

## EDITOR'S PAGE

In 1940 independent Estonia mined and utilized two million tons of oil shale. Now, being independent again, this number is ten million tons. It would be interesting to know the extent of oil shale mining and utilization in Estonia if the country's independence had not been suspended by half a century of foreign rule and alien economy or, in other words, whether a normal development of the economic life of the country would have led to the same five-fold rise in mining.



Estimation of the annual average growth of oil shale production ignoring the intervention would give us

$$(10 \cdot 10^6 / 2 \cdot 10^6)^{1/60} = 1.027$$

or 2.7% yearly. It follows that the present level of Estonian oil shale industry would have been reached anyway in the case of normal development as well. Which was to be proved.

However, the best resources have been exhausted.

*Enno REINSALU*

### SOME COMMENTS

A great deal of the main natural resources of a small country vanished during the years of occupation, uselessly.

At the beginning of the 20th century Estonia became a famous oil shale country since this small state who had become independent in the tumult of World War I had no other natural resources to supply her power industry.

The history of oil shale research dates back to the 19th century when huge resources of petroleum and natural gas were unknown. After the exhaustion of whale oil used for street lighting, an intensive search for possibilities to produce new synthetic mineral oils and gas from coal and oil shale was started. The first attempt to distill oil shale was made in England at the end of the 17th century already. A larger oil plant was launched in Autun,

France, in 1838, and in the middle of the same century Scottish shale oil industry became the leader in this branch. There are ample resources of oil shale all over the world. Beginning of the 20th century saw the start of intensive oil shale research. N. Pogrebov, a geologist in Petrograd, was the first to study Estonian oil shale. The first tons were mined in Pavandu in 1916, and a trainload was sent to the then capital of Russia to be processed there in the local gas works.

After Estonia's secession from Russia, the Society of Estonian Engineers in Petrograd headed by Märt Raud acquired geological data on Estonia and set to work at the foundation of Estonia's oil shale industry right away: independence of a state would be guaranteed only by an independent power production basing on the only resource available, oil shale. Estonia educated her own specialists and started oil production at a state oil shale enterprise in 1924 already.

Local favorable economic climate attracted foreign investors, and so Estonia became an important testing center where the Germans, British and Swedes tried out their new oil shale processing technologies.

World War II stopped the peaceful development of this national industry branch. The belligerents were deeply interested in utilization of shale oil as a fuel for war machines. German engineers arrived together with the German army in 1941 in the hope to produce in Estonia one million tons of shale oil per year. They failed. The Russian engineers who followed the Russian army in 1944 were expected to win uranium from the local Dictyonema shale and to utilize kukersite oil shale for producing gas for Leningrad, oil for the northern marine and electricity. Big power plants were erected. Estonian oil shale easily mineable in openpits represented a cheap fuel in the northwestern region of the USSR. The whole power complex was designed to be operated maximally for 40 years – a term long overdue.

Naturally, the competence of Estonian oil shale specialists and the local traditions played no minor role at the decision.

So, after regaining her independence in 1991, the small state was faced with her too large oil shale industry, too great number of foreign manpower, wasted resources and enormous amounts of harmful industrial wastes.

On the other hand, in 1991 Estonia was able to restart on the basis of independent power industry. Estonia's long-term experience in oil shale utilization – mining, burning, processing and research - has provided us with scientific and technical *know-how* of considerable market value applicable in other states as well.

In order to enable our colleagues easier access to the knowledge of Estonian researchers and engineers, Oil Shale Institute of Tallinn Technical University intends to organize an international competence center in this field.

*Aili KOGERMAN*