LNG Regulations and Third Party Access to LNG Facilities in Turkey

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Milestones in Turkish Gas Market Liberalization

2001
NGML

2002
First tariffs (effective as of 2003)

2003
Licensing of market players began

2004
- Network code
- Entry-exit tariffs

2005
Contract release tender

2006

2007
- First private importer
- Wholesale tariffs set free (effective as of 2008

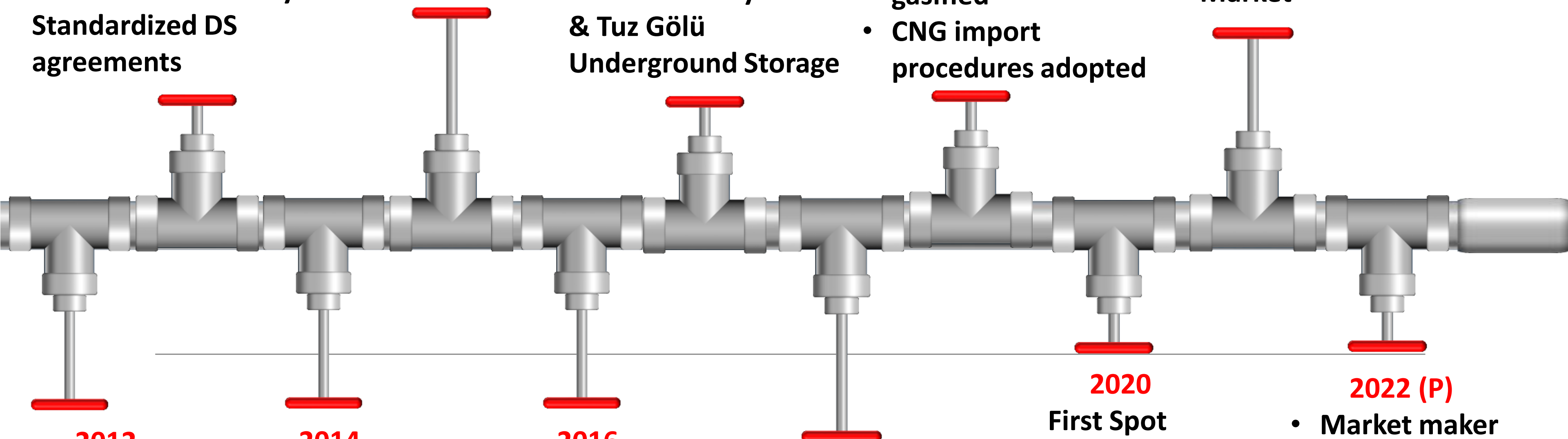
2008
- LNG & spot LNG import set free
- National Balancing Point and Transfer Points determined

2009
By-law on usage of LNG terminals

2010
LNG Terminal Codes

2011
Trade in National Balancing Point

Milestones in Turkish Gas Market Liberalization



2012
- Storage Facility Code
- All except households are eligible customers

2013
- Private importers take over terminated BOTAŞ contracts
- First private import from a new* country Standardized DS agreements

2014
Eligibility threshold for households decreased

2015
Eligibility threshold for households decreased

2016
The first FSRU (ETKİ) licensed, usage code published & operation started

2017
- By-law on Organized Natural Gas Market and the Usage Code
- Codes of Dörtyol FSRU & Tuz Gölü Underground Storage

2018
Organized Natural Market started operation

2019
- By-law on Spot Import Capacity Allocation published
- All 81 provinces gasified
- CNG import procedures adopted

2020
First Spot capacity auctions

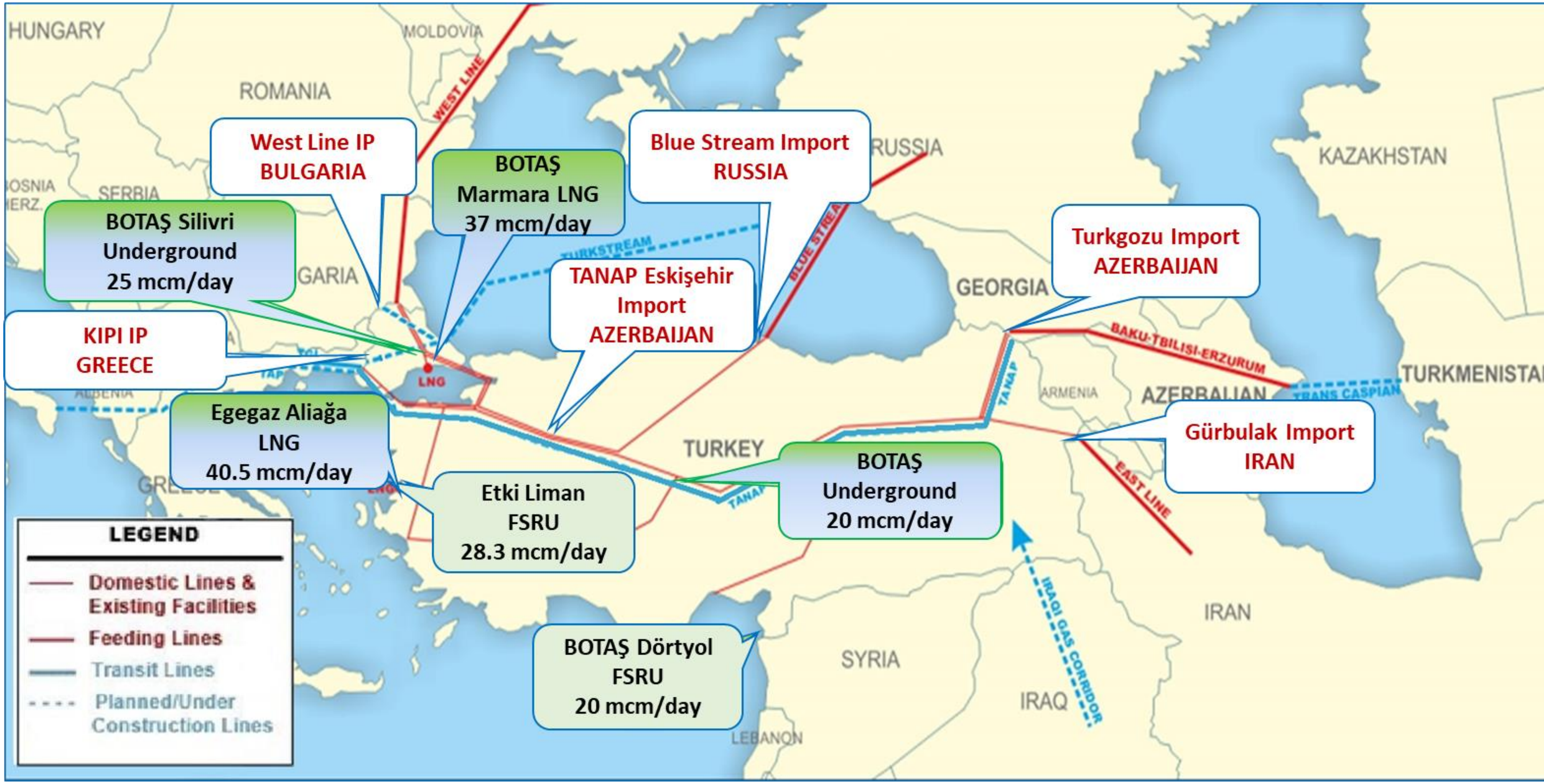
2021 (P)
Natural Gas Futures Market

2022 (P)
- Market maker mechanism
- Supplier of Last Resort

Licenses granted by EMRA by 2021

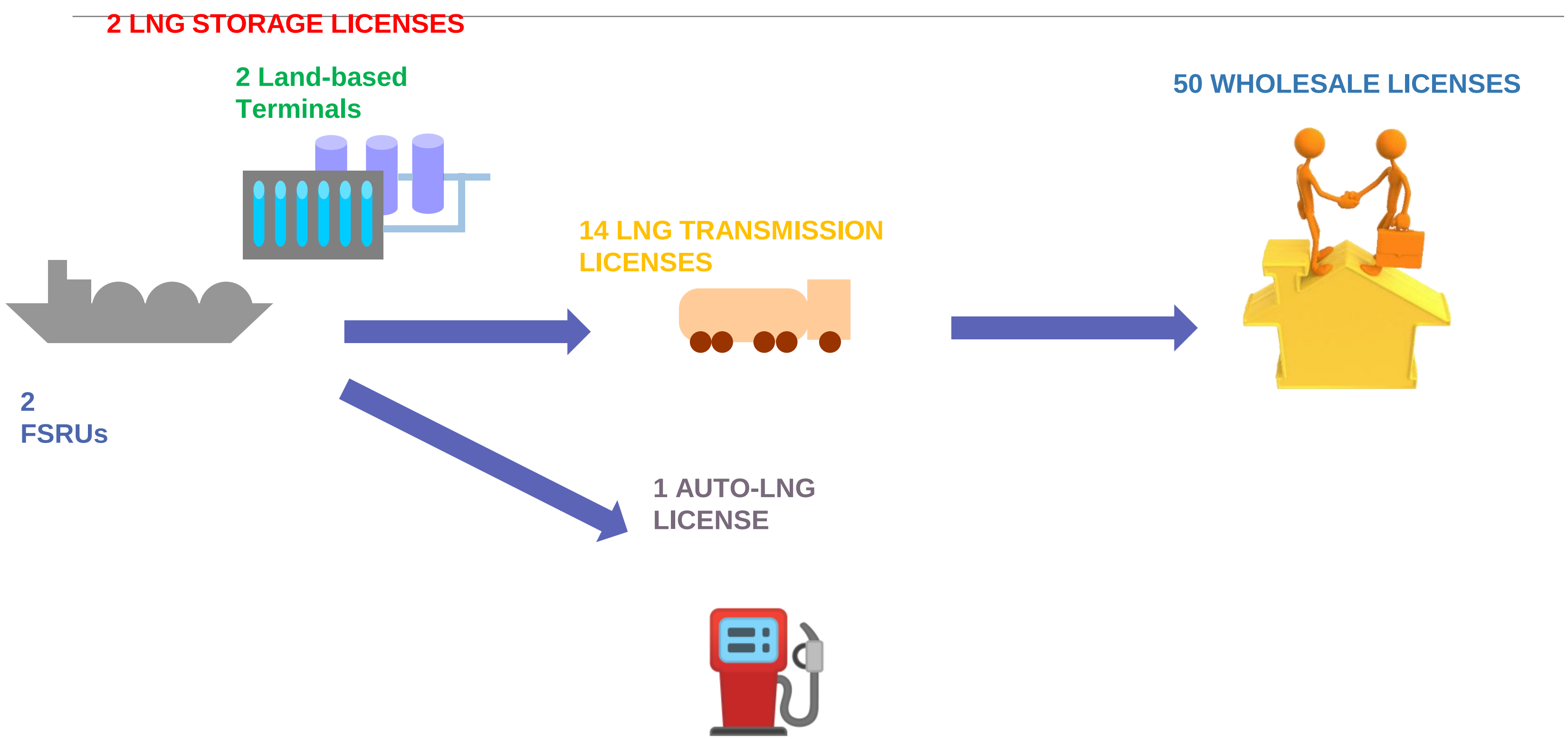
TYPE	NUMBER OF LICENSES
Import (Long Term)	9 + 9
Import (Spot)	52
Export	21
Transmission	1
Transmission (LNG)	14
Storage (Underground)	4 (2)
Storage (LNG)	4
Wholesale	51
CNG (Distribution)	43
CNG (Sales)	39
CNG (Oto CNG)	13
Distribution	72
TOTAL	332

Natural Gas Entry&Exit Points and LNG Import Terminals



- **15 850** km pipeline length
- **9** compressor stations
- **6** entry points
- **1** exit point

LNG Activities in Turkey

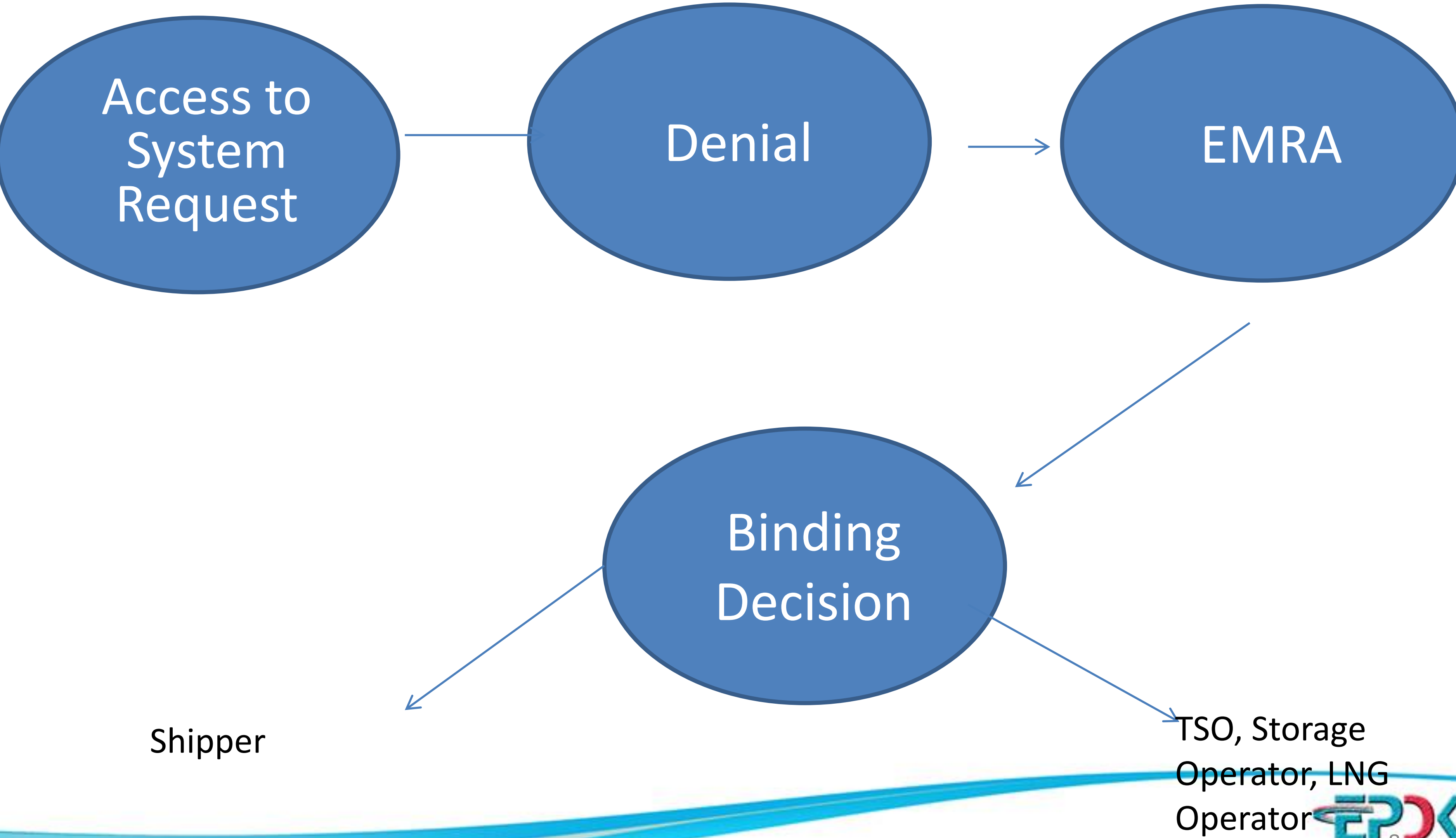


Turkish **Law on Natural Gas Market No. 4646**

Storage License (ground or underground, LNG)

- Technical and economical capability
- Contribute to safe and coordinated system operation in storage capacity management
- Non-discriminatory service subject to system availabilty
- Storage capacity access disputes settled by EMRA

Third Party Access to Natural Gas System/ NGML



- Turskish Natural Gas Market Law No.4646 dated 2001

- By-Law on Determination of Usage Principles of LNG Facilities

Related LNG Terminal CODE

Standard Storage Service Agreement

Service Off-Taker

LNG Terminal Operator

Related FSRU CODE

Standard Storage Service Agreement

FSRU Termimal Operator

Service Off-Taker

Turkish LNG Terminal Codes at a Glance

- Responsibilities of parties
- Calender of applications before and within the Storage/LNG Year
- Capacity application, allocation, and usage
- Nomination, program ve allocation
- Operating conditions
- Capacity Interruption and operational orders
- Metering, and payment, bills
- Disputes
- Amendments

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LNG *Capacity Application*

	BOTAŞ Marmara Ereğlisi LNG Storage Facility	Egegaz Aliağa LNG Terminal
Capacity Announcement	15th of August	15th of August
Capacity Application	1st of September	1st of September
Review period	15 days	15 days
Declaration period	15 of September	15 of September
Unutilised capacity declaration period	1st of October	1st of October
Unutilised capacity Review period	Until 20 th of October	İn 5 days

Capacity Application
FSRU's

	Etki Liman Floating LNG Terminal		BOTAŞ Dörtyol Floating LNG Terminal	
	Long Term Capacity (1 – 10 years)	**Short Term Capacity (less than a year)**	**Long Term Capacity (1 – 3 years)**	**Short Term Capacity (less than a year)**
Capacity Announcement	15th of July	15th of August	15th of July	15th of August
Capacity Application	1st of August	1st of September	1st of August	1st of September
Review period	15 days	30 days	15 days	30 days
Depolama şirketinin rezervasyonları bildirim süresi	15th of August	30th of September	15th of August	30th of September

LNG Terminal Tariffs in Turkey

Revenue Cap

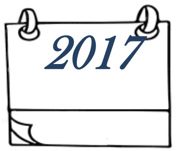
- Regulated Asset Base x Rate of Return +

Utilization Forecast

- A Minimum utilization rate is assumed

Unit Fees

- **Delivery Fee TRY/ m^3 LNG**
- **Storage Fee TRY/m^3 LNG/day**
- **Regasification Fee TRY/Sm^3**

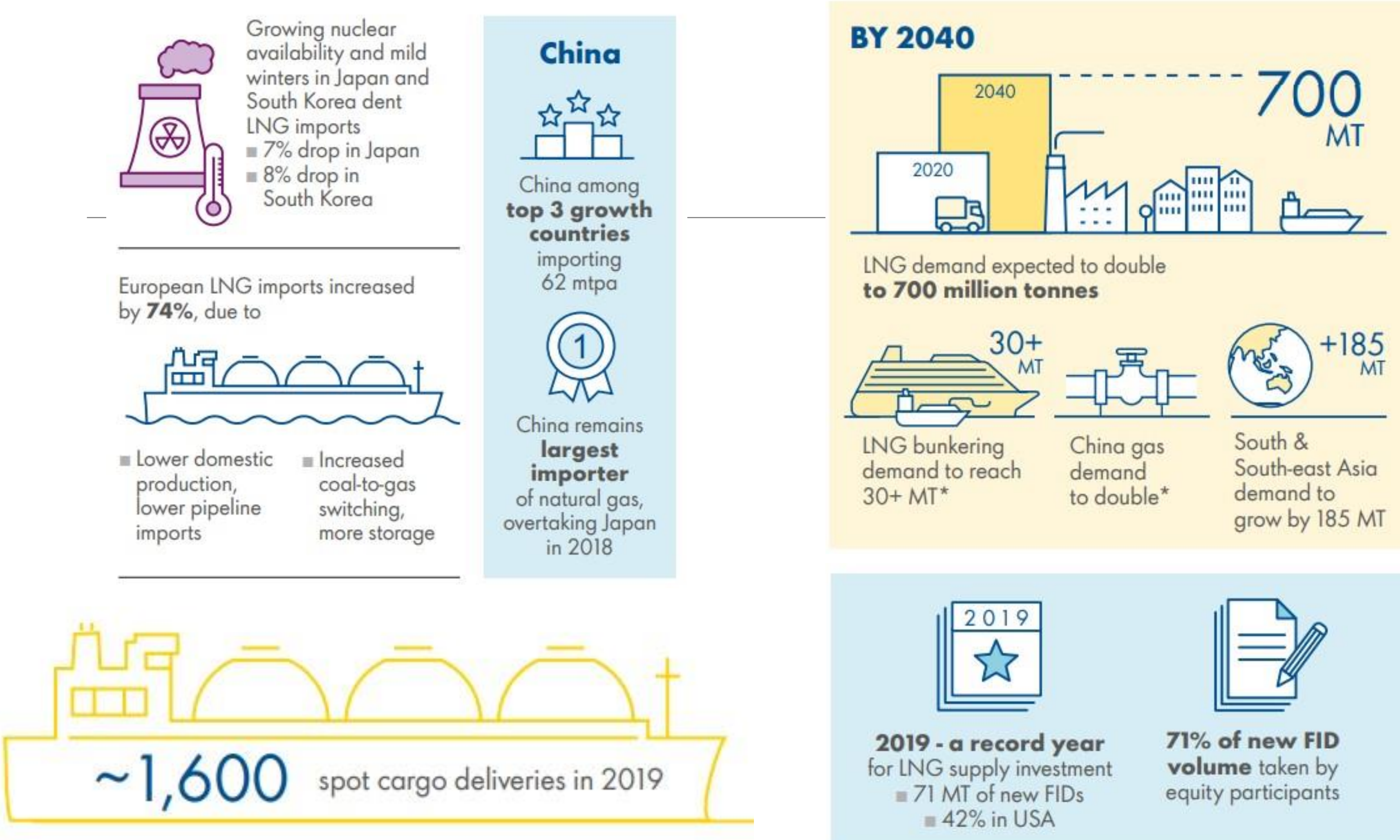


Tariffs of LNG terminals **including FSRUs** have been liberalized as of **the end of 2017**,

by the Board Decision dated 28/12/2017 and numbered 7611

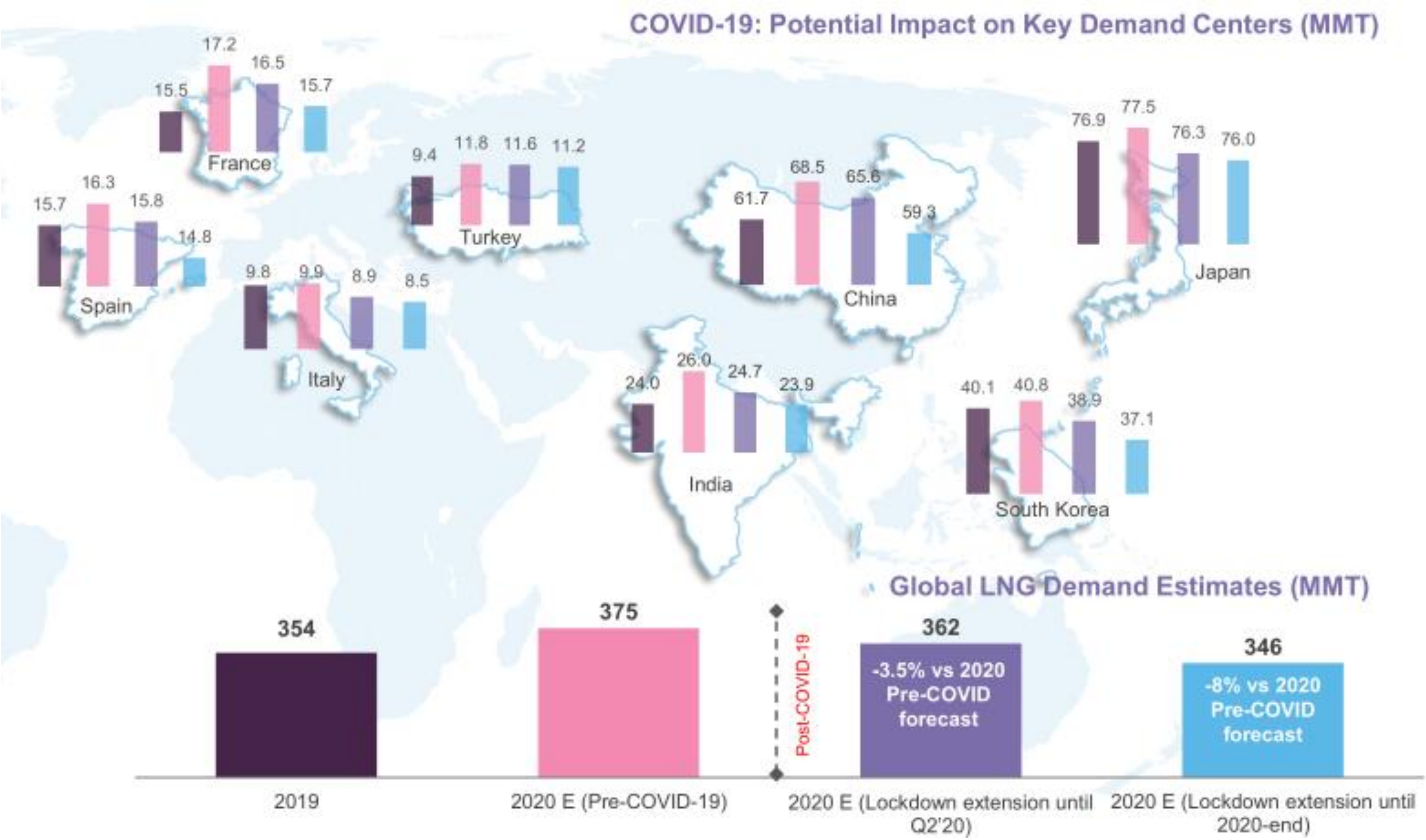
in line with the **Natural Gas Market Law article** dictating that storage tariffs should be **freely set between parties** provided that there is **sufficient capacity** to meet the current demand and a **higher level of competition** in the market.

General Overview of LNG Markets in 2019



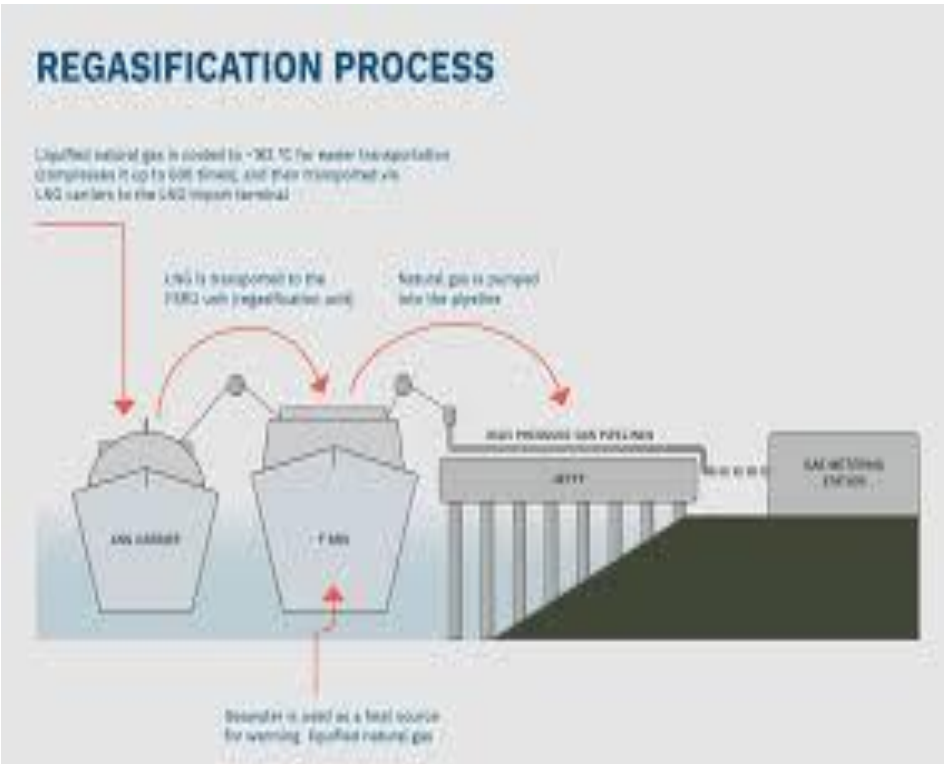
Source: Shell LNG Outlook 2020

Covid19 Impact on LNG Demand



Source: Evaluserve

FSRU Revolution



*Quicker construction (2-5 years)

*Easy Intergration to the System

*Mobilisation opportunity

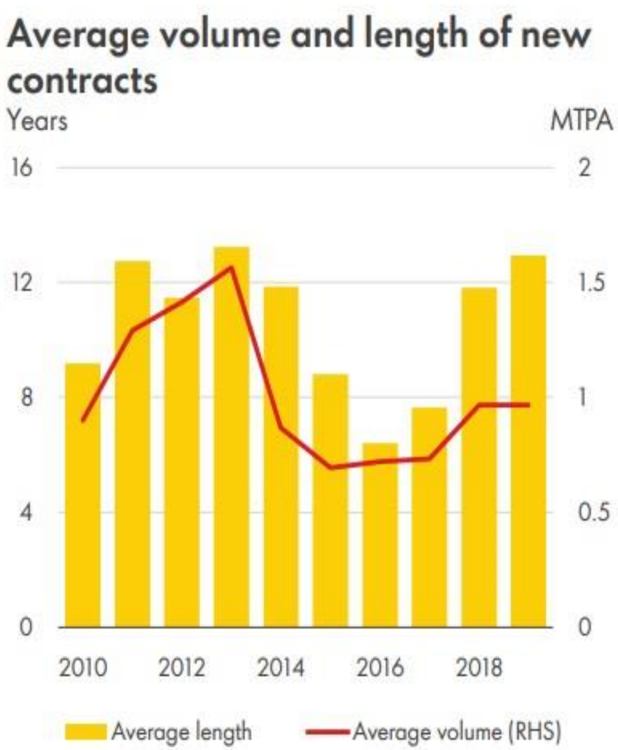
*Peak Shaving Purposes

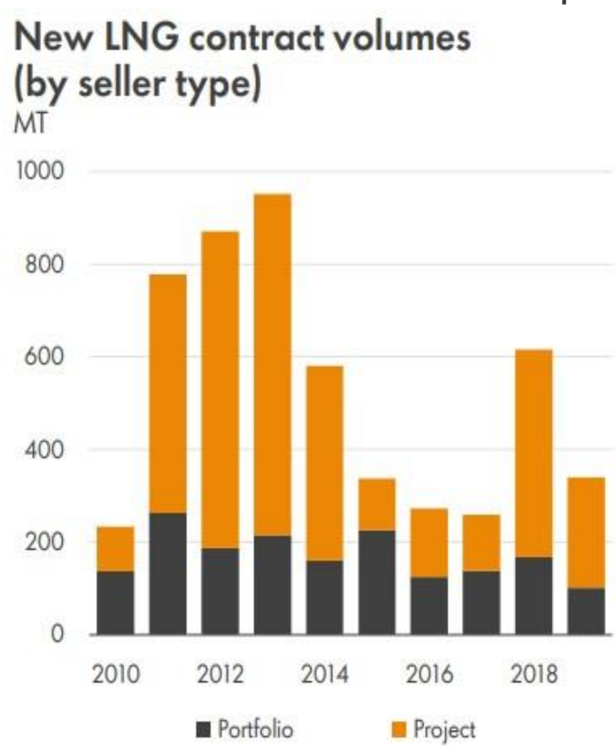
LNG Contracts

Old World Contracts

- Destination Clauses
- Re-export bans
- Longer Duration (20-30 years)

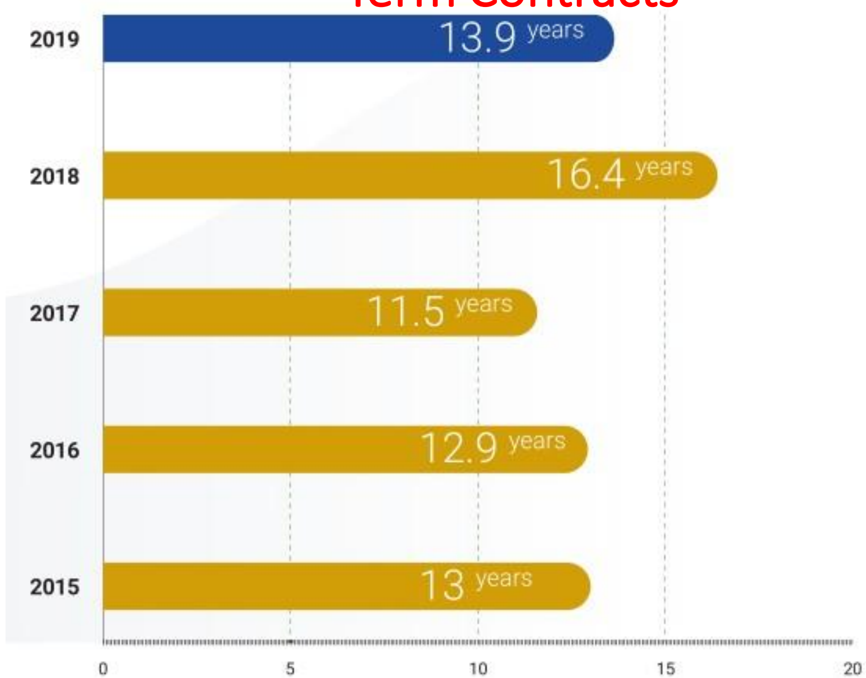
- New Contract Models
- Master Agreements
- Spot Cargoes
- Short/Mid Term Duration
- Re-export



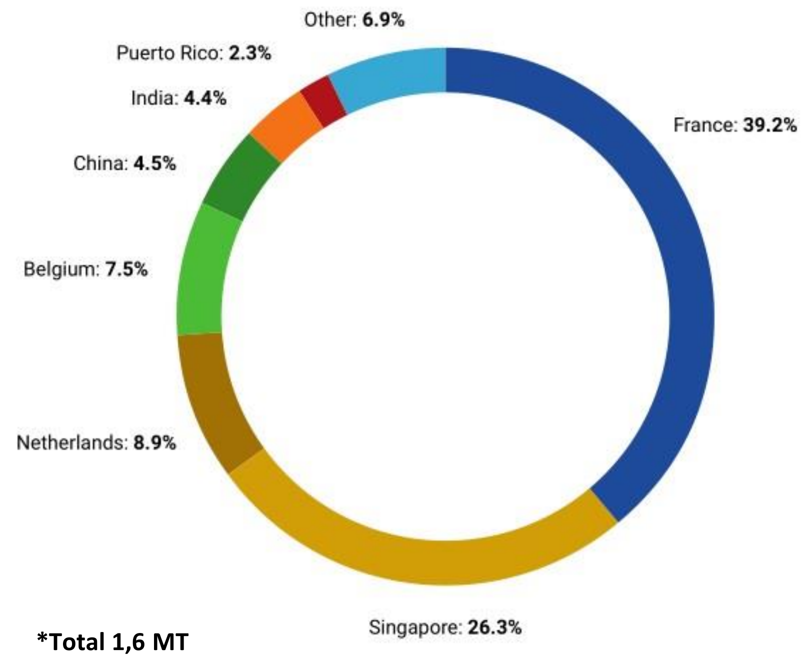


Share of Spot & Short Term LNG in Total LNG Sales (MTPA - %)

Average Length of Medium and Long Term Contracts

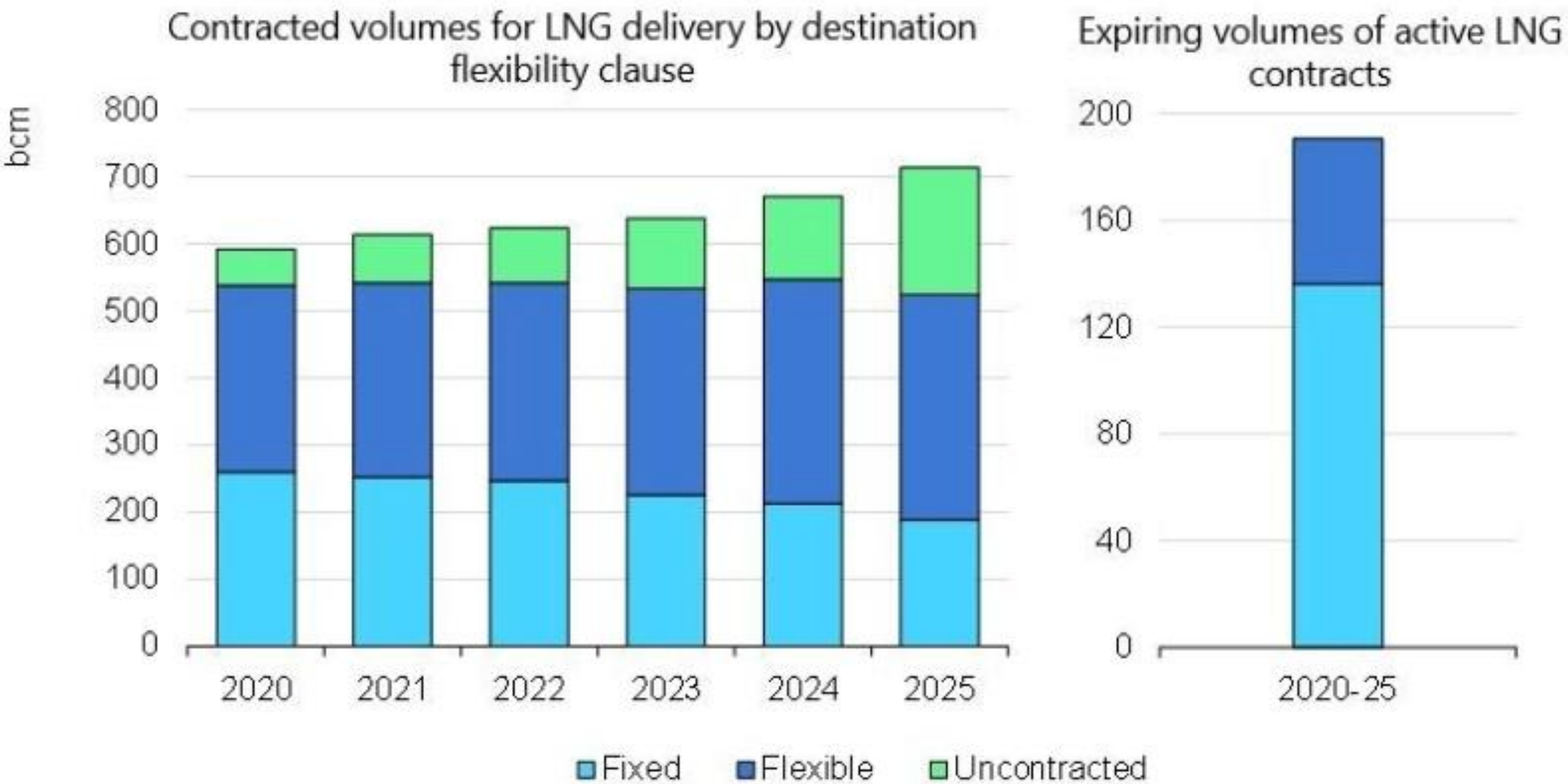


Re-exports by Reloading Country (2019)



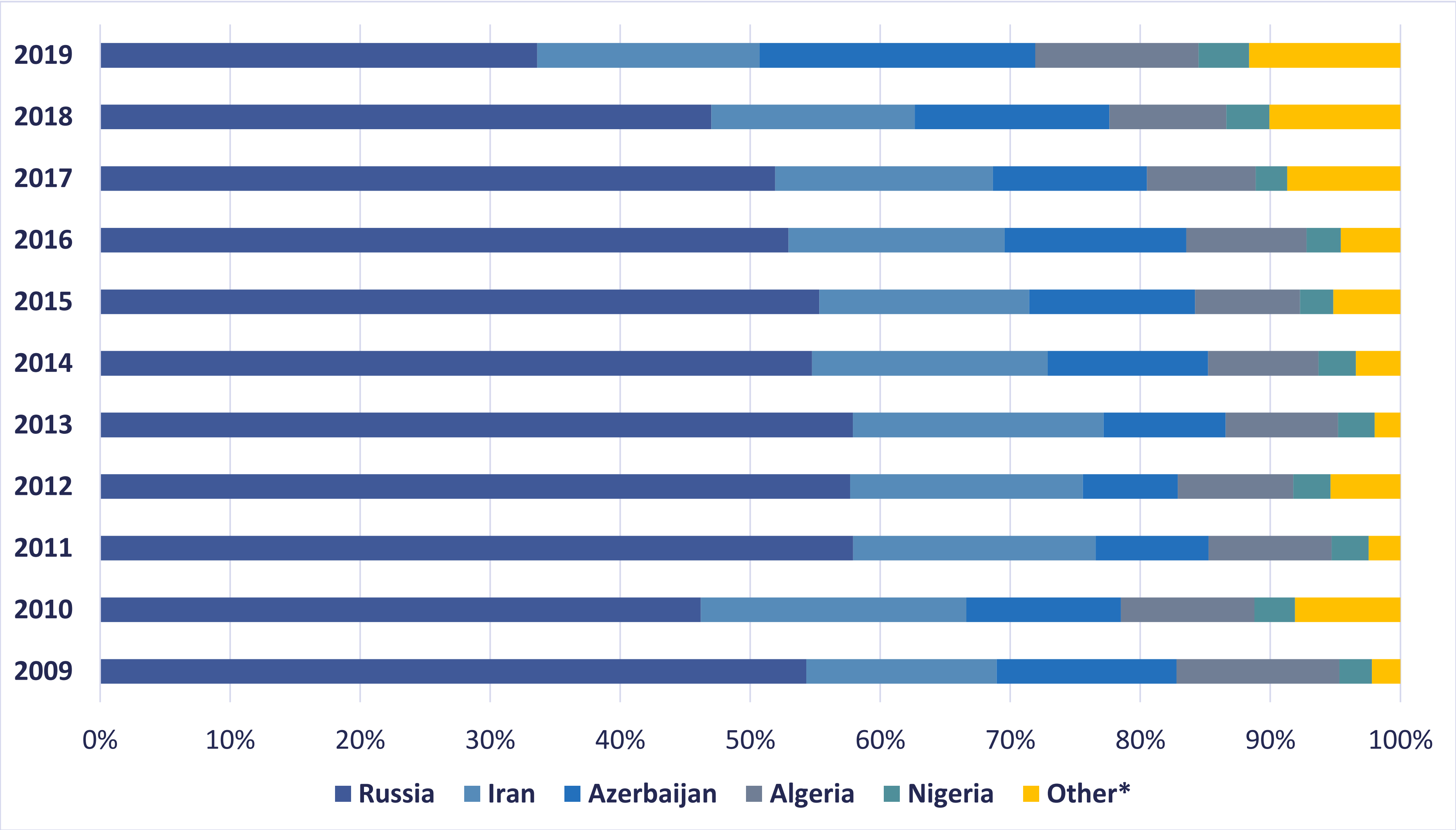
Source: GIIGNL 2020

LNG Contract Structure



Source: IEA

Share of Turkish Gas Imports by Country (%)



Turkish LNG Demand in Years

Long Term LNG Import between 2013-2020 (bcm)

	2013	2014	2015	2016	2017	2018	2019	2020
Algeria	3.684	4.179	3.916	4.284	4.617	4.520	5.678	5.573
Nigeria	1.274	1.414	1.240	1.220	1.344	1.667	1.756	1.881
Total	4.958	5.592	5.156	5.504	5.961	6.188	7.435	7.454

Spot LNG Import in 2020 (bcm)

Country	Amount	Share (%)
USA	2.977	6.2
Qatar	3.248	6.7
Trinidad and Tobago	634	1.3
Equatorial Guinea	182	0.4
France	131	0.3
Cameroon	97	0.2
Angola	95	0.2
Egypt	92	0.2
Norway	86	0.2
Spain	83	0.2
Total	5.624	

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LNG MARKET AFTER 2020

IMO Regulations?

Fracking and Environmetal Concrens in the US?

Paris Climate Agreement?

European Green Deal? Decarbonisation and LNG Markets?

THANK YOU
FOR YOUR ATTENTION!

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