



***Energy Security and Critical Infrastructure in the Baltic and Mediterranean Maritime Space –  
Mutual Risk, Mutual Resilience  
Athens, June 02, 2026***

## **Hybrid Threats and Protection of Maritime Energy Infrastructure**

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**INSTITUTE OF ENERGY  
FOR SOUTH EAST EUROPE**



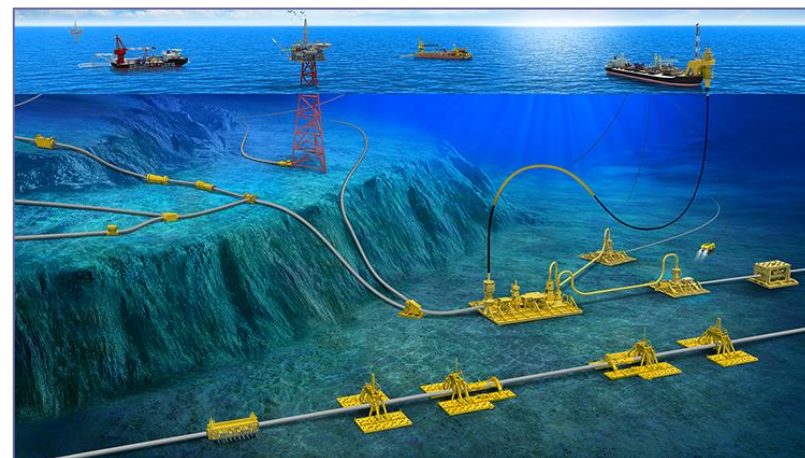
# Threats faced by Maritime Energy Infrastructure in the East Mediterranean

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- ❑ Over the last 10-15 years we have seen a proliferation of maritime related energy infrastructure projects taking shape in the East Mediterranean ( Egypt, Israel, Cyprus, Turkey and Greece)
- ❑ These projects range from offshore hydrocarbon exploration and production, the laying of underwater gas pipelines and electricity cables to floating storage LNG vessels( FSRU's,) floating oil storage and offshore wind installations.
- ❑ Although a lot of attention is being paid and adequate protection measures are taken to ensure the robustness and resilience of all maritime related energy infrastructure ( e.g special specifications for underwater pipelines and electricity cables) there is generally a lack of foresight when it comes to hybrid threats such as acts of terrorism and cyberattacks.
- ❑ In order to be able to understand and prepare for such hybrid threats in today's increasingly complex operating environment, we must first of all familiarise ourselves with the marine infrastructure involved. The following slides will help in describing this environment:
- ❑ Two turning points in the advancement of energy related marine infrastructure in the East Mediterranean:
  - ❑ (a) Construction and operation of the South Gas Corridor ( in operation since 2020)
  - ❑ (b) Gas production in Israel, Egypt and acceleration of hydrocarbon exploration in Cyprus ( 2008-2020)
- ❑ When it comes to the handling of hybrid threats governments must play key role in preparing mitigation and protection plans and enforcing them in cooperation with the operating companies involved.
- ❑ Cyber threats and the need for cybersecurity plans must be discussed and analysed in relation to the above with governments also playing key role in their mitigation.

# Hydrocarbon exploration and production

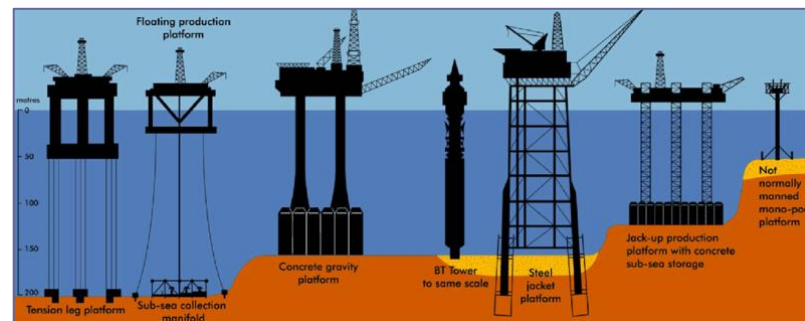
- Subsea wells
  - Extracting oil and gas from beneath the seabed
- Subsea manifolds
  - Distributing and controlling the flow of oil and gas from multiple wells
- Subsea trees
  - Controlling the flow of oil and gas from wells on the seabed
- Subsea boosting and compression systems
  - Enhancing the pressure of the extracted fluids to facilitate transportation
- Subsea umbilicals, risers and flowlines
  - Connecting subsea installations to floating platforms or onshore facilities



Source: Oil States Industries

## Risks:

High pressures, geohazards (i.e. landslides, faults, earthquakes etc.), corrosion, effective sealing and gasket systems, currents, waves, vessel movements, terrorist attacks, sabotage



# Gas transmission

- Gas pipelines
  - Transmitting gas from the seabed to processing facilities or other locations

## **Risks:**

Geohazards, corrosion, erosion, risk of damage from ship anchors and fishing activities, terrorist attacks, sabotage

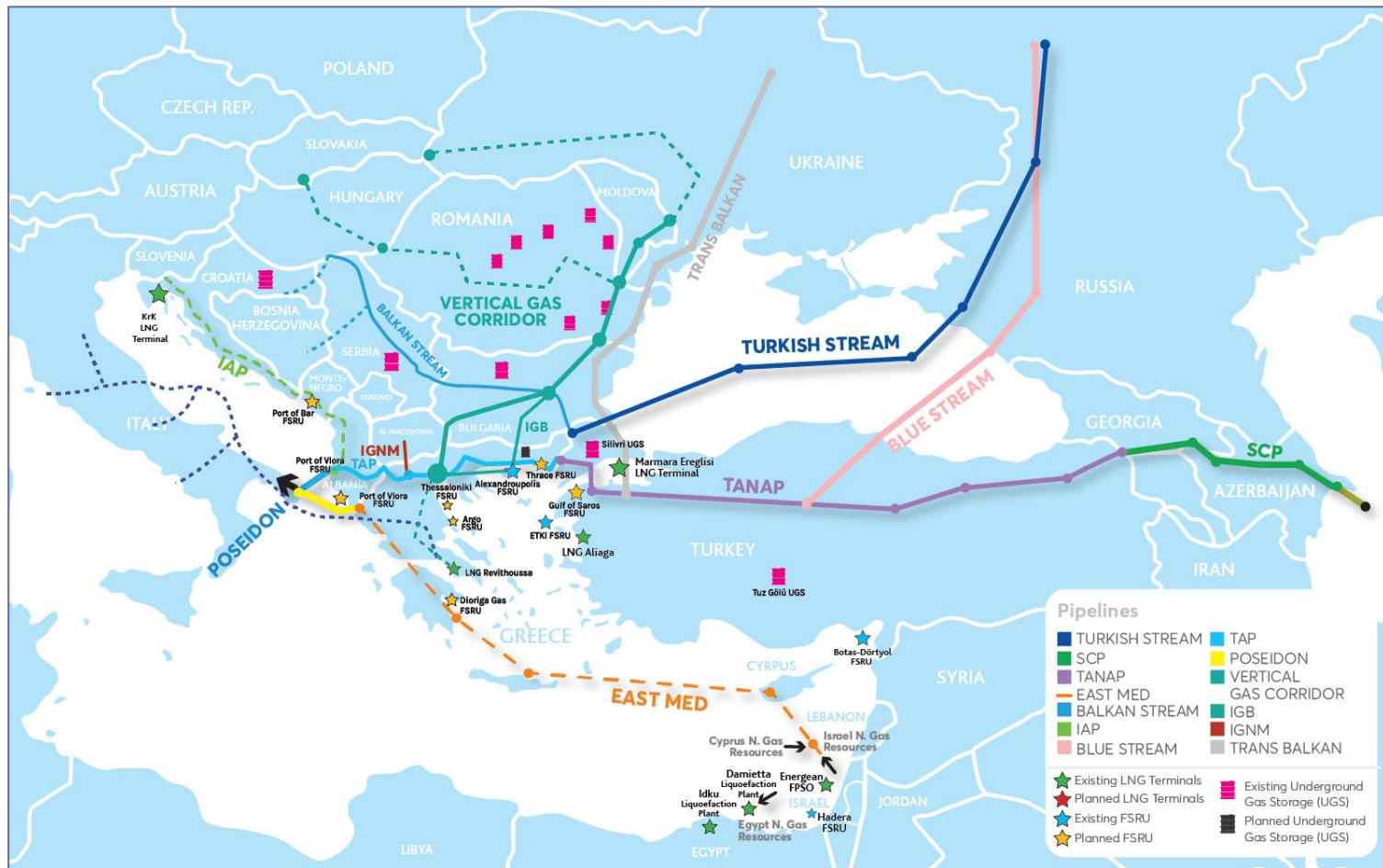


*Source: Reuters*



*Source: <https://en.topcor.ru/>*

# The expanded south corridor



Source: IENE, 2025

# Subsea electricity cables

- Transmitting electrical power between offshore installations and onshore facilities

## Risks:

Leaks and insulation, currents, geohazards, precision in laying the cables, anchors, fishing activities, terrorist attacks, sabotage

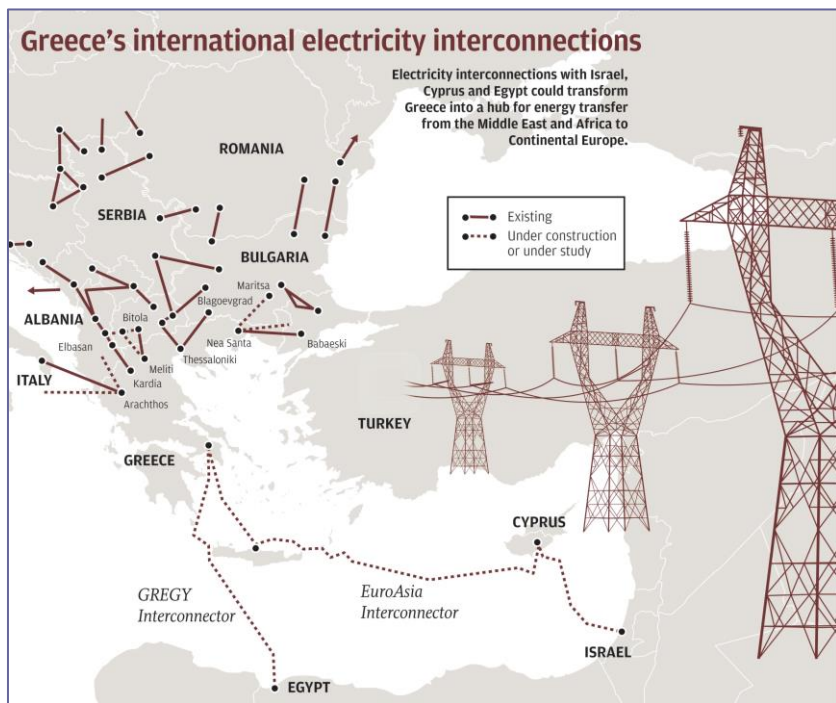


Source: Seatools

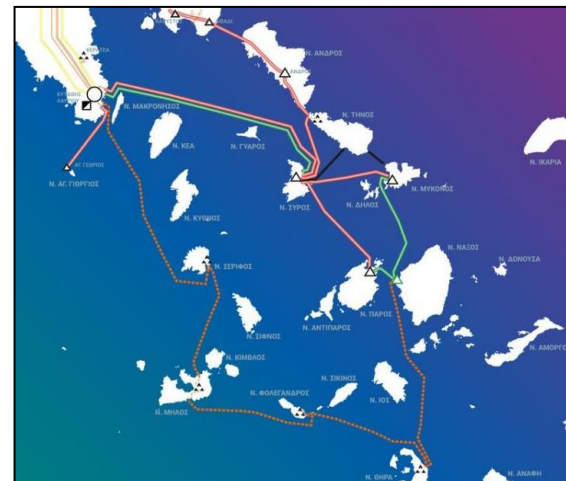


Source: Starbroek News

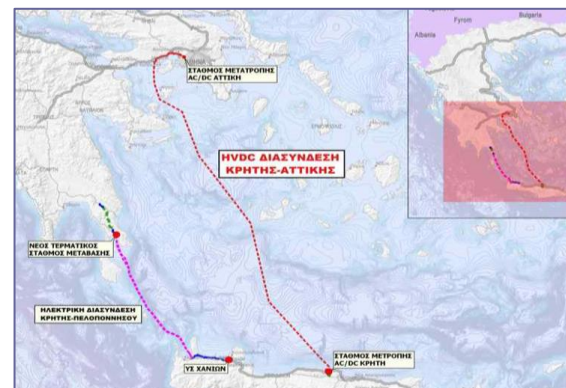
# Electricity interconnectors



Source: <https://www.ekathimerini.com/>



Source: IPTO (ΑΔΜΗΕ)



Source: Ariadne Interconnection

# Offshore windfarm installations

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- ❑ Harnessing wind energy from onshore locations using wind turbines

## **Risks:**

Stable foundation systems (monopiles, jacket, floating platforms), weather conditions, waves, terrorist attacks, sabotage



Source: [www.ukpandi.com](http://www.ukpandi.com)



Source: UK Research and Innovation

# Planning effective protection measures (key parameters) - 1

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## ❑ Site Selection and Assessment

- ❑ Conduct thorough geological and environmental surveys to select suitable sites for infrastructure placement.
- ❑ Assess the seabed conditions, currents, tides, and natural disaster risks (e.g., earthquakes, tsunamis) in the area.

## ❑ Engineering and Design

- ❑ Design structures that can withstand underwater pressures, currents, and potential impacts from ships or other marine activities.
- ❑ Use corrosion-resistant materials to prolong the lifespan of the infrastructure.
- ❑ Implement redundancy and modularity in design to ensure continuous operation in case of partial system failures.

## ❑ Security Measures

- ❑ Implement security protocols to prevent unauthorized access, vandalism, or sabotage.
- ❑ Utilize advanced surveillance technologies such as underwater cameras, sensors, and sonar systems to monitor the infrastructure continuously.

## ❑ Maintenance and Inspection

- ❑ Develop regular inspection schedules to identify and address wear and tear, corrosion, or any potential weaknesses.
- ❑ Establish maintenance protocols to ensure the infrastructure remains in optimal condition over its operational lifespan.

# Planning effective protection measures (key parameters) - 2

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## ❑ Environmental Impact Mitigation

- ❑ Implement measures to minimize the impact of infrastructure installation on the local marine ecosystem.
- ❑ Monitor and address any environmental disturbances caused by the infrastructure, such as noise pollution or disruption of marine habitats.

## ❑ Emergency Response and Contingency Planning

- ❑ Develop comprehensive emergency response plans to address potential accidents, leaks, or other emergencies.
- ❑ Establish communication protocols with relevant authorities and response teams to coordinate swift actions in case of emergencies.

## ❑ International and Regulatory Compliance

- ❑ Ensure compliance with international maritime laws and regulations related to undersea energy infrastructure.
- ❑ Obtain necessary permits and approvals from regulatory authorities before the installation and operation of the infrastructure.

## ❑ Cybersecurity Measures

- ❑ Implement robust cybersecurity protocols to safeguard against cyber threats, including hacking attempts and data breaches.
- ❑ Regularly update security systems to stay ahead of evolving cyber threats.

# Planning effective protection measures (key parameters) - 3

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## □ Stakeholder Engagement

- Engage with local communities, environmental organizations, and other stakeholders to address concerns, provide information, and garner support for the project.
- Foster positive relationships with local communities to enhance cooperation and minimize opposition.

## □ Risk Assessment and Management

- Conduct comprehensive risk assessments to identify potential risks and vulnerabilities.
- Develop risk management strategies to mitigate identified risks and enhance the resilience of the infrastructure.



*Source: Synthetex*

Seminar during  
**POSIDONIA 2026**  
The International Shipping Exhibition

“Energy Security and Critical Infrastructure  
in the Baltic and Mediterranean Maritime Space -  
Mutual Risk, Mutual Resilience”

TUESDAY  
**June 2nd** | **10:45-12:30**

Athens Metropolitan Expo  
Posidonia Seminar Room Central  
Entrance 1 area

Organizer

Embassy  
of the Republic of Poland  
in Athens

POLISH PRESIDENCY  
2020-2025

# Thank you for your attention!

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