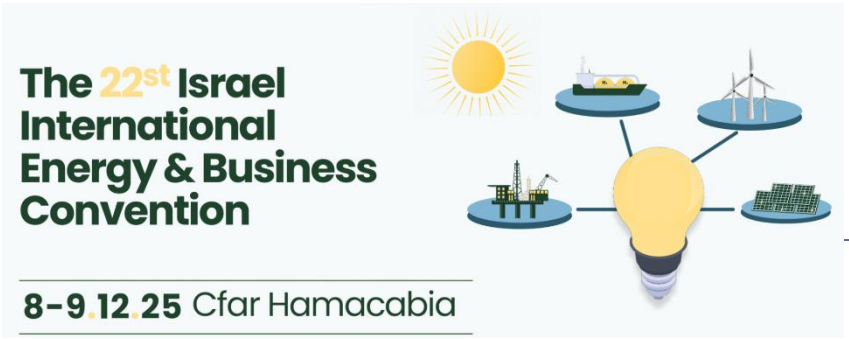

22nd Israel International Energy & Business Convention
Tel Aviv, December 8-9, 2025

"Energy Options in the East Mediterranean", an IENE Study (M72)

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Introductory Remarks

- As European energy supply is facing mounting perils following the 4-year war in Ukraine and (a) USA' continuous pressure on the EU to disengage from Russia, and (b) Brussel's decision to fully decouple from Russian gas imports by 2027, energy supply options for the continent have narrowed down.

- What to do with European gas supply? The current debate Brussels and other European capitals is the need to identify and secure ample hydrocarbon supplies which will complement EU's already substantial energy production from RES. Very belatedly some EU policy makers are crying for alternative gas supplies as they have come to realise that the energy demand/supply equation cannot be solved only with intermittent, unreliable and costly RES – which have prospered thanks to hefty financial subsidies underwritten by the consumers.

- Very late in the day and with great dismay (in view of the embedded net zero dogma) European energy policy makers are at last coming to terms that natural gas will be needed over the next 30-40 years or so and cannot just be phased out by 2040 as was the EU target until now.

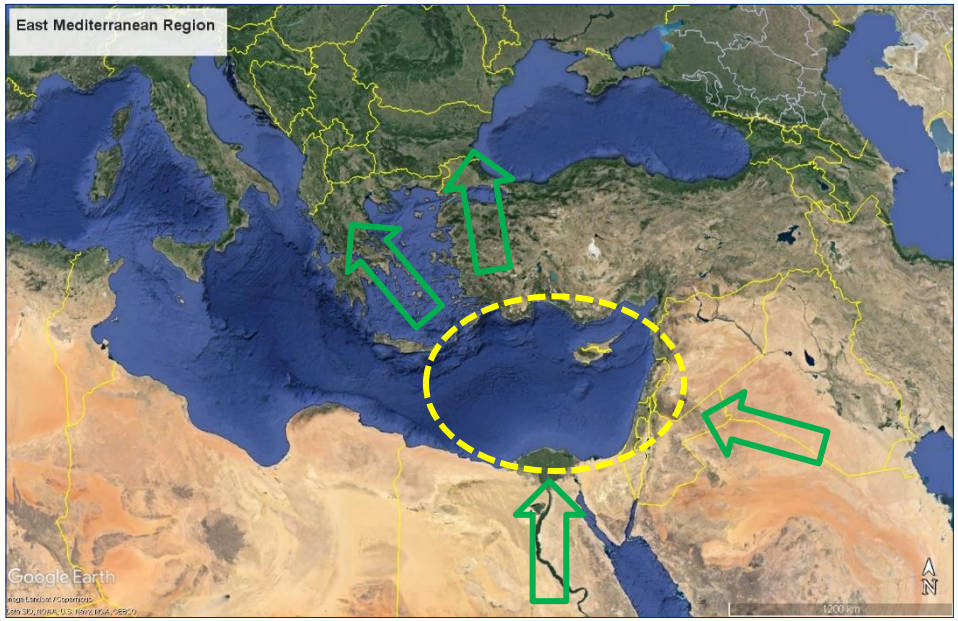
- Consequently, there are a number of gas supply options on the table.

- First and constant option, in view of the pipeline network in place, is to scale up imports from existing suppliers such as Norway, Algeria and Azerbaijan. This is already happening. Secondly, increase LNG supplies, which is already under way but at great cost. The third option – and most relevant to our discussion – is to encourage gas exploration and production from regions within or close to the continent. e.g. North Sea, Black Sea, the Adriatic and of course the East Mediterranean.

- In this context the IENE last summer completed an important study which sought to define the available and potential resources in the region not only in hydrocarbons but also from all other energy sources and forms including renewables, hydrogen and electricity.

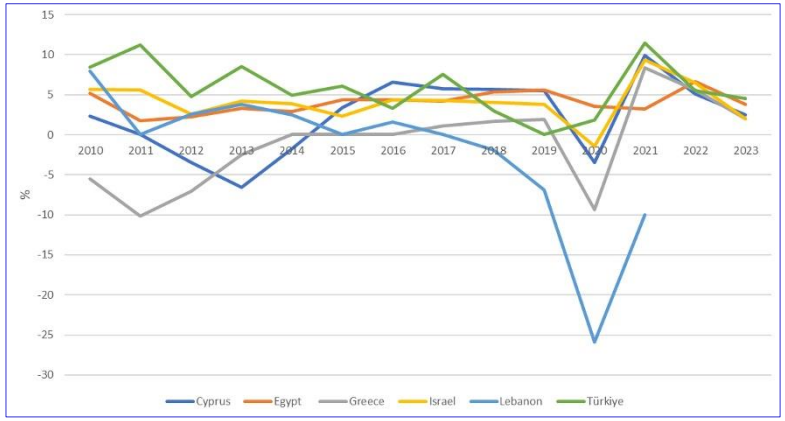
- The above options are examined in the context of the East Mediterranean becoming first of all a major energy producer in its own right, and in the course of the next decade or so to be able to channel some of its assumed energy outflow to Europe. Is this feasible and how such a vision be achieved?

The geopolitical importance of the region



- At the crossroads between Middle East, North Africa and Europe.
- Advantageous geostrategic location (chokepoint and gateway)
- Yet in a dangerous shatter belt
- Between 2 regional conflict areas (Ukraine, Middle East)
- Proximity to Middle East, major energy producers, like Saudi Arabia, Iraq, Iran
- East Med has the potential of becoming a major energy supplier to Europe
  - Prolific H/C region
  - High renewable potential
  - Energy-thirsty Europe

Economic and social parameters



- Diverse demographics, politics, and economies.
- Mixture of developed (Greece, Cyprus, Israel) and emerging economies
- Aim to exploit and export local energy resources.
- Political tensions impact countries differently.
- Energy viewed as a tool for peace and prosperity.

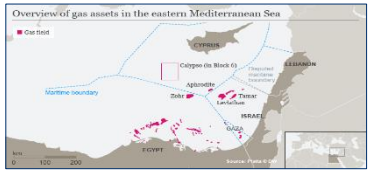
- Greece
  - 2% GDP growth in 2023; projected 2.2% in 2024. Unemployment at 11.1%, inflation, and high public debt remain concerns.
- Cyprus
  - 2.5% GDP growth in 2023; projected 2.8% in 2024. Employment rising, inflation decreasing, and budget surplus maintained.
- Turkey
  - 4.5% GDP growth in 2023; projected 3% in 2024. High inflation, productivity issues, and significant earthquake recovery needs.
- Israel
  - 1.9% GDP growth projected in 2024; expected to rebound to 4.6% in 2025. Stable inflation, increased military spending.
- Egypt
  - 33.8% inflation in 2023. GDP growth to drop to 2.8% in FY24, recovery expected with structural reforms.
- Lebanon
  - Ongoing economic crisis, modest growth reversed by regional conflict. High inflation, unemployment, and unsustainable public debt.

Oil and gas exploration and production

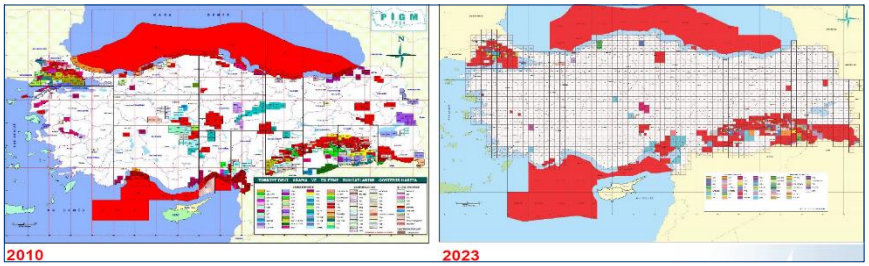
Strong position

- Israel
  - Gas reserves 1,087 bcm (2022)
  - Production: 24.7 bcm/y (2023)
  - 47% exported (2023)

- Egypt
  - Oil production: 610,000 b/day (2023)
  - Gas production: 57.1 bcm/y (2023), -11% from 2022 (64.5 bcm/y)
  - 65 new discoveries (2023)
  - 87 wells drilled (2023)
  - Oil reserves: 3.3 billion barrels (2021)
  - Gas reserves: 1.8 tcm (2021)



- Turkey
  - 414 exploration licenses (2024)
  - 156 production licenses (2024)
  - 194 wells drilled (2024)
  - Oil reserves: 600 million barrels (2023)
  - Gas reserves: 710 bcm (2023)

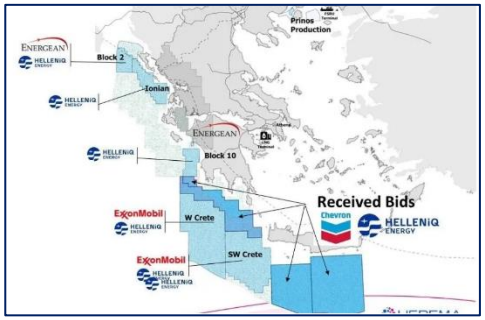


- Cyprus
  - Gas reserves estimated at 210-400 bcm
  - Several discoveries since “Aphrodite” (2011)
  - “Aphrodite” development approved (Feb 2025)

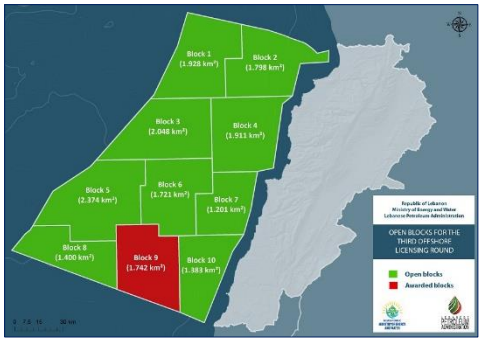
Oil and gas exploration and production

Weak position

- Greece
  - from 13 concessions (2020)
  - 8 active concessions today (ExxonMobil, Energean, HelleniQ) and 1 under force majeure (Sea of Thrace block)
  - 4 Blocks are pending approval (Chevron)
  - TotalEnergies and Repsol left
  - 1st well expected in 2026-2027 offshore Crete



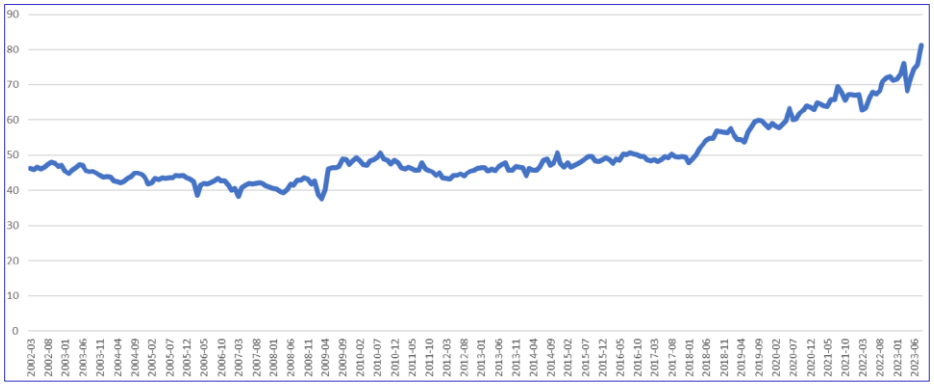
- Lebanon
  - No commercial quantities
  - 3rd licensing round extended to 28 November 2025
  - On offer all unlicensed blocks



- Syria
  - -74% oil production (2011-2022)
  - -58% gas production (2011-2022)
  - Oil and gas infrastructure destroyed
  - Efforts are now underway to return to normal oil & gas production

Oil Supply/Demand

- Egypt is the main oil producer in the region
  - 610,000 b/day (2023)
- Turkey
  - From 40,000 b/day (2017) to 72,000 b/day (2022) targeted to reach 130,000 b/day (2024)
  - Anticipated to reach 100,000 b/day by 2035 (Mount Gabar discovery, December 2023)



However this production is not enough

The region is a net oil importer

Natural Gas Supply/Demand

Israel

- Significant gas producer (24.7 bcm, 2023)
- Gas exporter since 2020 (47% exported, 2023)
- Exporting to Egypt and Jordan
  - 8.7 bcm in 2023 to Egypt
  - 2.9 bcm in 2023 to Jordan
- No direct link to the international gas market

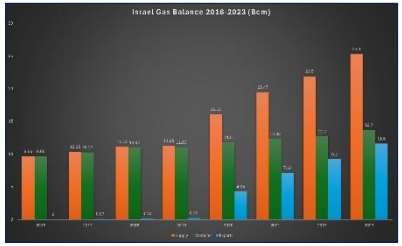
That could change either by:

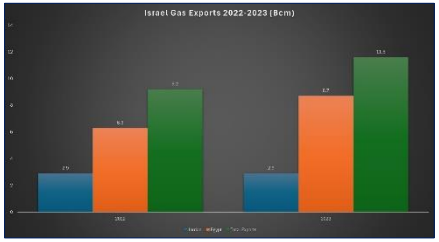
- a pipeline (EastMed pipeline) or
- via Egypt (LNG plants)

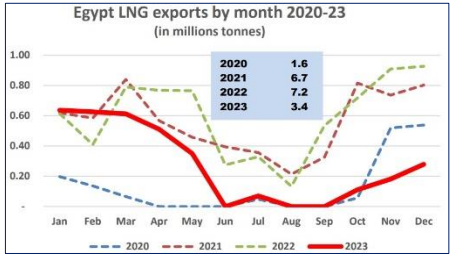
Egypt

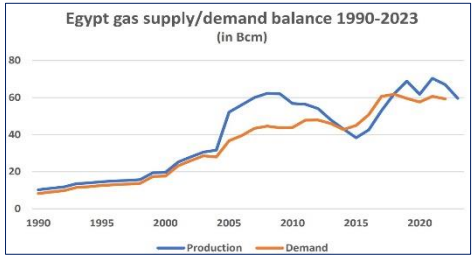
- Until 2003 supply/demand moved in step
- Production increased allowing exports
- Production declined in 2023 (summer demand)
- LNG exports stopped in 2023
- Balance was achieved from increased imports from Israel

it seems unlikely that the MOU signed with the EU in June 2022 regarding exporting gas to EU will be fulfilled in the near future



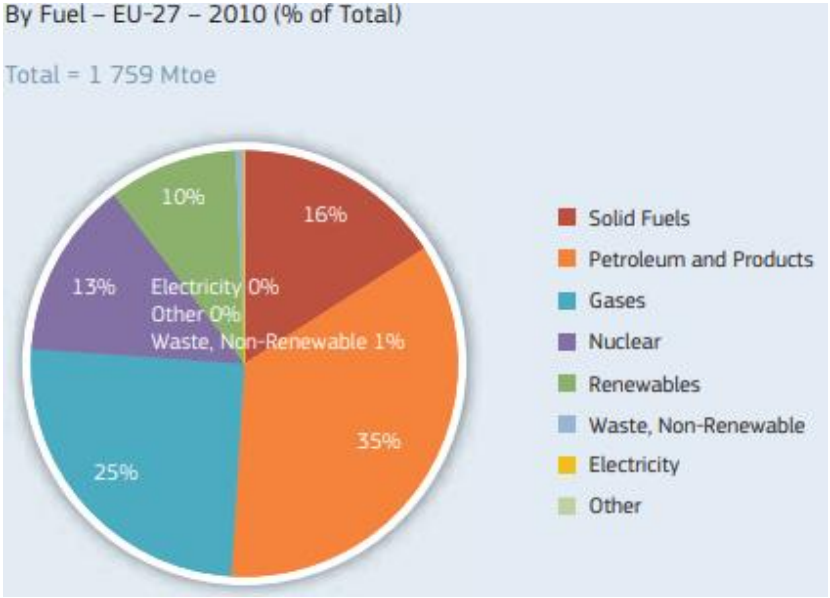


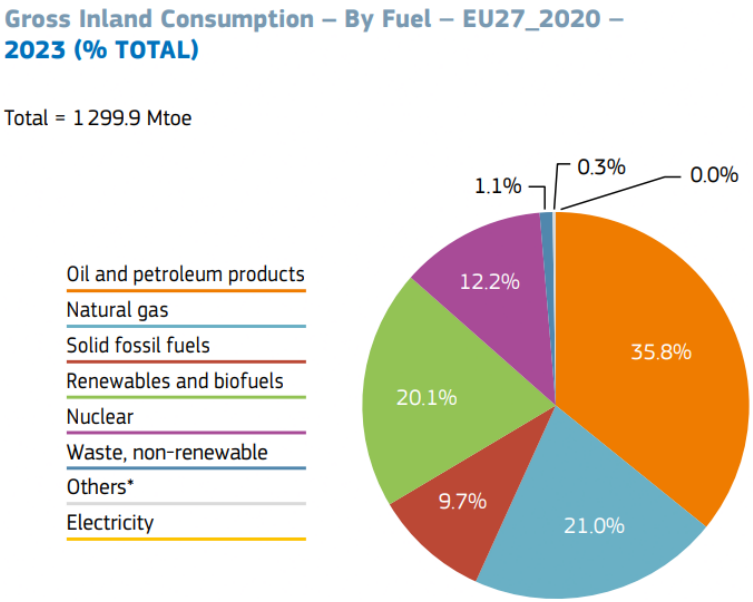




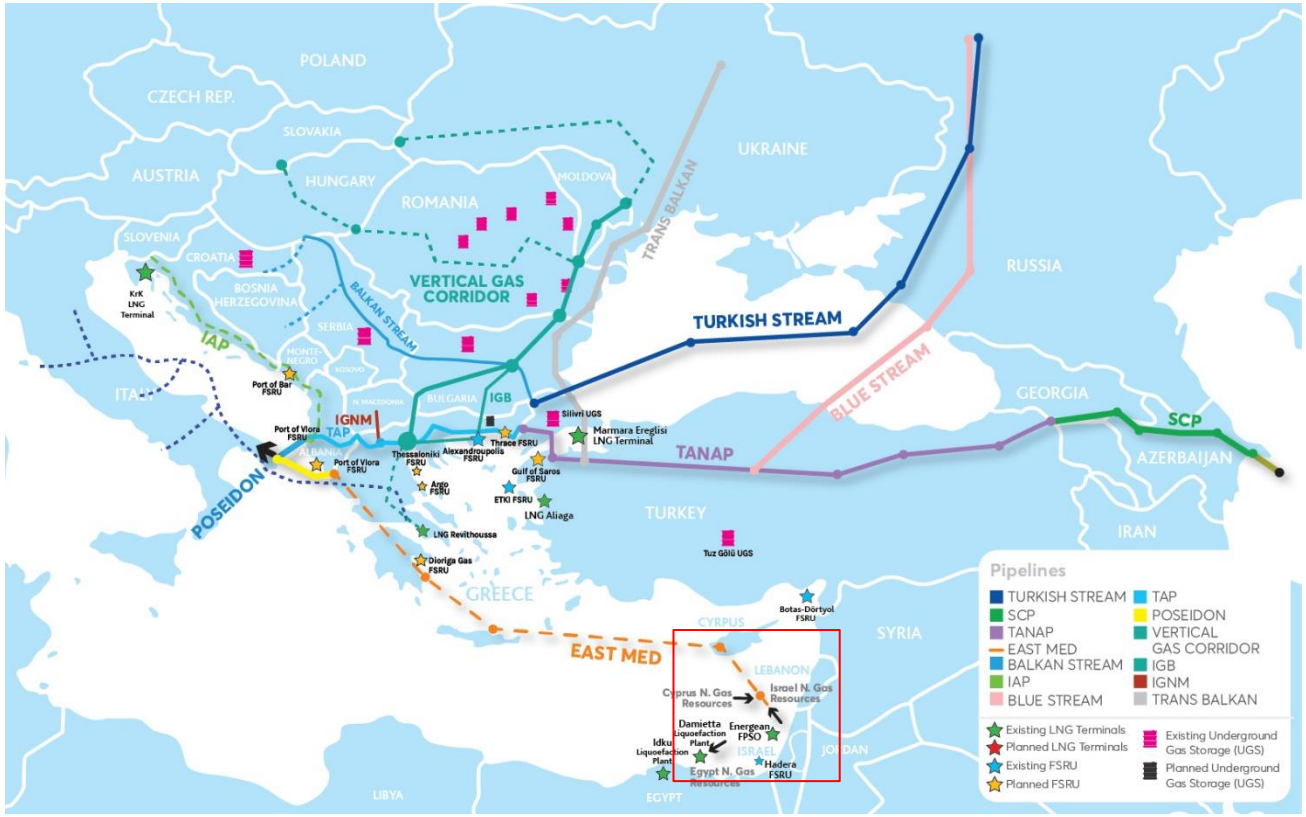
Can East Med become major hydrocarbon supplier to EU?

- The total gas consumption of the EU in 2023 was 330 bcm, while in 2020 was 394 bcm.
- It is forecasted that by 2050 natural gas consumption in the EU, in the net-zero scenario will be entirely phased out.
- However, given latest change of policy in view of decoupling from Russian gas and persisting high prices because of high-RES penetration into the electricity system gas and related problems (e.g. electricity curtailing) demand figures are likely to be revised upwards.
- Hence, anticipated gas demand output from the East Med is becoming relevant.



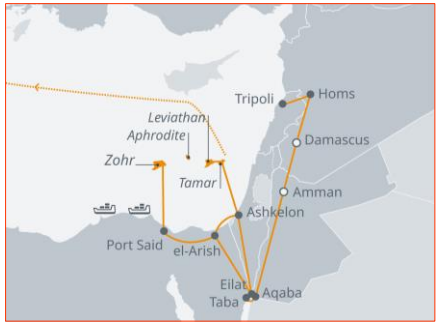


The expanded gas corridor in SE Europe



Source: *IENE*

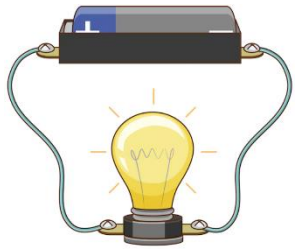
Existing pipeline infrastructure in the East Med



Source: *DW*

Electricity in the East Med

- The supply of uninterrupted and competitively priced electricity in the region is of outmost importance for daily survival and economic development
- Power generation is achieved through a combination of indigenous (i.e. gas, oil, RES, nuclear) and imported fuels (mainly oil, gas, electricity)
- The big challenge for East Med electricity remains the increase of power generation from local sources
- As power generation capability increases at country level and electrification advances in view of climate goals, so is the need for cross-border interconnections
- A number of electricity interconnection projects is underway (e.g Great Sea Interconnector, GREGY, Green Aegean, etc.)
- In addition to the East Med countries the need for cross-border electricity interconnections encompasses others in the neighbourhood – Saudi Arabia, Jordan
- These are potential power generators with excess electricity capacity for export

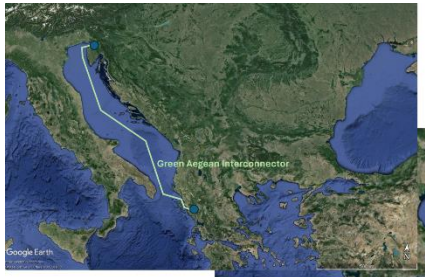


Installed electricity capacity

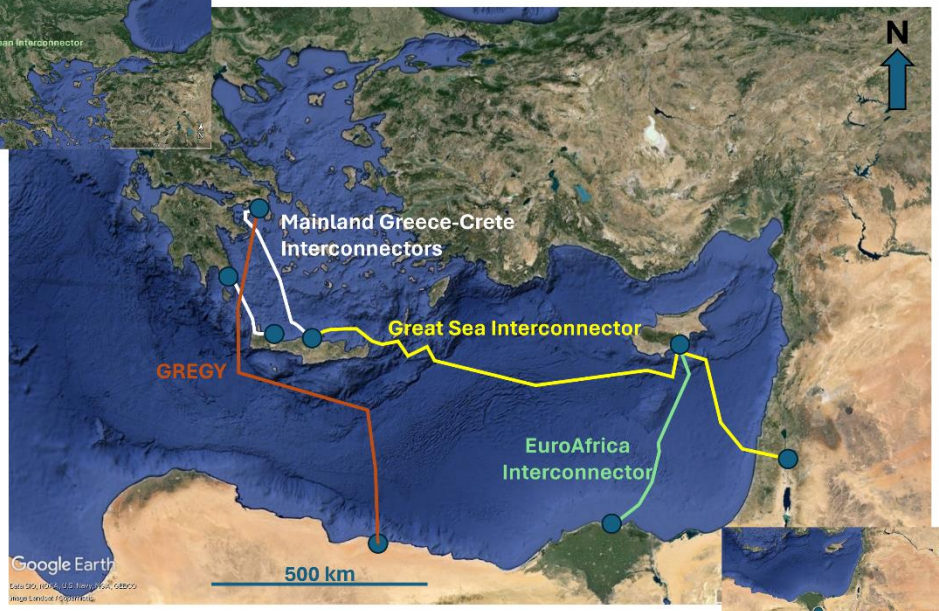
Country	Installed Capacity (GW, 2023)
Greece	24
Cyprus	2.3
Turkey	106
Israel	23
Egypt	59
Lebanon	5.2
Syria	9.6

Source: *U.S. Energy Information Administration (EIA) www.eia.gov*

Electricity interconnectors



- Green Aegean Interconnector, 9 GW to Europe

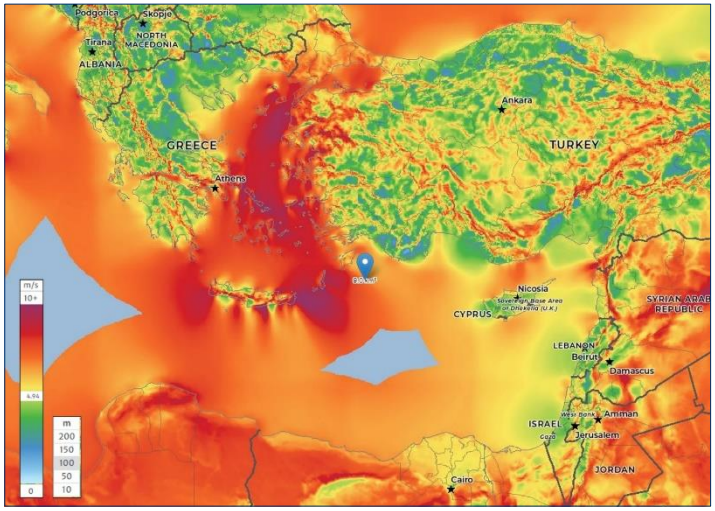


- The Great Sea interconnector took over from EuroAsia in December 2023
- Capacity: 1 GW
- Establishment of the special purpose company “Saudi Greek Interconnection” (Feb. 2024)

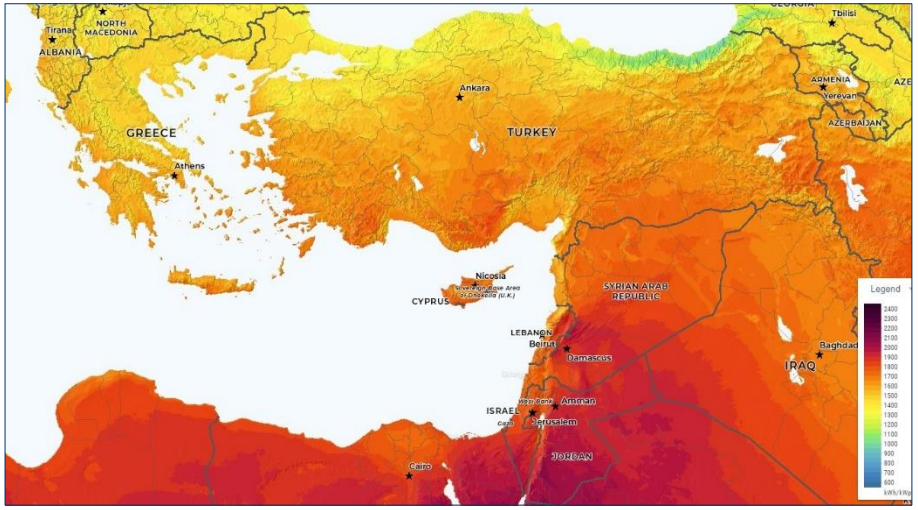
- EuroGulf Interconnector
- ProjectCapacity: 2 GW

- GREGY interconnector (3 GW)
- was specifically mentioned in the Joint Declaration on the Strategic & Comprehensive Partnership between Egypt/EU (March 2024) (although there was no reference to gas or the 2022 MOU)

Renewables play an increasing important role in East Med energy policies



Average wind speeds (m/sec) map



Photovoltaic Power Output map

- Greece ambitious RES targets (44% total gross energy consumption by 2030)
- Greece, 50% electricity produced from RES (2023)
- Turkey approximately 40%
- Turkey is a rising star in the realm of geothermal energy, ranked 4th in world
- Israel is aiming for 30% RES in power generation by 2030 (<7% in 2020)
- Egypt is aiming for over 30% RES in the energy mix by 2035

Hydrogen

- Russia’s invasion in Ukraine has reshaped EU energy policy and has placed Hydrogen in its core agenda
- EU Hydrogen Strategy
  - Aims to diversify and decarbonize energy, reduce Russian imports, establish market frameworks, and leverage international partnerships.
- European Hydrogen Bank
  - Addresses investment hurdles, bridges cost gaps, aggregates demand, and negotiates prices with global producers.
- Greece's Hydrogen Goals
  - Targets for 2030 and 2050 include significant electrolyzer installations
  - Blending hydrogen with natural gas
  - utilizing existing infrastructure for hydrogen storage.
- Turkey's Hydrogen Strategy
  - Emphasizes green hydrogen production
  - aims for significant electrolyzer capacity
  - South Marmara Hydrogen Coast Valley Project.
- Egypt's Hydrogen Ambitions
  - Leverages strategic location and renewable energy
  - enacts supportive legislation,
  - major global player status in the green hydrogen sector.

Energy security parameters in the East Med

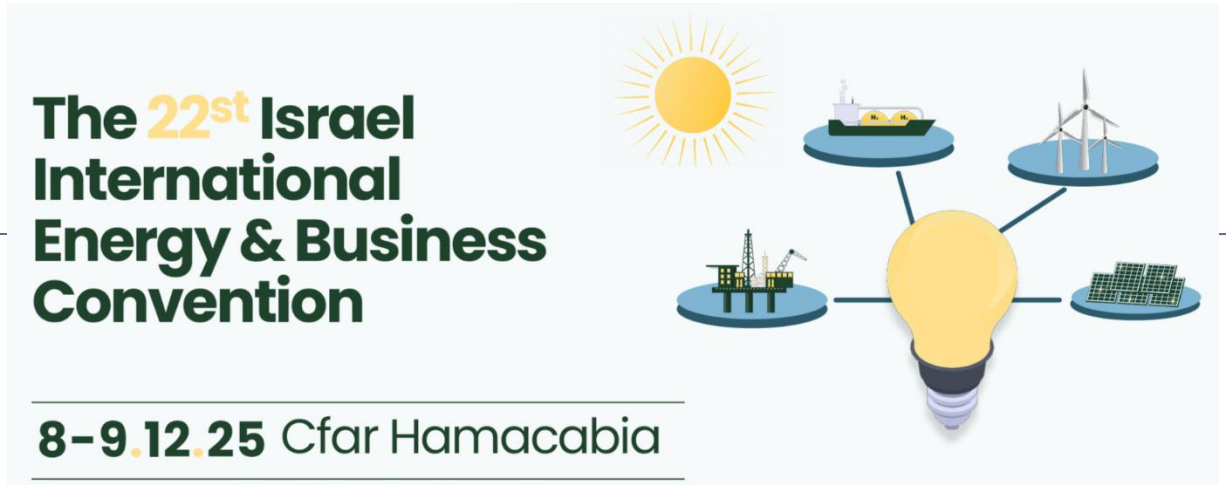
- External Threats
  - Gulf tensions, Red Sea instability, and Russia-Ukraine war impact regional energy security, causing oil price spikes and rerouting of tankers around the Cape of Good Hope.
- Regional Dynamics
  - Israeli-Palestinian conflict and Turkey-Greece tensions have minimal direct impact on energy projects, while Israel-Egypt gas relationship is crucial for regional energy stability.
- Disruptions and Sanctions
  - Ukraine conflict affects Kazakh oil routes; potential sanctions on Russian LNG could increase demand for US LNG in Europe.
- EU Gas Supply Agreements
  - MoUs with Israel, Egypt, and Azerbaijan aim to secure alternative gas supplies, but face challenges from Egypt’s domestic demand and slow Azerbaijani field development.
- Impact from Prolonged Conflicts
  - Continued Gaza war could strain Israeli-Egyptian relations and halt pipeline projects to Türkiye; development of Gaza Marine gas field depends on a peace settlement.

Key messages (1/2)

- Understanding the geography of the region is of paramount importance
  - Major energy producers (e.g Saudi Arabia, Iraq, Kuwait, Iran, etc.)
  - Hydrocarbon choke points (Gulf of Suez, Suez Canal, Hormuz straits, Bab-el-Mandeb strait
  - Other potential producers (Caspian Sea, Black Sea)
- Can the East Med become an energy exporter to Europe?
  - Prolific H/C resources
  - High RES potential
  - BUT can it cover the regional demand?
  - Can it actually export any energy surplus?
  - For example, Egypt has reduced gas production, has stopped LNG exports
  - Greece has been left behind regarding E&P
  - How will this affect the regional supply/demand dynamics?
- Electrification
  - Can the region's grids support the energy transition?
  - If not, what must be done?
  - Can cross-border electricity interconnectors accelerate energy transition?

Key messages (2/2)

- Where does Saudi Arabia fit in?
  - Can it export electricity via Egypt but
  - It can also export via Jordan
- What about Iran and Iraq?
  - How will these two (2) countries affect the regional balance?
- Different cultures, diverse economies and never-ending hostilities. Can this change?
  - How cooperation between such a diverse mixture of countries be successful?
- Turkey
  - Turkey is drifting away from the West
  - Can it return?
  - Turkey-Iran relations have affected the US-Turkish relations
  - Cyprus-Turkey, Greece-Turkey relations.
  - Turkey not willing to follow UNCLOS
  - How can there be any regional cooperation without Turkey?



Thank you for your attention!

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