



Comments of ENERGIACLUB Climate Policy Institute and Applied Communications on the decision of the European Commission

Budapest, 11th February 2016

Subject: State Aid SA.38454 (2015/C) (ex 2015/N) - Hungary
Possible aid to the Paks nuclear power station

I. Existence of State Aid

Energiaklub submitted a complaint to the Directorate-General for Competition of the European Commission on 11th June 2014, where we explained our stand in the topic of possible state aid concerning the Paks II. nuclear plant. We still maintain our position that the financing of the Paks investment is state aid; all four criteria of state aid is fulfilled. We submit our comments and amendments in connection with the topic hereinafter.

1. Transfer of State Resources

The nuclear project will be delivered fully from state resources. Hungarian authorities decided about the investment, it is financed from the national budget, the risk of the investment and the debt service of the Russian credit is on the Hungarian state and the Hungarian tax-payers.

2. Economic Advantage

2.1. Information available at the time of the decision about the investment

If the Hungarian State intends to act as a market investor during the Paks investment, it is expected that there is a detailed investigation of the economic rate of return. Hungarian authorities failed to do so prior to the decision. The decision made about the intergovernmental agreement signed on 14th January 2014 was only a few months before signing. MVM Hungarian Electricity Ltd. had been preparing to announce the tender within the frames of the Lévai project since 2009. They were preparing the international public procurement process for years. In October 2013, even Kirill Komarov, deputy CEO of the international development and business department of Rosatom himself stated¹ that they were waiting for the tender to be announced. Press sources wrote about the process to be

¹ <http://atomenergiainfo.hu/atomenergetika-a-vilagban/beszallitok-eselyei-paksi-bovites>



announced soon² even in November 2013. After this, on 17th December 2013, János Lázár and Pál Kovács - secretary of state for energy policies by the time - reported the Economy Committee of the Parliament on the fact that an intergovernmental agreement will be prepared soon between Hungary and the Russian Federation³.

According to Governmental Decree no. 1194/2012, the Government declared tasks for the ministries, which were necessary to fulfil in order to make an adequate decision about the investment. The tasks included the investigation of the financing schemes of the investment sources needed for the implementation, investigation of the role and nature of the investment in energy supply, investigation of the costs of the investor, and the directive on the announcement of the international tender by the investor. Energiaklub submitted a data request⁴ in order to publish the governmental analyses and documents for the public. During the legal process started after the refusal of our request it has been revealed that the tasks have not been fulfilled by the Government, no analyses and investigations have been made about the investment⁵. After the signing of the Intergovernmental Agreement in 2014, Energiaklub submitted data requests to a number of authorities in order to come to know the analyses and documents establishing the decision, but all requests have been refused⁶, most possibly because the investigations needed for the decision were not completed, such as in the case of Governmental Decree no. 1194/2012.

2.2. Existence of Economic Advantage

Energiaklub completed and submitted an analysis⁷ to the Commission with scenarios on the return of the investment with regards to the possible wholesale electricity prices and the expected load factor (*Felsmann, Balázs: Can the Paks 2 Nuclear Power Plant Operate without State aid? A business Economics Analyses. Energiaklub, 2015.*). As a result of the analysis, it is clear that state aid is realized in 13 of the 16 scenarios, and the project will not only be generating loss, but will need additional financial investment from the owners (in some cases with capital investment at least as big amount as the Russian credit, in order to keep the company functional). It is clear from these calculations that however the Hungarian authorities claim that they do not plan to give operational funding to Paks II, this is not possible in the vast majority of the modelled scenarios. Although there is a wide deviation in expectations about the future, it is unambiguous that the pay-off of the power plant is only foreseeable with electricity prices much higher than the prognoses of the international organizations. This means that in our calculations the investment does not pass the MEIP test.

The study mentioned above also forecasts the possibility of other (e.g. operational) subventions besides investment funding. This makes it crucial for the Commission to inspect the matter deeply, because the financing of the investment and the Russian credit is already a heavy burden for the tax-payers, thus it is essential to confirm that the tax-payers will not have to pay for even more costs.

² http://www.portfolio.hu/vallalatok/energia/nem_leszunk_franciaorszag_a_paksi_bovitestol.191534.html

³ http://www.parlament.hu/internet/plsql/ogy_biz.keret_frissit?p_szerv=&p_fomenu=20&p_almenu=20&p_ckl=39&p_biz=A334&p_rec=&p_egys=&p_nyelv=HU

⁴ http://energiakontrollprogram.hu/sites/energiakontrollprogram.hu/files/ov_kormanybizottsag_20130716.pdf

⁵ <http://energiakontrollprogram.hu/hir/paks-2-a-kormany-sajat-szabalyait-sem-tartja-be>

⁶ <http://energiakontrollprogram.hu/hir/paks-2-kinel-vannak-az-elemzesek>

⁷ http://www.pakskontroll.hu/sites/default/files/documents/study_can_paks-2_operate_without_state_aid_energiaklub_2015jun.pdf



2.2.1. Deficiencies and questions regarding the position of the Hungarian authorities

The position submitted by the Hungarian authorities stated in the decision of the European Commission does not contain or consider a number of topics in an appropriate extent. We will detail these in the following paragraphs.

Additional investments and costs. Not informed by the EPC contract, the Implementation Agreement (operation, maintenance, fuel supply, waste) and the calculations of the Hungarian authorities because of the classification, but still seeing some results, there are strong doubts whether all of the costs were included, and in what extent. Whether the sum fixed in the EPC contract covers - above others - the extra measures taken for nuclear safety, the development of the electricity network, the adequate cooling system or not, still remains a question. It is sure, though, that it does not cover preliminary investigations and permission processes (operational site, environmental impact assessment, water management license etc.), the communication costs of the project, the development of standby capacities etc.; which are also connected to the project and are financed by the state.

Waste management and costs of decommissioning. According to the Hungarian position cited by the decision of the Commission, the costs of decommissioning and waste management will be 2,1 EUR/MWh and 2,7 EUR/MWh with a conservative estimate regarding the evolution of interest rate. This price is highly underestimated. The inpayment of Paks I to the Central Nuclear Financial Fund in 2013 was specifically 4,5 EUR/MWh as calculated from the data. The base parameter of the study of Energiaklub cited earlier (Felsmann, 2015.) was 6 EUR/MWh. The increase is justified by the fact that the sources of the Nuclear Fund are not expected to fully cover the costs related to waste management.

Aspects of budgetary policy. Budgetary impacts of the investment is necessary as the Paks investment is funded fully by the Hungarian state budget. The 2014 analysis of Energiaklub⁸ found that the investment indicates serious expenses for the tax-payers (Romhányi, Balázs: *Budgetary Policy Aspects of the Paks 2 Project. Energiaklub, 2014.*). The statistical accounting system and the debt-decreasing rule of the European Union holds our attention on the fact that the financial burden of the Paks investment should not be put on the next generations but has to be accounted for those paying taxes or distributing public money at the time of the investment being. If the debt rate - currently around 80% - should be decreased to 70% until 2024 anyways, this challenge will be hardened so much by the Paks investment - which is 10 percent of the GDP - as if the debt rate should have been decreased to 60% without it. If the rules for decreasing debts on the national and European Union level are to be complied with, adequate correctional measures up to 3000 billion HUF should be done to maintain enough budgetary space during the time of the investment. This means that parallel to the launch of the investment a balance correction measurement package should be installed as big as 450 billion HUF, which practically has to stand until the finish of the investment.

Risk of corruption. According to the aspects analysed in the study also written for Energiaklub⁹, Paks II has high risk of corruption (Fazekas, Mihály; Főző, Zsolt; Tóth, István János: *The Corruption Risks of Nuclear Power Plants: What Can We Expect in Case of Paks*

⁸ http://www.pakskontroll.hu/sites/default/files/documents/budgetary_effects_paks2.pdf

⁹ http://www.pakskontroll.hu/sites/default/files/documents/corruption_risks_paks2.pdf



2? *Energiaklub, 2014*). Because of the new technologies applied, the investment has informational distortions the contractor can easily abuse. The nature of the investment further strengthens risks of corruption: these big, long-lasting projects mean complicated networks of relations and the participants of the project (organization founded by the procurer, project coordination office, entrepreneurs, subcontractors) on both the seller and the buyer side have bigger chances for abuse than in simpler projects with smaller volume. Experiences gained with Hungarian high-scale investments also makes us think that a project this huge has serious risks in our country. Hungarian projects are characterized by inadequate project management, legal disputes and authorization scandals, multiplied cost overruns and years of late delivery. In this environment we can calculate with much higher expected risks of corruption than in Western Europe. According to international empiric investigations, similar projects would have at least 5% risk of corruption from the investment budget. Hungarian data shows 13-16% of the investment for bribes within a corrupt investment. The social loss related to corruption is multiplying this sum. Calculating with an investment this big, this means a couple of hundred billion forints (billion Euros) of loss for tax-payers.

The Hungarian Government has not credibly contradicted the problems mentioned above (they didn't even try to), and no measures have been taken to prevent or handle them.

2.2.2. *Problematic Points in the Document „Economic Analysis on the Paks II. Power Project”*

The only economic analysis submitted by the Hungarian authorities and open to the public („Economic Analysis on the Paks II. Power Project” or the Rotschild Report) has many contradictions and problematic points. We discuss these in the following paragraphs.

Load factor. The data about load factor have been obscured in the decision of the European Commission. The Rotschild Report counts with high (92%) load factor. This doesn't seem to be realistic especially during the six years while the currently operational four blocks and the two new blocks are going to operate in the same time. We have not seen any regional or European level electricity market analysis from the Hungarian authorities which would assure high load factor in these six years or even following this period. Currently it seems that in the six years of parallel operation - especially during off-peak night time- it will be problematic to sell the electricity produced. Information indicated in the environmental impact assessment currently under process give more reasons to question the high load. Plans changed from building a cooling tower to cooling with fresh water at the new blocks, which concludes to plans of plant power reduction during the low-level, warmer periods of the river Danube.¹⁰ (*Review of Energiaklub regarding the EIA of the new nuclear blocks atz Paks. Energiaklub, 2015.*). Keeping to the regulatory limits regarding Danube temperature is already problematic with the currently operating blocks, and it can be assumed that with the additional blocks and thus with doubled needs of cooling water supply, also counting the more and more frequent and longer-lasting warm, low-level periods, this problem is going to be more and more intensive and frequent. In such cases reducing power and cutting back of the production will be necessary, which decreases the load factor.

The credibility of the Rotschild Report is fundamentally questionable because of the selective assumption of the future values (electricity prices and interest rate) for the

¹⁰ http://www.pakskontroll.hu/sites/default/files/paks_ii_kht_energiaklub_velemeny_2015okt.pdf See Article 4



calculation of the net present value. It forecasts the most ideal prognosis - high prices and low interest rate - for the project, whereas it is very rare to have a situation with both of these existent.

According to the study, the budget related to the investment is fixed, and any additional costs are to be paid by the Russian side. As the related EPC contract is confidential, we cannot be sure that the study is counting only with a model assumption, or this information is reliable and true. If the latter one stands, it is a question how they got this classified information. If it is only an assumption, than the final result of the model is highly questionable, as additional costs are a general nature of nuclear projects and generates high risk on the rate of return of the investment.

2.2.3. Risks

The Hungarian position exposed in the decision of the European Commission has little reflection on risks, although nuclear investments can generally be described as ones with risks on many fields, which can have a serious negative effect on the return of the project.

Delays in the project. Delay in the deadline of the project is a general characteristic of nuclear investments (this is also mentioned in the decision of the Commission). This can be counted in years; if the blocks cannot be operational in 2026, the repayment still starts, while the project does not generate income. This creates additional costs on the national budget.

Additional subventions. We have mentioned earlier that there is a high risk of additional state subventions other than the investment aid. There is high chance that the operation of the plant has to be supported financially as well. This question has to be investigated very carefully, and it has to be assured that the tax-payers will not have to pay extra costs in any cases.

Additional costs. In big investments like nuclear projects we have to count with additional costs, and in the economical modelling it has to be quantified.

Matrix of risk share. Because of the contracts being confidential, we do not have any information on the share of risks by the parties in case of any of the above mentioned and above not mentioned scenarios. This has to be analysed carefully.

3. Selectivity

The measure is clearly selective, because it privileges only one company: MVM Paks II Nuclear Power Plant Development Private Company Limited by Shares.

If it is verified that Paks II receives not only investment, but also operational support, i.e. its operation is only sustainable with additional capital subvention of sources by the ownership to keep the plant operational, than this gives unambiguous selective advantage to the company against other producer of electricity which fulfils the conditions of state aid.



4. Effect on Trade and Distortion of Competition

By the currently existing and planned interconnectors and keeping in mind the intentions of the European Union (European Energy Union, integrated energy market), the investment will absolutely have an impact on the trade of the European market and distorts competition. Hungarian market would be totally ruled by nuclear energy (Paks I and Paks II being operational together for 6 years would cover up to 75% of the market demand and in certain scenarios 100% of domestic electricity production), which affects trade and withholds entry of new companies to the market.

II. Compatibility

If state aid exists, it has to be investigated whether it is prohibited or if it is compatible with the internal market. Compatibility has to be proved by the member state, which has not been done by Hungary so far.

Hereinafter, Energiaklub explains why the financial support is not compatible with internal market regulations.

According to the Hungarian authorities, Paks II contributes to the safety of supply in line with future losses of capacity. Hungary will indeed need replacement of capacities in the next decades, but we still don't see evidences that Paks II is the most efficient solution with regards of all aspects, and would guarantee the safety of supply in the most convenient manner.

If the Hungarian authorities decide to allocate state resources on energy investments, they have to prove that the chosen scenario guarantees security of supply most, and was chosen from several other scenarios. The justification of an investment with costs up to 10% of the Hungarian GDP has to be confirmed as detailed as possible. We have already implied above that most possibly there were no such investigations conducted before the decision, however important the question whether agreement with the Russian Federation is the best solution for the problem or not. Is it really serving the Hungarian safety of supply most if we increase our independence of the Russian Federation energetically, and, by taking the credit, financially as well? The Hungarian government does not have an elaborate alternative for this. The decision on Paks II is professionally unjustified: there were no preparatory investigations made about how an investment on energy efficiency measures and renewable energies on the same scale would help security of supply.

The strategic environmental assessment (SEA) of the National Energy Strategy in 2011¹¹ also underlines this: *„The Energy Strategy does not contain information deep and detailed enough to correctly evaluate the necessity and environmental, sustainable, social and economic effects of the replacement or possible extension of the Paks blocks. We recommend that before the replacement or extension of the Paks Power Plant (before the environmental impact assessment process) there should be an ex-ante evaluation level complex feasibility study on social, economical, environmental and sustainability matters, which has to include impacts on finance, economy, increase in work-places, stimulating entrepreneurship and society, impacts on life cycles of environmental externalities, effects*

¹¹ <http://2010-2014.kormany.hu/download/5/58/30000/ESTRAT2030%20K%C3%B6nyvezeti%20Hat%C3%A1selemz%C3%A9s%2020110513.pdf>



of natural disasters, threats of terror and nuclear safety and impacts on other components of energy economy (such as electric energy to be imported from the neighbouring countries, diversification of usage of primary energy sources, dissemination of renewable energies, energy savings, energy prices etc.).”

Another serious problem other than non-existent alternative scenarios is that Hungarian decision-makers do not make any substantial measures in order to spread energy efficiency and applying renewable energy sources - instead, they are even setting it back. They have cancelled the on-going wind capacity tender in 2010 - this tender would have made it possible to build more wind farms. They still haven't announced a new tender on the topic despite the fact that the operator of the Hungarian system also thinks there is place for new capacities in the system. In 2015, they introduced taxation of solar cells. Governmental measures and supports for household energy efficiency are totally non-existent. In this way it is actually the Hungarian government withholding the entry of new capacities and market players and the market possibilities on other fields of the energy market, thus distorting the market and limiting competition.

Many domestic and international investigations show that relying on domestic energy resources (potential of energy efficiency, renewable energies) has many advantages, including potential of keeping GDP, effects on balance of trade, increase in work-places, protection of environment, research and development. Last but not least: a number of surveys prove that the vast majority of Hungarian citizens would prefer renewable energies to nuclear energy. The Paks investment is absolutely contradictory to European Union priorities: it is not leading to diversification of energy sources, nor does it imply energy efficiency, and it also outplaces renewables.

If Hungary decides that it needs new electricity capacities in the future, it should have complied to Article 8 of the Electricity Directive, but no tendering procedure or any procedure equivalent in terms of transparency and non-discrimination providing for new capacity had been announced. Thus, the Paks investment violates EU rules in this form. The European Commission launched an infringement procedure against Hungary because of the lack of tender.

3.3.3 section of the decision of the European Commission - about the necessity of aid and market deficiencies - states correctly that *„Nuclear energy is characterized by extremely high fixed, sunk costs, and by very long time periods during which such costs need to be amortised. This implies that investors considering entry into nuclear energy generation will find themselves exposed to considerable levels of financing costs.”* While no market investor would take risks this high, the Hungarian State would spend the whole price of the doubtful business from the state budget, while there are no scenarios published on how Paks II would compensate the state for this. This already does not fulfil the criterion of proportionality, because the Hungarian authorities did not investigate the minimum support making the project deliverable, but would like to finance the project in its whole scale, with a possibility of including operational costs as well.

We would like to state here again that according to our calculation state aid would not only be limited to the implementation of the investment, but it would also take part in the operational phase. In this case the appropriate instrument criterion of compatibility would be seriously questioned, as well as the incentive effect, whether it will be realized, i.e. the company (Paks II) will engage in additional activities as an effect of the aid.



III. Impacts of the Investment

We cannot disregard the possible effects of the Commission considering the Paks state aid being compatible. Other countries in the region are also planning nuclear investments, and the Paks case will establish precedent if it becomes acceptable in the European Union. This will naturally bring a more serious effect on the trade of electricity within the internal market than this sole 2400 MW project. This is true the other way round as well: the possible nuclear projects built in the region will threaten the return of Paks II as competitors, which can conclude to an even higher amount of state aid than originally planned.

List of Referred Studies

Fazekas, Mihály; Föző, Zsolt; Tóth, István János: The Corruption Risks of Nuclear Power Plants: What Can We Expect in Case of Paks 2? Energiaklub, 2014

Felsmann, Balázs: Can the Paks 2 Nuclear Power Plant Operate without State aid? A business Economics Analyses. Energiaklub, 2015.

Koritár, Zsuzsanna: Review of Energiaklub regarding the EIA of the new nuclear blocks atz Paks. Energiaklub, 2015.

Romhányi, Balázs: Budgetary Policy Aspects of the Paks 2 Project. Energiaklub, 2014.