

**National Council of the Slovak Republic  
Ing. Maroš Kondrót  
1 Alexander Dubček Square  
812 80 Bratislava 1**

Liptovský Mikuláš, 20<sup>th</sup> March 2013

**Subject: A design of transformation of energy market**

Dear Vice Chairman of the National Council for Economic Affairs and President of the Energy Commission,

when you as the Chairman of the Economic Policy Committee of the National Council of the Slovak Republic asked for my collaboration at the end of the summer in 2007 in Liptovský Mikuláš, the opinion I expressed was that it is very problematic to propose the measures in the legislative and to assess their effect without previous experiment. I built on the practical experience within the analysis and formulation of transformation of the pension system in Slovakia where the several-year-experience is confronted with the results that confirmed the validity of such a system access. Just at the first assessment of NBS in October 2007 we discussed for nearly an hour with the secretary Mrs. Prokopčáková and you. On the contrary to NBS opinion (probably taken from ECB) I argued that the markets are connected and in the end the mortgage crisis will have an important impact on the Slovak economy with the loss of 50,000 to 100,000 job positions. The events of the second half of 2008 confirmed my conclusions, while the question did not sound whether the crisis gets in Slovakia or not, but what its solution is. Although the rise of consumption created the time space for the solution search, but on the other hand it uncompromisingly consumed the precious available sources. In the second half of 2008 I reported you that my analyses lead to the conclusion that renewable energy sources would play the same role within the solution of the crisis like the IT technology played within the solution of energy crisis in 1970's. The association called The centre for research on economics of renewable energy and distribution systems in Košice was founded on your initiative in May 2008. It was founded by 3 universities and Honors, a.s. company. Our output is the elaborated model of 40-year-transformation of energy market combined with the experimental realisation of gradual transformation of a building to a building with almost zero energy needs that consists of:

1. Analytical part which:
  - a. Defines the core of the crisis and presents the existence of irreversible transformation processes related to the disruption of value systems and setting a new value organisation of the society.
  - b. Defines the position of renewable energy sources in the society.
  - c. Determines the social value of CO2 emissions as an economical tool for the regulation of the dynamics of society transformation.
  - d. Formulates ***the transformation of the society using renewable energy sources at the lowest social costs*** as a solution that provides

- i. The generation of value added
    - ii. The solution of energy safety of the society
    - iii. The reduction of the operational costs of the society and therefore it improves the standard of living.
  - e. The calculations of the data from 2011 and 2012 published by Regulatory Office for Network Industries (URSO) show that the continuation on the basis of the principles of the Act no 309/2009 Coll. means the investment of 16 billion EUR for the achievement of the commitment of 14% share of renewable energy sources in the energy mix of Slovakia until 2020 and in 2020 itself the amount of 1.6billion EUR. The run of the system 15 years after 2020 means the total investments of circa 30billion EUR, while the actual amount of distribution fees that is the highest in the EU creates the pressure on the competitiveness of Slovak economy and therefore it creates the natural limit for the continuation of this way of solving.
  - f. The principles of the Act 309/2009 implement the economic redistribution through the markets of electricity, heat and CO2 emissions what disrupts the competition on the market and creates the economic barriers that hamper the competition.
  - g. It is shown that the system in accordance with the principles of the Act 309/2009 Coll. reached the top measured by the amount of distribution fees as the highest in the EU and therefore it has a negative impact within the criteria of competitiveness of Slovak economy and restricts the domestic consumer market.
  - h. It notes that the state has got a right to allocate the chosen technologies from the competition in accordance with the Act on the Competition Protection.
  - i. It criticizes the fact that the source of the fees to the price on the market is a consumer and not a tax payer and thereby the used principle acquires the character of excise tax.
2. The constructions of the multilevel model of the energy market that
- a. contains the researches made in economy theories as the response to the failure of economic models used until the crisis on the financial markets in 2008.
  - b. It defines the transaction costs related to the transformation of energy market.
  - c. It determines the method of measuring the transaction costs by CO2 emissions.
  - d. It implements a green permit as the complement to the produced CO2 emissions.
  - e. It implements logical boundaries 1t/Mwah for specification of the factor of green permit as the top limit of emission production for thermal power plant burning the coal.
  - f. It integrates contradictory opinions to the issue of the role of CO2 emissions without any costs rise for the solution of the issue of climate changes.
  - g. The assessment of CO2 emissions follows from the published value of the social value of CO2 emissions released into the atmosphere in the amount of 85USD (65EUR/t) (Stern at all, 2006).
  - h. On the basis of published data of Office of Regulation of Network Industries (URSO) on the paid supplements it calculates the social value of the CO2 emissions in the amount of 93.84EUR/t for 2011 and 97.8EUR/t for 2012 and therefore it determines the energy market in 2011 and 2012 as negatively stimulated in favour of investors without the pressure on the costs.

- i. It proposes the rational value of green bonus in the amount of 70EUR/t as a reward for a supplier of the energy from renewable sources.
- j. It creates a dynamic algorithm between the excise tax and the green bonus for the 40-year-transformation of the market.
- k. It determines the value of green bonus and the amount of excise tax on fossil fuels as a decisive tool for the market regulation, while the amount of the green bonus represents a motivation component and the amount of the excise tax represents an economically repressive component of regulation.
- l. It creates a hierarchical, multilevel model of the shift of the market from the competitive organisation with discriminative attitude to energy sources on the energy market into a strategic segment of cooperative-competitive relations.
- m. It proposes that the subjects cooperate exclusively within solving an investment vehicle – distribution systems of energy.
- n. It means that the subjects are competing in providing the services to a consumer.
- o. It ensures the lowest costs as a result of cooperation within the investment vehicle in the form of distribution system and reduces individual costs at the realisation and operation of energy sources as a result of competitiveness on the consumer market.
- p. It provides the tool for deciding in the form of knowledge emission curve of CO<sub>2</sub> (green bonus) for individual technologies.

The designed model of the transformation of energy market can be characterized as it follows:

1. Simple and therefore doable.
2. It has got the character of adaptation mechanism where the pace of transformation is set based on the selection of the amount of individual social costs on CO<sub>2</sub> emissions and the amount of green bonus in the relation to the commitments of the Slovak Republic and possibilities of the Slovak economy and society.
3. It is suitable for the heat market and after subsequent analysis and modifications it is adaptable even for the market with electricity.
4. It solves the issue of access of local energy sources in a non-discriminatory manner into the energy market through the distribution energy networks and thus creates the conditions for solving the transformation of building into buildings with almost zero energy needs in accordance with the Act no 300/2012 Coll. and Decree no 364/2012 Coll.

The executed experiments in the office building of 3 Murgašova Street, Košice demonstrate technical and economic viability of the transformation of building into building with zero energy balance with distribution energy networks and also determine the economic barrier level as a result of Slovak legislation within the access of a local energy source on the energy market that was higher in 2012 than an independent unit price of energy on the market. It is important that we show the possibility of achievement of the savings of 73% within solving the energy effectiveness, 87% within the solving of the savings of primary sources, when the consumption reaches 64kWh/(m<sup>2</sup>.a) and 96% within the solving of the emissions savings. Everything within providing the investment return in accordance with the price of money.

The designed solution of a building with zero energy balance determines that the investment attractiveness increases by reducing the time of return within the achievement of a state when a building is able to supply the energy networks by 350 Mwh more than it consumes and reaches zero and further reduction by 177 t per year at the CO2 emission production.

Dear Vice Chairman,

The designed solution of the transformation of energy market is simple, and thus it has the conditions for adequate implementation into the laws and other standards and therefore law enforcement, too. The attractiveness of the designed model increases regarding the fact that only parameter of transformation costs accedes to the supplied energy in the form of the social value of CO2 emissions that is measurable and valuable and represents the utility, too. Just the setting of the amount of this parameter price enables us to regulate the pace and volume of the transformation of the energy market and ensures the appropriateness of the costs to the needs and abilities of the Slovak economy. The adaptation principle enables to patiently verify regulation measures and determine the dynamics of the transformation so that unnecessary waste of social sources will not occur. Since the transformation of the energy market also includes the transformation of small number of energy sources with high energy output, the transfer from the competitive market into a strategic segment of cooperative-competitive market with non-discriminatory attitude of energy sources into a market represents the part of the solution. It also opens the possibilities for the realization of a building with almost zero energy needs.

I attach the letter addressed to the Minister of Economy of the Slovak Republic including the above proposed material as a base and attribution to the elaboration of new energy conception of Slovakia, together with the offer of providing consulting business within the processing of a draft of legislative intention in order to modify the legislation necessary for the realization of the model of the transformation of the energy market proposed by us.

Best regards

Illegible signature  
Dušan Lukášik  
Member of the Board

Annexes:

The Minister of Economy of the Slovak Republic  
Rector of TU Košice, Professor Anton Čižmár  
Rector of EU Bratislava, Professor Rudolf Sivák  
Professor František Janiček