

# **ENERGY STATUS AND LNG DEMAND OF TURKEY**

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**FLNG GLOBAL 13<sup>th</sup> -14<sup>th</sup> May 2019, Hotel Okura,  
Amsterdam**

# ENERGY STATUS AND LNG DEMAND OF TURKEY

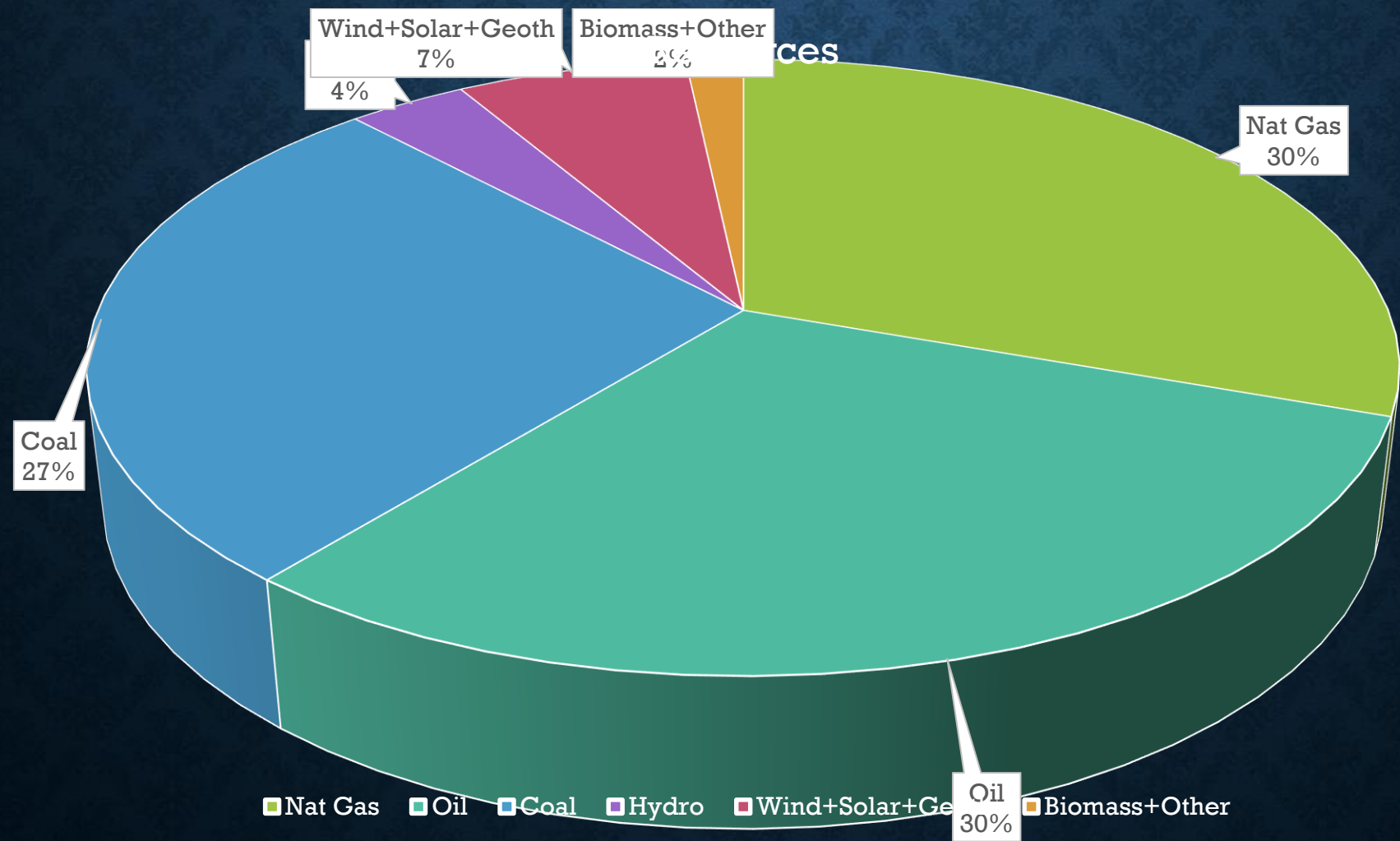
- Primary energy mix of Turkey
- Electricity generation
- Natural gas imports
- LNG imports
- Natural Gas Infrastructure – New Pipelines
- Natural Gas Infrastructure - Underground Storage
- Natural Gas Infrastructure – On-land LNG terminals
- Natural Gas Infrastructure – FLNG
- LNG Transport
- Organized Natural Gas Market



# PRIMARY ENERGY MIX OF TURKEY

## 2017

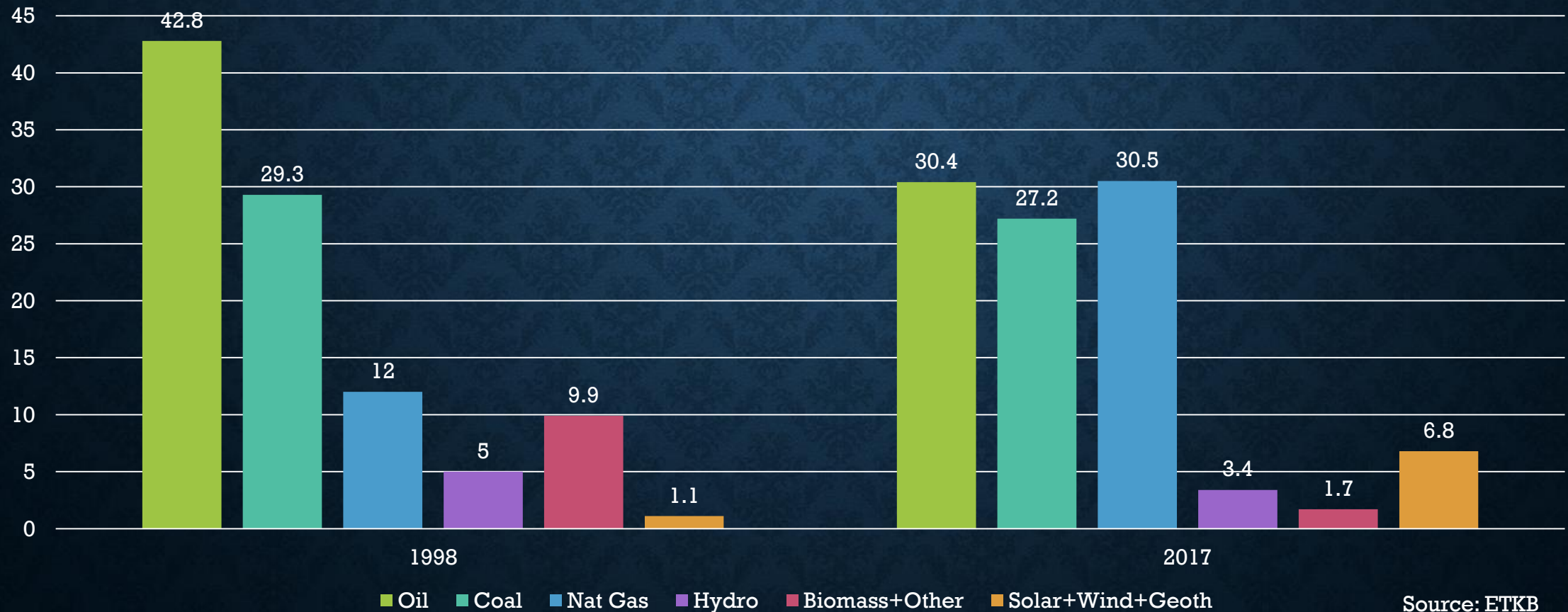
145.3 MILL TOE



# PRIMARY ENERGY MIX OF TURKEY

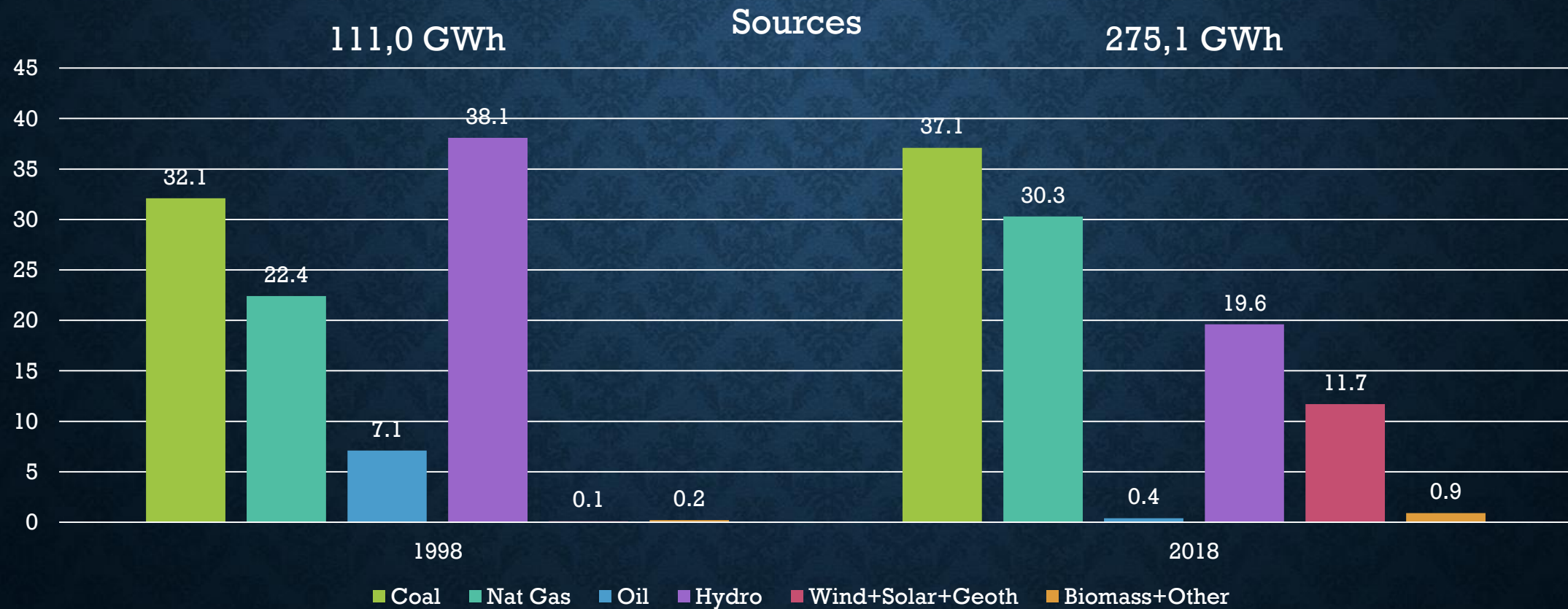
1998:73.3 MILL TOE - 2017: 145.3 MILL TOE

%



# ELECTRICITY GENERATION

SOURCE: TEÍAS



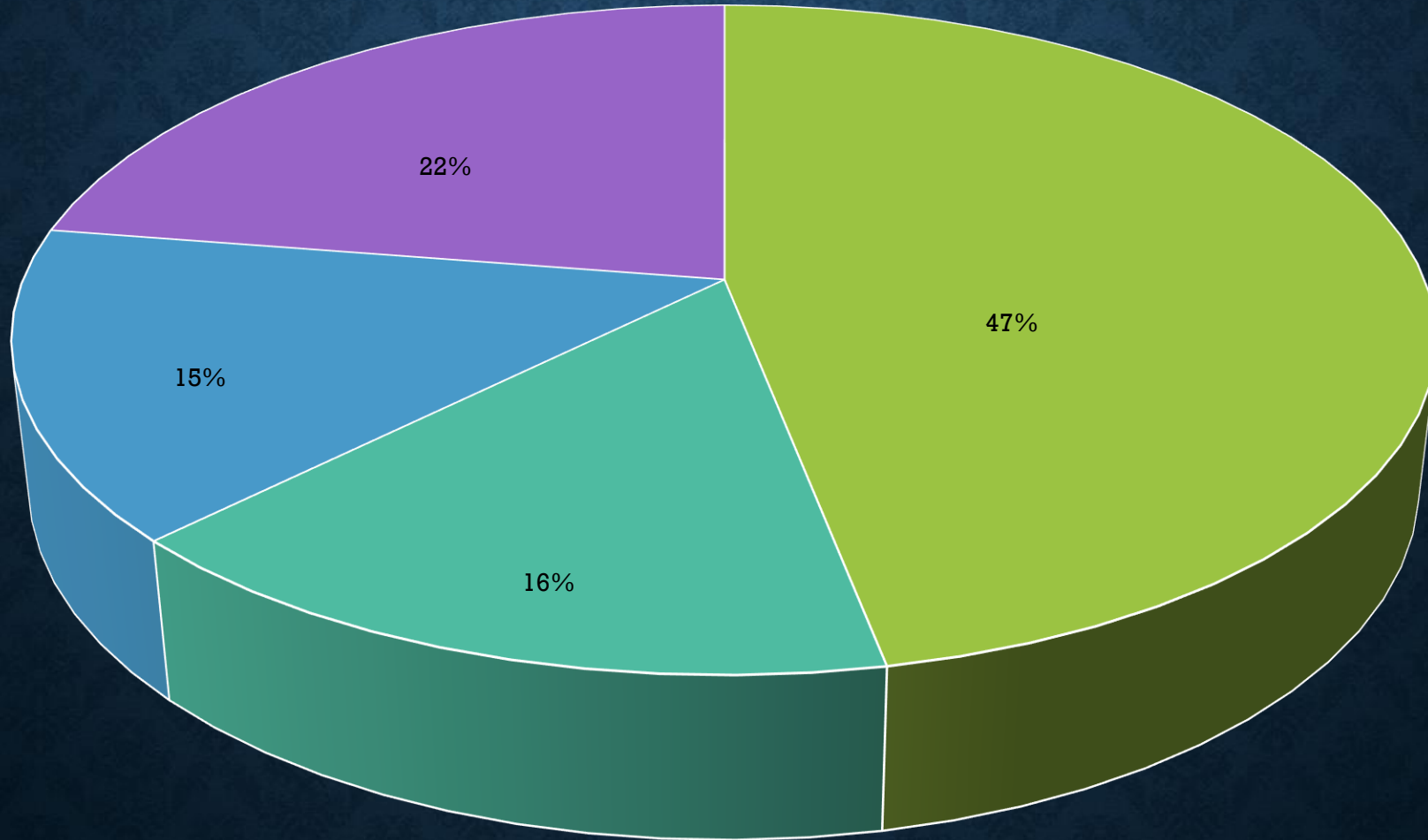


# NATURAL GAS IMPORTS

(2018 IMPORT: 50,35 BCM, EXPORT: 0,67 BCM  
PRODUCTION: 0,43 BCM, CONSUMPTION: 48.9 BCM)



# NATURAL GAS IMPORTS OF TURKEY IN 2018



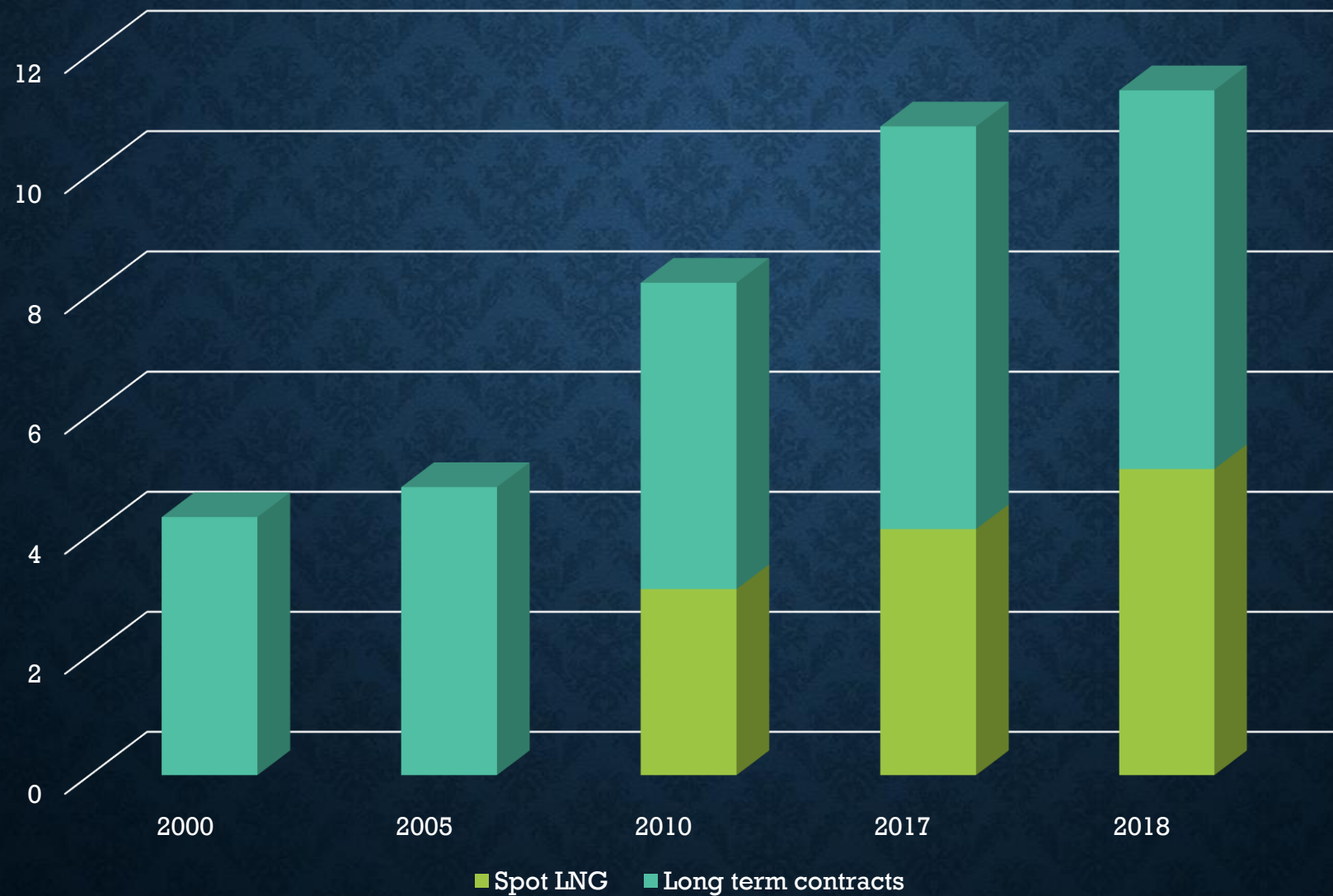
■ Russia ■ Iran ■ Azerbaijan ■ LNG

Source: EPDK

# LNG IMPORTS

2017: 10.8 BCM, 2018: 11.3 BCM

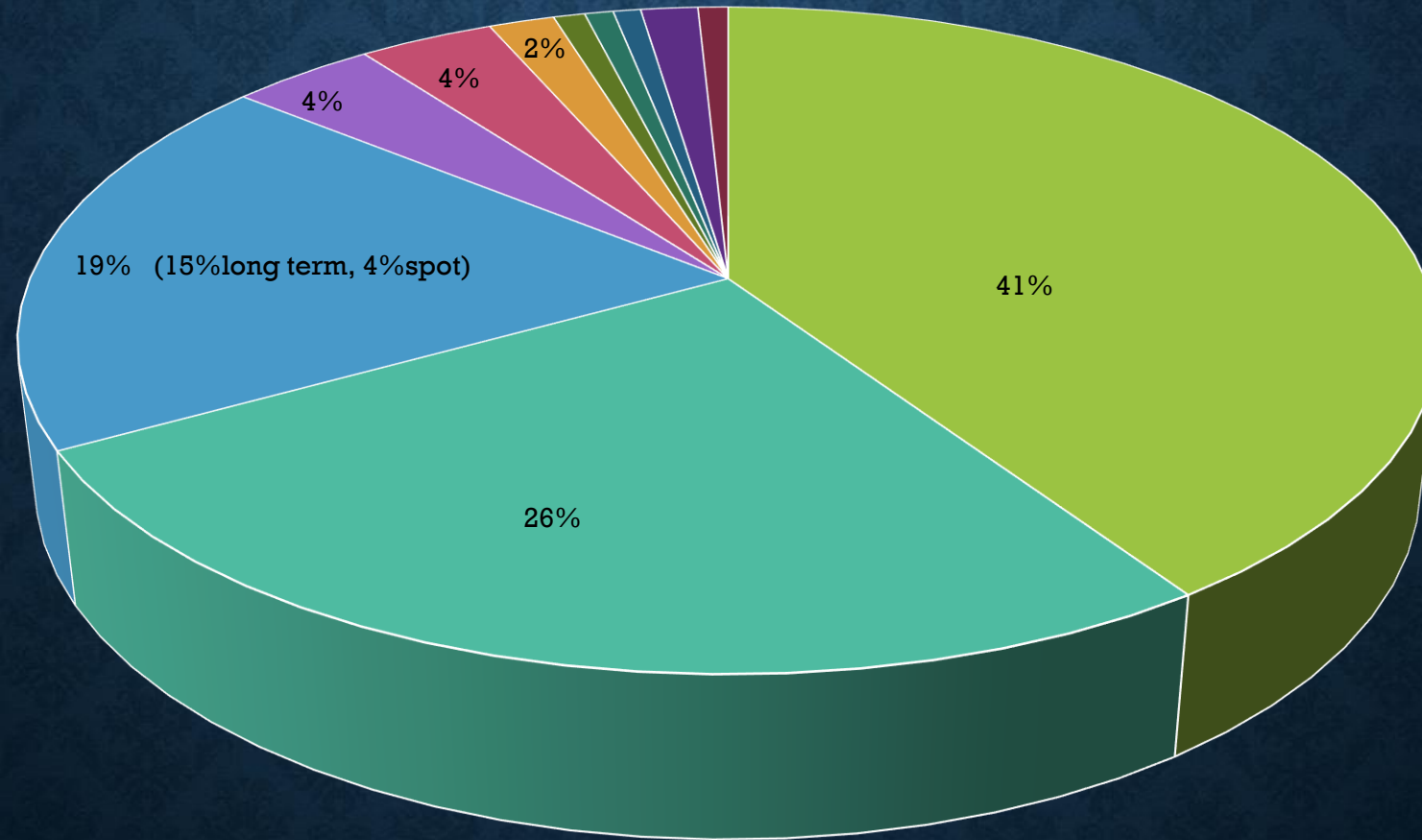
(SOURCE: BOTAŞ, EPDK)





# LNG IMPORTS OF TURKEY IN 2018

11.3 BCM



Algeria	Qatar	Nigeria	USA
Trinidad&Tobago	Egypt	Angola	Norway
Equatorial Guinea	France	Spain	

Source: EPDK



# NATURAL GAS INFRASTRUCTURE

## DOMESTIC PIPELINE NETWORK

2018: 15 547 KM (DISTRIBUTION NETWORK: 137 535 KM)





# Trans Anatolian Natural Gas Pipeline

1850 km; 16 bcm/a; 56,48,2x36 inch

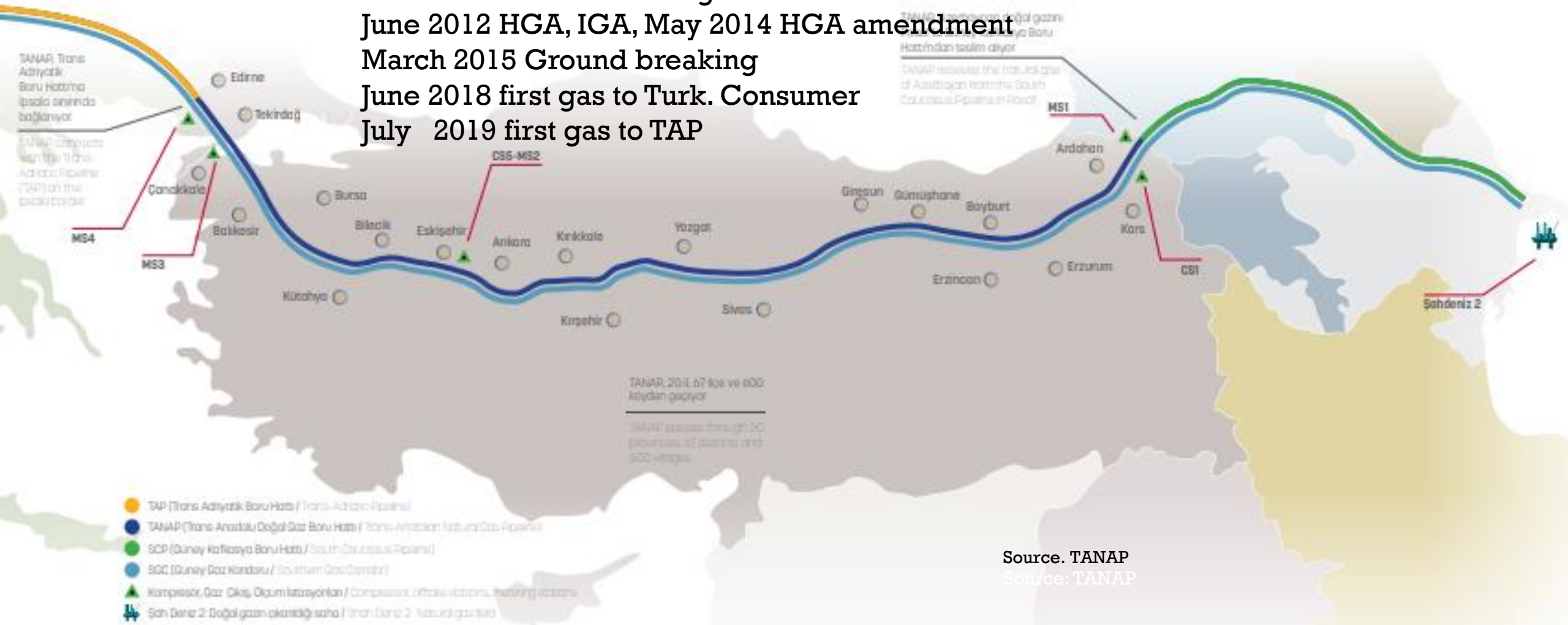
## Oct 2012: NG Purchase Agreement

June 2012 HGA, IGA, May 2014 HGA amendment

## March 2015 Ground breaking

## June 2018 first gas to Turk. Consumer

July 2019 first gas to TAP

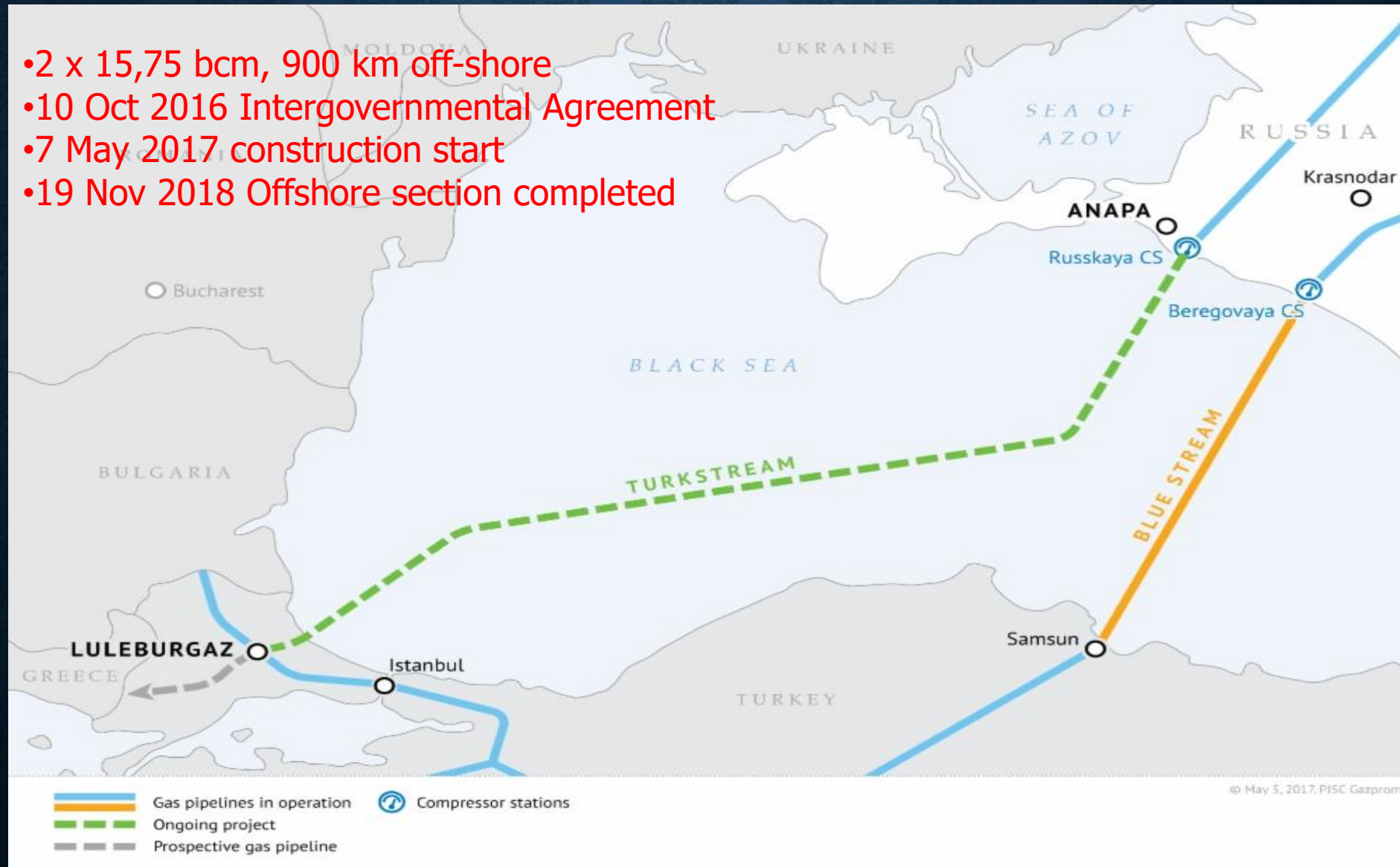


Source: TANAP

# NATURAL GAS INFRASTRUCTURE

## TurkStream

- 2 x 15,75 bcm, 900 km off-shore
- 10 Oct 2016 Intergovernmental Agreement
- 7 May 2017 construction start
- 19 Nov 2018 Offshore section completed





# Natural Gas Infrastructure

## Underground Storage

<i>Location</i>	<i>Capacity (bcm)</i>	<i>Injection rate (mcm/d)</i>	<i>Withdrawal rate (mcm/d)</i>
<b>Operational</b>			
Botaş Silivri	2.8	16	25
Botaş Tuz Gölü	1.2	30	40
<b>Projects</b>			
Botaş Silivri Phase III (under implementation)	4.6	40	75
Botaş Tuz Gölü Expansion (under implementation)	5.4	60	80
Toren Tarsus Phase I	0.5		24
Çalık Tuz Gölü	1.0	10	20

# Natural Gas Infrastructure

## Tuz Gölü Underground Storage Expansion Project

- EPC Contract of 1.2 bill. \$ signed in March 2019
- Storage Capacity: 5.4 bcm, Sendout Capacity: 80 mcm/d
- Completion: 2023





# Natural Gas Infrastructure

## On-land LNG Terminals

1. Botaş Marmara Ereğlisi Terminal near Istanbul: 6bcm/a regasification capacity,  
18 mcm/d sendout capacity(increase to 27 mcm/d in 2019)
2. Egegaz Aliğa Terminal near Izmir: 6 bcm/a regasification capacity  
16.5 mcm/d send out capacity



# Natural Gas Infrastructure

## Floating Storage and Regasification Units

**Etki Aliğa** FSRU Neptune (operational since Dec 2016)  
5,3 bcm/a regasification capacity, 20 mcm/d sendout capacity

**Botaş -Dörtyol** MOL FSRU Challenger (operational since Feb 2018)  
5.3 bcm/a regasification; 20 mcm/d sendout capacity

**Botaş -Saroz** (under implementation)

**Maks- Izmit Altınova** (planning)





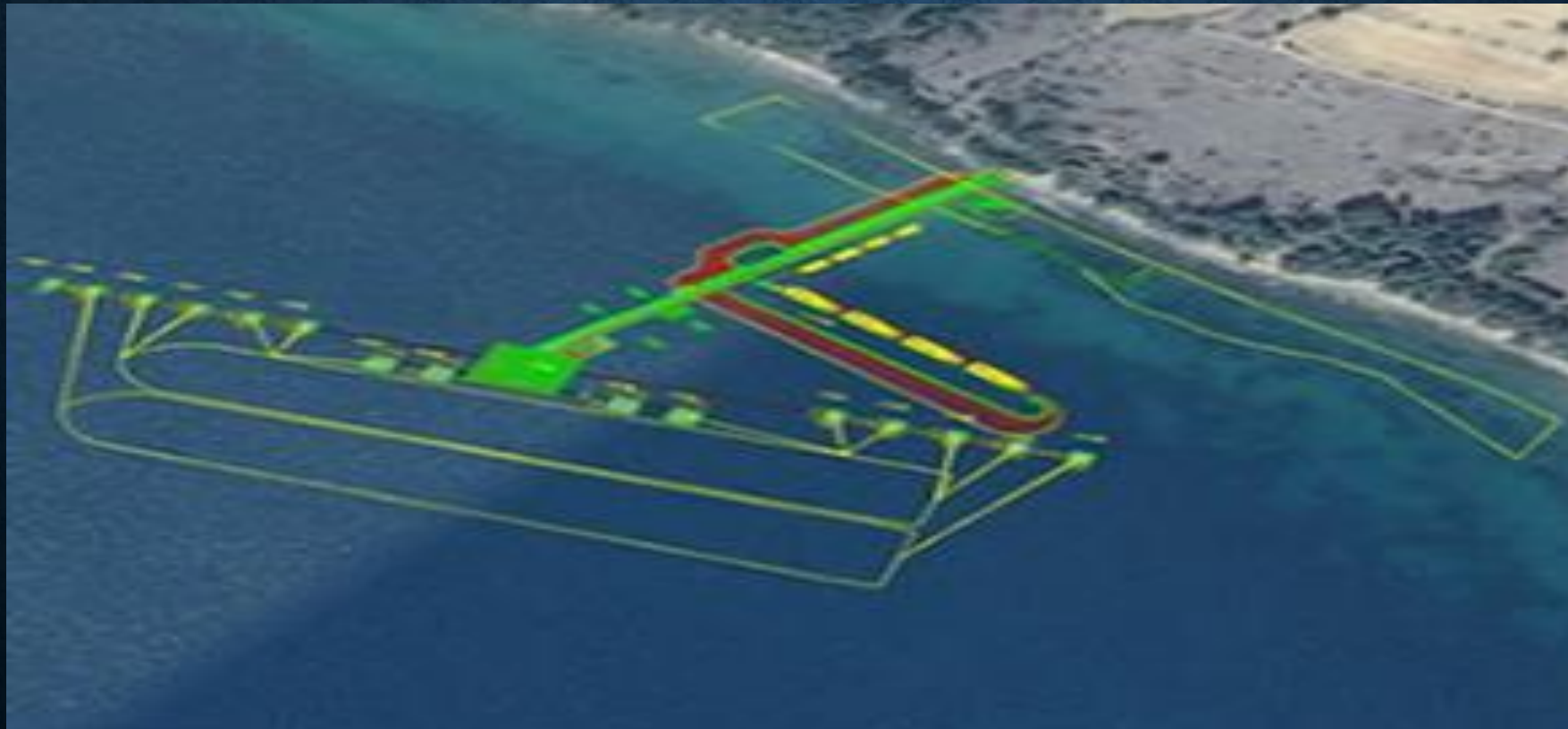
# NATURAL GAS IMPORT, TRANSIT AND STORAGE INFRASTRUCTURE

Source: ETKB



# NG INFRASTRUCTURE - SAROZ FSRU TERMINAL

Implementation Stage: Feb 2019 Environmental Impact Assessment approved  
20 mcm/d sendout capacity





# RECORD SHIP-TO-SHIP LNG TRANSFER AT DÖRTYOL FRSU TERMINAL

2-3 January 2019, from LNG Tanker Al Sadd (206,000 cub.m) to FSRU Challenger





# LNG TRANSPORT BY TRUCKS

- 9 Licenced companies active
- ~20% of the imported LNG transported to remote consumers by trucks
- 2014: 666.8 mcm-----2017: 837.3 mcm





# ENERGY SECURITY WITHOUT FUNCTIONING NG MARKET?

## EXIST - EPIAŞ Energy Exchange Istanbul

- Sept 2018: Turkey has launched as the first country in the region its spot natural gas trading platform: Organized Natural Gas Market
- The gas trading platform is operating 24/7 and gives shippers the chance to balance their positions
- March 2019: Natural gas market data and analysis and transmission data available on EXIST Mobile Application

🔥 DAILY DATA (TL / '000Sm<sup>3</sup>)

GRF  
(📅)  
30/04/2019

**1495.24**

DGAF  
(📅)  
29/04/2019

**1523.84**

DGSF  
(📅)  
29/04/2019

**1435.08**

**THANK YOU**

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