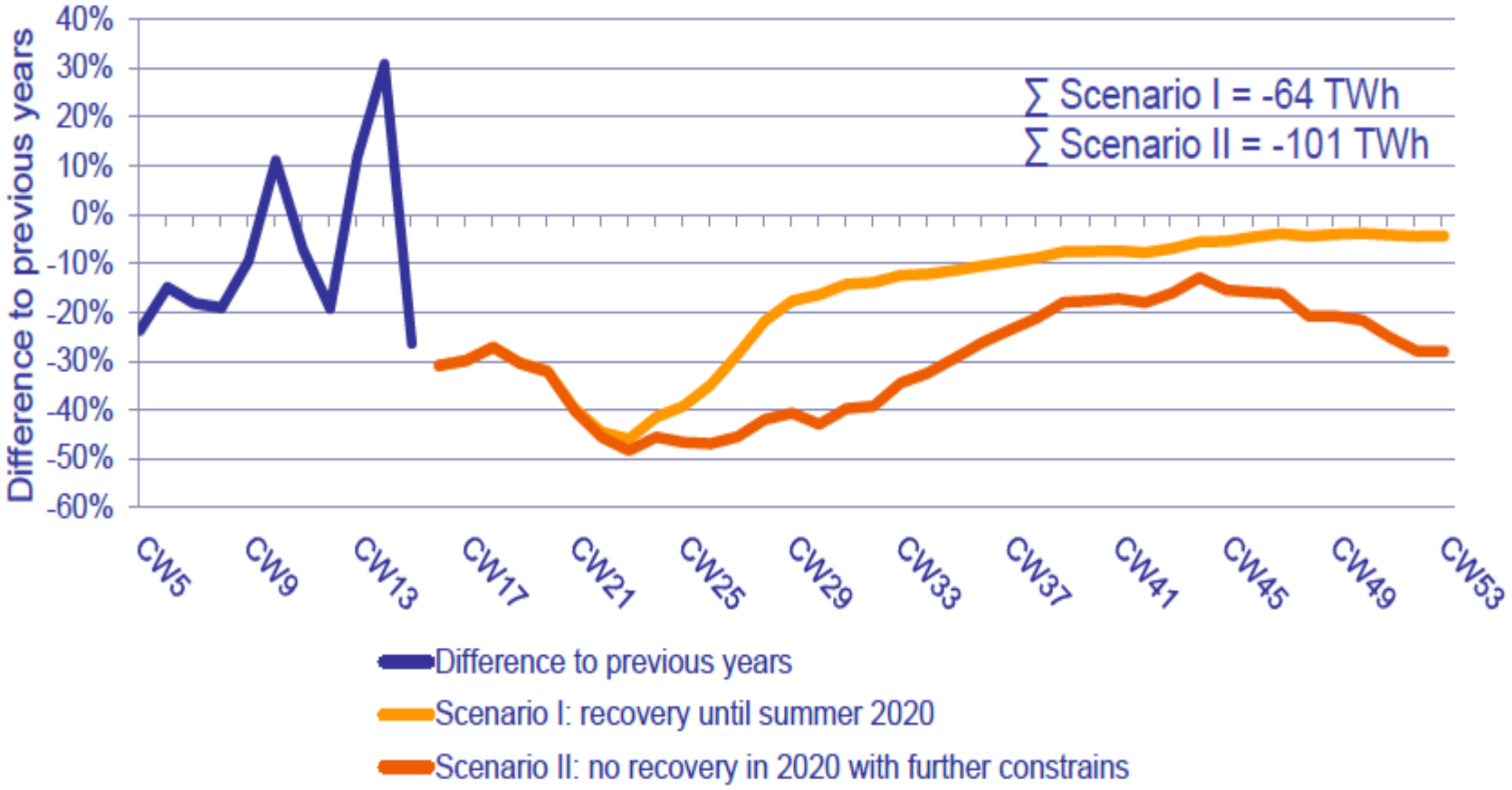


Country of Imports (Million Sm3)	2015	2016	2017	2018	2019	2020*
Russia	53,06%	45,63%	47,60%	46,68%	28,41%	21,14%
Iran	14,86%	17,31%	14,27%	12,69%	16,01%	14,58%
Azerbaijan	11,57%	14,09%	9,64%	9,93%	15,98%	16,34%
Algeria	6,87%	9,90%	9,68%	7,59%	8,91%	10,27%
Nigeria	5,30%	4,44%	7,45%	7,56%	13,87%	7,18%
Qatar	8,35%	6,59%	0,00%	7,24%	6,26%	12,78%
US	0,00%	0,00%	1,97%	3,54%	3,92%	17,71%
Diğer	0,00%	2,04%	9,40%	4,78%	6,64%	0,00%
Grand Total	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

*Until March

Source: EMRA

Outlook



- **Pandecmic-induced reduction of consumption is superimposed by temperature effects**
- **In the optimistic scenario, underconsumption sums up to -64 TWh until end of the year**
- **In the pessimistic scenario, underconsumption sums up to circa -101 TWh in 2020**

- Scenario I: Stepwise lifting of the constraints within the 2nd quarter, followed by normalization within 2-3 months
- Scenario II: Stepwise lifting of the constraints within the 2nd quater, renewed utilization of the constraints in the 4th quarter

Source: Team Consult

Q&A

Energy Exchange Istanbul in International Area

entsoe European Network of Transmission System Operators for Electricity

Local Issuing Office for Turkey

WORLD ENERGY COUNCIL

APEx Association of Power Exchanges

Europex Association of European Energy Exchanges