UNOFFICIAL TRANSLATION FROM GREEK

01.10.2012

From: HAIPP

To: RAE

Subject: HAIPP's positions on RAE's public consultation regarding the reform of the Greek Electricity Market

Dear Sirs,

We believe the RAE's initiative to launch a public consultation on the reform of the Greek market at this time; it is not only judicious but also absolutely necessary.

It is well established for many months now that the current electricity market model, which began as a transitional outset, has surpassed its limits and not only it cannot continue to operate, it is now leading to new and very significant distortions of the market, risking to cancel already established achievements, such as the assurance of capacity adequacy of the system and the smooth so far penetration of RES in the market.

The conditions which must be met throughout the transitional period until the full opening of the market should be as follows:

1. The shield of security of supply
2. The optimization of the total cost of production, supply, transmission and operation of the energy market.
3. The smooth transition to the emissions trading scheme which goes into effect in three months from now.
4. Ensuring the domestic production level playing field, both nationally and in relation to the prevailing market conditions of Southeast Europe in general.
5. The coordinated pursuit and motivation to achieve optimum fuel costs.
6. Withdrawal of any weights that are not related to electricity (taxes, social policy, etc.) so that domestic production (industrial or electrical) is not burdened with an additional disadvantage against international competition.
7. Opening of the market to the benefit of the consumers.

The application of a NOME type model, as defined in general within RAE's proposal, could guarantee producers' equivalent access to the available national energy resources (lignite and water) so that they could create competitively balanced energy portfolios. This will gradually lead to the introduction of bilateral agreements and the gradual development of healthy,

sustainable competition in the Greek retail market in combination with its transition to the EU target model.

These steps must be designed very carefully in order not only to avoid risking the sustainability of efficient production units but also to create appropriate incentives for the energy industry to adapt successfully to the shattering change in the natural gas market and the rapid penetration of RES in electricity generation.

As further described in our positions down below, we believe that a prerequisite for the gradual abolition of the transitional mechanisms should be the successful implementation of the NOME type model while enhancing the capacity assurance mechanism so that it motivates the maintenance of operational readiness of flexible production units which can support the rapid entry of renewables in electricity generation.

Finally, we would like to highlight the fact that the task of reforming the energy market in Greece, which is absolutely necessary and urgent, requires a very strong working team, which RAE currently has available and which should focus on this issue to avoid mistakes or omissions that may incur catastrophic consequences not only for the market, but also for the national economy.

Please find attached our remarks on the general issues under consultation.

As we have already demonstrated in the past, we will contribute to the effort of RAE towards the reform and the smooth transition to a fully open and truly competitive electricity market in Greece.

Yours sincerely,

Anastasios Kallitsantsis
President

Subject: HAIPP's positions on RAE's public consultation regarding the reform of the Greek Electricity Market

A) Wholesale Market

1) NOME regulation:

HAIPP is in line with RAE's proposal to apply a model similar to the one applied in France (NOME), provided that it will be adjusted to the Greek electricity market specificities so that it can achieve the establishment of a healthy, reliable and long-term sustainable competition and the retention of final consumers' tariffs.

The tendering of energy should clearly include both lignite and hydro production, in order to create "energy portfolios" with characteristics and cost similar to the one owed by the dominant company.

Undoubtedly, the application of a NOME type model should aim to introduce structural changes in the market rather than simply transferring profits from one participant to another. In this course, HAIPP considers it necessary to establish specific eligibility criteria for the participation in the tenders, which will ensure not only the development of healthy competition in all stages of the energy production chain but also that this competition will be viable and will continue to produce results following the completion of the program.

These criteria should be designed to attract participants who already possess long-term rights in domestic production capacity of gas-fired units. It is important that the participants who obtain access to lignite and hydroelectric production through the auctions can create a suitable energy mix throughout the duration of the forward contracts, so that they can supply final consumers in a competitive and long-term sustainable way. Therefore, participation in the auctions should primarily be provided to domestic power producers, who are the main developers of credible competition and guarantee a long-term operation, since through investing billions of Euros have connected their future with the development and future of the Greek electricity market. Furthermore, as described in the summary of the relevant study prepared for RAE by the Athens University of Economics:

«The viewpoint that the success of NOME regulation in France is not promising has been expressed. This viewpoint is based on the fact that **the effective competition is enhanced when competitors are vertically integrated**, **with activity in supply and mainly in electricity production** (in France EDF produces 95% of the electricity market's share), while NOME regulation does not motivate by itself new investments in production, innovation in supply, and generally a competitive behavior among stakeholders. On the other hand, in Greece, the liberalization of energy market in combination with the operation of the mandatory pool has led to several significant investments in production from third parties, who however have no incentive to engage in the supply side».

For this reason, we assume, the team of Athens University of Economics has focused on the alternative case B2, which stipulates the obligation of the beneficiaries of the program to supply through bilateral contracts part of their NG production along with the obtained lignite and hydro production.

Moreover, the carefully designed combination of rights to lignite and hydro production from privately owned gas-fired plants, is the only method that balances the "energy portfolio" of PPC's competitors without increasing PPC's average cost of electricity supply, since this way from PPC is not extracted only part of its lignite and hydro production but also part of the electricity supplied from gas-fired plants.

It would also be reasonable for large consumers of electricity (energy intensive industries) who are planning a long term policy on the supply of electricity, to have access to the abovementioned auctions.

Under no circumstance should the auctions serve as a window of opportunity to make short-term profits by trading the auctioned amount in the wholesale electricity market or export it to neighboring countries.

An additional key element to the success of these auctions is to establish an upper limit value that is not far from the current variable cost of the involved units. If it is considered that this cost is far from the variable cost as indicated by international experience, it may be desirable, in order to maximize the benefit of the end consumer, the upper limit value to be less than the existing or declared variable costs. This will put pressure towards the cost minimization and the settlement of competition at lower prices. Moreover, this will give to third parties access to cheap energy and thus opportunity to compete with the dominant company in the retail market for the benefit of the end consumers, transferring the "scarcity profit" to the end consumers and not PPC or themselves. Otherwise, the auction price results are expected to be close to the price of the wholesale market in order to achieve short-term profit from trading (rather than supply) of electricity.

2) <u>Variable Cost Recovery Mechanism (VCRM.):</u>

The necessity of the introduction of this mechanism in the Greek energy market came from the fact that, due to technical limitations in the Day-Ahead Scheduling (DAS) algorithm and mainly due to overstatement of dominant's player lignite plants' availability, the units may be instructed to operate at an SMP (System Marginal Price) lower than their variable cost. No one can argue that the situation has improved following the establishment of this mechanism. This is clearly proved by the fact that in October 2010 (after the entry into force of the 5th Reference Day of the, at that time, Grid & Market Code) the difference between the Deviation Marginal Price (DMP) and the System Marginal Price was 5 €/MWh, while during the first 7 months of 2012 this difference jumped to 18 €/MWh! So, as long as this distortion in the Greek electricity market continues there is no point in discussing on the abolition of VCRM. What should also be noted here is that if the SMP approached the DMP then the cost of VCRM for the Units of Independent Power Producers would be drastically reduced and there would be practically no discussion on this mechanism. So what should be done is to rationalize the SMP!

It is necessary to underline the fact that the regulated transitional mechanisms have been introduced in the Greek electricity market just to support the transition from the initial stage of market development to a market characterized by healthy and fair competition among participants. According to RAE, adopting a NOME type model is required in order to create conditions of healthy competition and to balance the advantages of the historical

monopoly. Therefore, the successful implementation and operation of this program, as this will be reflected by the substantial growth of competition in the retail and the increase of the consumers' supplier switching rate, is a prerequisite for the review of the existing transition mechanisms (whose importance and impact in case of successful implementation of the program will anyway have significantly decreased as ever-increasing amount of energy will be channeled through bilateral contracts).

3) Capacity Assurance Mechanism (CAM):

The Greek electricity market model provides a low upper limit for the bids in the Day Ahead Scheduling and consequently for the SMP, i.e. 150 €/MWh. European markets have equivalent limits between 500 €/MWh and 3.000 €/MWh. These higher limits enable the Units to be compensated with high prices during the limited very high load hours and thus to cover except for their variable cost, their fixed costs for operation and maintenance and also the relevant capital costs (CAPEX). In Greece, the Units do not have this possibility because of the low upper limit and therefore the Capacity Assurance Mechanism through the Capacity Assurance Tickets (CATs) covers part of their capital cost. This was the main target at the introduction of this mechanism about a decade ago and in this course independent private producers designed and decided to implement extensive investment in production assets based on the expected supplementary revenue.

Currently, not only in Greece but throughout Europe, the Capacity Payments are considered and adopted by more and more countries as a mechanism to support the flexible units which are required to cover the continuously growing variable RES production. Already Spain, Portugal, Ireland and some Scandinavian countries have adopted similar mechanisms while the same is expected for Germany, France and Great Britain (despite the fact that all these countries have very high upper limit on their power exchanges). The policy of high penetration of renewables in the energy mix is a policy of the European Union and all the rational electricity market participants recognize that this is the picture of the future. In order to be able to operate the power systems with a high variation in the RES production and to ensure uninterrupted power supply to consumers without black-outs, the operational readiness of flexible units should be ensured. On the other hand, the hours of operation of such units are currently limited and will be further reduced while the RES production keeps increasing. Therefore there should be some kind of additional Capacity Payment for the compensation of the flexible intermediate load units so that they can be economically viable.

In this context, the Capacity Assurance Mechanism must be reshaped to meet the growing needs coming from the high RES penetration, which will be an additional challenge for the stability of the system in the upcoming years.

It is obvious that this mechanism should aim to ensure sufficient reserve capacity that will be available for the system with fast start conditions, flexibility and efficiency, characteristics which only a limited subset of the currently existing electrical generation capacity of the country is able to offer.

Considering the international experience and the qualitative characteristics of installed power plants, it is deemed necessary to establish a new system of Capacity Payments which will take into account technological flexibility, efficiency and environmental performance of

the units and discourage the maintenance in operation of old, depreciated and polluting units which do not contribute anything to the stable and economically optimized operation of the system.

In this context, HAIPP is ready to discuss the re-targeting of the Capacity Assurance Mechanism, which should be preserved and combined with the introduction of an additional Capacity fee addressed to Units which may provide secondary reserve, ensuring the ability to balance the fluctuations inserted by RES production.

4) Management Code for Hydroelectric Power Plants and Water Resources:

HAIPP is in line with the need to develop a code that will govern the management of hydroelectric stations. This will significantly limit the possibility of manipulation of the wholesale market through planning and pricing of hydroelectric production. However, the main issue arising from the use of hydroelectric power plants, which remains unsolved, is that only one market participant has access to the very low cost hydro electricity production which opens a window for distortion of the competition through exploitation of this unique advantage. Answer to this problem can only be given by the integration of hydro energy production in the auctions planned along the lines of the NOME type model.

5) Reduction of natural gas prices:

The text set by the Regulatory Authority for public consultation mentions among other objectives the enhancement of changes in the gas market. However, it is necessary in the course of this consultation to additionally propose specific and concrete measures and actions that will reduce the cost of natural gas in Greece. In order for the Greek electricity industry to be able to compete with the European one and in order to reduce the cost of electricity for households and industries it is vital to achieve the convergence of the NG prices in Greece with those in most other European Union countries.

In Greece, NG already covers 28% of electricity demand in the Interconnected System (Jan.-Aug. 2012). This percentage is expected to increase in coming years as not only many of the lignite units already operating at their technical minimum will be withdrawn but also the increasing RES penetration will require increased capacity from flexible conventional units (e.g. gas-fired power plants). It is obvious that the cost of natural gas supply is a leading factor in shaping a competitive price to the end consumer. For this reason, HAIPP believes that it should be set as a **national goal** to reduce the price of natural gas in our country which is among the highest in the EU (over 30% more expensive than most EU countries). It should be noted that a price reduction in Greece to the price levels of Spain (which is not among the cheapest countries in the EU) would reduce the consumer cost by **300 million Euro** per year.

6) Reduction of consumer costs and opening of the Islands energy market:

HAIPP believes that it is essential to conduct a public consultation on the issue of the Greek islands interconnections and especially Crete. Consumers in Greece are charged with € 700 million a year due to lack of interconnection of the islands and expensive oil-fired electricity production. Only the implementation of the interconnection with Crete

would mean saving about **350 million Euro annually** for the end consumer. The implementation of this interconnection should therefore become a priority objective for both the Greek government and the European Union. The financial funding of this project could be supported by the creation of innovative financing schemes with the cooperation of the private sector (beyond including the project in the National Strategic Reference Framework etc) based on already allocated funds from consumers through Public Service Obligations (PSOs).

7) Transition to Target Model:

The adoption of a NOME type model shall constitute the first step of the reform of the wholesale electricity market. This will be achieved through the introduction of bilateral contracts which will enable the direct channeling of energy to end consumers. For the purpose of a smooth transition and a proper operation of the market at each stage, it is vital to predetermine specific percentage of the demand which shall be covered through bilateral contracts. This will enable an effective transition from the current 100% mandatory pool into a new market that will settle at a balance point between bilateral contracts and the power exchange. In this course, the percentage of the demand which shall be covered through bilateral contracts should be gradually increased in a regulated way until full opening of the market. In the first stage, it is obvious that this percentage should correspond to electricity coming from the "energy portfolios" which will be created by the tendered lignite and hydro electricity production (in conjunction with e.g. natural gas production).

8) Cover and Settlement House

The current way of financing activities within the Greek electricity market has led to an impasse liquidity which implies significant delay payments to independent power producers. For this reason HAIPP particularly welcomes the establishment during 2012 of a House for the cover and settlement of the electricity market.

B) RES electricity production:

Despite the late development of RES in Greece and the difficult financial situation, RES (excluding large hydros) now cover more than 9% of the national demand and especially the PVs cover more than 3% of the demand in the interconnected system. For the purpose of continuing the increase of RES production as well as achieving the 2020 targets, the RES incentives should be redesigned with the focus shifted to the reduction of the relevant cost for the end consumer, taking into account the cost reduction of the RES technologies as well as the need for the gradual integration of renewables in the competitive electricity market.

Γ) Retail market:

The formal deregulation of Low Voltage retail tariffs is expected as of June 2013. The course of the deregulation of the High Voltage and Medium Voltage tariffs is not very encouraging so far. For this reason, RAE should contribute to the actual implementation of

the abovementioned deregulation. The withdrawal of any cross-subsidy is a necessary condition. Furthermore, the connection of the wholesale cost to retail tariffs should be established in a way that will create incentives for the reduction of the production cost rather than for the creation of opportunity to pass on to the end consumers unreasonable production or supply costs. In this context, it is essential to ensure the extensive control of the production cost data and their comparison with best practices in other European countries.

For the same reasons, it is considered necessary to review and redesign the System and Network charges while introducing the appropriate incentives for the reduction of the relevant costs. Furthermore, it is essential to monitor the operating and investment costs of the Operators in order to ensure not only that they do not deviate from best practices but also that there is no cross-subsidization between monopoly and competitive activities.