Research Update:

Leviathan Bond Ltd.'s Senior Secured Notes Affirmed at 'BB-' and 'ilA+'; Outlook Stable

July 25, 2022

Rating Action Overview

- The operations underlying Leviathan Bond Ltd. (Leviathan or the project) continue to post solid performance, with remaining proven gas reserves (1P) up 8.7% at Dec. 31, 2021, versus the previous year.
- Despite market and operational improvements, our rating on Leviathan's debt remains limited by our view on the revenue counterparties, with exports to Egypt and Jordan remaining the major risk for the project.
- We affirmed our 'BB-' rating on Leviathan's senior secured notes, with the recovery rating unchanged at '1', indicating our expectations of 90% recovery in the event of a default.
- The stable outlook reflects our expectations for gas exports to Egypt and Jordan, solid operational performance, credit metrics comfortably above 1.50x, and that the gas sale and purchase agreement (GSPA) offtakers will maintain their creditworthiness.

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Project Description And Key Credit Factors

Discovered in 2010, the Leviathan field is an offshore gas field located in the eastern Mediterranean and the largest natural gas reserve in Israel. Situated offshore, approximately 120 kilometers (km) west of Haifa at a water depth of 1.7 km, it currently supplies gas to Israel, Egypt, and Jordan. According to a reserve report prepared by independent engineering consultant, Netherland, Sewell, & Associates Inc. (NSAI), the field had 1P reserves totaling 12,259.8 billion cubic feet (BCF) of gas and 27.0 million barrels (MMbbl) of condensate oil at Dec. 31, 2021, and an annual capacity of 12 billion cubic meters (BCM).

Rights to explore and produce petroleum and gas in the Leviathan field were granted proportionately to NewMed (formerly Delek Drilling; 45.34%), Chevron Mediterranean Ltd. (formerly Noble Energy Mediterranean; 39.66%), and Ratio Energies (formerly Ratio Oil Exploration; 15.00%) under a production lease until February 2044, which may be extended by up to an additional 20 years if the partners continue to produce from the field. The operations and associated infrastructure are defined under a joint operating agreement (JOA) among the three parties in their respective proportions of the Leviathan lease. The field is operated by Chevron

Mediterranean Ltd. under the terms defined in the Leviathan lease and JOA.

Given these unique characteristics, we rate the project based on our Principles Of Credit Ratings. In particular, we have assessed the cash flow coverage according to NewMed's 45.34% working interest and the JOA. The latter defines that operating committee proposals need to reach at least 60% approval by the vote of two nonaffiliate partners. Although there's no majority control by any party, we view the risk of NewMed having a noncontrolling stake as mitigated by this voting procedure, because decisions can't be made without its vote. As such, the notes will be repaid via pro-rata revenue streams from the sale of gas and condensate produced at the field. We also acknowledge the risk of having NewMed as part of the project under the sponsor loan. However, we don't limit the rating on the notes to the credit quality of NewMed since we see cross-default mitigation in the project's structure and the risk of default under the JOA as remote at this stage.

The Leviathan field has long-term GSPAs under export contracts that account for about 70%-80% of gas production capacity under the 2p scenario (proved and probable reserves), while the remainder is supplied to energy producers in Israel. The contracts have a weighted-average length of 12 years.

Strengths

- The Leviathan field has minimal resource risk, with 1P reserves sufficient to cover production capacity for over 30 years, according to information provided under a reserve report prepared by NSAI.
- An experienced and global player is operating the asset. Chevron Mediterranean has operated a similar project in the adjacent field (Tamar) successfully since 2013, which we view as credit positive. This underlines our view of stable production and low operating costs (below 10% of revenue).

Risks

- The rating is capped by our view on the creditworthiness of the rated GSPA offtakers.
- Despite a high contracted revenue base, we expect the project will remain exposed to market risk, which introduces some cash flow volatility. About 85% of gas sales benefit from long-term GSPAs with minimum take-or-pay volumes at a fixed price, floor price, and escalating price depending on Brent or the domestic electricity production tariff (contingent on the type of agreement). Nevertheless, because we assess the credit quality of only 40% of the contracted capacity, for the remaining 60% we assume that gas is sold in the merchant market throughout the project's life, making expected cash flows available for debt service more volatile throughout the debt's term.
- The bullet nature of the notes exposes the project to refinancing risk at every maturity, partially mitigated by the cash reserving provisions. To ensure that sufficient funds are available, 12 months ahead of each amortization free cash flow from the revenue account is allocated to a principal reserve fund to a maximum $150 million. In our view, the long life of 1P reserves provides a sufficient tail for refinancing of the notes. As such, the exposure to refinancing risk in June 2023 ($500 million), June 2025 ($600 million), June 2027 ($600 million), and 2030 ($550 million) doesn't constrain the rating on the notes.
- Leviathan can issue additional debt subject to several conditions, which include maintaining net present value at a 10% forward discount (NPV10) to net debt above 1.5x.

- A default by NewMed under the JOA might cause an interruption of cash flows to the project, if not rectified. We assess this risk as remote because our analysis of the base- and downside-case scenarios considers that NewMed has already performed all required payments in respect of the project's current stage of development and does not have any material outstanding liabilities.

Rating Action Rationale

Our rating on Leviathan's debt remains limited by our view on the revenue counterparties. We have factored the stronger prospects of gas sales by revising up our long-term gas assumption to $4.4 per metric million British thermal units (MMBTU) under our base case, compared with our assumption last year of $3.5/MMBTU. In addition, the financial projections are reinforced by December 2021 1P reserves 8.7% higher than in December 2020. This has led us to revise up our adjusted preliminary operations phase stand-alone credit profile (SACP) to 'bb' from 'bb-'. However, our rating on Leviathan's debt remains constrained at 'BB-' due to our view of the GSPA offtakers' creditworthiness.

We view the exposure to Egypt and Jordan as the key risk for Leviathan. We view these markets as key for Leviathan's economic feasibility because we believe the project cannot switch its gas supply to other countries. Israel became a gas exporter when Leviathan started operating and, absent a material increase in local demand, which would take years, could not absorb the gas that Leviathan currently sells to Egypt and Jordan. Israel does not have liquefaction plants to export gas directly and the current pipeline networks only connect Israel with Egypt and Jordan. We currently expect Leviathan to sell about 45% of its gas in Egypt (B/Stable/B), 30%-35% in Jordan (B+/Stable/B) and the remaining 20%-25% in Israel (AA-/Stable/A-1+).

The global surge in gas prices will likely have less of an effect on traded East Mediterranean gas. Gas prices will likely remain persistently higher for longer as the Russia-Ukraine conflict and sanctions continue. Amid current high prices, new investments in gas projects are being considered in several geographies, including the EU. On June 6, 2022, the EU included gas on the list of environmentally sustainable economic activities under the European Commission's Taxonomy Delegated Act, reinforcing the role of gas within the energy transition. That said, Israel's gas infrastructure is only connected to Jordan and Egypt, with capacity to export to third parties limited by the usage of Egypt's Idku and Damietta liquefaction plants. Therefore, these constraints, existing contracts, and Israel's role as a gas exporter, will likely mean traded East Mediterranean gas prices are less affected by the global surge.

The recently signed memorandum of understanding (MOU) between Israel, the EU, and Egypt may support the Israeli gas market. The agreement may allow Israel to sell part of its gas surplus to the EU through Egypt. Therefore, we see the possibility that the current macro and geopolitical situation may reinforce Leviathan's position and capacity to consolidate higher prices than we currently expect. That said, these plans would increase Leviathan's Egypt exposure, which already accounts for 45% of expected revenue under our base case.

Leviathan will need to refinance a bullet maturity of $500 million prior to June 30, 2023. From July 2022 until June 2023, free cash flow from the revenue account will be allocated to a principal reserve fund that accumulates up to $150 million to support refinancing needs, in addition to the $100 million already in the debt payment fund.

Outlook

The current rating is constrained by our view on the creditworthiness of the rated GSPA offtakers. The stable outlook reflects our assessment that Leviathan's operations are unlikely to encounter substantial setbacks, and that the project has contracted a reasonable proportion of its production capacity with floor prices. Given the bullet nature of the notes, we expect the project to generate debt service coverage ratios (DSCRs) above 1.4x going forward--our current forecast minimum DSCR is 1.73x. The stable outlook reflects our expectation of stable gas exports to Jordan and Egypt.

Downside scenario

We could lower the rating under the following scenarios:

- If the creditworthiness of the rated GSPA offtakers weakens.
- Should gas exports to Egypt and Jordan be unstable or at risk of disruption.
- If operations encounter production issues, resulting in lower uptime and higher operating costs and reducing the minimum DSCR below 1.4x. In addition, we could revise down our gas price assumptions if conditions in the oil and gas industry deteriorate, complicating the project's ability to sell its production capacity at favorable prices and leading to lower cash flows and higher refinancing risk.
- Should the field partners engage in aggressive expansion commitments, which could reduce net cash flows for notes repayment and result in extraordinary obligations for NewMed to pay its participating interest in related joint account expenses.

Upside scenario

We view an upgrade as unlikely, since it would require the creditworthiness of the counterparties that currently cap the rating to improve. We could revise up our SACP assessment if the project sells its remaining capacity to counterparties of stronger creditworthiness, reducing its market risk exposure and enhancing the blended-average credit quality of its revenue streams, which could reduce risks and maintain the minimum DSCR toward 1.70x.

Performance Update

Leviathan continues to post solid performance. It delivered its first gas to the Israeli domestic market in December 2019 and has exported to Egypt and Jordan since it started operating. Since then, operations have been stable and in line with expectations. From May 2020, average monthly uptime has been comfortably above 99%.

Table 1

Total Natural Gas Reserves (100%) In The Petroleum Asset (Gross)

Scenario	Type	As of Dec. 31, 2019	As of Dec. 31, 2020	As of Dec. 31, 2021
1P				
	Natural gas BCF	11,577.3	11,269.6	12,259.8
	Condensate MMbbl	20.8	24.8	27.0
Total 2P				
	Natural gas BCF	13,486.2	13,087.6	13,395.9
	Condensate MMbbl	24.2	28.8	29.5

1P--Proved reserves. 2P--Proved and probable reserves. BCF--Billion cubic feet. MMbbl--million barrels.

Base Case

Assumptions

- Leviathan uncontracted gas price: $5.00/MMBTU in 2022 and $4.4/MMBTU from 2023.
- Leviathan contracted gas price: Prices under GSPAs with rated third parties modeled as per the terms of the GSPAs.
- Operations and maintenance (O&M) costs: In line with the operator's historical performance, adjusted to U.S. inflation, including variable costs of $0.5 per million cubic feet and operating expenditure of about $80 million per year for 100% of the field.
- Capital expenditure (capex): Budgeted remaining capex of about $375 million in 2022 and $100 million in 2023 to finalize the completion and connection of the field's new well. No expansion capex going forward.
- Assumed cost of refinancing debt: Each bullet series at a 200-basis-point (bps) higher spread, with an amortizing loan until Dec. 31, 2044.

Key metrics

- A minimum DSCR of 1.73x in 2023 and an average DSCR until the final maturity of the refinancing period of 1.75x.

Downside Case

Assumptions

- Annual production: -10% compared to the base case.
- Gas price: -10% compared to the base case.
- O&M Costs: +10% higher variable and fixed operating costs, including stress over insurance

compared to the base case.

- Availability of the field: -5% compared to the base case.
- Capex: +20% compared to the base case.
- Assumed cost of refinancing debt: Each bullet series at a 400-bps higher spread.

Key metrics

- We assess the project's resilience in a stress case as positive to the transaction because Leviathan Bond would be able to survive downside stress without depleting its liquidity and despite posting DSCRs below 1x.

Environmental, Social, And Governance

We deemed environmental as the main ESG risk for the project. We consider that the project may be exposed to demand variation, which could be affected by both economic conditions and changing tastes for fossil fuels. That said, toward 2030 Leviathan will support decarbonization in its destination markets of Israel, Egypt, and Jordan by replacing coal energy production. Given the project's material deepwater exposure, it faces higher environmental risks than onshore producers due to its susceptibility to interruption and damage from rising sea levels and flooding. Additionally, and despite the positive track record of Leviathan, social factors are moderately negative--offshore operations are more subject to fatal accidents although remote from population centers.

Rating Score Snapshot

Operations phase SACP (Senior Debt)

- Operations phase business assessment (OPBA): '8' (on a scale of '1' [lowest risk] to '12' [highest risk])
- Preliminary SACP: 'bb+'
- Downside impact on preliminary SACP: 'bbb' (+1 notch)
- Debt structure: -1 notch
- Liquidity: Neutral
- Comparative analysis assessment: -1 notch
- Adjusted preliminary operations phase SACP: 'bb'
- Operations counterparty ratings adjustment: Capped at 'bb-'
- Operations phase SACP: 'bb-'

Modifiers (Senior Debt)

- Parent linkage: De-linked

- Structural protection: Neutral
- Senior debt issue rating: 'BB-'

Operations phase SACP

Our operations phase SACP reflects our view of the operating risk typical of a gas exploration field, which we view as relatively moderate ('4' on a scale of '1' lowest risk to '10' highest risk). We incorporate our view of the project's exposure to market risk and the GSPA offtakers' credit quality as a key factor for the preliminary debt rating.

We assess the operations phase SACP as 'bb-' based on:

- The project's OPBA of '8'.
- Minimal exposure to resource risk, since 1P reserve amounts are sufficient to cover more than 40 years of production.
- Market risk exposure, with potential cash flow volatility of 15%-30%. Even though the project has 90% of production contracted under long-term GSPAs with minimum take-or-pay and at a fixed price, underpinning relatively stable and predictable cash flows, we only assume contracted capacity for 40% because we cannot determine the credit quality of the cash flows from 60% of these contracts.
- We factor into our downside-case scenario the project's ability to mitigate negative effects on cash flows that could stem from operating risks, such as lower production and higher operating and maintenance expenses, among other costs. Cash flows could also fall due to external events such as Brent reference prices, inflation rates, and insurance costs, especially considering the project's single-asset nature.
- Downside resilience is supported by the cash-funded $100 million debt payment fund, at the same time that it is exposed to refinancing risk on each of the bullet maturity dates. Although there is a principal reserve to accumulate funds to repay each maturity, it only starts to receive cash flows from operations 12 months in advance of each maturity and is limited to a ceiling of $150 million.
- As a result, the operations phase SACP is driven by a minimum DSCR of 1.73x.

Operations counterparties

- We view the offtakers of the GSPAs as material counterparties. As such, we limit the project's operations phase SACP at 'bb-', which is the blended average credit quality of the rated offtakers considered in our base case.
- Our counterparty analysis of Nepco mirrors the ratings on its parent, Jordan (B+/Stable/B), because it provides a timely guarantee for the due payment of Nepco's obligations under the GSPA. We also included some of the Israeli offtakers, among others Paz Ashdod Refinery Ltd. (ilA+/Watch Neg/--).
- We view Chevron Mediterranean (a wholly owned subsidiary of Chevron Corp.) as an irreplaceable O&M counterparty. Despite the existence of other operators that could perform the same services, we view the unique characteristics of the lease agreement and JOA as tied to the obligations devoted to Chevron Mediterranean as the operator under these contracts. In addition, absent an O&M reserve account, we don't view there to be financial flexibility for replacement.
- The account bank is the Tel Aviv branch of HSBC Bank PLC. The documented replacement language is not consistent with our financial counterparty criteria. However, our 'A+' rating on

the counterparty, assessed in line with our criteria applicable to bank branches, doesn't currently pose a constraint to the rating on the notes.

Liquidity

- We assess the project's liquidity as neutral given a cash-funded $100 million debt repayment fund. Even though this is not a standard debt service reserve account, the resources are sufficient to cover more than one semi-annual interest payment for the notes series.
- Additionally, the issuer accumulates cash one year ahead of any scheduled principal repayment, under a principal reserve fund, which it will use along with the debt payment fund and cash flows to repay the bullet notes as they become due. The principal reserve fund is limited to $150 million.
- The project is not subject to financial covenants, which could cause an event of default or an acceleration of note repayments. The transaction structure has a forward-looking distribution lock-up test, based on a 1.5x NPV10 to net debt test (remaining net present value discounted at 10%, according to the reserve consultant report, however based on lower Brent prices). We typically expect lock-up mechanisms within the next 12 months of operations to allow for seasonality and volatile cash flows and to effectively preserve additional cash to meet project liquidity needs, but we view the lock-up mechanism as neutral.

Recovery Analysis

Key analytical assumptions

- S&P Global Ratings believes that lenders would achieve the greatest recovery amounts through reorganization of the project, rather than liquidation, given consistent demand for gas in the region.
- The '1' (90%) recovery rating indicates that we expect full recovery in this default scenario.
- We value the asset using the net present value of future cash flows of the field's expected remaining life through 2044, when the lease agreement ends.

Simulated default assumptions

- Simulated default year: 2023
- We simulate a $100 million revenue reduction coupled with $50 million of unexpected cash outflows due to capex.
- In our hypothetical default scenario, we contemplate deterioration of the oil and gas industry in 2023, when the project is expected to refinance the first series of notes. The inability to place new notes would be the trigger point for a potential financial default.
- In our recovery forecast, we assume there would remain a viable business model driver due to continued demand for gas in the region and the strength of the company's historical operations, supporting its ability to protect the existing GSPAs.
- We discount cash flow over the remaining life of the charter at a 10% rate--and deduct 5% of administrative expenses to arrive at the net value.

- We add six months of prepetition interest to the estimated debt at the time of default.

Simplified waterfall

- Debt outstanding at hypothetical default (including prepetition interest): $1.8 billion
- Estimated net value of the project: $1.9 billion
- Recovery expectations: Rounded to 90% (recovery rating of '1').

Related Criteria

- General Criteria: Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- Criteria | Structured Finance | General: Counterparty Risk Framework: Methodology And Assumptions, March 8, 2019
- General Criteria: Methodology For National And Regional Scale Credit Ratings, June 25, 2018
- General Criteria: Guarantee Criteria, Oct. 21, 2016
- Criteria | Corporates | Recovery: Methodology: Jurisdiction Ranking Assessments, Jan. 20, 2016
- Criteria | Corporates | Project Finance: Project Finance Framework Methodology, Sept. 16, 2014
- Criteria | Corporates | Project Finance: Project Finance Transaction Structure Methodology, Sept. 16, 2014
- Criteria | Corporates | Project Finance: Project Finance Operations Methodology, Sept. 16, 2014
- Criteria | Corporates | Project Finance: Key Credit Factors For Oil And Gas Project Financings, Sept. 16, 2014
- General Criteria: Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions, Nov. 19, 2013
- General Criteria: Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- Criteria | Financial Institutions | Banks: Assessing Bank Branch Creditworthiness, Oct. 14, 2013
- Criteria | Corporates | Project Finance: Project Finance Construction And Operations Counterparty Methodology, Dec. 20, 2011
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011

Related Research

- Leviathan Bond Ltd.'s Senior Secured Notes Affirmed At 'BB-'; Outlook Stable, July 29, 2021
- Transaction Update: Presale: Leviathan Bond Ltd., July 30, 2020

Ratings List

Ratings Affirmed	
Leviathan Bond Ltd.	
Senior Secured	BB-
Recovery Rating	1(90%)

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.standardandpoors.com for further information. A description of each of S&P Global Ratings' rating categories is contained in "S&P Global Ratings Definitions" at https://www.standardandpoors.com/en_US/web/guest/article/-/view/sourceId/504352 Complete ratings information is available to subscribers of RatingsDirect at www.capitaliq.com. All ratings affected by this rating action can be found on S&P Global Ratings' public website at www.standardandpoors.com. Use the Ratings search box located in the left column. Alternatively, call one of the following S&P Global Ratings numbers: Client Support Europe (44) 20-7176-7176; London Press Office (44) 20-7176-3605; Paris (33) 1-4420-6708; Frankfurt (49) 69-33-999-225; or Stockholm (46) 8-440-5914

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