ISRAEL

Push to expand gas production

The Tamar gas field should be able to supply most of Israel's gas needs for the next 15 years
Source: Albatross Photo Agency

Natural gas has taken a central role in the Israeli energy market in a very short period of time as the country expands production, reports *Joe Charlaff* from Jerusalem.

Today almost 50% of energy production and 80% of Israel's consumer market uses natural gas. Heavy industry has shifted completely to gas, constituting 80% of consumption. Moreover, gas production from Israel's key Tamar field hit 7.5bn cm in 2014, up from 5.6bn cm in 2013.

Speaking to *Petroleum Review*, Dr Amit Mor, co-owner of Eco Energy, a logistic energy and financial consulting firm based in Herzliya, highlighted the great pace of Israel's shift to natural gas. Mor estimates that within three to four years about 80% of the country's power will be produced by gas. Coal's share will diminish to 20%, and all the major industries will be converting to natural gas. Indeed, the Dead Sea Works potash factory has already converted to gas from diesel, which is a more costly fossil fuel both in terms of economics and emissions.

He emphasised that, in addition to gas being economical and environmentally friendly, 'the financial benefit is huge'. Israel is saving about $5bn/y in energy costs by shifting to gas. By 2020, gas is predicted to be supplying 75% of the country's domestic energy requirement, with coal accounting for a further 20% and solar energy 5%.

Gas prices in Israel are among the lowest in the world, according to figures released by Israeli energy major Delek. Figures indicate between $5.5–$6 per unit of gas, compared to $9–$12 in most of Europe and $4–$8 in the US. The gas boom has also boosted government revenues – two years ago the government legislated to increase profit levies on oil and gas from 20% to 60%.

With taxes and royalties, Delek estimates that the government will receive at least Israeli shekel (ILS)1bn ($256mn) from the existing Tamar field every year. If a second Leviathan field off northern Israel is opened up, Delek estimates there would be at least ILS360bn ($92bn) for the state over the field's lifetime.

The government also decided to create a sovereign wealth fund to hold most of these additional tax revenues. This will be managed by the Bank of Israel and funds will be invested outside of the country. Meanwhile, an Energy Ministry committee has decided that 540bn cm, 60% of the country's reserves, will be earmarked for domestic consumption, and the remaining 40% can be exported.

Israeli gas is currently supplied by the Tamar field through a 100 mile subsea pipeline. Gas is refined on the platform and at the receiving terminal at Ashdod, and from there it is sent through the pipeline to power stations and major industries.

New distribution networks are being built in six regions of the country, run by local distribution companies charged notably with bring the gas to small industries. This development has encouraged Israel's consumption of gas to rise from zero in 2003, to 5bn cm in 2010 and 8.5bn cm in 2013. Projected consumption is expected to rise to 12bn cm by 2020.

Leviathan plan

Development of the Leviathan field is the next challenge. It has 622bn cm of gas deposits and is 90 miles offshore west of Haifa in northern Israel. Gas is predicted to begin flowing in 2018. This will back up the Tamar field, which can supply most of the needs of the country for the next 15 years. One concern fuelling the desire to establish a second field is national security – always a priority for Israel. Several months ago, during the Operation Protective Edge war with Hamas, the Gaza-based organisation launched several rockets (unsuccessfully) at the Tamar field.

In addition to Delek Drilling – which owns 22.67% of the rights to gas in the Leviathan Basin – another Delek Group subsidiary, Avner Oil Exploration, also holds 22.67% of the reservoir, while Houston-based Noble Energy owns 39.66% and Ratio Oil Exploration, another Israeli company, has a 15% stake.

Leviathan production is projected to involve two stages, first gas will feed domestic requirement and exports, with the first stage producing some 16bn cm/y.

LNG strategy

Meanwhile, there is also a plan to install a back-up of imported LNG gas from an floating storage unit

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(FSU) anchored 10 km offshore Hadera. An onboard purification unit is proposed, connected to a land-bound pipeline. An additional tanker will supply this with gas. Although useful, this back-up will only meet demand for a few days, so the need to develop Leviathan field is of paramount importance to Israeli energy planners.

Noble Energy and its partners plan to build a floating production, storage and offloading (FPSO) unit anchored not far from the field, connected to a pipeline. It will be able to treat the gas onboard and then ship to shore. In addition there will be another platform near the shore for final treatment.

Leviathan gas will also be exported to Idku, Egypt, to a LNG plant owned and operated by the BG Group.

It is planned to export some gas from the proposed Leviathan field to BG Group's LNG plant at Idku, Egypt *Source: BG Group*

Big but uncertain prospects

At a recent symposium entitled 'The shifting energy landscape', held in Tel Aviv, Gideon Tadmor, Avner CEO and Chairman of Delek Drilling, gave an overview of the exploration, discoveries and production of natural gas in Israel. 'According to an evaluation published by the US Geological Survey in 2010 there is a potential of 122tn cf in the Levantine Basin. Up till now we have found 40tn cf in the various discoveries. The playground is big, there is a lot to be done and we will concentrate on the discoveries in which we are partners,' he said.

Despite these positive moves and declarations, there is still doubt about whether the Leviathan development will proceed as the Israeli government wants. Tadmor noted that there has yet to be any detailed exploration of the field that could lead to exploitation. He said: 'There is no international investor even on the horizon.'

One problem is that there is no certainty that Noble and Delek will retain control of the field. Israel Antitrust Authority Commissioner, David Gilo, gave notice in December 2014 that he was considering reversing his decision that enabled Delek and Noble to retain control of both the Tamar and Leviathan fields, and could declare them a cartel. A final hearing on the matter was expected at the time of writing, at which point the commissioner will make a final decision. Until that date the parties will be offering compromises.

Gilo told the annual conference of the Israel Antitrust Authority on 13 January 2015: 'We are currently seeking, in the case of the natural gas market, and subject to the hearings, a structural remedy that will create real competition in the natural gas market.'

The Israeli government has been less than thrilled with Gilo's change of heart. Constantine Blyuz, Deputy Director Economic and Strategic Planning at the Energy Ministry said: 'The major outcome, if it goes through, will be a delay in the development of Leviathan of at least five years and would result in the cancellation of all the export agreements with a very grim diplomatic impact and lack of security of supply for the next decade.'

Tadmor is not optimistic that foreign money will flow until the issue is sorted out: 'In order to go into investment of billions of dollars you must have certainty.' He added that international companies had also been deterred by what they regard as over-regulation in the Israeli gas market, an excess of uncoordinated distribution and sales players, and also the fact that Israel increased the tax take after the Tamar field came online.

All these factors have decreased the level of interest that might be expected from such large fields in a relatively stable political jurisdiction. Nevertheless, Tadmor still believes that the Israeli gas sector will be able to attract international investment. He especially hoped the trust issue will be resolved soon so that they will be able to take the Leviathan project forward. 'We are going to divest of two assets and that will form a good foundation for any competitor to penetrate the market to create real competition,' he said.

On the horizon

One possible carrot is exports to both Egypt and Jordan. As well as the BP LNG initiative, Tadmor said that Delek is also negotiating with Unión Fenosa Gas (a joint venture between Italy's Eni and Spain's Gas Natural) to export to its LNG plant in Damietta, Egypt, where there is huge potential for making sales to domestic and commercial customers. In addition, negotiations are taking place with Jordan's National Electric Power Company (Nepco) to supply gas from Leviathan.

When Egypt stopped its gas exports supply to Jordan in 2011, the Hashemite kingdom had to switch to using heavy fuel which has cost an additional $10bn over the past three years. Jordan is facing a major economic depression and its King Abdullah is keen to import cheap gas from Israel despite major opposition in the Jordanian parliament – 70% of the population comprises Palestinians, who are hostile to Israel. Unless there is a major escalation of violence in the West Bank, it seems that a Letter of Intent to export gas to the Jordanian electric company will be negotiated, involving the export of 3bn cm per month. The deal could net Israel $15bn over 15 years in gas sales.

Window of opportunity

Tadmor said: 'As far as development of the Leviathan field is concerned, we are determined to develop it to produce gas in early 2018. Right now we are waiting for some issues to be resolved like the anti-trust issue, at the same time to get to a point where we could execute the final investment decision in Leviathan. Once these are in place we will be able to sanction the project. What is important is that we are taking all measures to keep this window open to provide gas in 2018.'

Tadmor expressed optimism that from an energy security point of view, once the other fields such as Leviathan and smaller planned fields Tanin and Carish are developed, Israel will enjoy energy security. 'About 30% of energy is spent on transportation. We could end our addiction to oil and I am confident that it can be done,' he concluded. ●