

EMERGING ENERGY MARKETS

International conference “Emerging Energy Markets”

Organised by Eesti Pank,
Ministry of Economic Affairs
and Communications,
USA think tank Global
Interdependence Center

August 21, 2008

CONFERENCE PROGRAMME

OPENING REMARKS

Andres Sutt, Deputy Governor, Eesti Pank

Keynotes: Juhan Parts, Estonian Minister of Economic Affairs and Communications
“Energy policy challenges in the Nordic-Baltic region”

Keynotes: Jean-Claude Schwartz, Policy Officer, DG TREN C1, European Commission
“The 2020 Sustainable Energy Agenda”

SESSION 1: NORDIC AND BALTIC ENERGY BALANCE AND ENERGY MARKET NETWORKS

Overview of Nordic energy market and market infrastructures

Chair: **Einari Kisel**, Deputy Secretary General of Energy, Estonian Ministry of Economic Affairs and Communications

Discussants:

Yngve Söderlund, Senior Manager, Europe & Eurasia, Nordic Investment Bank
“Demand for Investments to Secure Electricity Supply versus Investment Risks in the Baltic Sea Region”

Mario Baldassarri, Professor of Economics, University of Rome “La Sapienza”
“Global energy prices, supply situation and the European Union”

Laszlo Varro, Chief Economist, Mol Group
“Russia and the European Energy Supply”

Timo Tyrväinen, Chief Economist, Aktia Sparbank Abp
“Central Bank Policy in Response to Exogenous Energy Shocks”

SESSION 2: ENERGY POLICIES AND ALTERNATIVE SOURCES IN THE EUROPEAN AND NORDIC CONTEXT – A MARKET VIEW

Solutions to address energy risks in today’s volatile environment and key challenges in diversifying energy supplies

Chair: **David R. Kotok**, Member of the Board of Directors, GIC

Discussants:

Sandor Liive, CEO, Eesti Energia
“Baltic energy supplies”

Martti Kätkä, Director, Federation of Finnish Technology Industries

“Energy Policies and Alternative Sources in the European and Nordic Context – A Market View”

Jason Schenker, Risk Management Specialist, McKinsey Group

“Solutions to Mitigate Energy Risk”

Christopher E. Jylkka, Partner, Boston Energy Group

“An American Perspective on Wind Development”

SESSION 3: MONETARY POLICY AND ENERGY COSTS

How do energy policy and costs affect inflation and central bank decision making?

Chair: **Andres Sutt**, Deputy Governor, Bank of Estonia

Discussants:

Kevin Cheng, Economist, IMF

“Global inflation and commodity prices”

Martin Bijsterbosch, Principal Economist, European Central Bank

“Policy in Response to Exogenous Energy Shocks”

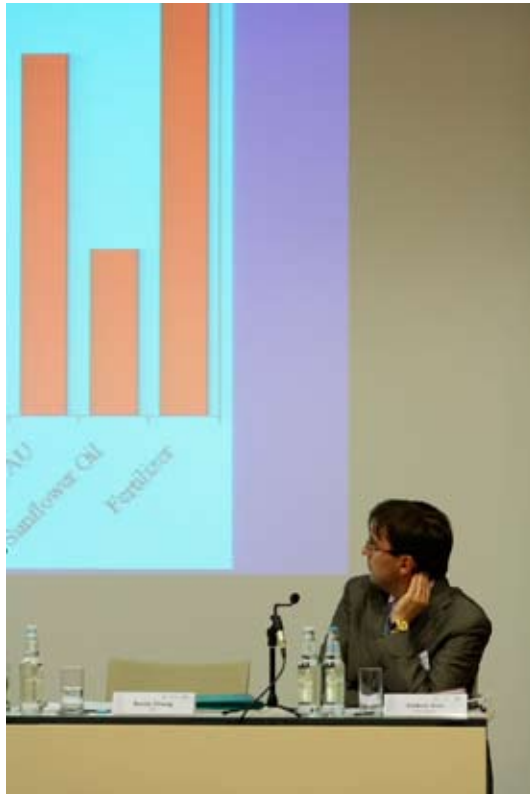
Jan Kubiček, Advisor to the Board, Czech National Bank

“Outlook for Energy Consumption in the Czech Republic in the Context of the Convergence Process”



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INTRODUCTION



On 21 August, an international conference “**Emerging Energy Markets**” organised by Eesti Pank, the Ministry of Economic Affairs and Communications and the USA think tank Global Independence Center (GIC) took place in Tallinn. The conference concentrated on the energy policy issues of the Nordic and Baltic countries. The event was opened by Deputy Governor of Eesti Pank **Andres Sutt**, and **David R. Kotok**, Member of the Board of Directors of the GIC, also gave a welcome speech. The keynote speeches were delivered by the Minister of Economic Affairs and Communications **Juhan Parts**, who talked about energy policy related challenges in the Nordic and Baltic countries, and **Jean-Claude Schwartz** from the European Commission’s Directorate-

General for Energy and Transport, who introduced the energy policy of the European Union.

Juhan Parts, Minister of Economic Affairs and Communications, focused on three challenges in the energy market of the Nordic and Baltic countries: **an efficient energy network, sustainable energy economy, and changes in the EU emission trading scheme**. In order to improve the functioning of the energy market, a better interstate energy network is necessary. Whereas the Nordic countries are relatively well interconnected, Estonia and the other Baltic countries have still room to develop. The minister presented the launch of the Estlink cable between Finland and Estonia as a positive example. Another relevant topic was the larger share of renewable energy in producing and using energy. Here, too, the need for cooperation between Estonia and its neighbouring countries was stressed. The third point Juhan Parts underlined was the tasks arising from changes in the EU emission quotas trading scheme. Reducing the production of energy from fossil raw materials occupies an important place here.

The next speech treated the European Commission’s **energy and climate package** *The 2020 Sustainable Energy Agenda*. In this presentation, **Jean-Claude Schwartz** discussed the primary objectives of the European Commission’s energy and climate package. One of the goals is a 20% reduction in the emission of greenhouse gases by 2020 and the second objective is a 20% increase in the share of renewable energy sources in the entire energy consumption by the same year. In addition, specific measures of the package were introduced, such as Structural Funds aids, the European Emissions Trading Scheme (ETS), changes in carbon capture and storage and achieving a 10% share of biofuels while ensuring the sustainability of the environment.

PANEL I: THE ENERGY MARKET OF THE NORDIC AND BALTIC COUNTRIES

The topic of the first panel of the conference was the energy market and network of the Baltic and Nordic countries. The panel was chaired by **Einari Kisel**, Deputy Chancellor on Energy of the Ministry of Economic Affairs and Communications.

The opening presentation focused on the most prominent challenges the global and European energy market have to face in the near future. **Yngve Söderlund**, Senior Regional Manager of Europe and Eurasia at the Nordic Investment Bank, spoke about the main issues of the energy sector, including the continuous growth of energy consumption. Namely, the demand for primary energy may shoot up to 60% by 2030. Also, fossil fuels will remain the main source of energy for the next 25 years. The functioning of the energy market in Europe is complicated by the existence of different energy networks (NORDEL, UPS/IPS and UCTE systems). From the point of view of the future, it is important to increase energy-related cooperation in the Nordic and Baltic countries.

Mario Baldassarri, Professor of Economic Analysis of the La Sapienza University in Rome, discussed the development of the global energy market during the next 40 years. He also spoke about the global demographic development and the changes it causes in the policy field. Baldassarri emphasised the role of nuclear energy. Nuclear energy is a good alternative to fossil fuels, since the energy production process includes no CO₂ emissions. In addition,

there are acceptable solutions to storing and handling nuclear waste. Speaking about general economic and energetic issues, Baldassarri said the most important aspect was closer cooperation between EU Member States.

Natalia Soczo, Chief Economist of the MOL Group, spoke about the energy supply of Russia and Europe. Soczo emphasised that it is important to view the oil market separately from the natural gas market, since these are two different fuels with different product characteristics. The solution to Europe's supply with energy would consist of three pillars and include versatility, an efficient and competitive energy market and a dependable infrastructure. It is important to develop all the three areas in order to ensure the security of energy supply and competitive and affordable energy in Europe. Soczo also introduced the projects of the new gas networks (Nabucco, South Stream).

Timo Tyrväinen, Chief Economist of Aktia Sparbank Abp, spoke about the role of central banks during the period of rapid energy price growth. Tyrväinen provided an overview of oil price developments in recent decades and the monetary policy of central banks. He stressed that central banks should wait until the so-called third-round price growth until they start utilising monetary policy instruments to affect the economy and shape market expectations (especially wages).



PANEL II: ENERGY POLICY IN EUROPE AND IN THE NORDIC COUNTRIES AND ITS ALTERNATIVE SOURCES



The objective of the second panel was trying to find solutions to the energy risks characterising the current volatile environment and discussing different energy supply possibilities.

The first to take the floor was **Sandor Liive**, Chairman of the Management Board of Eesti Energia, who provided an overview of the **Baltic electric energy market**.

The Estonian electricity network forms part of the network of the Baltic States that was founded during the Soviet time. Despite being well integrated with the other Baltic States, Estonia's network has no links to other EU countries. However, lately a cable link was established with Finland and similar links are planned with Sweden and Poland. When establishing electrical connections, Estonia cooperates with the Finnish main grid Fingrid in order to establish a second and bigger cable between Baltic and Nordic countries. If necessary, we are able to assist in creating power transmissions between the Baltic States and Sweden and the Baltic States and Poland. These would enable to join the Baltic States with Europe also via electrical connection.

Estonia does not currently have a functioning electricity market, since different from Latvia

and Lithuania, the country's energy market has not yet been opened (the market opens in 2013). Approximately 93% of the electricity produced in Estonia is from oil shale. The share of natural gas is only 5.3% and renewable energy sources and peat make up just 1.2%. Electricity production in Estonia is controlled practically by one company – Eesti Energia AS – who owns 96% of the installed capacity and who produced 95.3% of electricity in 2006. At the same time, there are excellent opportunities for the creation of the Baltic energy market, since compared with other EU countries, there is plenty of free transmission capacity between the Baltic States.

Looking toward the future, Eesti Energia is searching for alternatives to oil shale, conducting researches to find new oil shale production technologies, participating in the preliminary project of Lithuania's nuclear power station and establishing gas turbines to equilibrate wind energy. In addition to plans to invest in nuclear power production in Lithuania or Finland, efforts are put in developing wind energy in the coastal areas of Estonia. In addition, future plans include the establishment of a thermal power station based on biofuels.

As regards future scenarios, the opening of a common energy market in the Baltic States which would then be integrated with the Nordic energy market is considered the most effective. The Nordic energy market system, which is considered the best-functioning in the world, would form the basis for the Baltic countries energy system.

Martti Kätkä, representative from the Finnish Industrial Technology Association, provided an overview of the **European and Nordic countries energy policy, alternative sources and the Finnish energy market.**

Owing to free competition in the Finnish energy market, all the local market participants are very active in offering their product to the consumer. In order to be able to offer as low prices as possible, they also try to import electricity from the neighbouring countries. The Finnish small consumer is able to choose the company to buy electricity from. This has resulted in tight competition between service providers. Now that the energy market has been completely opened, Finland buys electricity where it is the most favourably priced. For instance, if the summer is rainy, the most beneficial is to buy cheap water energy from Norway.

Because electricity consumption is growing steadily in Finland, energy imports are on the rise as well. As there is no sufficient domestic energy supply,

70% of energy is imported from the neighbouring countries. The energy markets of Norway and Sweden are relatively tight; only North-West Russia has currently free capacity. Therefore, it is proceeded from the principle that energy consumption should be more efficient than before. Production growth should anticipate the increase in energy consumption. Looking at the development of the energy market, Finland should consume approximately 120 terawatt-hours (TWh) of electricity in 2025, whereas the development strategy foresees slightly above 100 TWh.

Electricity consumption in Finland increases steadily. In 2007, Finland used 90.3 TWh of electric energy. The annual energy consumption growth is expected to form 1.2% until 2020, when the total energy consumption may constitute 107 TWh. Currently there are five nuclear power stations accounting for the largest share of electricity production in Finland and two or three more nuclear power stations are going to be built by 2020. Those in favour of new nuclear power stations rely on the growing need for energy and the convention on limiting carbon dioxide. The production costs in nuclear power stations are more or less similar to the power plants based on gas and coal.

Jason Schenker, Risk Management Specialist from the Mckinsey Group, spoke about the **possibilities of mitigating energy risks.**





More efficient use of energy is relevant from three aspects. First of all, equilibrium must be ensured between the demand and supply of energy carriers – the more robust the growth of demand compared with supply, the more volatile the prices of energy. Another important factor is the conservation of the environment – presently, risks are primarily related to the usage of fuels and energy. Thirdly, efficient risk management is the key to ensuring the fulfilment of company objectives and the growth of competitiveness and value.

Energy risks are chiefly related to prices and global oil supply, i.e., the price growth of raw materials and the lack of raw materials. The risks originating from economic influences or restrictions are:

- tightening competition in the raw material market;
- the flow of potential investments to where their cost-effectiveness is faster;
- production becoming more expensive due to price hikes;
- price fluctuations.

The goal of energy policy is to ensure long-time availability of energy resources with optimum prices and to mitigate the risks related to energy use. When dealing with energy risks, priorities are:

For the purpose of mitigating energy risks, market participants and main risk related factors need to be identified.

- risk identification;
- risk measuring;
- considering mitigation possibilities;
- managing energy risk.

PRODUCERS	PROCESSERS	END USERS
Independent oil companies	Refiners	Commodities manufacturers
Coal producers	Nuclear power station	Logistics
↓	↓	↓
Knowledge of the market	Knowledge of the market	Lack of capacity
Assets	Assets	Credit ratings

The last presentation of the panel was by **Christopher Jylkka**, representative of the Boston Energy Group, who spoke about **wind energy development outlooks in the USA**.

The development of wind energy is most affected by the increase in energy consumption. With the prices of oil and other fossil fuels soaring and owing to technological progress, alternative energy is becoming more and more attractive. This year, USA ranked first in the world in the production of wind energy and this despite the bigger number of wind generators and theoretical production capacity in Germany.

In 2006, wind turbines with a total power of 2,454 MW were installed in the USA. This is equal to the power of two nuclear power plants. For the next year, USA is planning to erect turbines for the production of an additional 6,000 MW of energy. Currently there are over 20 states making concessions to wind energy, but there is no obligation to buy up the electricity produced. 20% of the volume of wind energy in the USA is currently controlled by European companies. It is usually the smaller players who are taken over – they have obtained the permissions necessary for establishing wind energy parks, but lack the resources to buy the necessary equipment.



Americans produced 17,000 MW of wind energy in a year – twice more compared with the previous year. This was achieved mainly thanks to strong and stable wind. The flat relief of some of the US regions, such as Texas and North-Dakota, is extremely favourable from the point of view of producing wind energy. So far there are practically no coastal wind parks erected. Texas is the region where the production of wind energy is developing the most rapidly – the volume of wind energy increases 50% with each year.

The greatest threat to wind energy is the relatively great dependence on state benefits. At the same time, the USA is drawing up more and more specific plans for transferring over to renewable energy sources which is why this sector is now attracting more investments as well.

PANEL III: MONETARY POLICY AND ENERGY CONSUMPTION

Andres Sutt, Deputy Governor of Eesti Pank, chaired the afternoon panel, which was dedicated to trying to find answers to the question how the growing raw material prices affect economic growth and inflation and what kind of economic policies should be pursued in the current situation.

The first speaker of the panel was **Kevin Cheng** from the IMF, who treated **commodity prices and global inflation**. Irrespective of the recent energy price corrections, oil prices have soared from 30 USD per barrel in 2003 to 140 dollars this year. The price hike of commodities has been partly caused by higher energy prices the growth of which has slowed in recent months.

In Cheng's opinion, the demand for oil has risen in developing countries due to economic expansion and the increasing use of energy in manufacturing, whereas developed countries show a decline in the demand for oil. At the same time, the prices of food have soared, reflecting the increasing demand for biofuel and higher fuel prices. In addition to real economy conditions, both interest rates and the exchange rate of the dollar have exerted pressure on prices. The prices of commodities have fallen during the past couple of weeks, reflecting the appreciation of the USA dollar. Inflation has increased in both developing and developed countries, mainly due to the hike in energy prices (in developed countries), but also because of the increase in food prices (developing countries).

In the IMF's opinion, the so-called second-round effects, expectations and the demand for higher wages may also materialise. The IMF incited central banks to prevent the increasing price hike of energy and food (first-round effects) from passing over to the price level of other goods and services (second-round effects). Cheng also stressed the importance of central banks' credibility. The **main recommendation by the IMF's representative to Estonia** was to keep the fixed exchange



rate system, since it helps contain prices and price expectations. In Cheng's opinion, the strong euro has partly protected countries whose currency is pegged to the euro from the price hike of food reflected in the US dollars and oil price growth. In Estonia's case, fiscal policy may also be of help.

Martin Bijsterbosch from the ECB's EU countries Division provided an overview of the impact of the oil prices shock on macro economy and on possible economic policy countermeasures. First he explained the channels of oil prices impact, i.e., how the rise in oil prices influences inflation. The ECB's representative said that each oil price rise is different and depends on the direction (inflation and oil production react more rapidly to price increases than to price drops), duration (the more permanent the increase, the stronger the macroeconomic impact), and the reason (whether conditioned by supply or demand) of the shock. Baltic countries faced the energy price shock

concurrently with inflationary pressures, whereas the latter were brought about by high domestic demand and one-off factors. Compared with the euro area, the share of energy goods in the consumer basket of the Baltic states is relatively high, but lower than in other CEE countries. At the same time, the price level of energy and taxes are still comparatively low compared with the euro area.

Economic policy measures have a considerable impact on the oil price shock. The ECB's representative made some general suggestions in three policy areas.

1. Monetary policy measures depend on the monetary policy system (fixed or floating rate). They also depend on whether the price shock is temporary or permanent. If the shock is temporary, monetary policy needs to ensure it derives from the so-called second-round effect and inflationary pressures do not materialise. In the case of a permanent shock (i.e., the price of oil grows gradually), monetary policy must also alleviate the so-called first-round effects. Monetary policy credibility is

the key factor. The containing of inflationary pressures helps decrease the loss of production.

2. The role of fiscal policy is to support monetary policy. Fiscal policy should refrain from alleviating oil price shocks by lowering taxes. It is important to achieve a fiscal surplus when the times are good and have the automatic stabilisers work during a recession. If we are dealing with a remarkable fiscal deficit, the government should establish as its objective the consolidation of the budget.

3. Structural policies. Ensuring the flexibility of labour markets simplifies the post-oil-price shocks adjustment process. The strengthening of the competition in product markets, especially energy markets, makes it easier to re-allocate resources and reduces the indirect impact. In the field of energy policy, it is important to continue to reduce the energy intensity of the economy.

To sum up, Adviser to the Board of the Czech National Bank **Jan Kubiček** gave an overview of the outlook of energy consumption in the Czech



Republic at the time when the Czech economy is converging towards the EU average level. Kubiček noted that energy intensity in transition countries is several times higher than in developed countries. At the same time, energy intensity (i.e., energy usage per GDP) is a misleading indicator due to differing price levels. According to Kubiček's calculations, the demand for energy in the Czech Republic will grow by 52% by 2030 compared with today. The share of industry in the GDP of the EU Member States has reduced (in current prices) due to the decline in the relative prices of industrial production (e.g., telephones, computers, furniture). Environment experts say the usage of better technologies helps save energy and the demand for energy will not grow so rapidly in the future — it may even fall. Thus, energy saving may become a new source of energy.