Elusive energy

The geology of Jordan, with its proximity to the Gulf Coast, and with evidence of petroleum on the surface in many places, suggests the country to be a likely prospect for the discovery of oil and gas. However, since the early 1930s, extensive exploration activity has met with little success. Looking on the bright side, however, present-day technologies mean that exploiting the country’s billions of tonnes of shale oil deposits will soon become a reality.

Exploration is still actively encouraged, especially after recent natural gas finds, but it is more likely in the immediate future that domestic energy supplies will arrive by pipeline – oil from Iraq and natural gas from Egypt.
History

In the meantime, Jordan relies on Iraqi oil for nearly all of its needs (around 94,000 b/d). Jordan's government concluded a new agreement with Iraq on oil supplies in January 2000, under which Jordan will receive half of its oil free of charge, and will pay $19 per barrel for the other half, as long as the market price remains above that level. The previous agreement stipulated a price of $9 per barrel.

Refining

The Jordan Petroleum Refinery Company (JPRC) is responsible for all downstream phases of petroleum activities such as oil refining, storage, transportation and distribution. It was established in 1960 as a private company with the exclusive right to invest in and operate petroleum refining and derivative industries, including the right to market, store and distribute all such products. JPRC's operations are regulated by the Ministry of Energy and Minerals (MEM) in accordance with a concession agreement. JPRC operates the only refinery in the country, located at Zarqa, 30km north-east of Amman.

The Zarqa refinery has a capacity of 90,400 bbl/d. An expansion of the facility to a capacity of 120,000 bbl/d is planned, but has not yet been implemented. Jordan and Iraq had agreed in 1996 to build a pipeline for the transport of Iraqi oil to Zarqa refinery. This would eliminate the transport of Iraqi oil by sea and rail. The pipeline would carry 600 miles of highway from Iraq with a fleet of 1,500 tanker trucks. The $300-million project was postponed in June 1999, though, because Jordan was not able to assemble enough financing to begin construction. The Jordanian government continues to pursue the project.

Shale oil – a good prospect

Jordan does possess a significant quantity of oil shale resources, possibly as much as 40 billion tons. The 1980 discovery of oil shale deposits in the Wadi and Sultani areas raised Jordanian hopes of greater self-sufficiency, but there were doubts that large-scale exploitation of the deposits would be viable with the present level of technology.

The Natural Resources Authority of Jordan retained the Klockner-Lurgi Group of West Germany to conduct technical and economic feasibility studies into utilization of the oil shale at El-Lajjun. They also investigate building a retorting plant to produce 50,000 barrels of shale oil per day. The Jordan Electrical Authority also signed agreements with Pyropower & Bechtel (an American-Swedish group) and Canadian consultants, Lummus, to examine the feasibility of using Jordanian oil shale by direct combustion for the generation of electricity. Canada's Suncor has conducted limited exploration digging in the Lajjun area, southwest of Amman, and is currently negotiating with the Jordanian government for the possible development of an oil shale extraction facility.

Investment still encouraged

Jordan's state Natural Resources Authority (NRA) has been promoting exploration within the country, which has been relatively unexplored until now. In October 1995, the NRA signed agreements with Malawian Peletas and Houston-based Trans-Global Petroleum (TGP) for possible exploration of northern and central Jordan. To help attract foreign investment, the government has plans to privatize its oil sector. In October 1995, the country set up the state-owned National Petroleum Company (NPC) to handle upstream oil and gas exploration and development. In mid-1999, NPC launched its oil-drilling operation, which now operates as the Petra Drilling Company. NPC is still active in the natural gas sector.

Oil transportation

A comprehensive settlement of the Arab-Israeli conflict could affect Middle East oil flows significantly. Jordan’s geographic location between the Arabian peninsula and the Mediterranean coastal states of Israel and Lebanon offers the potential for alternative oil exports for Persian Gulf oil to the West. At present, these oil exports must travel either by ship (via the Suez or the Strait of Hormuz), by pipeline from Iraq to Turkey (capacity 0.8-1.6 million b/d), or via the Suez (Suez-Mediterranean Pipeline) (capacity 2.4 million b/d).

Utilization of the Trans-Arabian Pipeline (Tapline) could offer another potentially economic alternative. The Tapline was originally constructed in the 1940s with a capacity of 500,000 bbl/d, and intended as the main means of exporting Saudi Arabia's oil to Europe (via Jordan to the port of Haifa, then part of Palestine, now a major Israeli port). Following the establishment of the state of Israel, the Tapline's terminal was diverted from Haifa to Sidon, Lebanon (through Syria and Lebanon). Partly as a result of turmoil in Lebanon, and partly for economic reasons, oil exports via the Tapline were halted in 1975. In 1983, the Tapline's Lebanese section was closed altogether. Since then, the Tapline was used exclusively to supply oil to Jordan, although Saudi Arabia terminated this arrangement in the early 1990s.

Gas reserves potential

Jordan has modest reserves of natural gas, 240 Bcf, and has developed one gas field, at Risha in the eastern desert near Iraq. The current output of around 30 Mscf/d has increased as much as 40 billion tons. The 1980 discovery of oil shale deposits in the Wadi and Sultani areas raised Jordanian hopes of greater self-sufficiency, and the ability to recoup its initial investments in four to five years. Jordan, by virtue of its favorable location, has no tax and less restrictive working practices, is seeking to attract more overseas investors in other industries including chemicals such as phosphates, and minerals such as boric acid, bromine, phosphorus and bauxite.

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The historic country is also actively promoting its tourist industry and already benefiting from foreign investment associated with the construction of major hotels and leisure complexes. Despite the absence of significant petroleum resources in Jordan, there is great optimism, thanks in no small part to the country’s political stability, it has enjoyed for many years. It is seen by many as 'a small country with a big future'.