

ILMAR ÖPIK – THE *GRAND OLD MAN* OF REBORN ESTONIA’S ENERGETICS

At the time Estonia regained her independence, the role of **Ilmar Öpik** was enormously great in both developing power engineering and solving current everyday problems. Estonia needed his wide knowledge, technical expertise, great erudition and an excellent aptitude for communication. He was one of those rare people who carry all these qualities in their genes.

In 1991, at the request of the head of the Estonian Government, a joint Finnish-Estonian academic energy working group was founded. Its aims included analyzing scenarios of energy economy development, offering expert proposals to make correct political and economical decisions in this field as well as solving complicated problems of power management. The group was headed by Ilmar Öpik from the Estonian side and Eino Tunkelo from the Finnish one. I. Öpik succeeded in engaging also Estonian and Finnish energy companies. This team was founded for a couple of years only, however, as there came no end to the problems, the work lasted almost to this day.

The memo “About the Price of Estonian Oil shale as a Power Plant Fuel: Supposed We Had Using Convertible Money?” written by I. Öpik on October 10, 1991, is of a great interest. In this piece of writing he compares oil shale, when used as fuel in power plants, with coal and points out that the increasing oil shale price will favour coal import. He motivates the necessity for a substantial reduction of the staff working in oil shale mines.

In the same year he criticized the proposal of a temporary research team “Alter” presented to Oil Shale Council of the Estonian Academy of Sciences concerning the erection of an alternative oil shale processing enterprise basing partly on foreign capital. He distrusts the budget calculations of “Alter” expressed in roubles and stresses the importance to apply convertible currency. He concludes that this proposal offers no project of an alternative enterprise as the key question – oil shale resources – has not been discussed at all. He finds that foundation of any new enterprise must begin with the erection of a mine with sufficient resources of the raw material.

Being a man of great erudition in energy field, Ilmar Öpik constantly participated in discussions and disputes till the last moments of his life taking up his fully formed position.

Regulatory Study Tour for the Baltic Countries. USA, February 1995



I. Õpik, R. Talumaa, and M. Mõtus visiting Thames Cogeneration Plant

In May–June 2001 he took an active part in analyzing the experiments made at Oil Plant of Narva Power Plants. He carried out calculations to supervise the planning of full-scale experiments establishing optimum working conditions of Oil Plant. A month before this he compiled a thorough report for the annual meeting of the Estonian Academy of Sciences. In the report “Innovation in the Estonian Oil Shale Economy” the trends of development and sore points of the three branches of oil shale industry – mining, power generating and oil producing – were discussed considering innovation of technology and equipment.

At the same time in spring I. Öpik informed Narva Power Plants and the Ministry of Environment about his calculations proving the ash from oil plant may not be considered semicoke (spent shale) as it is further burnt to ashes in the aerofountain furnace at the *Galoter* process. There is no reason, therefore, to charge ash deposits as highly as those of semicoke. In summer 2000 he addressed a memo about Estonian fuel policy to the Ministry of Economic Affairs. He analyzed the prospects of using oil shale, peat, wood, wood residue, brush, etc. as fuel for the next decade.

Ilmar Öpik carried out a thorough analysis of the business plan for Narva Power Plant compiled by *NRG Energy*. He notified everyone at all levels of the faultlessness of the technological, ecological and economic sides of this plan. He stressed his standpoints also to Energy Council of the Academy of Sciences stating that he had been liable for designing oil shale boilers for Narva plants in 1958–1976. Their construction effected thanks to the competency of the engineers of Tallinn Technical University and Estonian Energy.

These institutions and the specialists at the world's leading boiler plants have accepted development plan offered by *NRG Energy*. He considered this plan much better grounded and elaborated than the former design of boilers for burning pulverized fuel. He asserted, on the basis of his own great experience in calculating Estonian oil shale and electricity price, the correctness of *NRG Energy* price policy. Being an excellent specialist in power engineering, he did not approve the Energy Council's draft of the appeal to the Prime Minister as “this council might surpass its competency in privatization and form, overshadowed by academic authority in a political background, a harmful erroneous standpoint”. He also did not agree with the Government's decision about assigning 51 % of Estonian oil shale shares to the Narva Power Plants bringing about new problems for shale oil industry.

Ilmar Öpik was of the opinion that limitations at privatization of power plants would be harmful. He commented on the decision of the Parliament from 1997 while voting on the Energy Law. According to the accepted proposal, the state was going to hold 51 % of Narva Power Plants' shares leading to the impossibility of privatising those enterprises. This resulted in

investor's claim for long-term contracts guaranteeing market and raw material. I. Öpik took the position that the Energy Law has to be changed and liberalized according to the rules of the EU, as otherwise there are no prospects of satisfying offers for developing Estonian energy economy. We will just have neither serious investors nor long-term loans. He stressed that only the real owner who invests and carries the responsibility will be allowed credit.

Ilmar Öpik formed and proved his position by continuous calculations and analysis. For example, in 1998 he compiled three versions of the material "Mass, Power and Money Flows in Estonian Oil Shale Economy in 2010" which includes nine conclusive statements and recommendations highly topical also today. In the same year he offered calculations of the calorific value to be used to design new fluidized-bed boilers for Narva power plants. The data were presented in "Dumps of Oil Shale Enrichment Tailings and Storing of the Ashes of the Power Plant from the Standpoint of Pollution Charge Compensations". In 1998 and 1999 he made calculations to prognosticate electricity price till 2020 basing on the business plan of Narva Power Plants Ltd.

When the Canadian oil company "Suncor" planned to erect a new oil plant in Estonia Ilmar Öpik actively participated in the preliminary research. He kept himself well informed about analysis made by the company at testing oil shale from the *Estonia* mine, and pointed at their controversial results. He had a great experience in shale oil production in Estonia at oil shale processing in *Davidson* retorts after the World War II, at putting into operation *Galoter* retorts in Narva Oil Plant knowing all their advantages and disadvantages.

So, in 2000 the oil company asked him to evaluate technological and environmental risks involved in application of *Galoter* and Canadian *Alberta Taciuk* processes. Ilmar Öpik compiled a voluminous report highly appreciated by Canadian experts. If the company will start with producing shale oil in the future, his report will be priceless.

A year earlier, in 1999, he participated in a research ordered by the same oil company to investigate the possibilities of using shale oil to be produced by their *Taciuk* process for generating electricity. I. Öpik established the amounts and quality of oil shale available from the *Estonia* mine and the *Aidu* open pit. He pointed at good possibilities to reduce the price of oil shale production and supervised specialists who made calculations for electricity production under various working conditions and using various equipment.

Ilmar Öpik was always eager to learn. I just remember an educational trip to the U.S.A. in February 1995, where we became acquainted with fundamentals of regulation of power companies' activities, with price control problems and also with the activities of regulative state institutions. By this time reforming Estonian energy sector had become imperative, and I. Öpik used the acquired

knowledge in analyzing the possibilities to put the American experience into practice in Estonia.

In 1993–1994 Ilmar Öpik as an adviser of the Ministry of Economic Affairs of the Estonian Republic took part in weekly meetings of Energy Commission headed by Minister of Energetics A. Niitenberg. The main task of this commission was to get energy enterprises out of the vicious circle of reciprocal indebtedness resulting from a steep in fuel price up to the actual value. I. Öpik's competent opinions enabled the other members of the commission to make right decisions.

In 1994, Minister A. Niitenberg founded the State Price Committee of Electricity Prices, and I. Öpik was appointed the head of the committee, which functioned until the Energy Market Inspectorate began to work. I. Öpik knew well how to divide the tasks between committee experts and specialists involved according to their abilities. He himself had always formed a firm personal standpoint beforehand. He was doubtlessly the best man to find compromises between the needs of oil shale and electricity companies and the financial possibilities of both population and other branches of economy.

For this purpose he continuously made various calculations, e.g. "Inflation and Electricity Price in Estonia" including prognoses of changes in electricity price and even in cash flows of energy enterprises. All his decisions were based on thorough analyses of numerous possibilities by exhaustive actual calculations. His erudition and profound knowledge enabled him to run public discussions on the increase in electricity price in an objective and dignified manner without letting the debates turn into fruitless wrangling and slandering.

Ilmar Öpik was serious and industrious when participating in the activities of energy councils at both the Academy of Sciences and the Ministry of Economic Affairs. He fought against populist statements defending and grounding the standpoints of energy economy. He was particularly wounded by a public letter about Estonian electricity published in the press on June 14, 2001. The authors had succeeded in obtaining support from almost all members of the Estonian Academy of Sciences except those actually working in the field of energy.

Ilmar Öpik protested against the way all was done: the discussion had been held out of the agenda of the Energy Council, the draft of the resolution had not been previously distributed to those who signed it, and the main opponents had been ignored. He stated that "the address was wrongly and incompetently motivated both in most paragraphs and as a whole", and urged "the council to give a motivated opinion on the public letter paragraph by paragraph, supported by all its authority".

Unfortunately, the strain caused by this letter strongly affected the health of professor *emeritus* Ilmar Öpik, and by the end of the summer his doctors

became powerless. During his last days he was particularly frustrated by all demagogic opponents who told the truth picking their choice. He told that it was not enough to hold one's hand on the Constitution and to declare: "I will tell the truth and only the truth", but one must say: "I will tell the truth and all the truth".

Märt MÕTUS, Ph. D.,
the head of the Energy Centre Ltd.,
about his close co-operation with Ilmar Öpik
as a teacher and a colleague

Discussion-consultation with specialists of the *Foster Wheeler Ltd.*, the winner of the contest developed for renovation of Narva Power Plants, at the Thermal Department of Tallinn Technical University (technical features of CFB boilers are discussed)



Presentation of the boiler by Pertti Kinnunen (FW Ltd., Finland)

In the foreground, from right: Mati Uus, Hendrik Arro, Harri Tallermo, Ivan Klevtsov

From left Pertti Kinnunen, Kimmo Räsänen, Ilmar Öpik, Mati Kaare



**Signing the contract between *Narva Power Plants Ltd.* and *Foster Wheeler Ltd.*
In Narva Hermann Castle in 2001**



Arrival to the town of Narva



From left: Mati Uus (Narva Power Plants Ltd.), Ilmar Öpik, Hendrik Arro (TTU)



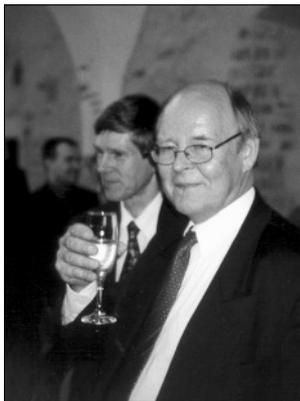
The signers: from left Ants Pauls and Lembit Vali (*Narva Power Plants Ltd.*),
Ari Aalto and Riitta Hovi (*Foster Wheeler Ltd.*, Finland)



Spectators



The contract is signed. Professor *emeritus* Ilmar Öpik toasting the future of Estonian energetics



Representatives of *Foster Wheeler* are contented



Engaged in conversation

