

## Eastern Mediterranean Energy

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Last Updated: November 16, 2022

### Eastern Mediterranean in Context

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- Natural gas production grew significantly in the Eastern Mediterranean after major offshore discoveries in **Egypt** and **Israel** began commercial operations in the 2010s. **Cyprus's** natural gas finds are still in the development phase and could significantly increase regional growth once commercial production begins.
- Development of midstream infrastructure for natural gas in the Eastern Mediterranean is still emerging. As of October 2022, Egypt is the only country in the region with liquefied natural gas (LNG) export capacity, which Israel also uses to deliver natural gas outside the region. **Jordan** and **Lebanon** are considering developing infrastructure that would allow additional natural gas import flexibility. **Greece** and **Turkey** want to develop additional LNG import capacity, which would strengthen their role as transit countries by enabling the countries to import greater volumes of natural gas that could then be delivered via pipeline to other countries in Europe.

### Exploration

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- In 2021, **Egypt** completed a licensing round for 24 exploration blocks located in the Western Desert, the Gulf of Suez, the Nile Delta, and the Mediterranean Sea, areas that already have produced significant volumes of crude oil and natural gas. The government announced bid winners in January 2022; however, it only awarded eight blocks. Eni received exploration licenses to five blocks, and the other bid winners were BP, Apex International Energy, Energean Egypt, INA, Enap Sipetrol, and United Energy.<sup>1</sup>
- **Israel** announced its third offshore bidding round (OBR3) on June 23, 2020, which offered one exploration block (Block 72) in the northern part of Israel's Exclusive Economic Zone (EEZ). The final date for bid submissions was on September 23, 2020, and according to Rystad Energy, the awarded bids are expected to be announced in the third quarter of 2022.<sup>2</sup> In May 2022, Israel announced plans to launch a fourth offshore bidding round for natural gas exploration, meant to help provide Europe with an alternative source of natural gas other than Russia. The fourth offshore bidding rounds would offer 25 exploration blocks in six clusters, and the official call for bids could close by the end of 2022.<sup>3</sup>
- **Jordan** launched a bidding round in 2021, offering nine concession areas for oil and natural gas exploration in an effort to revive its hydrocarbons sector and reduce high use of imports. According to Rystad Energy, submission for bids is expected to close in May 2023, and awards will be announced sometime in the third quarter of 2023.<sup>4</sup>

- **Lebanon** launched its second offshore bidding round for eight blocks (Blocks 1–3, 5–8, and 10) in November 2021 and set an initial deadline of June 2022 for bid submissions. The government later extended the deadline to submit bids to December 15, 2022, to allow more companies to participate and to ensure a competitive bidding process. According to Rystad Energy, the country plans to award bids for the blocks in the second quarter of 2023.<sup>5</sup>
- **Cyprus, Greece, and Turkey** do not have any bidding rounds currently underway or planned for the near future (Table 1).

**Table 1. Ongoing or upcoming licensing rounds for exploration**

Country	Licensing round	Status	Number of blocks offered	Location	Notes
Israel	Offshore bid round 3	Evaluating bids	1	Offshore	Expected award date by end-2022
	Offshore bid round 4	Planned	25	Offshore	Bids accepted up until December 2022. expected award date in Q2 2023
Jordan	2021 licensing round	Planned	9	Onshore	Closing date May 2023, expected award date Q3 2023
Lebanon	Second offshore licensing round	Call for bids	8	Offshore	Bids accepted up until December 2022. expected award date in Q2 2023

Data source: Rystad Energy, ministry websites, *Oil & Gas Journal*

## Petroleum and Other Liquid Fuels

### Reserves

- According to estimates as of January 1, 2022, by the *Oil & Gas Journal*, **Egypt** has the largest crude oil reserves in the Eastern Mediterranean, holding about 3.3 billion barrels in proved reserves. **Turkey** is the second largest, holding only 371 million barrels. **Greece, Israel, and Jordan** hold relatively small volumes of proved crude oil reserves by comparison. Data on proved crude oil reserves for **Cyprus** and **Lebanon** are not available (Table 2).<sup>6</sup>

**Table 2. Oil reserves in selected countries in the Eastern Mediterranean, 2022**

Country	Million barrels of oil reserves
Egypt	3,300
Greece	10
Israel	13
Jordan	1
Turkey	371

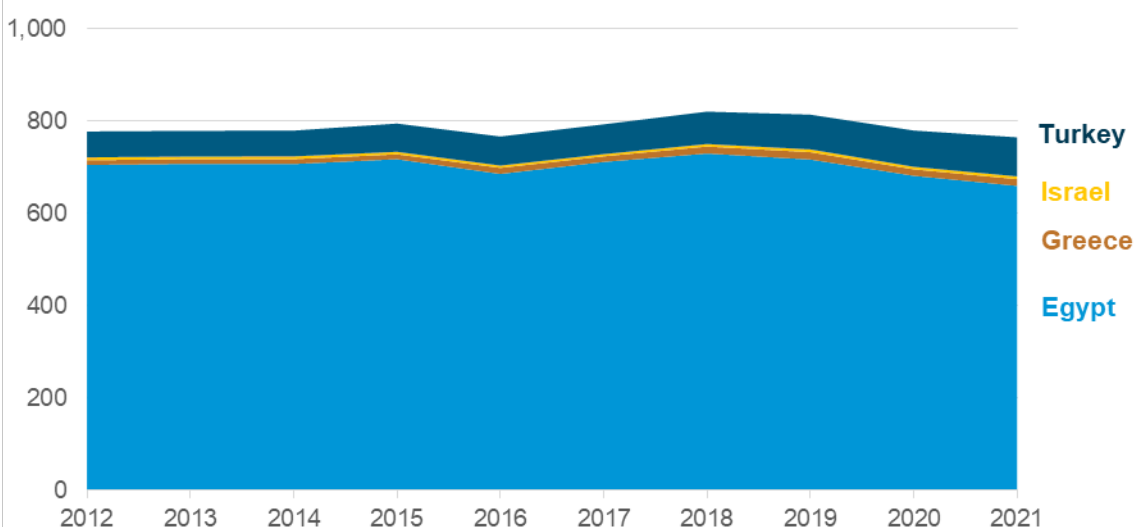
Data source: *Oil & Gas Journal*, "Worldwide Look at Reserves and Production"

## Production

- **Egypt** is the largest liquid fuels producer in the Eastern Mediterranean, producing an average of about 702,000 barrels per day (b/d) from 2012 to 2021. Egypt's total liquid fuels production increased slightly in the latter half of the 2010s, after the Zohr natural gas field came online. Egypt's production began to decline by 2019, however, as a result of maturing fields and lack of any new significant discoveries.<sup>7</sup>
- **Turkey** produced an average of about 66,000 b/d in total liquid fuels between 2012 and 2021. **Greece** and **Israel** also both produce only small amounts of liquid fuels, averaging 13,000 b/d and 5,000 b/d, respectively, between 2012 and 2021.<sup>8</sup>
- **Cyprus, Jordan, and Lebanon** produced little, if any, liquid fuels between 2012 and 2021 (Figure 1).

Figure 1. Annual liquid fuels production, selected countries in the Eastern Mediterranean, 2012–2021

thousand barrels per day



Data source: U.S. Energy Information Administration, International Energy Statistics database

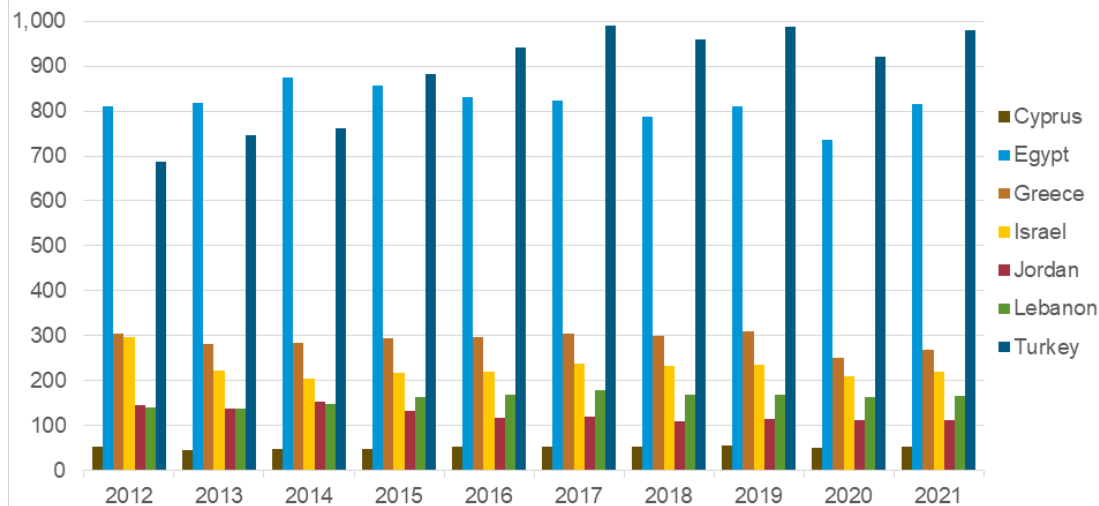
## Consumption

- **Turkey** and **Egypt** are, respectively, the largest and second-largest liquid fuel consumers in the Eastern Mediterranean, in part, because of the larger size of their economies and populations, according to World Bank estimates.<sup>9</sup> On average, Turkey consumed 886,000 b/d of liquid fuels, and Egypt consumed 816,000 b/d between 2012 and 2021.
- **Greece, Israel, Jordan, and Lebanon** are smaller countries in terms of population and consume relatively less liquid fuels compared with Egypt and Turkey. Greece consumed about 289,500 b/d of liquid fuels, and Israel consumed about 230,000 b/d between 2012 and 2021. During the same 10-year period, Lebanon's liquid fuel consumption averaged about 160,000 b/d, and Jordan's consumption averaged about 126,000 b/d. **Cyprus** is the smallest liquid fuels consumer

in the Eastern Mediterranean, consuming, on average, about 51,000 b/d between 2012 and 2021 (Figure 2).

Figure 2. Annual liquid fuels consumption, selected countries in the Eastern Mediterranean, 2012–2021

thousand barrels per day



Data source: U.S. Energy Information Administration, International Energy Statistics database  
Note: 2020 and 2021 data for Cyprus, Egypt, Jordan, and Lebanon are EIA estimates.

## Natural Gas

### Reserves

- According to estimates as of January 1, 2022, by the *Oil & Gas Journal*, **Egypt** had the largest natural gas reserves in the Eastern Mediterranean, and **Israel** had the second largest, albeit they are significantly smaller volumes than the proved reserves in Egypt. **Greece, Jordan, and Turkey** all hold below 1 trillion cubic feet (Tcf) of proved natural gas reserves. Data on **Cyprus's** and **Lebanon's** proved natural gas reserves are not available<sup>10</sup> (Table 3).

Table 3. Natural gas reserves in selected countries in the Eastern Mediterranean, 2022

Country	Natural gas reserves in trillion cubic feet
Egypt	63.00
Greece	0.04
Israel	6.22
Jordan	0.21
Turkey	0.11

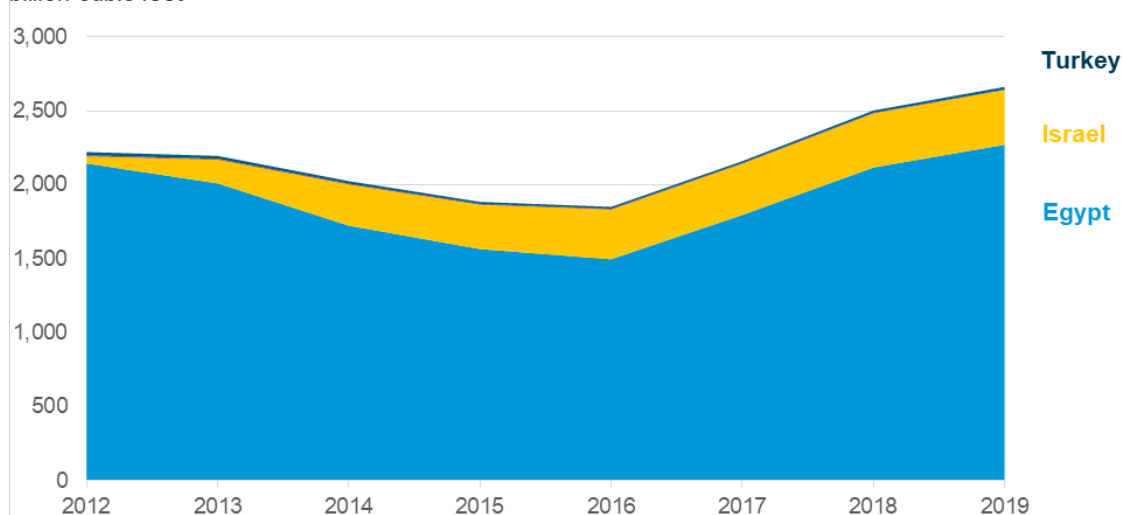
Data source: *Oil & Gas Journal*, "Worldwide Look at Reserves and Production"

## Production

- **Egypt** is the largest natural gas producer in the Eastern Mediterranean, producing an average of about 1.9 Tcf per year between 2012 and 2019. Prior to commercialization of the Zohr field, Egypt's natural gas production declined between 2012 and 2017 because of a lack of new discoveries coming online and natural declines in its maturing fields. After the discovery of the Zohr field in 2015 and the subsequent fast-tracking of its development, the field came online in 2017 and provided a significant increase in Egypt's natural gas production. Egypt produced over 2.1 Tcf of dry natural gas in 2018, which was approximately 40% higher than in 2016, the year before the field came online.
- **Israel** is the second-largest natural gas producer in the Eastern Mediterranean, producing an average of 276 billion cubic feet (Bcf) per year between 2012 and 2019. Prior to 2012, Israel produced very little domestic natural gas, but natural gas production increased significantly after the first phase of Israel's recent natural gas discoveries, the Tamar field, came online in 2013. Other natural gas discoveries, such as the Leviathan, Karish, and Tanin fields, will continue to increase Israel's natural gas production once these fields begin commercial operations in the 2020s.
- **Turkey** and **Jordan** have very little domestic natural gas production; Turkey averaged about 16 Bcf per year of natural gas, and Jordan averaged 5 Bcf between 2012 and 2019. Jordan's only producing field is the Risha field in the northeast, and production from this field is used as feedstock for power generation.<sup>11</sup> Most of Turkey's domestic natural gas production comes from the Thrace region, which lies west of Istanbul, and from shallow offshore fields in the Black Sea region. Turkey currently has very limited production, but recent offshore natural gas discoveries in the Black Sea region provide significant potential for the country's future production.<sup>12</sup> **Cyprus, Greece, and Lebanon** have little if any domestic natural gas production (Figure 3).

Figure 3. Annual dry natural gas production, selected countries in the Eastern Mediterranean, 2012–2019

billion cubic feet



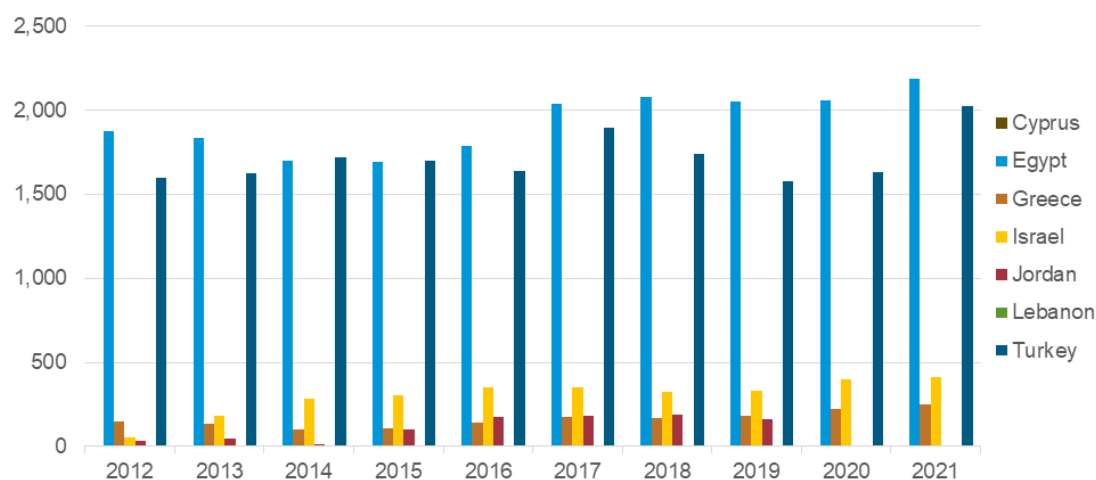
Data source: U.S. Energy Information Administration, International Energy Statistics database  
Note: Jordan production data are too small to show in figure.

## Consumption

- **Egypt** is the largest natural gas consumer in the Eastern Mediterranean region. Domestic natural gas consumption grew over the past decade, averaging about 1.94 Tcf per year between 2012 and 2021. Egypt's natural gas production was inconsistent during this time period, making natural gas imports necessary to meet domestic demand for a few years before some of its significant natural gas finds began commercial production.<sup>13</sup>
- **Turkey** is the second-largest consumer of natural gas in the Eastern Mediterranean, consuming an average of about 1.71 Tcf per year between 2012 and 2021. Given its relatively small natural gas production, Turkey mostly uses imported LNG and piped natural gas from Iran, Azerbaijan, and Russia to meet its domestic natural gas needs. The recent Sakarya and Amasra offshore discoveries in the Black Sea region will enable Turkey to alleviate some of its natural gas import needs through domestic natural gas once the fields are brought online.<sup>14</sup>
- **Israel** also consumes a small amount of natural gas domestically relative to its neighbors Egypt and Turkey, but consumption has grown significantly since 2012. The country's development of its own natural gas resources has enabled Israel to use more natural gas for power generation and industrial production rather than coal and petroleum products.<sup>15</sup>
- **Greece** and **Jordan** use relatively small amounts of natural gas for domestic consumption; Greece averaged 164 Bcf per year between 2012 and 2021 and Jordan averaged 115 Bcf per year between 2012 and 2019 (2020 and 2021 data are not yet available). **Cyprus** and **Lebanon** historically have not used natural gas and instead use other fuel sources (Figure 4).

Figure 4. Annual dry natural gas consumption, selected countries in the Eastern Mediterranean, 2012–2021

billion cubic feet



Data source: U.S. Energy Information Administration International Energy Statistics database, BP 2022 Review of World Energy



Note: Jordan's 2020 and 2021 data are not yet available.

## Recent natural gas discoveries

- **Cyprus** has made a string of natural gas discoveries recently that may enable the country to become a significant regional producer in the future. In August 2022, Eni announced Cyprus's

latest discovery after drilling the Cronos-1 well in Block 6, located southwest offshore of the island. Eni is the operator of Block 6 and holds a 50% interest, and TotalEnergies holds the other half. Although the discovery has not yet been appraised, Eni's preliminary estimates indicate that the discovery holds about 2.5 Tcf of natural gas in place.<sup>16</sup> The Cronos-1 discovery follows other major finds in Cyprus, such as the Aphrodite discovery in 2011, the Calypso discovery in 2018, and the Glaucus discovery in 2019. Glaucus is the only discovery appraised so far, based on Rystad Energy reports. Appraisal and development of these natural gas discoveries are still in progress, and online dates remain uncertain, according to estimates provided by Rystad Energy.<sup>17</sup>

- **Egypt's** Zohr field, located in the Shorouk concession, came online in 2017 and is the country's largest natural gas discovery to date. Eni, the operator, announced the discovery in 2015, and development of the Zohr field was fast-tracked, enabling it to begin production about two years after the discovery was announced. Natural gas production at the Zohr field reportedly reached approximately 1.0 Tcf per year in February 2021, but unplanned outages in 2020 and 2021 have since constrained output. Eni plans to drill additional wells to increase capacity, but the outlook remains uncertain.<sup>18</sup> Other fields, such as the Baltim Southwest field (a shallow water discovery located in the Baltim concession that began commercial production in September 2019) and the Bashrush discovery (a deepwater discovery announced in July 2020) could provide additional, albeit relatively smaller, volumes that will increase Egypt's natural gas production.<sup>19</sup>
- The Athena discovery, which is located near the Karish and Tanin fields offshore of **Israel**, was confirmed in May 2022 by Energean, the operator of the commercial block. According to *Offshore Technology*, preliminary analysis of the Athena discovery's recoverable resources are estimated to be 8 billion cubic meters (or about 283 Bcf) and may be developed as a tie-back to the Energean Power Floating Production Storage Offloading, which was built to develop the adjacent Karish and Tanin fields.<sup>20</sup> The Athena discovery is Israel's most recent offshore natural gas discovery after the Leviathan, Tanin, and Tamar discoveries. Chevron will operate the Tamar and Leviathan discoveries, which will be developed in phases over the next decade.<sup>21</sup> The Karish and Tanin discoveries are two other offshore discoveries, which Energean is currently developing and will likely begin commercial operations within the next six years, according to estimates provided by Rystad Energy.<sup>22</sup>
- **Turkey** announced that it had made two significant natural gas discoveries in 2020. The Sakarya and Amasra natural gas discoveries are located in the Black Sea region outside of the Eastern Mediterranean and so are not included in this report.<sup>23</sup> **Greece, Jordan, and Lebanon** currently have not reported any significant recent natural gas discoveries in the Eastern Mediterranean (Table 4 and Figure 5).

**Table 4. Significant natural gas discoveries in the Eastern Mediterranean**

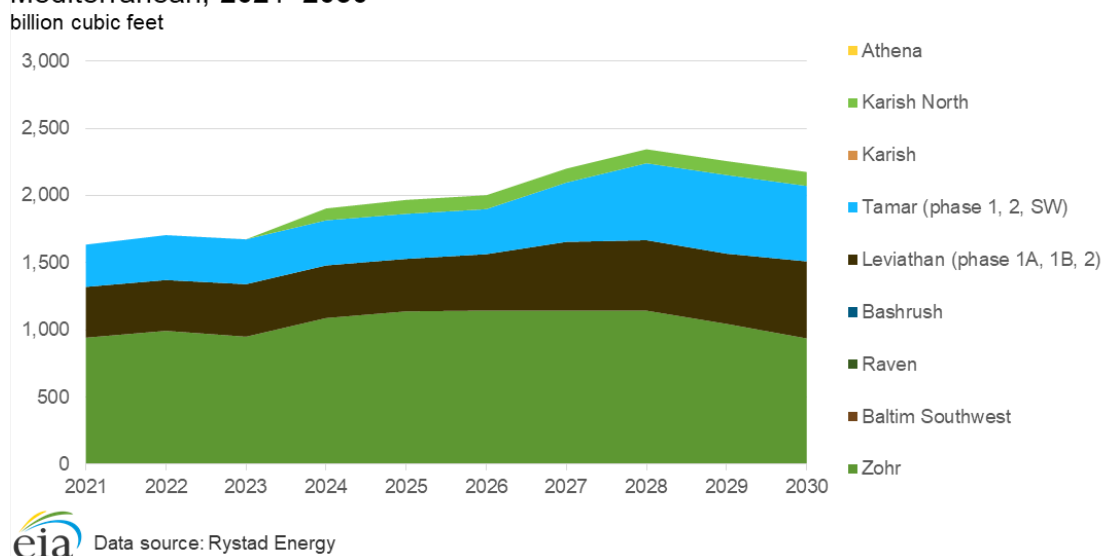
Country name	Discovery name	Discovery date	Location	Operator	Estimated startup date	Estimated volume/peak prod'n level (billion cubic feet per year)
Cyprus	Aphrodite	2011	Block 12, offshore deepwater	Noble Energy	2029	202
	Calypso	2018	Block 6, offshore deepwater	Eni	2036	276
	Glaucus	2019	Offshore deepwater, Block 10	ExxonMobil	2038	276

	Cronos	2022	Block 6, offshore deepwater	Eni	Unknown	Unknown
	Zohr	2015	Offshore, Nile Delta basin	Eni	2017	1144
Egypt	Baltim Southwest	2016	Offshore shallow water, Baltim Block, Nile Delta Basin	Eni, Egyptian General Petroleum Corporation	2019	0.16
	Raven	2004	Offshore deepwater, North Alexandria Block	BP	2021	0.23
	Bashrush	2020	Offshore, shallow water	Eni	2025	0.05
	Leviathan	Phase 1A, 1B, 2: 2010	Offshore deepwater, Blocks I/14 and I/15	Chevron	Phase 1A: 2020, Phase 1B: 2026, Phase 2: 2030	779
	Tamar	Phase 1 and 2: 2009, Tamar SW: 2013	Offshore deepwater, Block I/12	Chevron	Phase 1: 2013, Tamar SW: 2019, Phase 2: 2027	585
Israel	Karish	2013	Offshore deepwater, Block Alon C	Energean	2022	0.22
	Karish North	2019	Offshore deepwater, Block I/17	Energean	2023	104
	Athena	2022	Offshore deepwater, Block 12	Energean	2027	0.05
	Tanin	2012	Offshore deepwater, Block Alon A	Energean	2028	0.11

Data source: Rystad Energy



Figure 5. Forecasted natural gas production from selected fields in the Eastern Mediterranean, 2021–2030



## Trade

### *Liquefied natural gas (LNG) infrastructure*

- **Cyprus** did not have any operating LNG infrastructure as of October 2022. A floating storage and regasification unit (FSRU) is under construction at the port of Vassiliko and is planned to begin operations in the summer of 2023.<sup>24</sup> The facility does not include export capabilities, but in April 2022, the governments of Israel, Greece, and Cyprus discussed the possibility of using a floating LNG vessel at the Vassiliko port to export natural gas to Europe.<sup>25</sup>
- **Egypt** operates LNG export terminals at Damietta (SEGAS LNG) and Idku (Egyptian LNG) as well as an FSRU at SUMED port. The two export terminals enable Egypt to export LNG produced domestically and piped in from Israel to destinations such as Europe.<sup>26</sup> Cyprus also plans to use Egypt's LNG infrastructure to export its natural gas once its fields come online.<sup>27</sup>
- **Greece** has one operating FSRU in the islet of Revithoussa. The Revithoussa FSRU began operations in 2000 and was expanded in 2007 and later again in 2018 to increase the terminal's storage capacity. Greece announced in April 2022 that it is seeking to further expand the terminal's capacity in response to the possibility that natural gas supply from Russia will be disrupted.<sup>28</sup> A final investment decision on constructing an FSRU at Alexandroupolis was reached in January 2022, and the developer, Gastrade, announced that operations would begin by the end of 2023. Once operational, the project aims to provide additional natural gas imports to Greece as well as the Balkan states via the Greece-Bulgaria Gas Interconnector and the Trans Adriatic Pipeline (TAP).<sup>29</sup> Greece plans to construct FSRUs in Corinth, Argo, and Thessaloniki that aim to begin operations in the next three years, but these projects have not reached a final investment decision.<sup>30</sup>
- **Israel** currently has one FSRU (known as the Excelerate Excelsior FSRU), which began operations in 2013 to enable Israel to diversify its sources of energy supply.<sup>31</sup> The FSRU operates at the port of Hadera near Sharon, but owner Excelerate Energy announced that the FSRU's charter would not be renewed after it expires in October 2022 and that the FSRU would be redeployed to Albania's Vlora LNG terminal in 2023.<sup>32</sup>

- **Jordan** has an LNG terminal called the Sheikh Sabah Al Ahmad Al Jaber Al Sabah LNG Terminal that is located in the southwestern tip of the country at the port of Aqaba. One FSRU operates at the terminal, the Golar Eskimo, which was commissioned in 2015. The Jordanian government is reportedly exploring plans to replace the FSRU with a floating storage unit and an onshore regasification terminal that would allow Jordan to reduce costs and provide efficiency and flexibility for LNG imports and possible re-export via pipeline to other countries.<sup>33</sup>
- **Lebanon** has no LNG infrastructure. In 2019, the Lebanese government announced a tender offer for private companies to provide FSRUs near Beddawi, Zahrani, and Selaata to import natural gas that would feed into either existing or proposed power plants near the respective sites, but the projects have either been put on hold or have not reached final investment decisions.<sup>34</sup>
- **Turkey** has two LNG regasification terminals and two FSRUs operating in the country, but only one of the facilities, the Dörtyol FSRU, is located in the Eastern Mediterranean.<sup>35</sup> The Izmir Aliğa LNG regasification terminal and the Etki FSRU are located near Izmir in the Aegean Sea.<sup>36</sup> The Marmara LNG terminal is on the Sea of Marmara, which is located between the Aegean Sea and the Black Sea.<sup>37</sup> BOTAŞ, the state-owned oil and natural gas company, is building another FSRU at the Gulf of Saros, also located in the Aegean Sea, in northwestern Turkey. This FSRU will begin commercial operations later this year (Table 5).<sup>38</sup>

**Table 5. LNG infrastructure in the Eastern Mediterranean**

Country	Facility name	Status	Facility type	Location	Operator	Start date	Nameplate capacity (billion cubic feet per year)
Cyprus	Vassiliko FSRU	Under construction	FSRU	Vassiliko Port	Unknown; owned by DEFA	2023	Import capacity: 29 Export capacity: 240
Egypt	SEGAS LNG	Operating	LNG export terminal	Damietta	SEGAS Services	2005	266
	Egyptian LNG	Operating	LNG export terminal	Idku	Egyptian LNG	2005	346
	SUMED BW, BW Singapore	Operating	FSRU	SUMED port (located at Ain Sukhna from 2015 to 2017)	BW	2015	274
Greece	Revithoussa FSRU	Operating	FSRU	Revithoussa	DESFA S.A.	2000	244
	Dioriga FSRU	Proposed	FSRU	Corinth	Unknown; owned by Dioriga Gas	2023	92
	Argo FSRU	Proposed	FSRU	Argo (Volos port)	Mediterranean Gas	2023	162
	Thessaloniki FSRU	Proposed	FSRU	Thessaloniki	Unknown; owned by Elpedison	2025	258
	Thrace FSRU	Proposed	FSRU	Thrace	Unknown; owned by Gastrade	Unknown	194
	Alexandroupolis FSRU	Under construction	FSRU	Alexandroupolis	Gastrade	2023	194
	Excelsior FSRU	Operating	FSRU	Hadera	Excelsior Energy	2013	88

Jordan	Sheikh Sabah Al Ahmad Al Jaber Al Sabah LNG Terminal, Golar Eskimo	Operating	FSRU	Aqaba	Golar	2015	183
Lebanon	Beddawi FSRU	On hold	FSRU	Beddawi	Unknown	Unknown	Unknown
	Zahrani FSRU	Proposed	FSRU	Zahrani	Unknown	Unknown	Unknown
	Selaata FSRU	On hold	FSRU	Selaata	Unknown	Unknown	Unknown
Turkey	Marmara LNG terminal	Operating	Regasification terminal	Marmara Ereğlisi, Tekirdag	BOTAŞ	1994	221
	Izmir Aliğa LNG terminal	Operating	Regasification terminal	Izmir	EgeGaz	2006	514
	Etki FSRU, Turquoise P FSRU	Operating	FSRU	Izmir	Pardus Energy	2016	360
	Dörtyol LNG terminal, Ertuğrul Gazi FSRU	Operating	FSRU	Gulf of Iskenderun	BOTAŞ	2018	197
	Saros FSRU, Ertuğrul Gazi FSRU	Under construction	FSRU	Gulf of Saros	BOTAŞ	2022	361

Source: *Global Energy Monitor, International Group of Liquefied Natural Gas Importers (GIIGNL) 2022 Annual Report*

Note: FSRU=floating storage and regasification unit

### *Pipeline infrastructure*

- Feasibility studies for developing the **East Mediterranean Gas (EastMed) pipeline**, a proposed natural gas pipeline that would deliver natural gas from Israel's and Cyprus's fields to Greece, and possibly other European countries via the Gas Interconnector Greece-Bulgaria and the Poseidon pipelines, is reportedly underway. Project developers are aiming for a final investment decision in 2022.<sup>39</sup> In January 2020, the governments of **Cyprus**, **Greece**, and **Israel** agreed to build a subsea pipeline that would provide Europe, which has largely used natural gas from Russia and Eurasia, with an alternative natural gas source.<sup>40</sup> European and U.S. support for the pipeline's development has reportedly waned, in part, because of technical difficulties as well as territorial disputes between Turkey and Cyprus over portions of the proposed route.<sup>41</sup>
- The **Arab Gas Pipeline (AGP)** is a trans-regional natural gas pipeline that enables **Egypt** to export natural gas to neighboring countries **Syria**, **Jordan**, and **Lebanon**, as well as to **Israel** via the Arish-Ashkelon pipeline.<sup>42</sup> The pipeline faced a series of attacks in 2011 that led to a temporary shutdown of the pipeline, disrupting natural gas deliveries to Israel and Jordan. Although natural gas flows resumed in 2013, lower natural gas production in Egypt and lower export volumes led to lower deliveries to Jordan and a suspension of natural gas deliveries to Israel.<sup>43</sup> A June 2022 agreement between **Lebanon** and **Egypt** sought to provide 0.65 billion cubic meters per year (or 23 Bcf per year) of natural gas from Egypt to Lebanon via Syria and Jordan along the AGP by using the Jordan segment of the AGP. The plan requires approval and a sanctions waiver by the U.S. government for Egypt because the Syrian government remains subject to U.S. sanctions. Implementation of this agreement remains uncertain.<sup>44</sup>
- The **Arish-Ashkelon pipeline**, also known as the Eastern Mediterranean Gas (EMG) pipeline and distinct from the proposed EastMed pipeline, is a subsea branch pipeline of the AGP. The Arish-Ashkelon pipeline was initially built in 2008 to deliver natural gas from **Egypt** to **Israel**. Egypt's domestic natural gas shortages and the previously mentioned attacks on the AGP in the 2010s

curtailed Egypt's natural gas exports to Israel. In 2019, Egypt and Israel agreed to reverse pipeline flows, which would deliver natural gas from Israel's offshore fields to Egypt.<sup>45</sup>

- **Jordan** began importing natural gas via pipeline from Israel's Leviathan field in 2019 following a 2016 agreement with Leviathan partners to deliver natural gas of up to 300 million cubic feet per day (or about 110 Bcf per year) over a 15-year period.<sup>46</sup> Jordan also imports natural gas via pipeline, albeit in small quantities, from Egypt. Jordan's natural gas imports from Egypt began after the Arish-Aqaba section of the AGP was completed in 2003 but were suspended in 2015 amid frequent disruptions from terrorist attacks on the AGP that started in 2010 and natural gas supply shortages in Egypt. This constraint forced Jordan to use heavy fuel oil and diesel for most of its power generation until the commercial operation of the Golar floating storage and regasification unit (FSRU) in 2015. Egypt did not resume exports to Jordan until after 2019 when the Zohr field began operations and increased Egypt's natural gas production.<sup>47</sup>
- The government of **Cyprus** is planning to use Egypt's LNG infrastructure to export its natural gas to Europe by developing a subsea pipeline that would connect to Egypt's processing plants for liquefaction and transport via ship. The proposed subsea pipeline to transport natural gas from its Aphrodite field, once it is developed and brought online, directly to Egypt's LNG facilities is expected online in 2024 or 2025.<sup>48</sup>
- **Turkey** does not have any trans-regional pipeline infrastructure in the Eastern Mediterranean, but it has developed significant pipeline connections with Eurasia. The **Trans-Anatolian Pipeline project (TANAP)**, which is a natural gas pipeline that runs through Georgia, Turkey, and a natural gas field in Azerbaijan, began full commercial operations in 2019.<sup>49</sup> The **Trans Adriatic Pipeline (TAP)** began operations in November 2020, enabling natural gas sourced in Azerbaijan to be transported across Turkey via the TANAP to the TAP to **Greece** and Italy.<sup>50</sup> (Table 6)

**Table 6. Major regional natural gas pipelines in selected Eastern Mediterranean countries**

Pipeline name	Status	Length (miles)	Capacity (billion cubic feet per year)	Operators	Notes
Arish-Ashkelon Pipeline	Operating	56	147–247	East Mediterranean Gas Company, Merhav, Snam S.P.A., EMI-EGI LP, and Egyptian General Petroleum Corporation	Subsea pipeline that carries natural gas from Israel's offshore fields to Egypt
Arab Gas pipeline (AGP)	Operating	750	364	EGAS, ENPPI, PETROGET, GASCO, and SPC	Onshore pipeline that carries natural gas from Egypt to Jordan, Syria, and Lebanon
Eastern Mediterranean Pipeline (EMG)	Proposed	1,243	353	IGI Poseidon S.A.	Subsea pipeline that carries natural gas from Israel, Cyprus, and Crete to Europe. Capacity figure only includes Phase 1 planned capacity. Phase 2 expansion, if completed, would double Phase 1 capacity
Trans Adriatic Pipeline (TAP)	Operating	541	706	BP, SOCAR, Snam S.P.A., Fluxys, Enagás, and Axpo	Onshore and offshore pipeline that carries natural

gas from Turkey through  
Greece and Albania to Italy

Trans-Anatolian Pipeline (TANAP)	Operating	1,150	565	Southern Gas Corridor Closed Joint Stock Company (SGC), BOTAŞ, BP, and SOCAR	Onshore pipeline that carries natural gas across Turkey to the western border with Greece
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Data source: *Global Energy Monitor*, *Hydrocarbons Technology*, *NS Energy Business*, company websites

## Notes

- Data presented in the text are the most recent available as of November 16, 2022.
- Data are EIA estimates unless otherwise noted.

<sup>1</sup> “Egypt Oil & Gas Report, Q4 2021,” *Fitch Solutions Country Risk & Industry Research*, November 2021; “Regional Trends Report: North Africa,” *Rystad Energy*, November 2021; Nermina Kulovic, “Egypt launches new licensing round to keep up medium-term gas output,” *Rystad Energy*, February 23, 2021; “Eni scoops up bulk of acreage in Egypt’s first online licensing round,” *Rystad Energy*, January 13, 2022; “Exploration Trends Report: February 2022,” *Rystad Energy*, February 2022. “[Petroleum History](#),” Egyptian Ministry of Petroleum & Mineral Resources website, accessed October 19, 2022.

<sup>2</sup> Israel Ministry of Energy, “[3rd Bid Round](#),” accessed August 19, 2022. “Exploration Trends Report – August 2022,” *Rystad Energy*, August 2022, pg. 11.

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