THE MINERAL INDUSTRY OF

ESTONIA

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Estonia's mineral industry consisted primarily of mining oil shale, peat, and industrial minerals including clays, limestone, and sand and gravel; phosphate mining in Estonia had ceased because of environmental concerns.

In 1995 Estonia's economy continued its upwards trend as the GDP is estimated to have increased by 4% compared with 1994, following a 3% decrease in 1994, a 7% decrease in 1993, and a 14% decrease in 1992. By yearend 1995, almost three-fourth's of the country's large state enterprises had been privatized with the next stage of privatization systems, and ports, including Estonslanets, the national oil shale producer, Esti Energia, Esti Telekom, the Estonian Railways, and the Tallinn port.

The Estonian mining law passed in 1994 establishes requirements for environmental protection for mining as well as providing legislation regarding exploration and extraction. The country has reclaimed over 80% of the more than 10,000 hectares of land disturbed by oil shale mining. Oil shale was a major source of energy, but its use in powerplants was causing serious environmental problems. Almost all of the land reclaimed from oil shale mining is in timber and only a very small amount returned to agricultural use, owing in part to difficulties encountered in removing, handling, and replacing overburden horizons during the mining cycle. The potential exists to reclaim larger areas for appropriate species of crops and grasses.

Estonia was the major producer of oil shale in the FSU, producing 80% of the FSU's total output. In 1995 Estonia produced 13.3 million metric tons (Mt) which was far below peak production of about 30 million metric tons per year (Mt/yr) in the early 1980's. Production of oil shale since then has been continuously decreasing.

About one-half of the oil shale had been mined from open pits and the other one-half from underground mines. Six underground mines and three open pits had been in operation. Over 60% of the ore undergoes beneficiation. Although surface mining of oil shale is more economical and its percentage of total mined output will continue to increase, owing to environmental reasons and lack of finances to acquire new stripping and loading machinery, it is predicted that about 40% of output will continue to be extracted from underground mines.

Oil shale reserves, according to Estonian assessments, were estimated to be 660 Mt, with additional resources that could equal 1 billion t. Existing reserves are deemed adequate until the year 2030, with a prognosticated increase in the mining and utilization of oil shale of 3% to 4% per year. The Soviet reserve classification, however, did not base reserve calculations on an assessment of whether reserves could be economically mined under present market economy prices with existing technology; and therefore, the economics of oil shale mining and utilization at some point may have to be reevaluated by Estonia in terms of market economy criteria.

Over 80% of Estonia's oil shale was used for energy generation and the remaining oil shale was used for chemical production. The main consumers of oil shale are the Pribaltiskiy and Estonskaya powerplants, the Kokhtla-Yarve oil shale processing plant, the Kiviyli oil shale chemical plant in the City of Slantsy in Russia, and a powerplant in Kokhtla-Yarve.

Although oil shale is Estonia's primary source of energy, the country was dependent upon Russia for oil and natural gas.

Ground phosphate for direct application had been produced at the Maardu deposit east of Tallinn, but both as a result of the depletion of this deposit and the serious environmental effects of phosphate mining, production had ceased. Estonia's reserves of marine phosphorite deposits were among the largest in Europe. However, plans to develop two new deposits, the Tools and Kabala, in the Rakvere area, had not been undertaken because of serious environmental concerns.

In 1995 one of Russia's major oil producers, LUKoil, and Denmark's Eurodek won an international tender to build a petroleum products and liquid chemical loading terminal at Estonia's Muuga port on the outskirts of Tallinn. The terminal will be initially designed to handle 1.5 Mt/yr of petroleum products and liquid chemicals, with plans for potential expansion to handle 2.5 Mt/yr.

Estonia has the potential to produce only peat and limestone for export, unless Estonia finds an environmentally acceptable way to develop its phosphate reserves. Although Estonia is a large oil shale producer, there does not appear to be a significant export market for this product. The majority of Estonia's other mineral production, consisting mainly of sand, gravel, and clays, is for local consumption. Estonia, because of its small size and mineral endowments, will have to continue to import the majority of its needed minerals.

OTHER SOURCES OF INFORMATION

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TABLE 1
ESTONIA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity		1992	1993	1994	1995
Amnonia, nitrogen content		117,000	115,000	114,000 2/	138,000 2/
Cement		600,000	500,000	402,000 2/	417,000 2/
Clays:					
For brick	million cubic meters	100,000	90,000	90,000	90,000
For cement		70,000	60,000	60,000	70,000
					13,310,000 2/
Peat		1,500,000	1,300,000	1,274,000 2/	952,200 2/
Sand and gravel	cubic meters	15,000,000	14,000,000	14,000,000	14,000,000
Silica sand, industrial	do.	30,000	25,000	25,000	25,000

1/ Table comprised of estimates based on information available as of June 29, 1996.
2/ Reported figure.

TABLE 2
ESTONIA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1995

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity e/
Amnonia, nitrogen content	Kohtla-Jarve nitrogenous fertilizer plant	Kohtla-Jarve	50
Cement	Punane-Kunda plant	Punane-Kunda	1,500
Limestone, for cement	Punane-Kunda deposits	Punane-Kunda region	NA
Oil shale	Estonslanets associations: includes seven mines, four open pits, and five beneficiation plants	Kokhtla-Jarve	25,000
Peat	388 deposits under exploitation	Production in all regions of country, but major facilities in northern and southeastern part of country	6,000
Phosphate rock	Maardu (operation suspended)	Maardu	500
Sand, for glass	Piuza deposit	Southeastern part of country	50
Sand and gravel	Production at more than 700 deposits, largest enterprises: Silikat association exploiting Tallinn deposit	Tallinn region	2,000,000 cubic meters
Do.	Akhtmeskiy industrial materials complex exploiting Panyarve deposit	Pannyarve region	1,500,000
Do.	Vyrukivi plant exploiting Abissaare, Koryusmyae, Pyussa-palu deposits	Southeastern part of country	1,500,000
Do.	Tartu construction materials plant exploiting Vooremyagi and Kukemetsa deposits	Tartu region	800,000

e/ Estimated. NA Not available.