

18.10 **International cooperation on the utilization of Jordanian oil shale as a source of energy**

Ahmed Al-Salaymeh<sup>1</sup>, Mohammad Hamdan<sup>2</sup>

<sup>1</sup>*University of Jordan, Amman, Jordan,* <sup>2</sup>*Al-Zaytoneh University, Amman, Jordan*

Since the 1960's, Jordan has been investigating economical and environmental methods of utilizing oil shale through cooperation with many countries around the world. In the present work, previous cooperation between the Jordanian National Resources Authority and Ministry of Energy and Mineral Resources with foreign companies will be summarized. All feasibility studies and test burns have concluded that burning Jordanian oil shale is a very stable process, with low SO<sub>2</sub> and NO<sub>x</sub> emissions from circulating fluidized bed (CFB) combustors, and with carbon burn-out as high as 99%. Furthermore, the suitability of Jordanian oil shale as a fuel for direct burning has been demonstrated and construction of a 200-MW demonstration plant has been recommended. Further cooperation between the University of Jordan and the Friedrich-Alexander-Universität Erlangen-Nürnberg in Germany will be discussed focusing on supercritical extraction techniques. Future work at Erlangen University will involve assessment of supercritical extraction for application to oil shale from different parts of Jordan.