



# OIL & GAS IN IRAQ

By

**Mohammed Saadoon Mohsin**

*Deputy Director General of SOMO*

&

*National Representative of IRAQ for OPEC*

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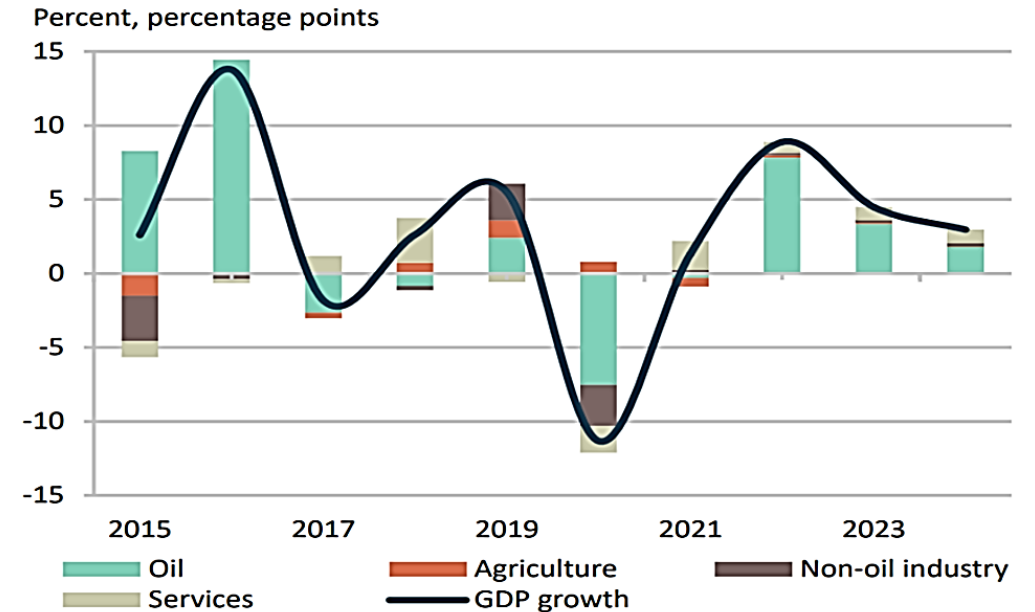
IRAQ holds the world's **fifth-largest** proved crude oil reserve, IRAQ holds **17%** of proved reserve in the **Middle East** and **8%** of **Global** reserves.

- Iraq is the **2nd-largest** crude oil producer in the (OPEC).
- First significant discovery at **1923**.
- Iraq's economy growth for 2022 expected **9%** year on year (IMF)
- At nearly **130 tcf**, Iraq's proved **natural gas reserves** at the end of **2020** were the **12th largest** in the world.
- **Three-quarters** of Iraq's natural gas reserves are **associated with oil**, and most of this associated is in the **giant fields** in the south of Iraq.
- Iraqi refinery run is about **0.75 mb/d** of crude oil in **2022**.
- Iraq consumed **1.4 Bcf/d** of dry natural gas, much of which the electricity sector consumed

# IRAQ's Economy Growth



- IRAQ's Economy well recovered after pandemic, for 2021 there was **14.11%** increase compared to 2020, to record a total **2.78%** Growth rate
- Overall growth in 2022 is now forecast at **9%**
- Over the past ten year years highest GDP% growth was recorded in 2016 by 13.5%.
- GDP forecast for 2023 is projected to remain modest at **3.7%**.
- by 2025, we expect a significant growth due to increase oil production to **5.4 mb/d** with a given oil price forecasted of **82 \$/bl** for 2025 (Reuter)

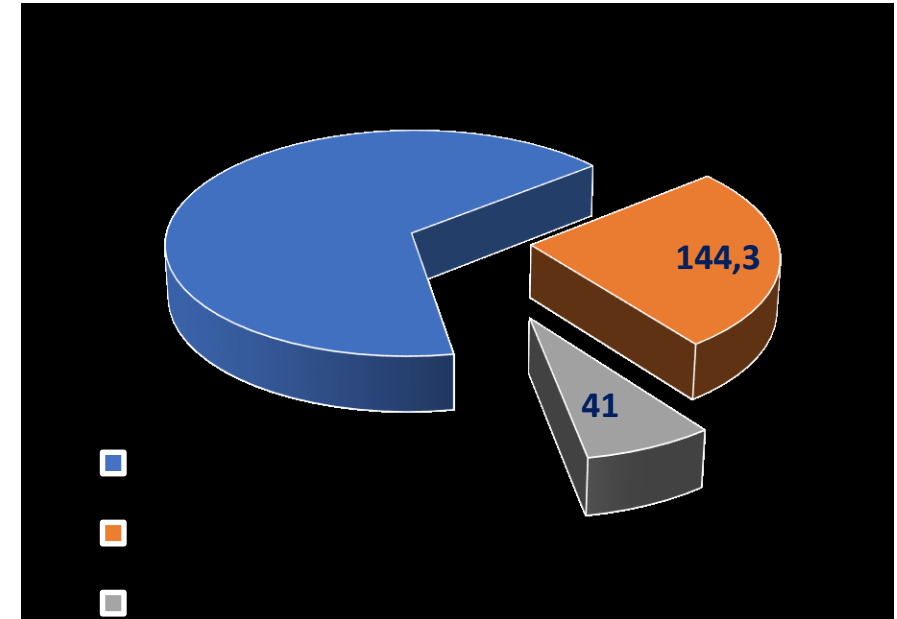
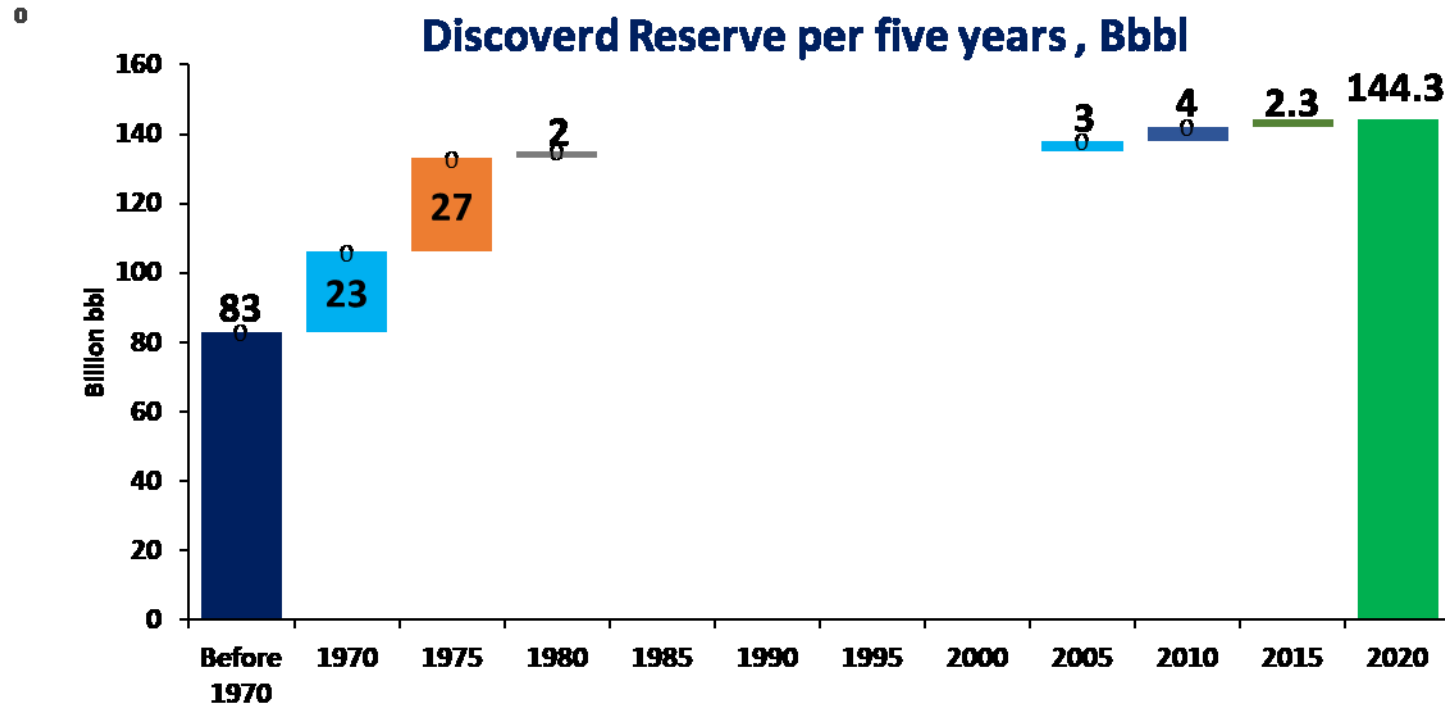


Source: Iraq's COSIT and World Bank.

# Oil Reserves



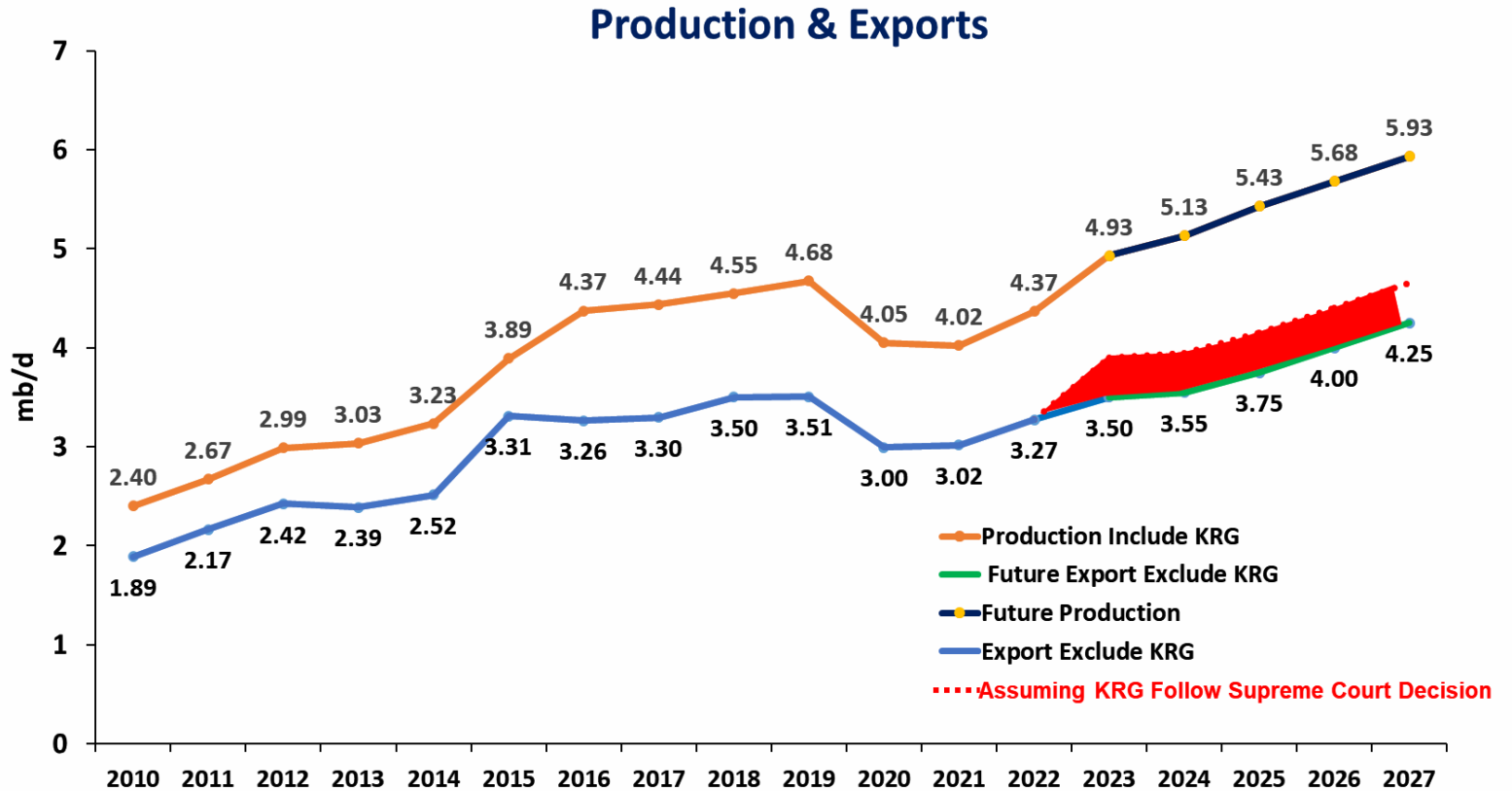
- Original Oil In Place (OOIP) = **559 billion** bbls.
- Proved crude oil reserves at **144.3 billion barrels**, which is represent **of 80 years** current production rate.
- Cumulative Production represent **28%** of the original **producible reserves**



# Crude Oil Production & Export



- Production were almost doubled from 2.4 mb/d at 2010 to 4.68 mb/d at 2019.
- Forecasted production for 2027 expected to increase by 1.56 mb/d (36%) from 4.37 mb/d at 2022 to 5.93 mb/d at 2027
- Total Exports increased by 1.62 mb/d from 1.9 mb/d at 2010 to 3.5 mb/d at 2019.
- Forecasted Exports between 2022 and 2027 increased by 0.98 mb/d from 2022 3.3 mb/d to 4.25 mb/d at 2027
- **Additional 400 kb/d is going to export through SOMO according to IRAQ supreme court's decision to handover the export process from KRG to IRAQ federal government.**



# Basrah & Kirkuk Crudes Oil Exports



## IRAQ'S CRUDE OIL GRADES

**1- Basrah Light :** (currently relocated to domestic use)

- API 33
- Total Sulphur : 2.74%wt

**2- Basrah Medium: (64%)**

- API 29
- Total Sulphur: 3.00%wt

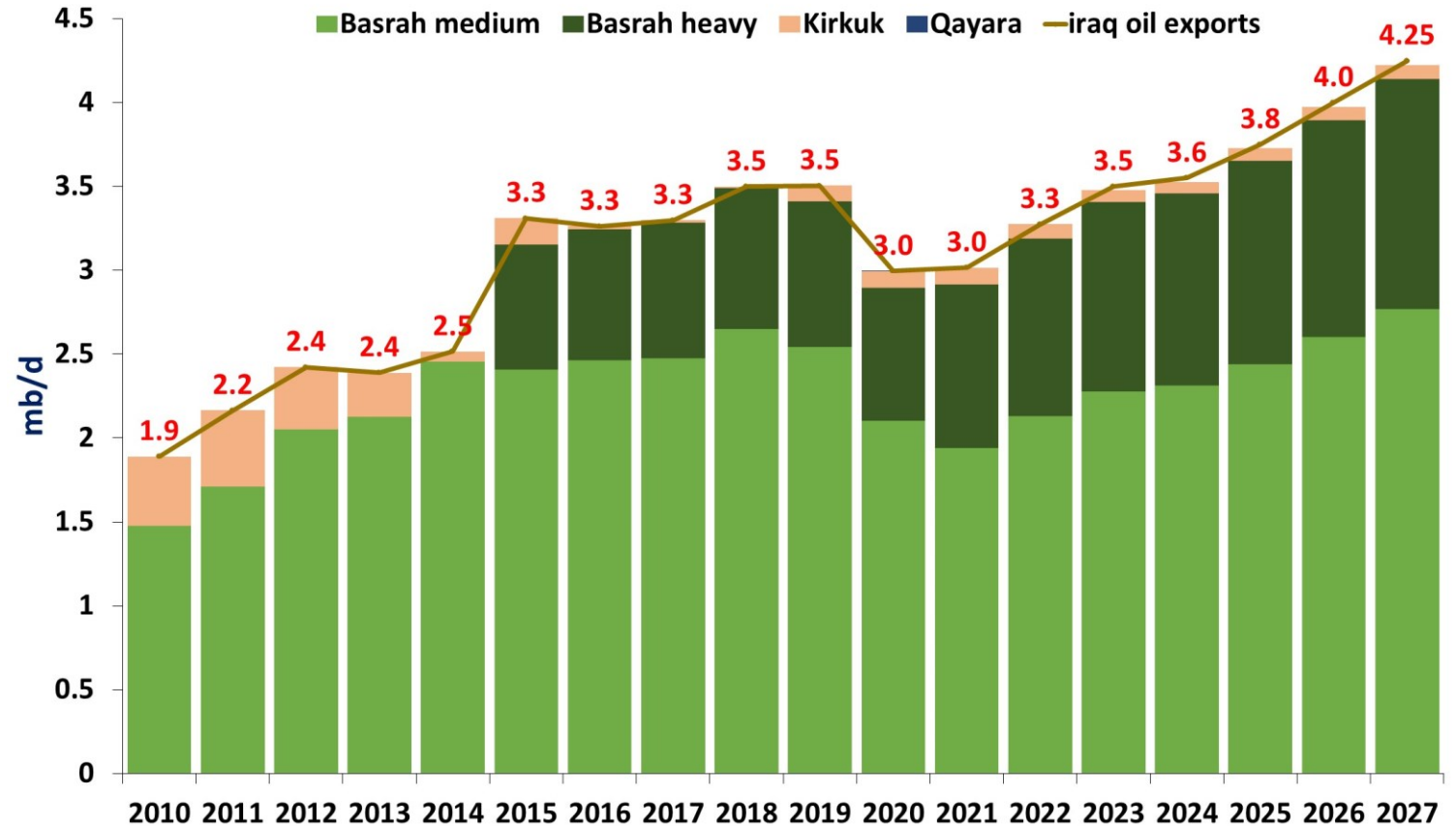
**3- Basrah Heavy: (33%)**

- API 24
- Total Sulphur: 4.05%wt

**4- Kirkuk blend: (3%)**

- API 30
- Total Sulphur: 2.5%wt

Iraq Crude Oil Exports by Grades





# Overview of Iraq Oil Exporting Facilities



## CURRENT FACILITIES:

### 1) South of IRAQ (Basrah):

Current exports Ex. Basrah terminals 3.4 million b/d from :

a) BOT: 1.2 m b/d

b) SPMs : 2.2 m b/d

Note :Khor Alamaya port is out off service (maintenance), capacity of 0.5 million b/d

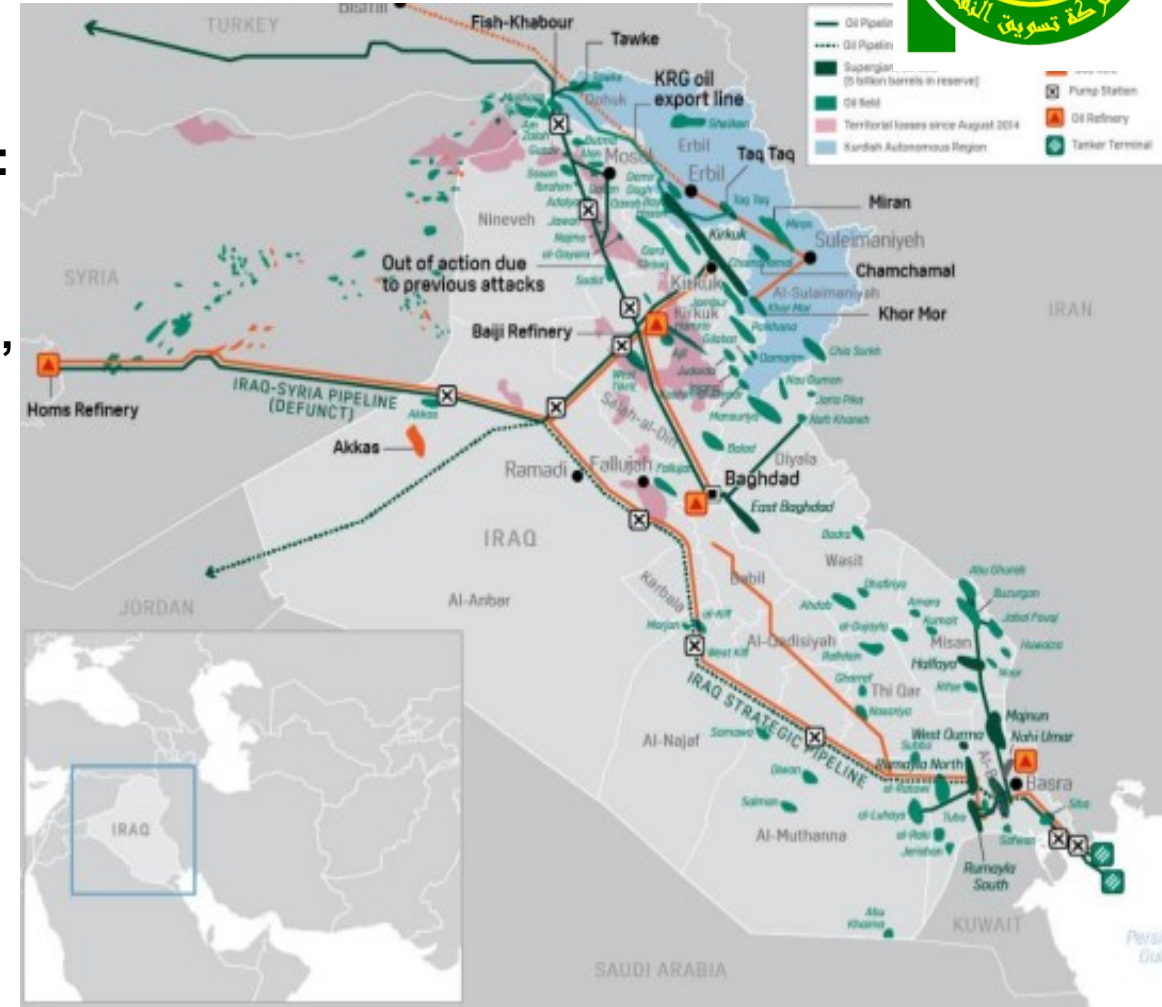
### 2) North of IRAQ (Ceyhan):

Current exporting rate from Ceyhan terminals 0.1 m b/d .

## PROPOSED FACILITIES:

a) Iraq-Jordan exporting pipeline to (Al-Aqaba terminal) / planned capacity : 1 mb/d

b) Boscals island and terminal (Basrah) / planned capacity : 3 mb/d





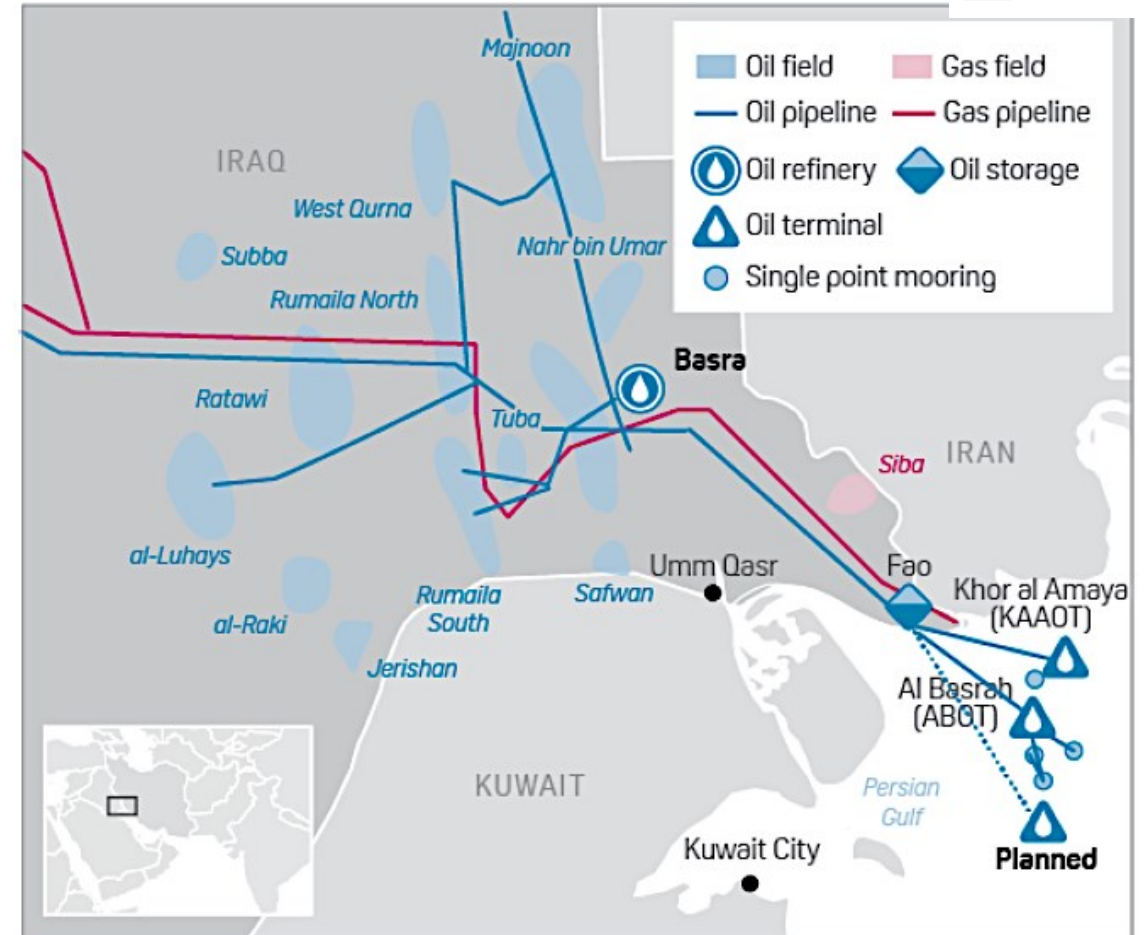
# SOUTH OF IRAQ/FUTURE UPGRADE



## PROJECTS UPGRADE:

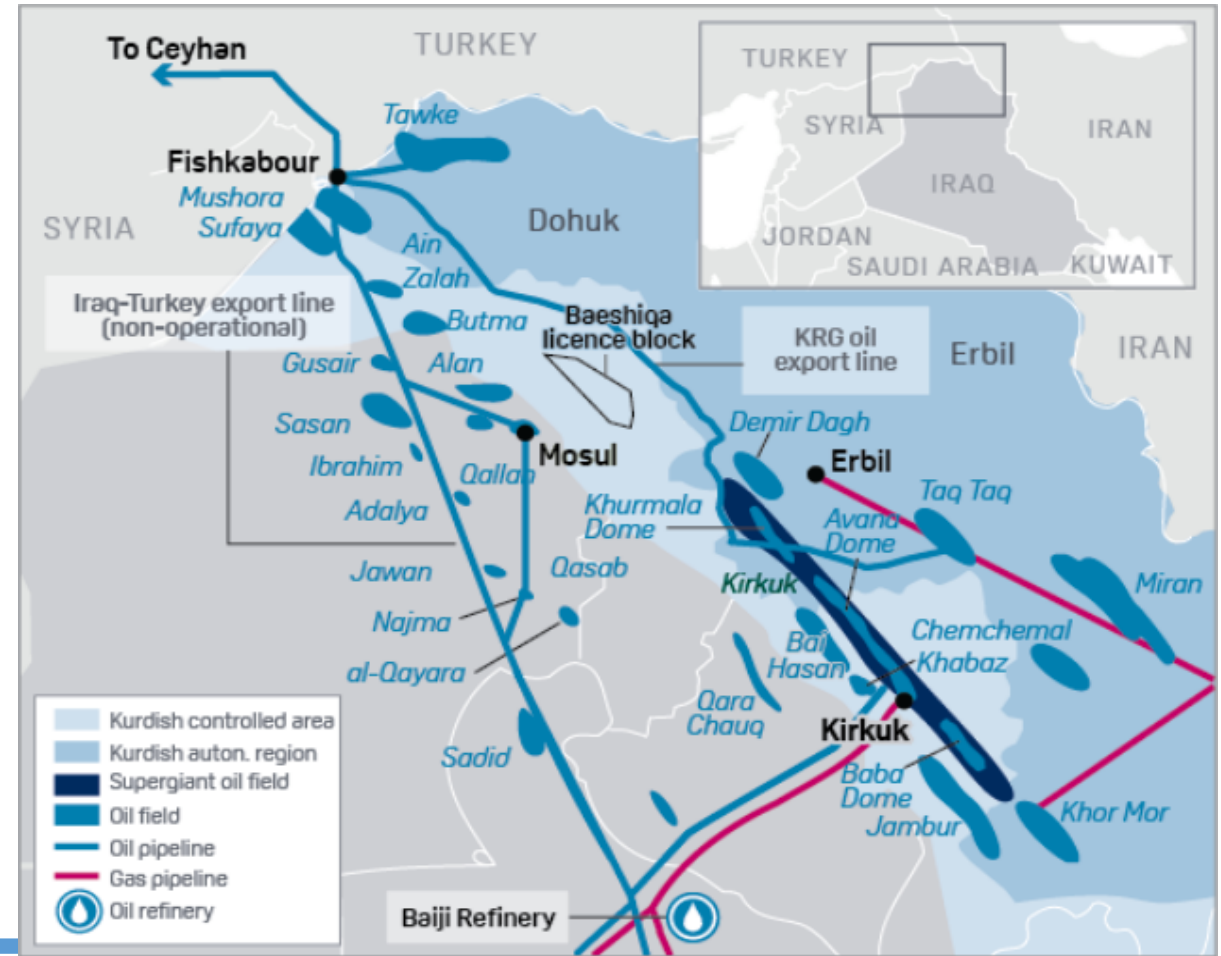
- **End of 2022:** additional **capacity** of **0.25 mb/d** (upgrade the house loading of SPMs)
- **End of 2023 :** New **SPM (No.4)** with additional **capacity** of **1.2 m b/d** (under construction) .
- **End of 2023 :** Resume Khor Alamaya Port **0.40 m b/d** , (after replacement the sealine).
- **End of 2026:** additional **capacity (BOT)** of **1 mb/d** (replacement the sealines)
- **Total capacity** by end:
  - **2023** is **5.25 mb/d**
  - **2026** is **6.25 mb/d** .

## Export Terminals in Iraq



## Iraq – Turkish Pipeline:

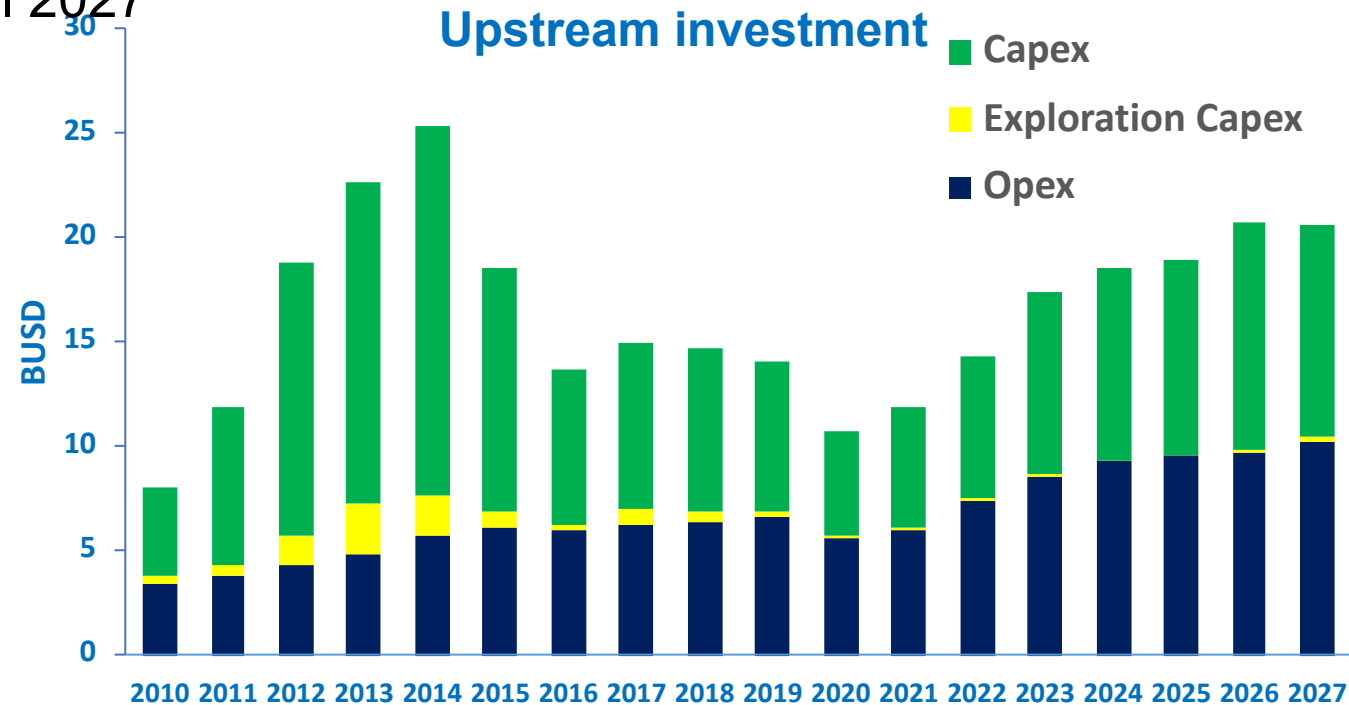
- The total capacity of ITP pipeline to Turkey is 1.3 mb/d (two lines , 0.65 mb/d each ) has been damaged since 2014 due to ISIS attacks. Currently export rate of 0.1 mb/d EX. Ceyhan.
- **End of 2022: ITP** is under maintenance , one of the pipeline will back to work with 0.65 m b/d capacity



# Upstream Investment



- The total investment dropped in 2020 (Y/Y) (during pandemic) by 3.4 bUSD.
- The total investment has been **raised for two consecutive years** since 2020, and stand on 2022 at 14.3 BUSD, higher than pandemic level.
- The investment will continually raised up until 2027
- **Capex:** stand at 6.8 bUSD on 2022 YoY, With 20% Y/Y growth
- **Exploration Capex** : Reached to 0.18 BUSD in 2022, With 1% Y/Y growth
- **Opex:** Reached to 7.3 BUSD in 2022, With 22% Y/Y growth.
- **Total investment (2022-2027)** : Reached to 20.6 BUSD in 2027 , with 44% Y/Y growth.

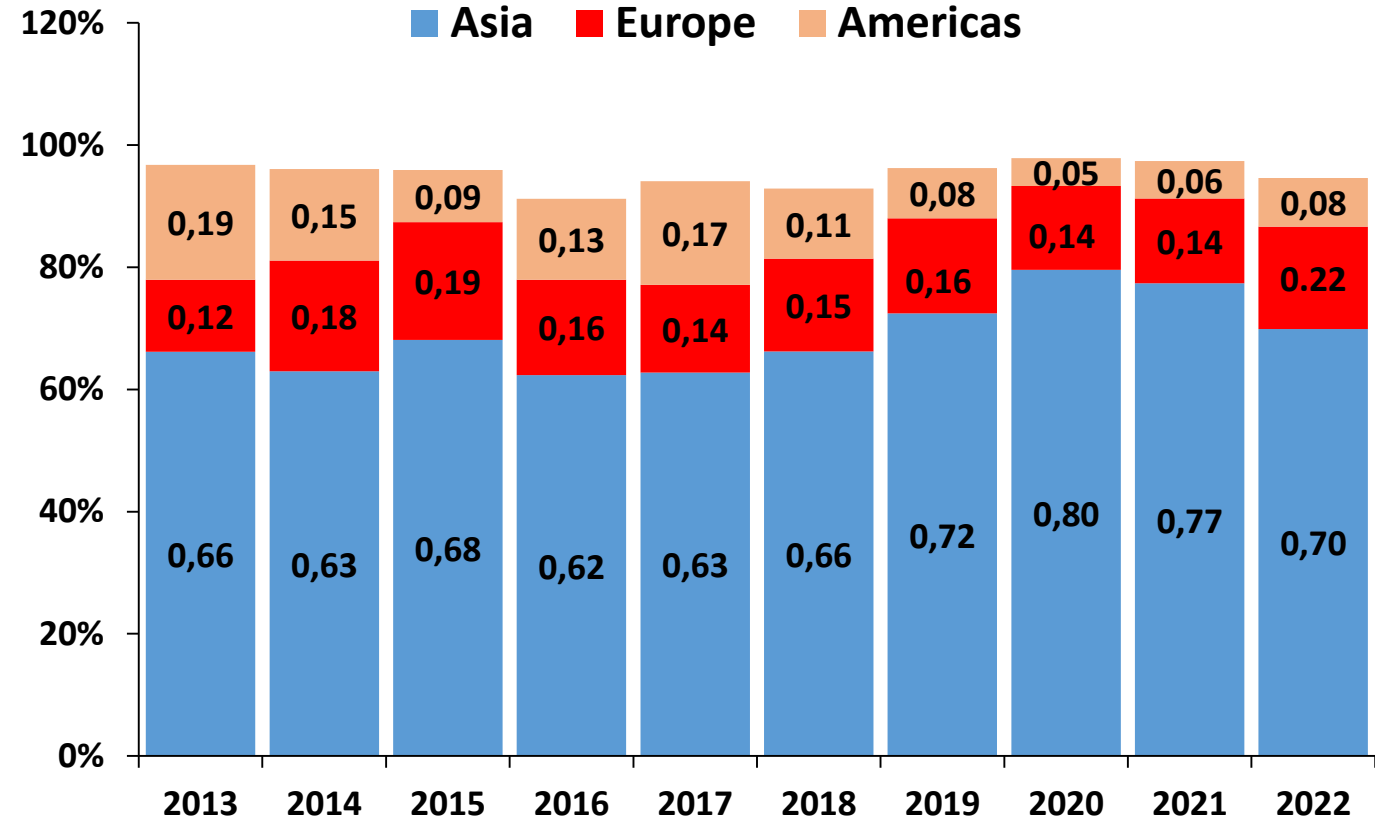


# Iraq's Crude Oil Markets



## IRAQ's Oil Market

- **2020-2021:** Iraq was Exporting to the three major markets as follows: Asia (79%), Europe (14%), America (5%).
- **IRAQ start increase the amount of crude oil to Europe to 22% (Jun 2022)** from 420 tb/d in 2021 to 780 tb/d in jun 2022, and aiming to reach 1 mb/d in 2023 due to Shifting in flow trade map.
- IRAQ planning to increase the share of Europe Market from 22% to 25%, adding about 0.30 mb/d to Europe to reach 0.850 mb/d inline with increase of oil production.



# Mechanism of Business

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- In accordance with the State Companies Law **No.22 of 1997** and based on the powers granted to the Oil Marketing Company (SOMO), **SOMO aim is to support the national economy in the Oil Sector**, Oil Products and Gas to ensure maximizing the country's financial and economical resources.
- **SOMO** and according to the Company's registry system and the authorities granted to it under the law, is considered as the sole **entity that is legally authorized to market Iraqi Crude Oil and Gas to Local and Global Markets along with marketing the surplus of Oil Products** to the Global Markets and importing Oil Products that are necessary to overcome local shortages.
- **SOMO's policy** is restricted to deal exclusively with the end users (the companies that own refineries) and to achieve the fair value of Iraqi Crude Oils sales. SOMO and on its way to achieve these goals, adopts a set of criteria that are known for their integrity and uniqueness.
- **SOMO** enters into **Standard Unified Contracts** for the sale of the available quantities of Iraqi Crude Oil dedicated for export. These Standard, Unified Contracts and Official Selling Prices (**OSPs**) are evenly applicable for all customers (per market) in accordance with applicable and well-known standards in the Global Oil Market



## TERM ALLOCATION (THE AVAILABLE QUANTITIES FOR EXPORT):

- **Long-Term Standard Contracts:**

These contracts extend from **1 year to 10 years**, and the buyer must determine the destination **72 Hours** before loading.

- **Term Service Contracts:**

These contracts extend up to **25 years**, the allocated quantity specified according to provisional price.

- **Spot Cargo:**

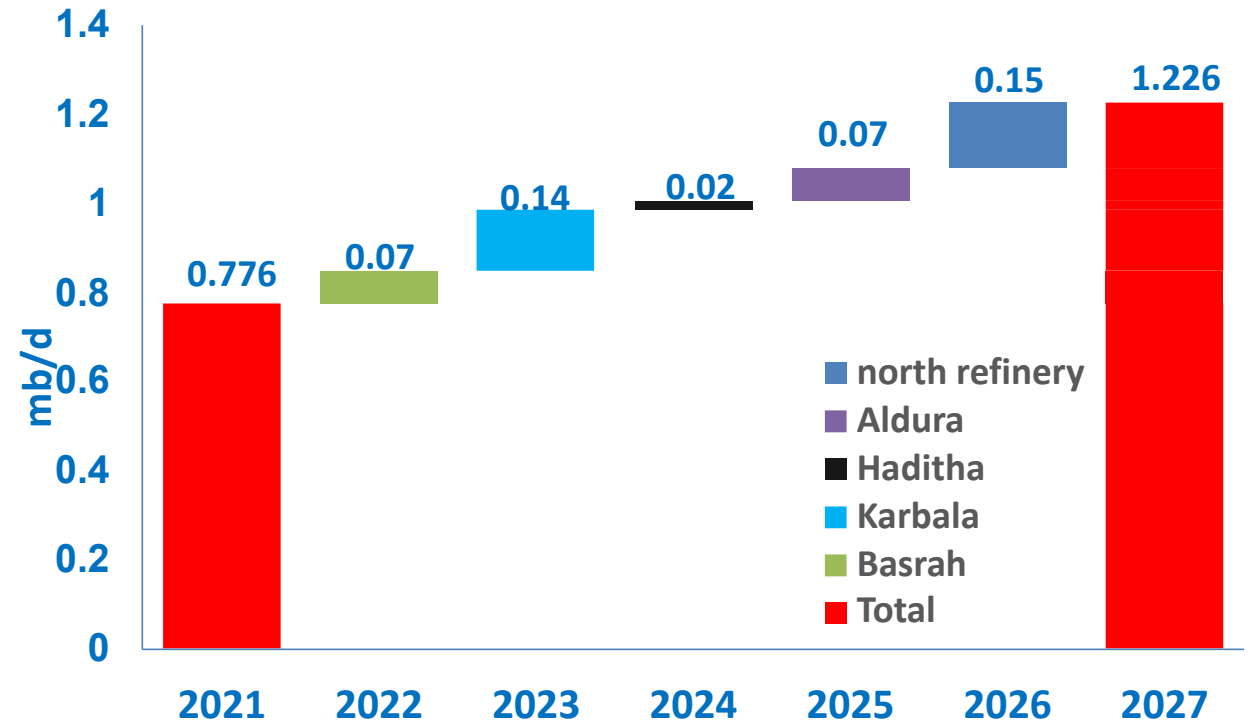
Occasionally, **SOMO** and whenever there is a possible marketing opportunity, a quantity of Iraqi crude oil available, is sold on **spot basis**, either by **inviting the contracted companies** or through an **announcement using international platforms** in order to **maximize the country's financial** returns and to insure exporting the whole quantity of Iraqi crude oil available for export.



# Refining Capacity



- Iraq's refinery runs in **2022**, total **0.75 mb/d**.
- **2022**: Proposed firm projects by **Basra** refinery that planned to increase the capacity by **0.07 mb/d**.
- **2023**: Karbala refinery (new refinery) is planned run online on **2023** at **0.14mb/d**.
- **2024**: Haditha refinery planned to increase the capacity by **0.02 mb/d**.
- **2025**: Al-Dora refinery planned to increase the capacity **by 0.07 mb/d**.
- **2026**: North refinery planned to raise its capacity by **0.150 mb/d** to reach **1.226 mb/d** total capacity.
- **Total refining capacity will reach to 1.23 by end of 2027**

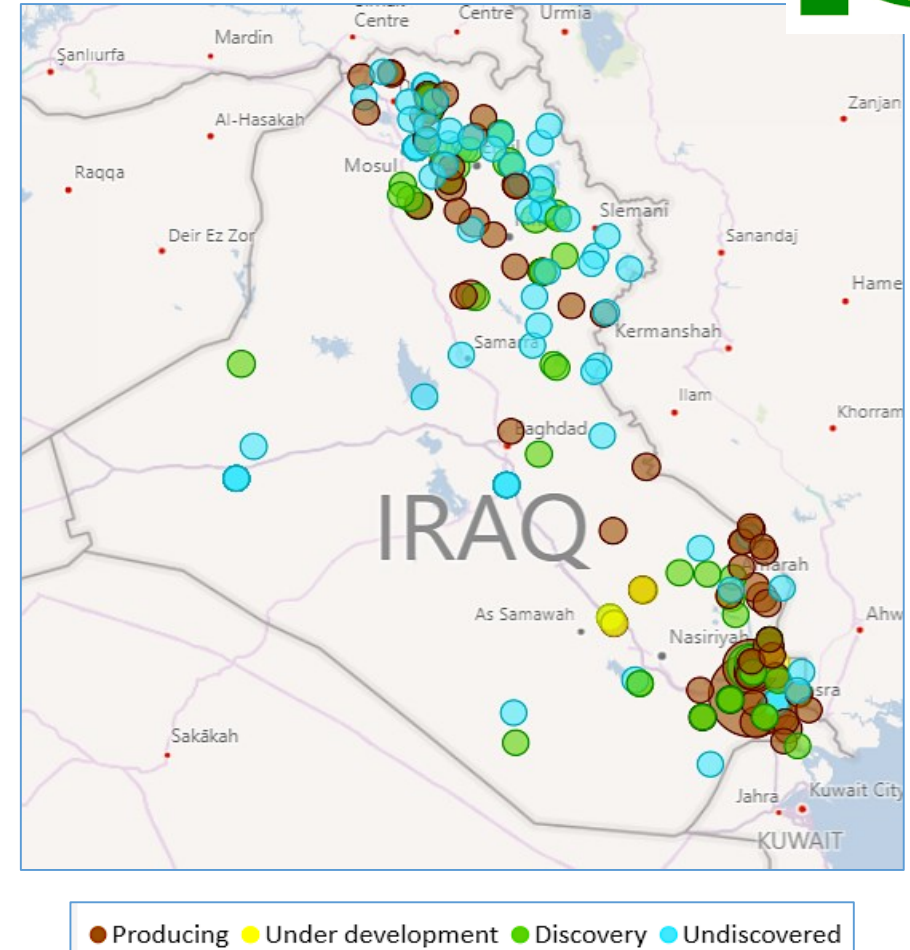




# Gas Sector In Iraq



- IRAQ's proved reserved of natural gas at nearly 130 Tcf.
- IRAQ's Reserves represent the 12th largest in the world.
- IRAQ reserves would be enough to supply **nearly 200 years** of Iraq's current consumption of gas.
- IRAQ Original Gas In Place (OGIP) is **411 tcf**
  - **41 tcf** Free gas
  - **370 tcf** Associated gas
- Gas in Iraq can be produced from 103 Oil and Gas field as follows:
  - Oil Filed :**91 Tcf (70%)**
  - Natural gas and Condensate field **39 (30%)**
- Majority of natural gas is in the supergiant fields locating in **the SOUTH of IRAQ.**



# Associated Gas (Oil field related)



There are three categories of associated gas/oil fields:

## 1) Producing field:

- Currently: there are 63 oil field production gas accounted for **91 Tcf** of total remain.
- Top six oil fields are: Rumaila (**31% of total remain**), Quran (**13% of total remain**) reaming, Zubair (**13% of total remain**), Halfya, Majnoon and Kirkuk (**2% of total remain each**) .
- The top 6 oil field are accounted for **55% of** associated gas remaining, **five of top six are** located in **south of Iraq.**

## 2) Underdevelopment:

- There are **4 fields** underdevelopment which are: Majnoon phase 2, Nasiriyah, Garraf phase2, haifaa.
- The underdevelopment field accounted for **5 Tcf.**

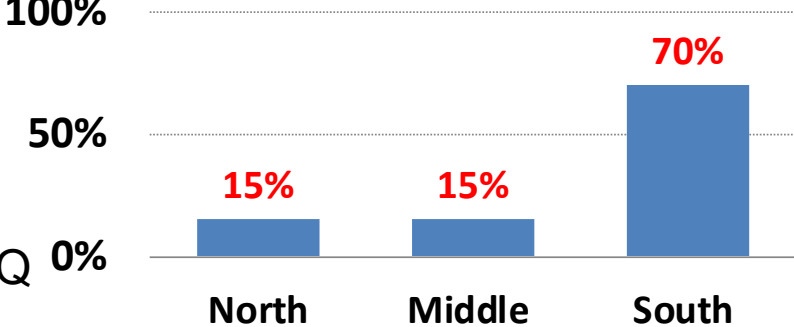
## 3) Discovery:

- There are **37 field** discovery accounted for **34 Tcf** of the total remain. **100%**
- These filed can produce associate gas if developed.

## Geographical Distribution

- 70% of IRAQ's Gas reserves is located in south of IRAQ
- 15% of IRAQ's Gas reserves is located in the middle and west of IRAQ
- 15% of IRAQ's gas reserves in located in the North of IRAQ

Geographical Distribution of Gas Reserves (%)



# Free Gas



There are 44 gas fields, they are accounted for **39 Tcf** of the total IRAQ reserves, the largest three Gas fields which are accounted for 30% of total gas reserved are listed below:

## 1- Akkas (largest field):

**Location:** West of IRAQ –Ramadi ; **Gas reserves** estimated at **5.6 trillion** standard cubic feet /day.

**Operating :** Iraq's own state companies looking forwarded for foreign investment

**Production** is expected to begin in 2025 and is forecast to peak in 2038, to approximately **392 Mmcf/d** of natural gas.

## 2- Mansuriyah (2nd largest after Akkas)

**Location:** In the Center of IRAQ/ **Gas reserves** estimated at **4.5 trillion** standard cubic feet /day.

**Operating:** The Chinese company Sinopec (China Petroleum & Chemical Corporation) has signed a deal to develop the Mansuriyah gas field, Sinopec will have a 49%with Iraq's state-owned **Midland Oil Company** having 51% percent

**Production** is expected to produce **300 Mmscf/d**

## 3- Siba in the South:

**Location:** south of Iraq; **Gas reserves** estimated at **0.53 trillion** standard cubic feet /day.

**Operated** by China's United Energy Group, Türkiye Petrolleri Anonim Ortaklığı, Egyptian General Petroleum Corporation, Maysan Oil Company.

# Gas Production Forecast and Future Investment



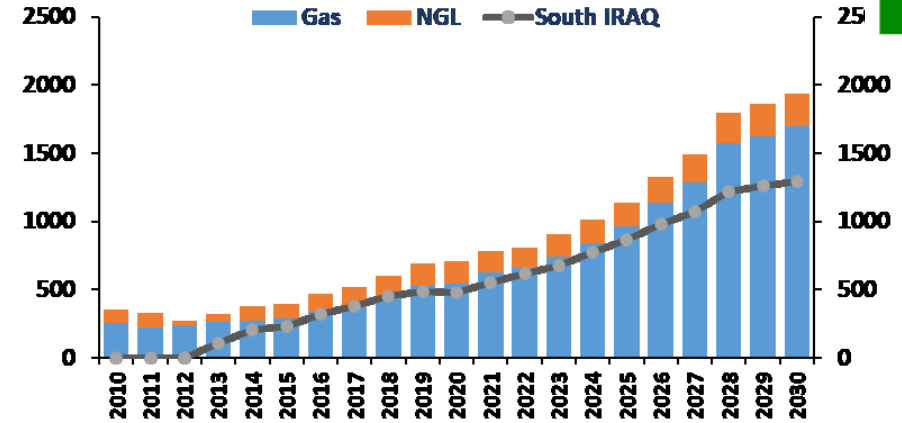
## Gas Production Forecast:

- According to IRAQ gas roadmap, the gas production will increase by **84% in 2026** and **160% by 2030** compared to 2022 data:
  - By 2025 planned to increase the production by about **303 Bcf**.
  - Between 2025 and 2030 expected an increase by **753 Bcf**.

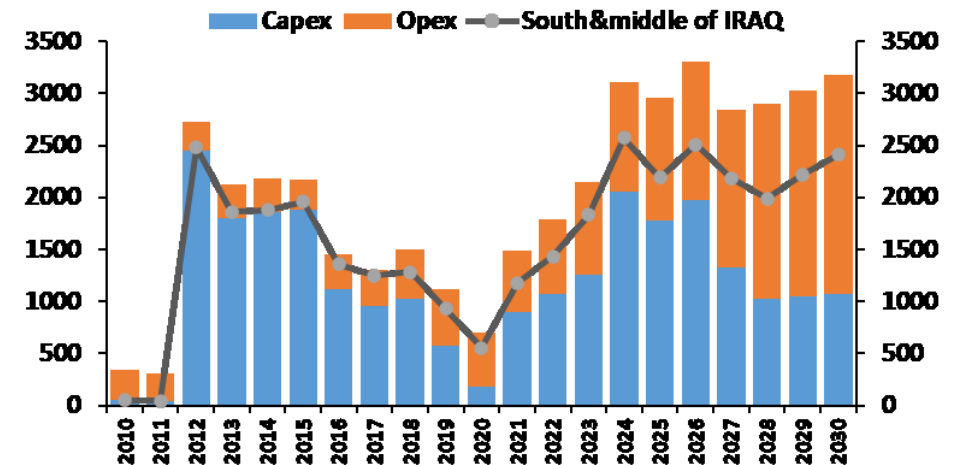
## Future Investments:

- In line with gas production forecast, the investment in **2030** will be doubled as compared to 2022.
- By 2030, **66%** of the total investment goes for OPEX and **33%** for Capex as compared to **40%** OPEX and **60%** of Capex in 2022.

Gas Production Forecast (Bcf)



Investment (million USD)



# Gas Strategy Elements from Importer to Exporter



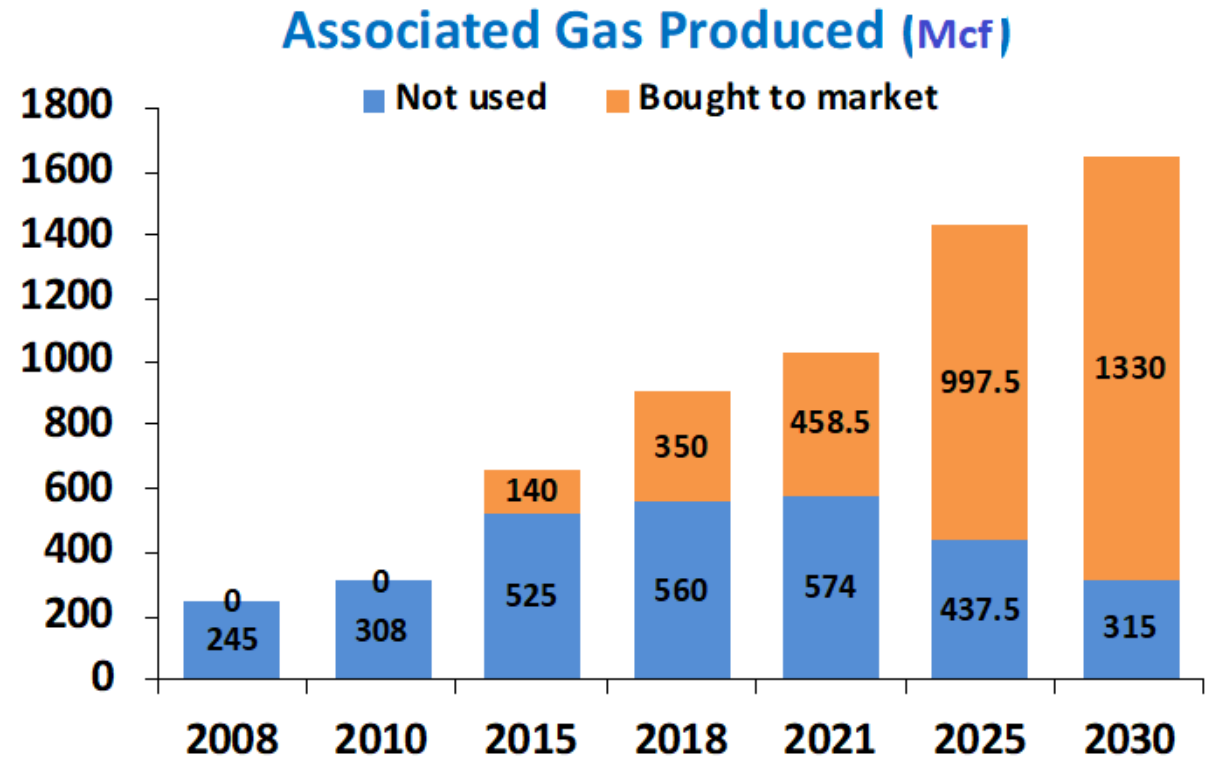
The main vision of Iraq energy is to shift the country from the state of gas importer to a gas exporter, this can be executed by five elements :

1. **Removing upstream bottleneck** - Exploration & Production for Gas **(on the track)**
  - Need **Attractive Fiscal** Terms for IOC'Investment.
2. **Efficiency:** Stop Flaring **(on the track)** Gas Hubs **(on the track)**
3. **Development and Production Service Contract :** Improve the contract in an attractive way to produce **more gas.**
4. **Optimizing midstream capacity and connectivity (domestically and internationally )**
  - Gas processing - Gas Transportation - Gas Ports
5. **Enhancing Public Sector Planning and Institutional Reform:**
  - Legislations - Production planning - Data management & analysis - State company financing

# IRAQ Gas/New Era



1. Implementing “**Gas Strategy Elements from Importer to Exporter**” will significantly boost the gas supply.
2. IRAQ’s targeting Reduce **70%** of the associated gas emissions to atmosphere by **2030**, that will bring at least **1100 Mcf** to the market.
3. IRAQ’s plan to increase the Oil production in the next five years, that will increase the associated gas production by further **25%**.
4. IRAQ’s market will be Gas self sufficient before 2025, the excess amount of Gas will be ready to **Export** by then.





# Energy Mix: Road towards Renewable Energy



**IRAQ planning to increase the share of renewables in Energy sector as follows:**

- Increase the share of renewables in power sector **to 20% by 2030.**
- Iraq's Central Bank has allocate 1 trillion ID (USD 682.2m) to support the expansion of renewable energy
- IRAQ planning to add 10 GW of solar power project to the grid

## **Projects/contracts under process:**

- Total Energies for construction **1 GW** Solar complex
- UAE's renewable company MASDAR construction of **1 GW solar**
- Power China for developing of **0.75 GW** of solar
- Discussion undergoing to **135 MW** of solar energy funded by JICA/Japan

**In addition IRAQ planning to support the renewables by a number of hydrogen plants in oil sectors.**







**Thank You**