OAPEC

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# "Current and Future Trends in Sustainable Production of Gas and LNG in the Arab Countries"


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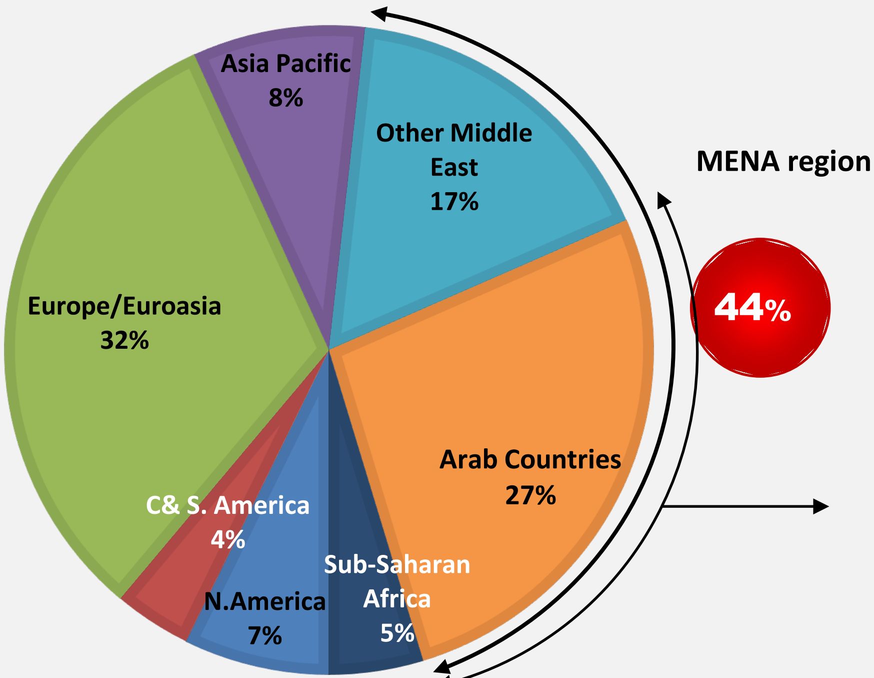
1. Production Boom of Gas and LNG in the Arab Countries

2. Unlocking the Potential of Gas Resources to Achieve Sustainable Production

3. Current and Future Projects for long term LNG Sustainability

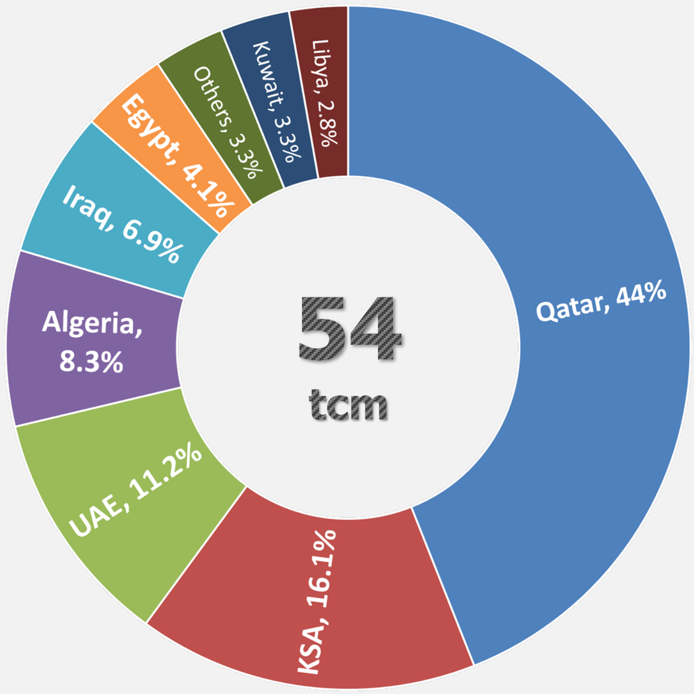
# 1 Proven Gas Reserves in the Arab Countries

**Distribution of the World's Total Proven Gas Reserves, 2018**




**Total gas reserves : 201 tcm**

**Distribution of Proven Gas Reserves per Country , 2018**




**Source**: OAPEC, Oil & Gas Journal 2018.

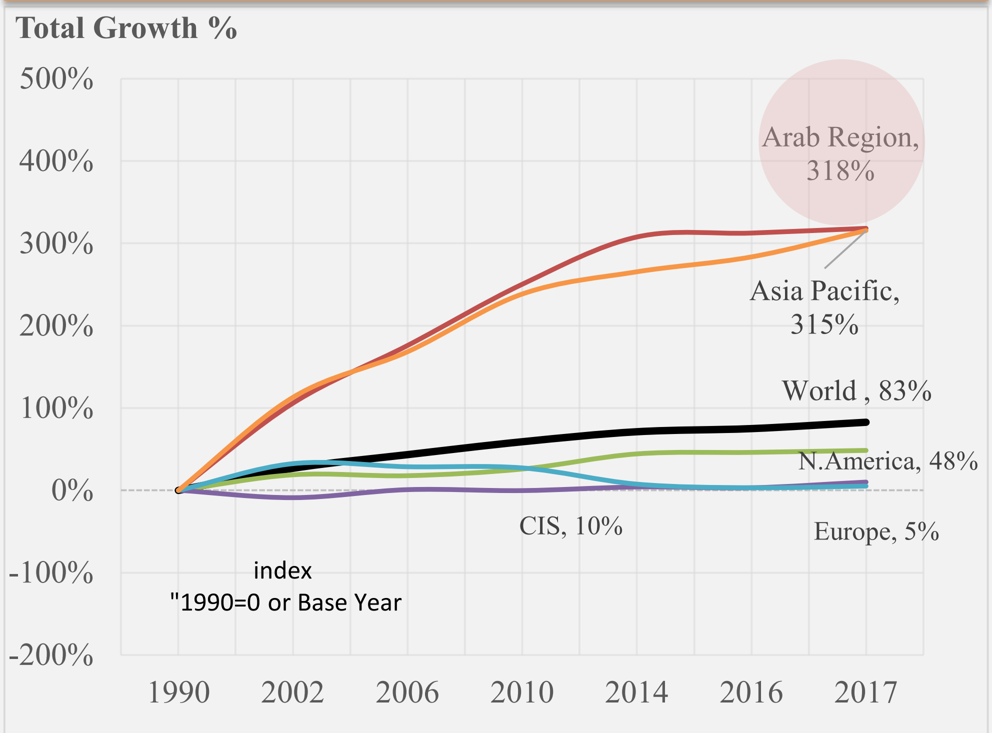
27% Share of proven gas reserves in the Arab countries

! Irregular distribution of proven gas reserves in the Arab region

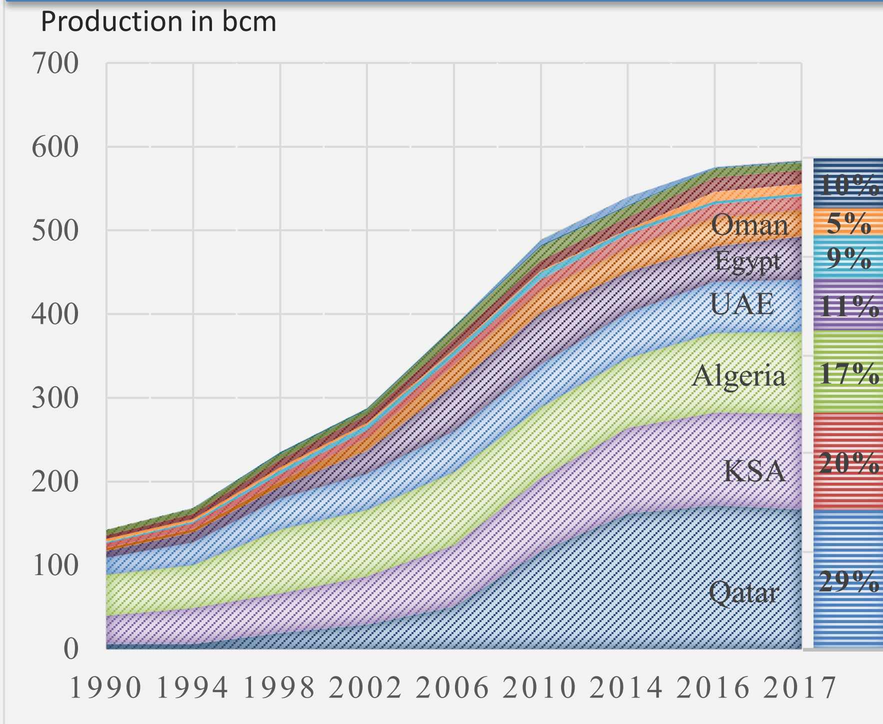
70% Of proven gas reserves are located in Qatar, KSA and UAE

# 1 Gas Production Boom.. Who Led the Boom?

## Gas Production Total Growth Per Region (Since 1990)




## Gas Production Growth in the Arab Countries




**5.4%**

**ANNUAL GROWTH RATE**

Arab region was a **major contributor** to the global gas production boom

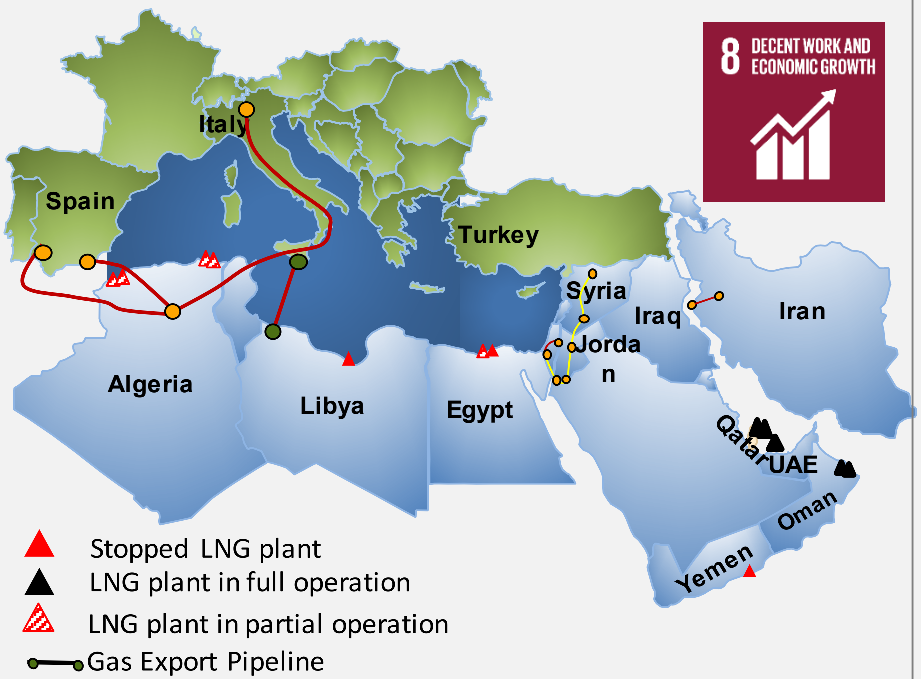
**585 bcm**

**TOTAL GAS PRODUCTION IN 2017**

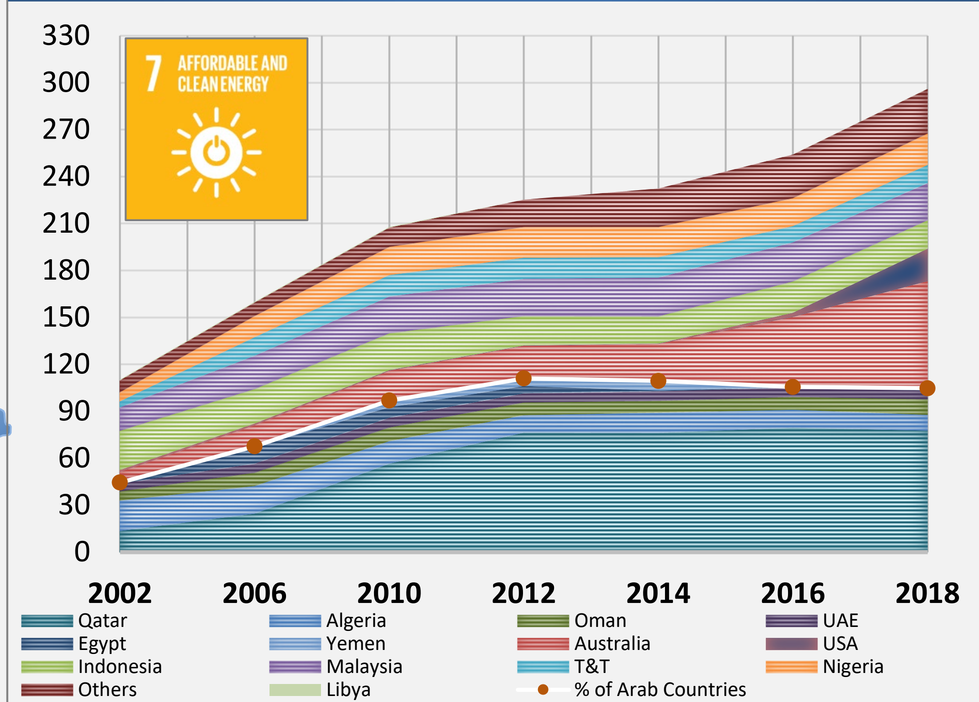
This accounts for 16% of the global gas production

- Qatar led the production growth in the region, accounting for 29% of the total production in 2017
- Adoption of policies to unlock the potential of large conventional gas resources
- Increasing awareness of the role of gas in achieving sustainable development

# Development of LNG infrastructure and exports




## Development of LNG Exports, MT




Source: OAPEC, GIIGNL, LNG edge

A number of Arab countries, led by **Qatar, Algeria** , invested heavily in Gas/LNG export projects to create another source of revenues beside oil **(SDG-8)**

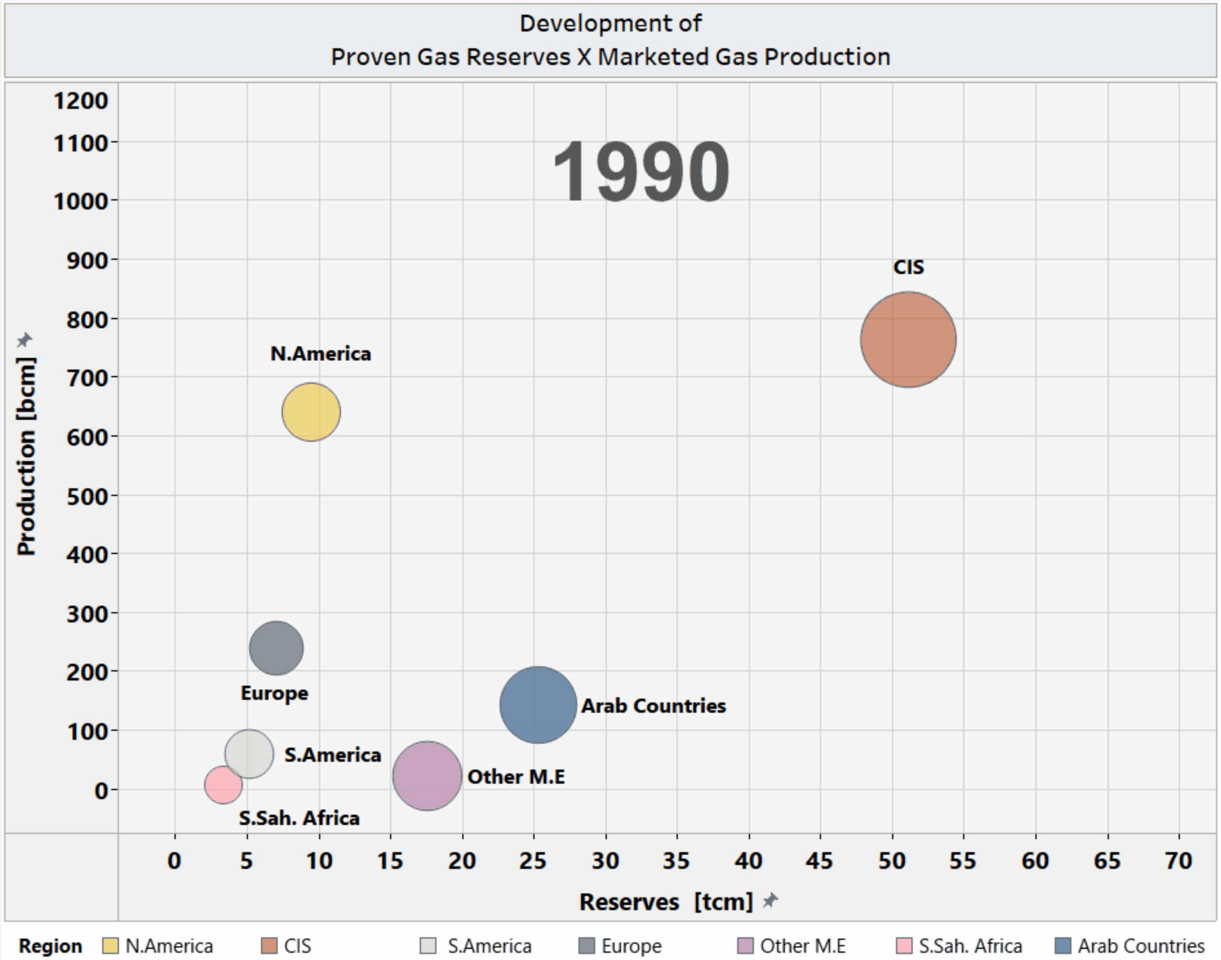
**28% Asia's LNG Imports in 2018**

Arab countries played a global effective role over decades to provide an efficient, affordable and cleaner energy source to different regions, and thus supported endeavors toward **(SDG-7)**

The contribution of Oil & Gas sector to the economic growth was large and created tens of thousands of direct and indirect job opportunities **(SDG-8)**

**60% Europe's LNG Imports in 2018**

# Development of Proven Gas Reserves and Marketed Production Per Region




**Source:** OAPEC

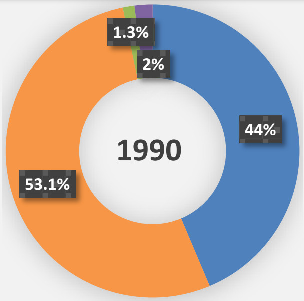
The total growth rate of proven gas reserves was the highest in the Arab region (reached around **120**%)

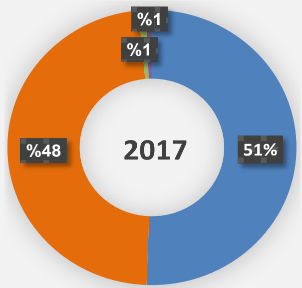
**However**, the proportionality of Gas Reserves to Gas Production growth is lower compared to other regions

This means, there is still a room for investment in the upstream sector to sustain/boost gas production levels.

# Unlocking the Potential of Gas Resources… Why it is needed?

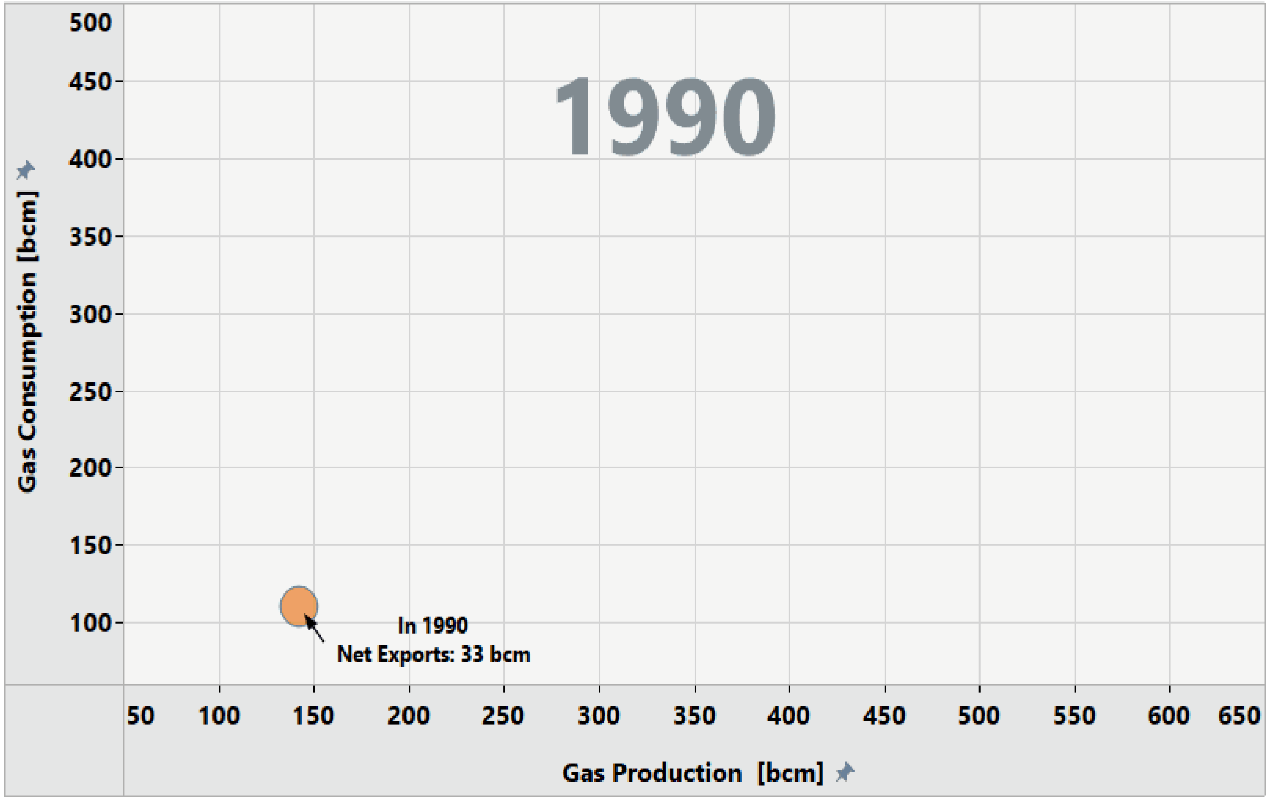
## Primary Energy Mix in Arab Region





## Development of Arab Gas Exports as a Function of Production and Consumption




**Source**: OAPEC

Gas has become the fuel of choice in many sectors and has taken market share away from oil

Recently, the growth rate of gas consumption was higher than that of the production.

Consequently , net gas exports declined to meet local the demand in Arab gas exporters

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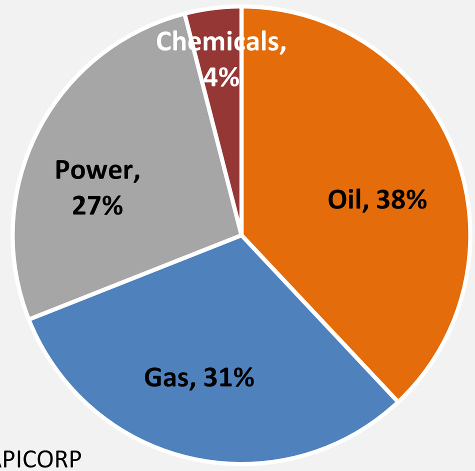
# Unlocking the Potential of Gas Resource: key actions/measures..

- Opening new blocks (offshore & onshore ) for exploration activities (Egypt, UAE,..)
- Tapping into Gas-Cap reservoirs & technically challenging gas fields (UAE, Kuwait)
- Lifting self-imposed moratorium on mega gas fields development (North field in Qatar)
- Expediting the development of recent gas finds to boost production levels (Egypt)
- Tapping into unconventional gas reservoirs (Saudi Arabia, Oman)

**Committed MENA investments by Sector over 2018-2022**



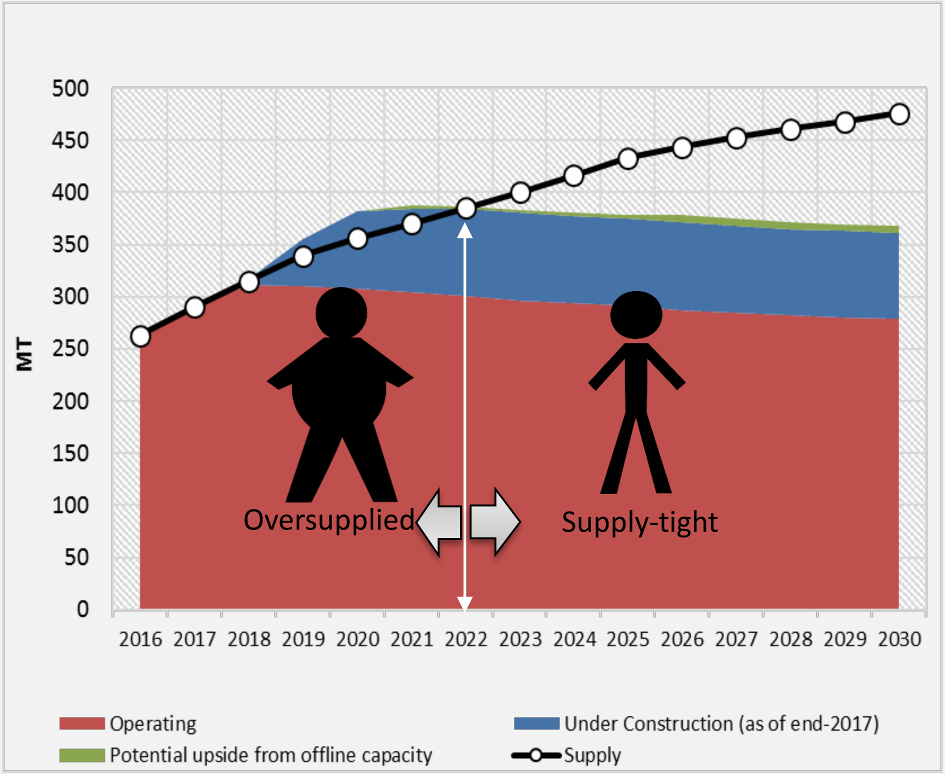

**Source:** APICORP

**$ 345 B** Total committed investments in the whole energy sector

**$ 109 B** Total committed investments in the gas sector only

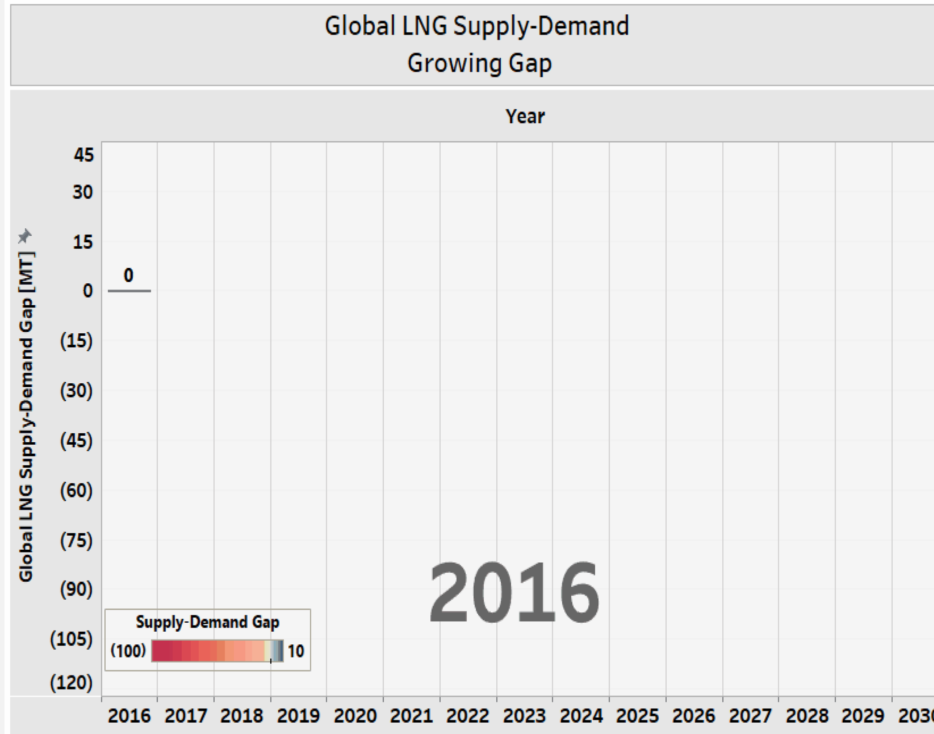
# 3 Current and Future Projects for long term LNG Sustainability

## Global LNG Supply-Demand Outlook through 2016-2030




**Source:** OAPEC

## Global LNG Supply-Demand Gap 2016-2030



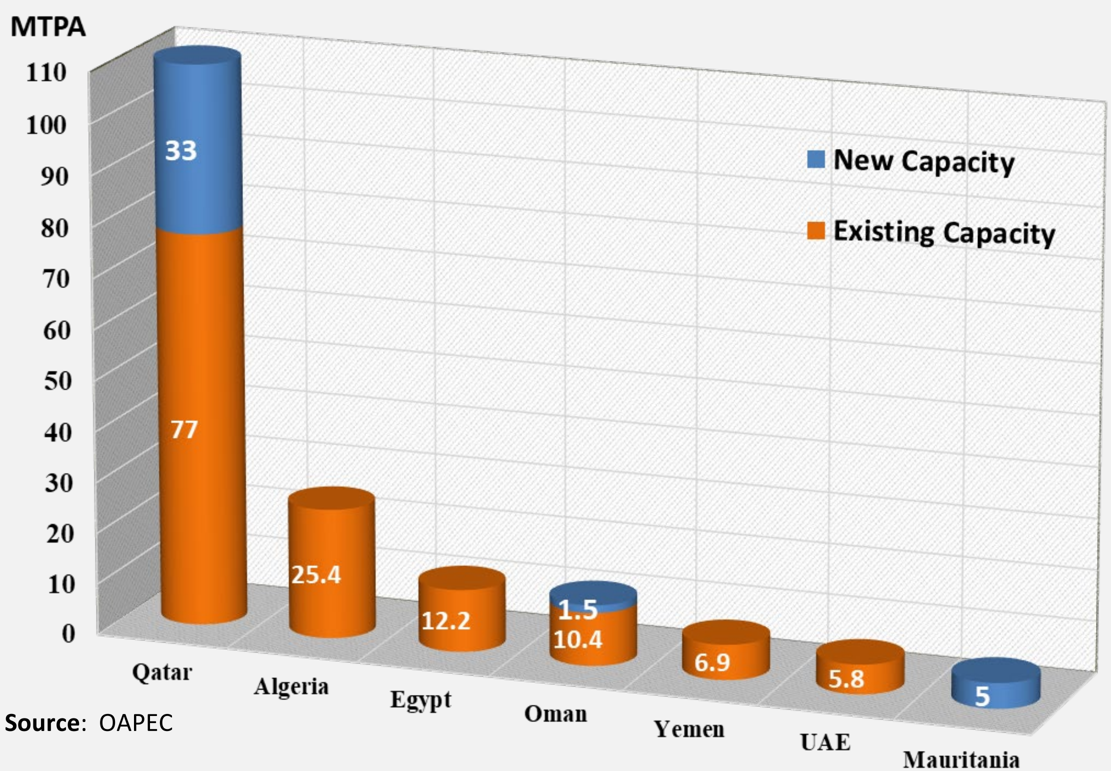

**Source:** OAPEC

Globally, LNG demand will continue to grow to reach around 480 MT in 2030 (i.e. 50% total increase compared to 2017)

The expected gap between demand/supply will evolve by 2023 and will continue to widen which involves adding new capacities.

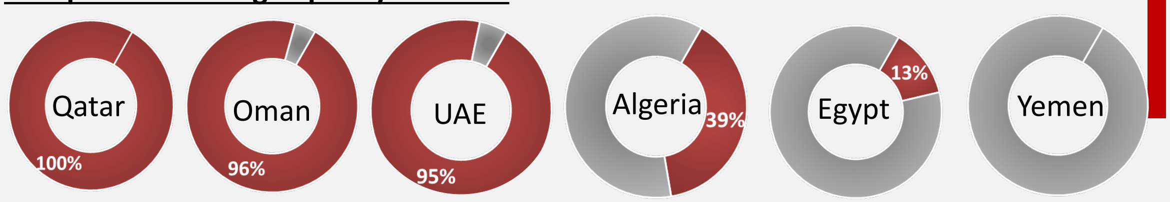
# Current and Future Projects for long term LNG Sustainability

## Ongoing LNG projects in the Arab Countries over the period 2018-2023




**Source:** OAPEC

**LNG plants Working Capacity* in 2018**




* Actual Output/Nominal capacity

### Qatar.. New Mega Trains

Qatar will boost its LNG capacity from 77 to 110 MTPA by 2023.

### Oman.. Debottlenecking

De-bottlenecking of existing facilities will add 1.5 MTPA by 2021.

### Mauritania..New Frontier

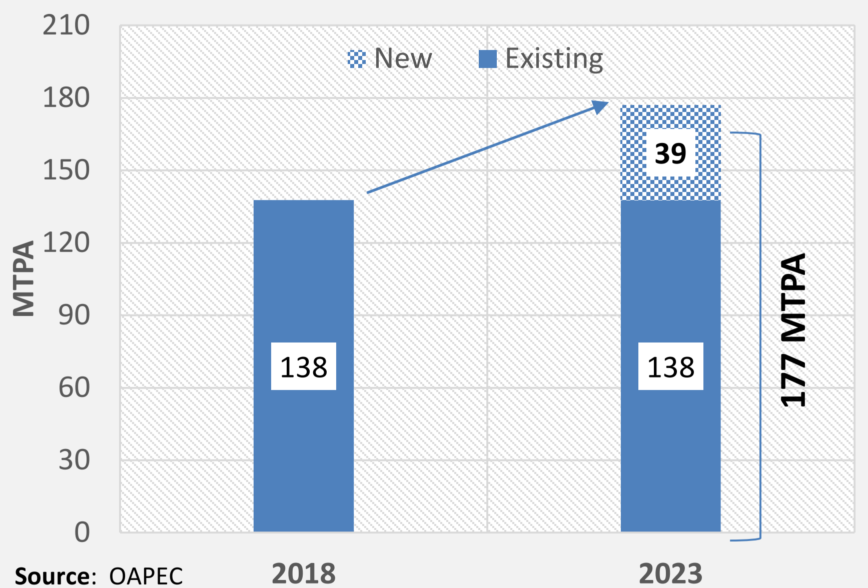
The Tortue/Ahmeyim Project will have two FLNG with a total capacity of 5 MTPA. First FLNG to start by 2022

### Egypt.. East Med Hub

Egypt has two LNG plants can be used for re-export of gas in the East Med. region.

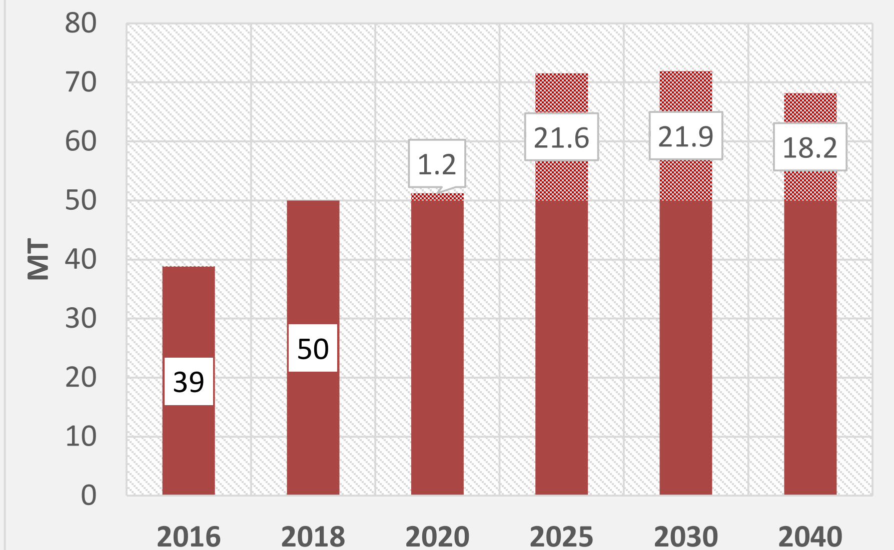
# 3 Current and Future Projects for long term LNG Sustainability

## Outlook of LNG Capacity in the Arab Countries




Source: OAPEC

## Outlook of LNG Demand in the European Markets




Source: Cedigaz

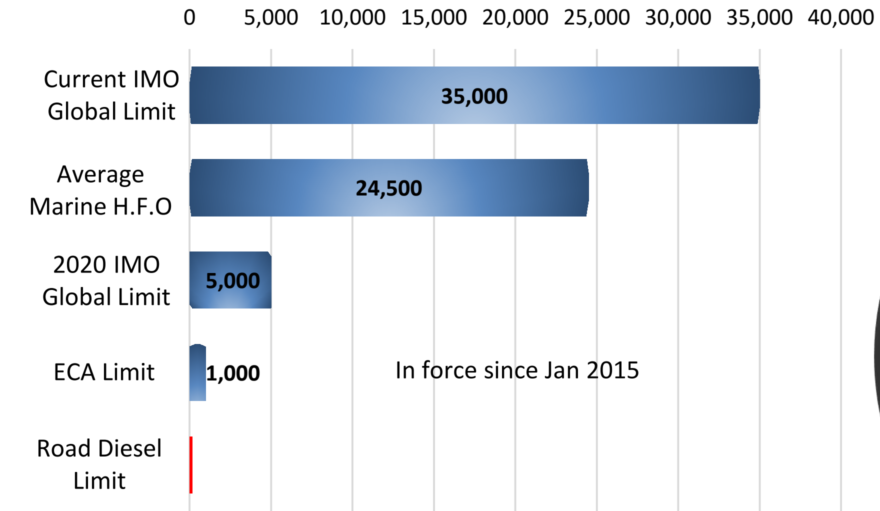
Europe's dependence on gas/LNG imports will continue to grow due to continuing decline of its indigenous gas production

LNG capacity in the Arab region will be boosted by around one-third in total by 2023 to increase LNG supplies to different markets.

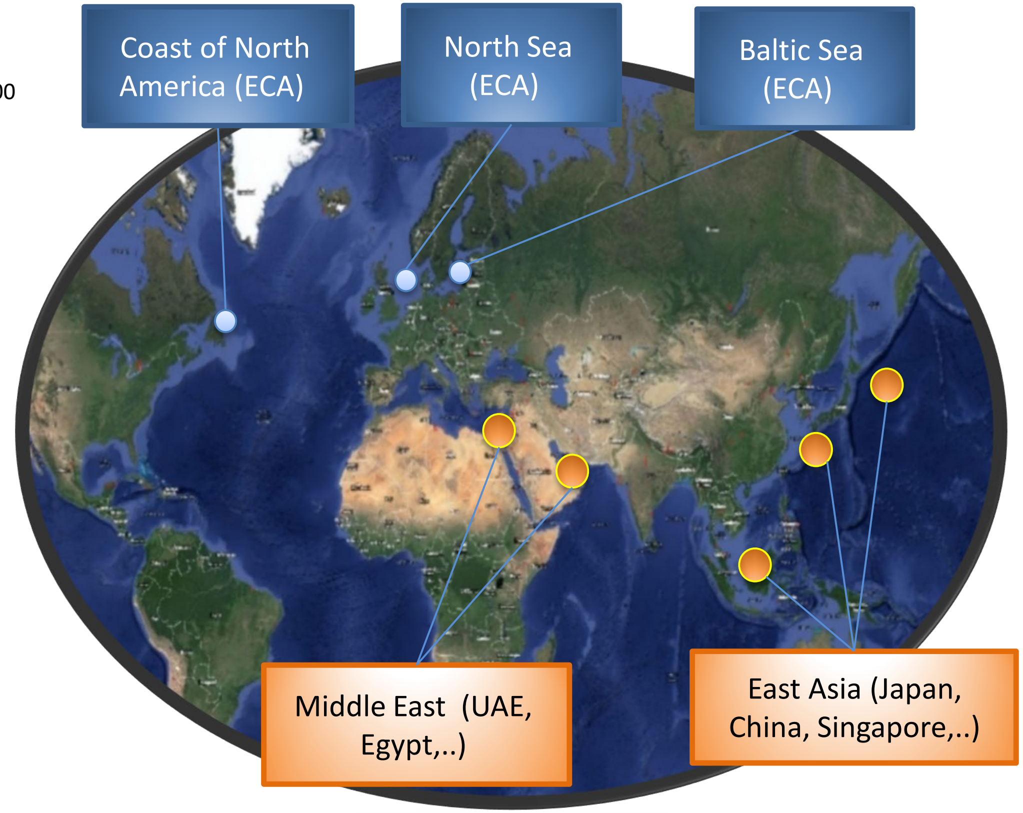
Europe's LNG imports in 2018 increased to 50 million tonnes, and forecasted to reach >70 million tonnes by 2025

# Current and Future Projects for long term LNG Sustainability

**Sufur Content in Marine Fuels and limits (ppm)**




Data Source: IMO




***ECA**: Emissions Control Area(North sea, Baltic sea, English Channel

**In mid-2017,** QP and Shell **Formed LNG Marine** bunkering **venture** to develop bunkering infrastructure at strategic shipping locations across the globe.

In Mid 2018, Oman inked MOU with Total to develop LNG bunkering hub in Oman

In late 2018, UAE's major Adnoc announced plans to develop LNG bunkering facilities with Japan's Inpex

7 AFFORDABLE AND CLEAN ENERGY

# Key Messages

"In the Arab region, gas is a key pillar of the energy system and a major contributor to attain the sustainable development goals (in particular: SDG-7 & SDG-8)

"Arab region will continue to provide an efficient, affordable, reliable and cleaner energy source and support other regions' endeavor achieve the sustainable energy objectives".

# Thank You

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