
SOTO-PETERS-BILIRAKIS CONGRESSIONAL REPORT



BIPARTISAN CONGRESSIONAL DELEGATION
LED BY U.S. REPRESENTATIVE TED DEUTCH

SUBMITTED TO THE HOUSE COMMITTEE ON ENERGY & COMMERCE

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INTRODUCTION

A bipartisan group of ten Members of Congress traveled to Switzerland, France, Israel, West Bank, Qatar, Cyprus and Greece on a bipartisan CODEL led by United States Representative Ted Deutch.

This is a report authored by United States Representatives Darren Soto, Scott Peters, and Gus Bilirakis of findings related to energy matters coming under the jurisdiction of the House Energy and Commerce Committee.

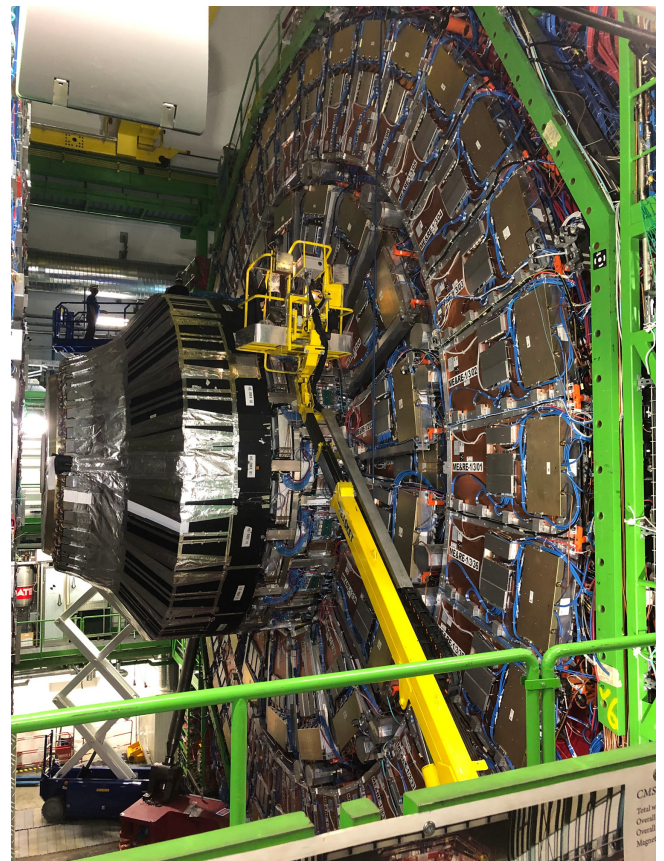
The delegation visited CERN, the European Council for Nuclear Research (in French Conseil Européen pour la Recherche Nucléaire), a particle physics research center located on both sides of the Swiss-French border.



CERN, founded in 1951 at an intergovernmental meeting of UNESCO, has developed many physics theories and technologies that are directly and indirectly related to its research. Its scientists won a Nobel Prize for discovering and proving the existence of the Higgs-Bosson particle. Many American university scientists, particularly affiliated with Florida institutions, conduct research at this facility.

CERN uses a massive circular ring with a 16-mile circumference and electric charges to speed up hydrogen atoms to extremely high speeds. These atoms eventually collide. A detector analyzes subatomic particles that are briefly created as a result.

The detector has the most powerful magnetic field in the world, which is necessary to contain these collisions. It also contains many powerful cameras, which can record the subatomic activity with photos every 25 nanoseconds.



CERN

CERN is currently servicing its equipment to conduct new dark matter experiments. Cameras must increase from taking a photo every 25 nanoseconds to 1 nanosecond to capture dark matter. CERN scientists explained physics theories that dark matter and dark energy may make up much of the universe, but have not been detected by humans thus far. Exotic explanations include that dark matter may be elusive to identify because it could disappear quickly, could be a very big particle, or could even go to another dimension.

There are proposed plans between Europe and China to increase the circumference of the ring from 16 miles (current) to 65 miles, which would create even faster collisions. Current magnets could help with electron studies (from 13 to 100 terra electron volts), but CERN would need a stronger magnet for proton studies.

It is in the United States' best interest to continue to be a primary CERN funder and oppose Chinese intervention to protect our right to particle research and innovative technologies developed there.

CERN APPLICATIONS

Nuclear Power

Helped create critical technologies related to nuclear power including strong magnetic fields, super conductors, and cryogenic fields. Its research is increasing our understanding of subatomic physics and could ultimately boost nuclear fission and nuclear fusion technology

Internet

Developed some of the earliest internet and touch screen technologies to communicate with other research facilities around the world

Medical Devices

Research helped develop proton therapy for cancer and MRI (Magnetic resonance imaging)

Satellites

CERN's work on general relativity is used in satellites

Space Research

CERN's alpha magnetic spectrometer (AMS) helps measure antimatter and cosmic rays in space

FUNDING & NEEDS

CERN's budget is paid by European Union Member States

The Compact Muon Solenoid (CMS) experiment is one of two large general-purpose particle physics detectors built on the Large Hadron Collider (LHC) at CERN. National Science Foundation and the U.S. Department of Energy fund approximately 30% of CERN's operating costs of CMS experiments. This funding pays for research, students, and university relationships

American CERN scientists have identified and requested funding for the following priorities:

- 1) project improvements
- 2) development of super conducting magnets to advance particle physics research (cooled to 1 or 2 Kelvins)

QATAR ENERGY UPDATE



The delegation held a series of high-level meetings in Doha with Abdullah bin Khalifa al-Thani, Prime Minister and Minister of Interior; Dr. Khalid bin Mohammad al-Attityah, Deputy Prime Minister and Minister of Defense; Mohammad bin Ahmed al-Misnad, the Advisor for National Security to the Emir of Qatar; and U.S. Embassy officials, including Phillip Nelson, the Deputy Chief of Mission.



Qatar is the second largest liquefied natural gas (LNG) producer in the world. The energy sector makes up approximately 90% of Qatar's economy. Exxon Mobil is the primary company assisting them with exploiting their rich energy resources.

In June 2017, Saudi Arabia, Bahrain, Egypt, and the United Arab Emirates began an embargo against Qatar. It closed off Qatar's entire southern border, cutting off all commerce by land. Despite this major obstacle, Qatar has maintained its economy via Iranian airspace and Persian Gulf tanker transport.

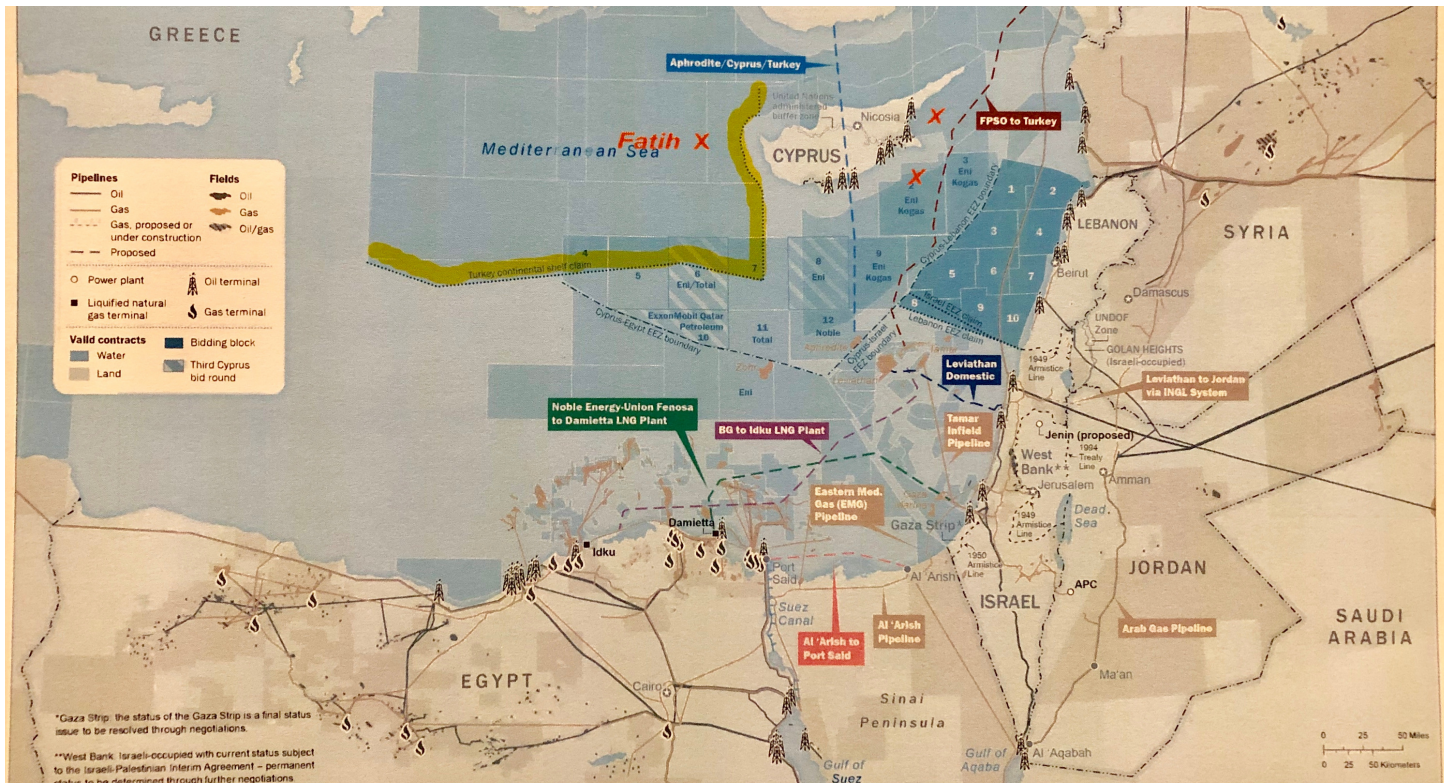
Qatar officials stressed that continued American military presence at Al Udeid Air Base is critical to the security of Qatar and the region as it protects major American economic interests there. For instance, it protects American energy interests in the Gulf and ensures the free flow of LNG and oil, which stabilizes global energy markets. Given its proximity, this presence is also critical to our defense and containment strategy against Iran.

Qataris recently began to diversify their economy through real estate investments and other ventures in the United States. They built several American university campuses in Qatar, including Georgetown, Texas A&M University, and Northwestern University, among others. They are also preparing to host the FIFA World Cup in 2022.

These economic, military, and educational ties continue to foster a strong American-Qatari relationship.

EASTERN MEDITERRANEAN ENERGY UPDATE

Recently, there have been significant natural gas discoveries in the Eastern Mediterranean found in Egyptian, Israeli and Cypriot sovereign waters. There is no clear plan to develop these resources. However, Exxon Mobil is working with Cypriots to develop their strategy. Noble Energy, an American firm, is also active in Eastern Mediterranean energy development.



It is in United States' interest to facilitate gas transport from the Eastern Mediterranean to Europe so they can diversify from Russian gas, while also providing for Israel energy independence.

Four processing and transport options:

- 1) Pipeline from gas fields to Egypt
- 2) Floating natural gas terminals
- 3) LNG (Liquefied natural gas) Facility on Cyprus (may need greater volume)
- 4) Israeli-Hellenic Pipeline (see pg 6)

ISRAELI PERSPECTIVE



The delegation met with Israeli Prime Minister Benjamin Netanyahu to discuss recent major gas discoveries in the Eastern Mediterranean. These developments could give Israel a major revenue source and energy independence.



Israeli-Hellenic Pipeline

Israel is working with the United Nations and Eastern Mediterranean countries to study developments of a natural gas pipeline from Israel through Cyprus, Greece, and Italy to provide natural gas to Europe. The pipeline would be the longest and deepest in the world. It would also alleviate security concerns posed by other methods of production and transport due to Israel's current regional conflicts. The Prime Minister also discussed a potential pipeline from Israel through Saudi Arabia to Europe.



CYPRIOT PERSPECTIVE



The delegation met with Cyprus Minister of Energy, Commerce and Industry Georgios Lakkotrypis, Minister of Defense Savvas Angelides, National Security Advisor Kyriacos Kourou, and other government officials.



In February 2019, Exxon Mobil made the third largest natural gas discovery off the Cyprus coast. Its field development plan is in the final steps of Cyprus approval. Security is an issue since it is near an area of high terrorist activity (close to Syria and Lebanon). Egypt has a permanent naval presence at their gas fields. Israelis export their gas via pipeline to Jordan and Egypt.

Cyprus needs to be able to cooperate with Israel and Egypt on Eastern Mediterranean security.

Cypriot officials claim that “security will be impossible” without United States’ defense equipment. Cyprus expects an initial investment of \$3.5 billion and eventually rising to \$7 billion in the Aphrodite field.

The Cyprus government wants Americans and Exxon Mobil to assist in the lucrative job of developing the entire gas field.

Cyprus signed gas development agreements with Egypt, Lebanon, and Israel.

CYPRIOT PERSPECTIVE



EAST MEDITERRANEAN GAS FORUM

The forum includes seven members: Egypt, Israel, Greece, Cyprus, Jordan, Italy and Palestine. It finds optimal ways to develop gas fields and production. All members have agreed to abide by the same rules, including respect of other nations' sovereignty. Lebanon did not join due to Hezbollah-Iranian influence.

Cypriot Ministers support the United Nations funded feasibility study for the Israeli-Hellenic Pipeline. They speculate that using gas terminals in Egypt may be more economically viable for now. Cyprus pointed out that there is no private sector capital for the proposed pipeline.

Turkey is currently interfering with East Mediterranean LNG development. They are not a signatory to U.N. Law of the Sea. Turkey is violating international law norms by attempting to expand their exclusive economic zone beyond 12 nautical miles.

The European Union has threatened action against Turkey for drilling unlawfully off the coast of Cyprus, while Turkey disputes Cyprus' rights to natural gas found there. It has been reported that a Turkish vessel has been anchored off the west coast of Cyprus since early May and a second vessel recently arrived on Monday, July 8th, off the east coast of the island.

These rogue actions are consistent with Turkey's role in the longtime Cyprus conflict. There has been no progress on negotiations between Turkey and Cyprus lately. The U.N. demilitarized zone will likely be renewed every six months for the foreseeable future.

The Cypriot Ministers claimed that if Turkey prevails in its territorial claims then Cyprus would have only 31% of potential gas fields. This aggressive and potentially unlawful drilling could destabilize the region. They further stated that both Turkey and Russia are concerned about competition from new LNG suppliers to Europe. Finally, they claimed that Turkey doesn't want Israel to have a role in LNG.