

Third-Party Access to Gas Storage – Case Study session

Case study by EMRA - Turkey

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Natural Gas Storage Facilities in Turkey



Natural Gas Storage Facilities in Turkey

BOTAŞ Silivri UGS
11th July 2007



BOTAŞ Tuz Gölü UGS
Test phase

Natural Gas Storage Facilities in Turkey

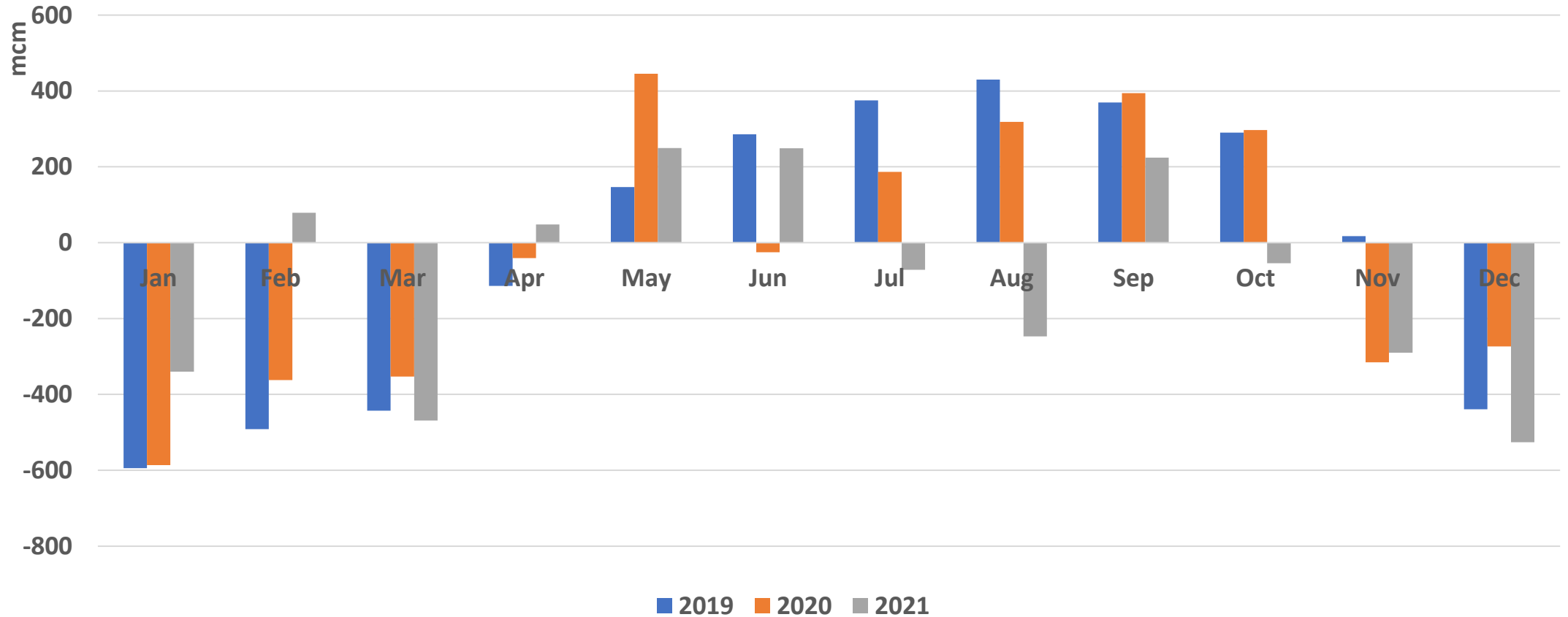
	Operator	Injection (mcm/day)	Regasification / Withdrawal (mcm/day)	Annual Capacity (bcm/year)
Silivri Underground Storage	BOTAŞ	20	25	3 141 (4 287)
Tuz Gölü Underground Storage	BOTAŞ	15	30	2 200 (5 400)
TOTAL Underground		35	55	5 341 (9 687)
Marmara Ereğlisi LNG Terminal	BOTAŞ	151	37	13 500
Aliağa LNG Terminal	Egegaz	81	40.6	14 804
Etki Liman FSRU	Etki	86	28.3	10 335
Dörtyol FSRU	BOTAŞ	144	21	7 665
TOTAL LNG		462	126.8	46 304

Utilization of Silivri UGS in 2019 - 2021

	Capacity (mcm)	Regasification (mcm)	Regasification Utilization Ratio (%)	Maximum Working Gas (mcm)	Storage Capacity Utilization Ratio (%)
2019	2 841	2 097	74%	2 809	99%
2020	2 841	2 287	81%	2 828	100%
2021	2 841	2 741	97%	2 152	76%

Monthly Utilization of Storage

BOTAŞ Silivri UGS Monthly Injection (+) and Withdrawal (-)



Third-Party Access Rules

- Natural Gas Market Law (NGML) No. 4646
- By-law on Underground Storage Usage Procedures and Principles
- Separate “**Underground Storage Usage Procedures and Principles**” for all facilities, **Silivri UP&P** dated 06/04/2012 and **Tuz Gölü UP&P** dated 21/12/2017.
 - Responsibilities of the parties
 - Calendar of applications before and within the Storage Year
 - Capacity application, allocation, and usage procedures
 - Nomination and allocation procedures
 - Operating conditions
 - Capacity Interruption and Operational Orders
 - Metering and payment
 - Dispute resolution
- Storage Service Agreement signed by the SSO and the users.

Third-Party Access Rules

- Parties must acquire a **license** from **EMRA** in order to build and operate a **storage facility**.
- Regulated third party access (**rTPA**) is granted to all network segments including **storage**, and the EMRA Board is authorized to **conclude all disputes** on TPA.
- **Pro-rata** is applied for capacity reservation for the **storage** facilities and **LNG** terminals on a yearly basis. **Long term** capacity reservation is in place for **FSRUs**.
- **Legal & account unbundling** is applied for storage facilities.

Capacity Allocation Calendar

	BOTAŞ Silivri UGS	BOTAŞ Tuz Gölü UGS
Announcement of the available capacities	15 th November	31 st January
Application for the capacity allocations	1 st December	15 th February
Review of the capacity allocation applications by the SSO	15 days	15 days
Announcement of the results of capacity allocation applications	15 th December	1 st March
Announcement of the unused capacities	First business day after 1 st January	First business day after 15 th March
Review of the applications for the unused capacities by the SSO	5 business days	5 business days

Storage and security of supply obligations

According to the Natural Gas Market Law No. 4646, in order to obtain a Storage License, companies must :

- prove their technical and economical capabilities,
- demonstrate that the facility will contribute to safe and well-coordinated system operation,
- guarantee non-discriminatory service subject to system availability.

Storage and security of supply obligations

- According to the NGML, EMRA can impose **storage obligations up to 20%** of the annual imports of a firm, taking into consideration the **storage capacity of the facilities** in the country.

Storage Obligation Procedures and Principles published by EMRA imposes that,

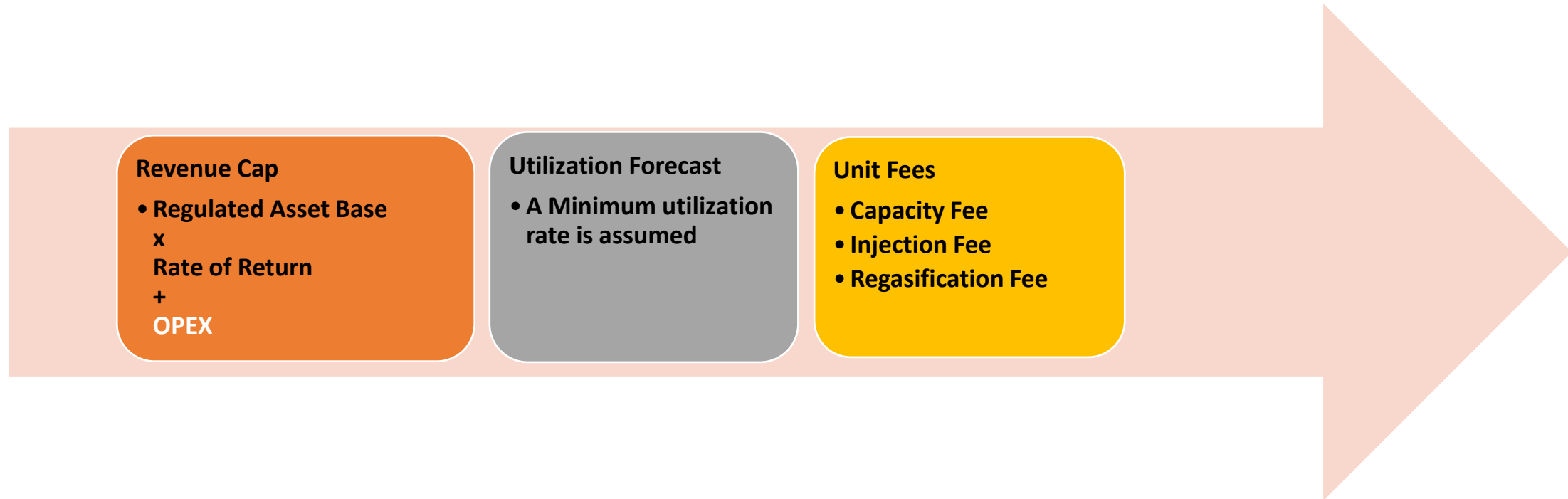
- **Pipeline importers** shall store the percentage of natural gas determined by EMRA board in underground facilities within 5 years of acquiring a license.
- **Spot importers** and **wholesales companies** that provide gas to **end users** shall store the **percentage** of natural gas **determined by EMRA** board in underground facilities.
- The companies shall **prove** that they have the **necessary amount** of gas stored in their inventories in the underground facilities by **November 1st**.

Storage and security of supply obligations

- Companies importing natural gas via **long term LNG agreements** are **exempt** from the **import** obligations, but **not** the obligations for **end-user sales**.
- Producers that supply gas produced locally **do not have storage obligations**.
- Storage obligation for the year **2022** for the **importers** is **6%**.
- Storage obligation for the year **2022** for the **end-user suppliers** is **2%**.

Pricing scheme

Natural Gas Market Law dictates 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.



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.

Pricing scheme

- **Depreciation period** for the storage investments is **12 to 22 years**.
- **Minimum capacity utilization** used for determining the unit fees is **60%**.
- Minimum WACC of **10%** is assumed.
- **Tariff implementation period** is **1 to 10 years**.

Pricing scheme

Revenue Requirement of the **Silivri Underground Storage** for the **2021 – 2022 Storage Year** is determined to be **828.5 million TRY (54 million EUR)**.

2021-2022 Storage Year	TRY/Sm3	EUR/1000 m3
Capacity Fee	0.297544	19.45
Injection Fee	0.024152	1.58
Regasification Fee	0.002352	0.15
TOTAL	0.324048	21.18
Injection Swap Fee	0.001208	0.08
Regasification Swap Fee	0.000118	0.01

THANK YOU FOR YOUR ATTENTION!