LNG regas in the East Med: From LNG importer to exporter

Floating LNG Global 2019

Amsterdam, 13 May 2019

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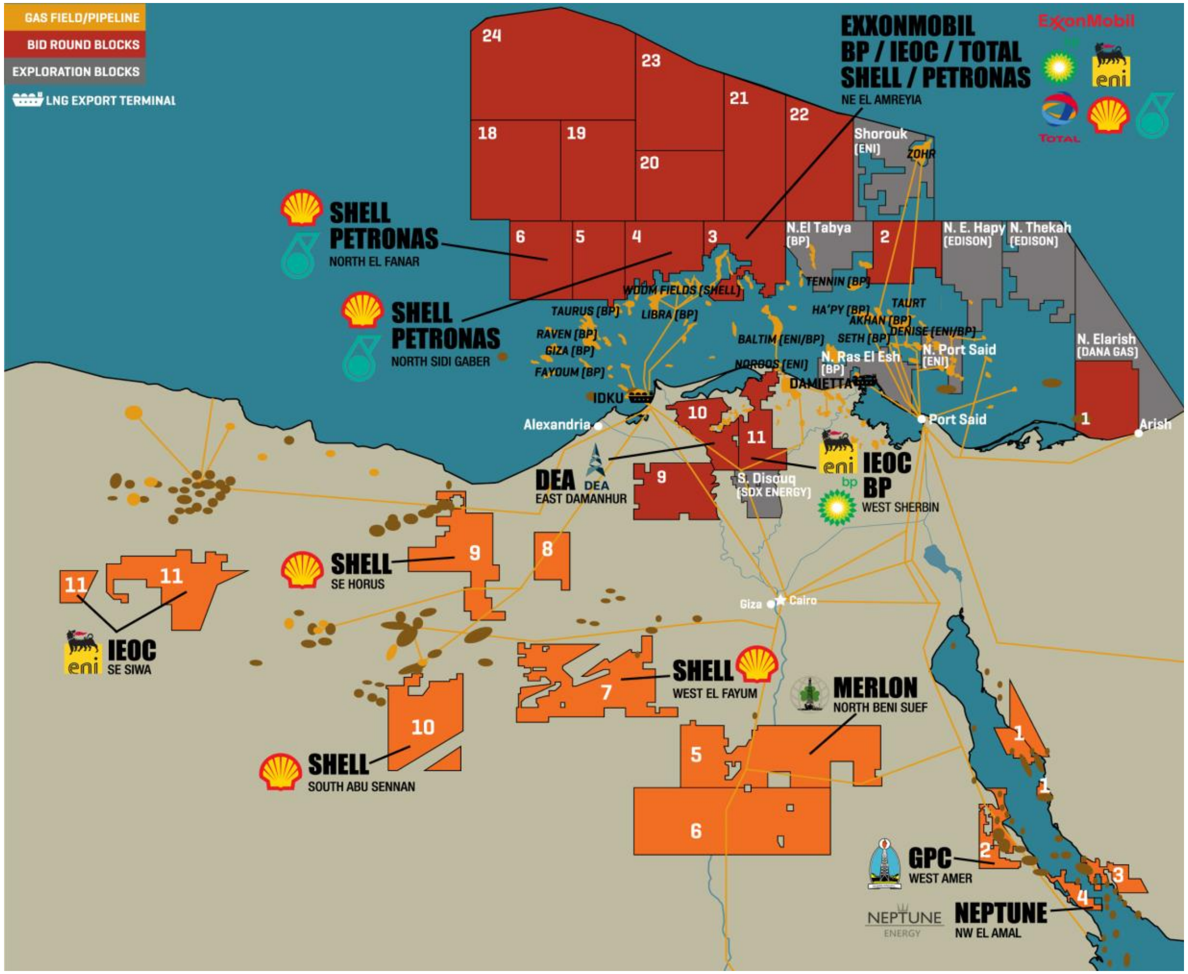
Overview

- Egypt achieved self-sufficiency in 2018 and resumed LNG exports in 2019
- Cyprus LNG export potential increased with discovery of Glaucus gasfield by ExxonMobil – but considering LNG imports in the interim
- In Israel Leviathan construction progressing but still looking for export markets
- Lebanon exploration on target – planning to import LNG in the interim
- Turkey is increasing LNG imports, but going domestic on energy

Egypt gone from LNG imports and regas to exports

- Zohr production reached 20 bcm/yr in October 2018 - stopped importing LNG
- Increased gas production enabled Egypt to resume LNG exports from Idku – reached 8 bcm/yr in March - Petroleum Minister El Molla said it will reach 11.5 bcm/yr by June
- Zohr is now scheduled to achieve 33 bcm/yr by end 2019
- Zohr gas and gas from newly discovered Nour will feed Damietta – in discussions to resolve dispute – exports to resume later in 2019 – capacity 7.5 bcm/yr
- New licensing rounds – Egypt awarded 12 new concessions in February – 3 more rounds to come in 2019 – expected to boost gas production

Egypt’s exploration blocks



Egypt's Petroleum Ministry expectations of gas production & consumption (bcm)

Fiscal Year	Production	Consumption	Surplus
2017/2018	55	61	-6
2018/2019	71	66	+5
2019/2020	81	70	+11
2020/2021	85	73	+12

In line with OME data

Egypt’s potential

- Based on OME data, gas surplus and exports could reach 20 bcm/yr by 2025
- Will fully utilize Egypt’s Idku and Damietta LNG plants with combined capacity 18.5 bcm/yr – liquefaction at <$1/mmbtu
- Egypt’s priority is to become the East Med gas hub
- Increasing renewables power generation – Benban solar plant to reach full capacity, 1.6 GW, end of 2019
- Target: 20% renewables by 2022 and 40% by 2035
- Will add 10 GW coal-fired powered plant capacity by 2025 and 7.2 GW nuclear in late 2020s – current capacity 42 GW
- Renewables and coal are reducing power generation dependence on gas – freeing gas for export

Cyprus LNG export potential

- Aphrodite gas sales to Shell's Idku close to agreement
- Inter-governmental agreement signed with Egypt for pipeline
- ENI successful in block 6 with Calypso – evaluating data so far and will be considering resumption of drilling in 2019
- ExxonMobil discovered Glaucus in block 10 in March – interested in reconsidering LNG plant at Vasilikos if more discoveries are made – for exports to Asia
- This needs 10-15 tcf. So far: Aphrodite 3.1 tcf, Calypso 3 tcf, Glaucus 4 tcf, with 90% probability
- ExxonMobil, Eni, Total to drill 7 wells in 2019/2020
- But Turkey disputes hydrocarbon activity in Cyprus EEZ – about to start drilling in Cyprus EEZ

LNG plant at Vasilikos

3 trains – 5 million tonnes each

Timing: late 2020s

Cyprus to import LNG

- Cyprus has launched tender to import LNG…yet again
- Has secured grant of €101 million from EU
- Infrastructure includes the acquisition of an FSRU, jetty, berthing and mooring equipment, and pipelines
- Two tenders: FSRU/infrastructure – Supply of LNG by 2020 – for 10-20 yrs
- FSRU tender issued – following extensions bid evaluation expected by July
- LNG supply tended to follow then – up to 1 bcm/yr

Cyprus to import LNG - FSRU

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Israel updates

- Leviathan on schedule for first gas end 2019
- Struggling to secure export markets – exports to Egypt's LNG plants challenged
- Could revive idea to export gas to Vasilikos in Cyprus
- ExxonMobil is reported to be interested in an FLNG project to export Leviathan gas – up to 9 bcm/yr
- Energean to produce 4.6 bcm/yr in 2021 – new discovery
- Second licensing round in progress – it remains to be seen if it attracts serious interest – ExxonMobil looking into this

Lebanon planning to go for LNG imports and regas

- Lebanon in process of tendering LNG import for electricity generation – two FSRUs for 10 yrs – 4-6 bcm/yr
- Eight bids received last November
- In the final stages of evaluating offers before final recommendation to Council of Ministers
- Exploration started last year – expects to drill first well end on 2019
- Even if discoveries are made, it will be late2020s before Lebanon has its own gas – hence decision to import LNG

Turkey’s increasing LNG imports

- Two FSRUs and two land-based LNG import facilities – part of ensuring security of gas supplies
- In 2018 Turkey imported 8.5 bcm LNG in comparison to 7.8 bcm in 2017
- LNG imports so far in 2019 up in comparison to 2018
- Increasing LNG imports at the expenses of pipeline gas
- Gas imports down 9% in 2018 to 50.5bcm – down so far in 2019
- Priority in increasing domestic energy production – hydro, lignite/coal, renewables – driven by security of energy supplies and balance of payments considerations

FLNG options

- In Cyprus CHC considering FLNG as an oiption
- Without pipelines, or an LNG plant at Vasilikos, FLNG may return to the table
- Previously considered by Noble for Leviathan and Tamar
- ExxonMobil may be interested in FLNG to export Leviathan gas

Concluding remarks

- Egypt has turned from an LNG importer to exporter – priority to become East Med’s gas hub
- Cyprus close to exporting Aphrodite gas to Egypt’s Idku
- Cyprus reconsidering Vasilikos LNG export potential – tending FSRU/LNG imports in the interim
- Israel struggling to secure export routes
- Lebanon in the process of tendering FSRU/LNG imports
- Turkey increasing LNG imports, but price-sensitive – prioritizing domestic energy production