

## **RESTRUCTURING ESTONIA'S OIL SHALE INDUSTRY: WHAT LESSONS FROM RESTRUCTURING THE COAL INDUSTRIES IN CENTRAL AND EASTERN EUROPE ?**

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At a time when Estonia's Government restructures the country's oil shale industry, it may be of interest to analyse the results of restructuring the coal industries in central and Eastern Europe (CEE). True, oil shale differs from coal in chemical and physical terms, but not in institutional, operational, economic and commercial regards. Both industries handle large amounts of raw material per unit of inherent energy, are plagued with equally high volumes of waste, are heavily polluting air and water, and exhibit an astounding inertia in technological and operational, hence, economic and commercial terms. Most importantly, both industries have been shaped by decades of central energy planning, with emphasis on quantitative growth of domestic energy resources, at a low price for the final customer (whatever the cost).

These similarities justify, in the view of the author, to inject into the debate about the future of oil shale in Estonia lessons learned during the restructuring of the coal industries in CEE/CIS. This is the more so, as the latter process has essentially been concluded, contrary to the restructuring of the Estonian oil shale industry.

### **1. In 1990, the Task of Coal Industry Restructuring Was Immense ...**

A few numbers should illustrate the immensity of the task of restructuring the coal industries in CEE/CIS, as of 1990. In that year, coal production amounted to 1,284 million t<sup>1</sup>. There had been 973 mines in the region, employing 2,259,000 staff. Indigenous coal covered 51 % of gross inland consumption and 57 % of fuel input into total power generation<sup>2</sup>.

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<sup>1</sup> WEC, *Restructuring and Privatising the Coal Industries in Central and Eastern Europe and the CIS*. London 2000, p. 29, Table 4.

<sup>2</sup> EU, 2000 Annual Energy Review. P. 136.

Oil shale played a similar role for Estonia. In 1991, it covered 50 % of gross inland consumption of energy and 84 % of fuel input into power generation. Power plants absorbed 2/3 of production<sup>3</sup>.

## **2. ... But Proved Feasible by Now...**

Yet, by 2002, coal industry restructuring was essentially and successfully completed: the vast majority of companies had become “viable”, i. e. “broke even”. Opencast mines did better (95 %) than underground mines (75 %)<sup>4</sup>.

“Viability” does not mean “profitability” as defined by the global finance community. Returns are not comparable to returns, a financial investor would expect in other branches of the economy and in other parts of the world. But the operational costs are covered including repairs, maintenance and a margin for fresh investments in new galleries or ancillary activities such as coal washeries.

The degree of viability did not allow to clean up the damage that the coal companies have inherited from decades of operation under central planning. Were these costs included, hardly any mine in CEE/CIS would be “viable”. Actually, most governments have agreed to free companies from past liabilities in order to attract investors. On the other hand, many balance sheets are still burdened with debt originating from past government action. There is a tendency to write these off, as otherwise investors would shy away.

The size of the problem may be illustrated by estimates of the cost of environmental “cleanup” of past coal mining operations. Reducing water pollution, hazardous waste, subsidence and dust emissions in CEE/CIS to standards achieved in the new German Länder would require US\$ billion 35 to 40<sup>5</sup>, to which needed to be added the investments in clean coal combustion of US\$ bill. 38. As for Estonia, planned investments in land reclamation and water processing for 2001–2003 amount to EEK million 80 (US\$ million 4.5). Opencast mines have covered up to now 120 km<sup>2</sup>, of which 95 km<sup>2</sup> have been re-forested and 1.5 km<sup>2</sup> recultivated for agricultural purposes. Investments in waste dump management till 2009 will amount to EEK million 700 (US\$ million 39) and for clean combustion of oil shale EEK bill. 5.1, or US\$ million 280<sup>6</sup>. These “clean-up” investments limit or eliminate the liabilities accruing to private investors in case of privatisation.

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<sup>3</sup> See <sup>2</sup>, p. 152.

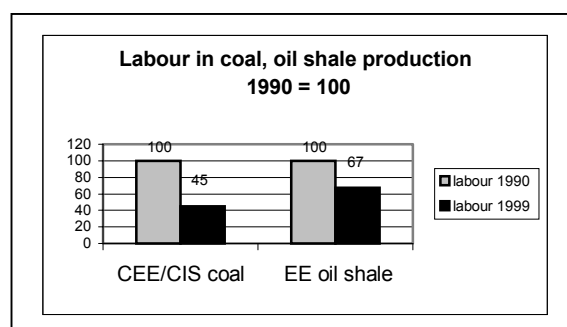
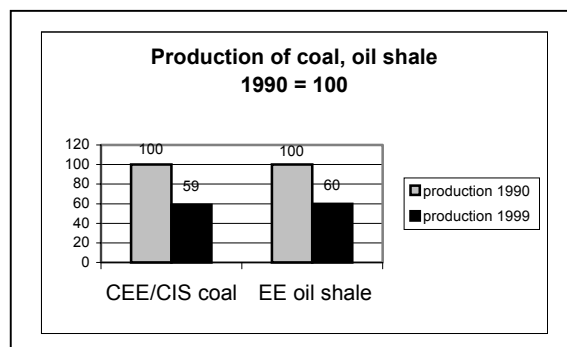
<sup>4</sup> See <sup>1</sup>, p. 34, 35.

<sup>5</sup> See <sup>1</sup>, p. 46.

<sup>6</sup> Restructuring Plan of the Estonian Oil Shale Sector 2001–2006 / (Estonian) Ministry of Economic Affairs. Tallinn 2001, pp. 8 and 13.

### 3. ... On Condition of a Severe Cut in Production and Manpower

The success of restructuring was achieved as a result of a reduction of coal production by 41 % during 1990 and 1999, of labour by 45 % and of the number of pits by 26 %<sup>7</sup>. One million miners lost their jobs, and many more in the regions affected by mine closures.



While generally much of this adaptation was due to deliberate coal policies, in the CIS the macro-economic breakdown played a notable role as well. This suggested that an economic recovery in this region would enhance demand for, and supply of, coal. This actually happened since about 1999, suggesting an “over-kill” had occurred in the preceding years.

Also in Estonia, production of oil shale has been significantly reduced (–40 % during 1991–1999). While staff numbers have fallen by 33 % during 1991 and 1999<sup>8</sup>, the Restructuring Plan<sup>9</sup> suggests that at least one quarter of the cost of oil shale production is directly related to excess employment. Accordingly, staffing will be reduced further from (1.1.2000) 5700 to 3400 in 2006, under appropriate social benefit programmes.

These socially motivated limitations on staff reduction avoided and will avoid the risk of an over-kill of production. At 11.6 million t in 2000, extrac-

<sup>7</sup> See <sup>1</sup>, Table 4, p. 28.

<sup>8</sup> Estonian Energy 1991–2000. Tallinn, 2001.

<sup>9</sup> Restructuring Plan of the Estonian Oil Shale Sector 2001–2006. P. 10.

tion is even expected to rise to 12.12 million t in 2006<sup>10</sup>, due to rising electricity demand (+ 13 %), a steady level of shale-oil production due to the opening of a new shale-oil production site in cooperation with the Canadian company *Suncor*<sup>11</sup>.

#### 4. Productivity Growth Was Unsatisfactory So Far, ...

The reduction of manpower did not exceed notably the reduction of production, so that productivity in CEE/CIS rose on average only by 8 %. However, CEE did better (+ 22 %) than CIS (−2%). In Estonia, the growth of productivity was similarly unsatisfactory: 7 %.

The positive development in CEE was due primarily to staff reduction, pit closures and some fresh investment. By contrast, in the CIS, lay-offs did not generate productivity growth as negative factors such as legislative inaction, defensive attitudes of the industry and trade unions, disorganisation of mining operations (social unrest, unpaid salaries, mortal accidents) and disinvestments (rather than investments) neutralized productivity gains from lay-offs and mine closures.

This experience points to the important, indeed decisive, role of a soft, long-term approach to staff reduction, supported by transparent and effective social benefit programmes (pre-retirement, retraining, assistance for those who want to open a business...). If the restructuring process had taken ten to twelve years rather than the initially expected four or five years, it was due to the fact that the social and regional implications of restructuring had been underestimated in CEE/CIS. In Estonia, in addition, the ethnical aspects of staff redundancy programmes have to be taken into account.

Thus, the bad news is that a decade has been lost with regard to productivity growth. The good news is that investments in coal (and oil shale) mining now would prompt a significant productivity gain quickly, as the employment surplus been drastically reduced.

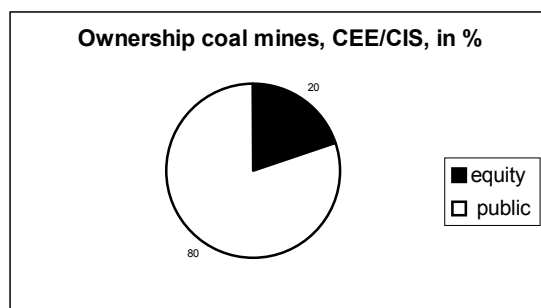
#### 5. ... But the High Potential Was Identified by a Number of Equity Investors

Fact is, that a number of investors have already identified this potential and have acquired equity property in coal mining in CEE/CIS. About 20 % of production capacities are owned by “real” investors, not by public authorities, staff or management who lack finance. These are mostly power generators, steel plants or export traders who want to secure the supply of coal and reap the benefits of synergies. This “customerization” is not without risk, though, for both parties. Companies combining power generation and mines

<sup>10</sup> Restructuring Plan of the Estonian Oil-Shale Sector 2001–2006.

<sup>11</sup> See <sup>6</sup>, pp. 6 and 7.

may be less inclined or able to benefit from competition among suppliers/customers. And a doubtful mining “asset” may jeopardize the privatisation of the power company.



Equity investors shied away from minority positions in coal mining or coal mining-cum-power complexes. In such cases, a clear decision would be required about who would be in command on management and strategic issues and how interference of the majority owner – the Government – on staff reduction or tariffs and prices would be catered for.

In Estonia, a strategic investor (*NRGenerating International Ltd*) had been invited to take 49 % of the shares of the Estonian *Narva Oil Shale Power Generation Company*, who owns 51 % of *Estonian Oil Shale Mining Company* (the remainder of 49 % is government-owned). 51 % of *AS Narva* are owned by *AS Eesti Energia* – the Estonian power monopoly – itself in 100 % State ownership. However, on 8 January 2002, the Government instructed *Eesti Energia* to end negotiations. This reflects the experience made with privatisation of coal mines in CEE/CIS: restructuring should be completed before privatisation.

## 6. The Winning Policies ...

Coal industry restructuring policies had not been straightforward, but stop-go policies (as are oil shale policies). In hindsight, the winning policies were characterised by:

- restructuring before privatisation
- unbundling economic from uneconomic mines (and closing the latter)
- associating mines with power stations (bundling mines on the one hand, and power stations on the other, did not prove effective)
- writing-off inherited debt (mostly due to past State intervention)
- limiting or eliminating liability for ecological damage generated before privatisation

- offering incentives to install clean coal combustion technologies in compliance with high (EU) emission standards; in this regard, long-term power purchasing agreements had initially played a useful role in raising capital, but now reduce competition among generators
- favouring strategic equity privatisation instead of financial, mass or voucher privatisation; at present, about 20 % of coal production capacities in CEE are owned by “real” equity investors, not by public authorities, staff or management
- eliminating direct State subsidies and cross subsidies; instead, strengthening of social security, redundancy and regional conversion programmes
- developing business opportunities “from the margin towards the core”: from ecological clean-up, repair and maintenance, distribution, trade, construction, by-products, clean coal combustion technologies, waste recovery, water treatment, mine management, process control, and others, towards strategic equity privatisation.

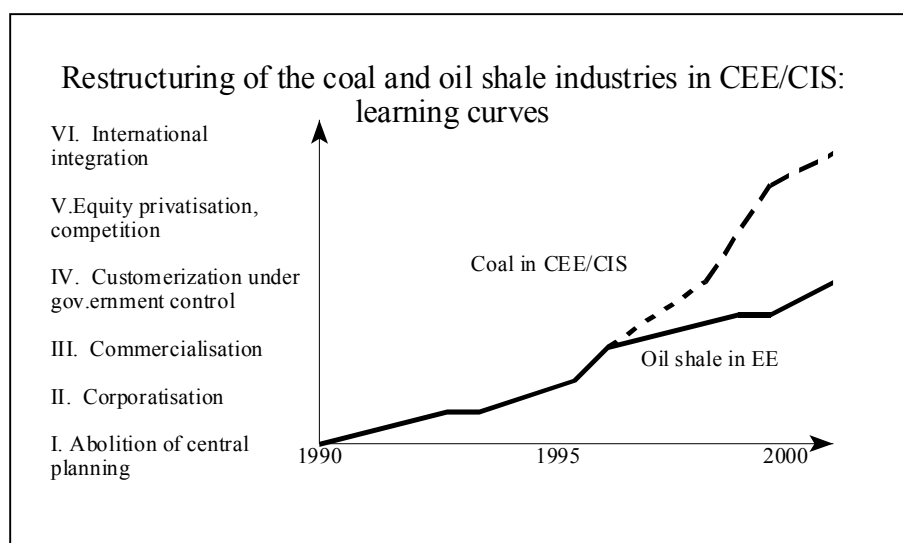
## **7. Privatisation – an Option**

Privatisation can be an option after restructurization. The dilemma is usually between access to capital provided by the private sector, and government control over an industry that is critical for the security of energy supply, pollution and the labour market. As labour surpluses have been or are being eliminated, investors can anticipate high productivity gains quickly. However, uncertainty still prevails as to the long-term prospects of coal and oil shale (competition from gas, CO<sub>2</sub> penalties). Even if old debt has been written-off, the profitability of projects may be limited by contractual obligations such as to invest sizable amounts of money, while returns depend on competition in liberalised markets. Also, governments are likely to continue interfering with business operations, for labour market, security-of-supply or consumer protection reasons, which adds to uncertainty or calls for safeguards or compensations.

## **8. An Outlook**

After ten to twelve years, by 2002, the coal industries in CEE/CIS have essentially concluded the restructuring process and have become a “normal” industry, whose problems and opportunities are not unusual for heavy and labour-intensive industries.

The lessons from coal industry restructuring are relevant for all aspects of oil shale restructuring. Moreover, oil shale restructuring in Estonia appears to follow the same learning curve as coal industry restructuring in CEE/CIS, – except for its continued emphasis on government control.



Regarding the future, the challenge is quadruple:

- **on restructuring:** to improve the competitiveness of oil shale production and oil shale-based electricity generation, while slowing the lay-off of manpower and improving the environmental records of oil shale extraction and combustion in line with EU directives
- **on competition:** to induce the government-owned industries to implement cost reductions and efficiency gains which otherwise would have been generated by competition between domestic and foreign players, and to share those benefits with customers
- **on integration:** to prepare the energy sector for integration into an competitive regional and European energy market, with the option of privatisation to be reconsidered at an appropriate moment.
- **on security of supply:** to broaden the scope of measures from strengthening domestic suppliers to include emergency stocks, interconnections and diversification of supplies by origin and fuel.