

Jordan's experience in oil shale studies employing different technologies

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Since the 1960's, Jordan has been investigating economical and environmental methods for utilizing indigenous oil shale with the main objective of utilizing this source for either power generation or retorting at a cost competitive with other sources of energy. Oil shale has been known to exist in Jordan since the beginning of the 19th century. The first use of oil shale has been reported by a German company that was responsible for operating the Hijaz railroad extending from Turkey to Saudi Arabia and passing through Jordan. This company used oil shale as a substitute for wood and coal for firing the furnaces of the steam engines. Evidence of their excavations and utilization of oil shale in direct burning still exists at that area north of Jordan.

A comprehensive geological survey by the German Geological Mission in the period 1961 – 66 covered all Jordan and produced geological maps at several scales. This Mission reported in its finding six locations of bituminous rocks, of which the bituminous rocks in north of Jordan were considered the most promising deposit. Several additional subsurface oil shale deposits were discovered later and the EI – Lajjun deposit has been extensively studied. Many feasibility studies and test programs for direct burning and retorting have been conducted. These studies concluded that the Jordanian oil shale is considered as a suitable source of energy due to its high organic content.

The government of Jordan has set a strategy to develop oil shale by inviting private qualified developers to invest in this area. The deposits of oil shale in Jordan are massive. The processing of oil shale has gone through cycles of development and commercialization, without achieving a competitive cost of production. As well, tar sands are processed on a limited basis. Ultimately, new or improved technology will produce synthetic fuels efficiently and economically. Oil shale technologies have been recently developed to accommodate oil shale utilization economically and cleanly.

Long experience of feasibility studies and test programs have concluded that the Jordanian oil shale, due to its high organic content, is considered as a suitable source of energy either by direct burning to generate electricity

or by retorting for the production of oil and gas. Jordan has been involved in more than three decades of comprehensive engineering and economical studies and test experiments for both retorting and direct burning of Jordanian oil shale with several international oil shale companies providing a solid foundation for a future oil shale industry in Jordan. Based on these facts, Jordan believes that oil shale utilization should be pursued because it will result in significant savings in foreign exchange, improve Jordan's energy supply security and create new jobs.