Proposal of ELETAEN

New legislation on the support mechanism for new Wind Energy investments

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ABSTRACT

I. The general framework

Greece is far below its Wind Energy target. It has only achieved 50% of the 2014 target and 28% of the 2020 target. At the same, today it is called upon to reform the RES support mechanism. This is the most important reform for the wind sector since 1994.

However, to comply, Greece is invited to solve a big contradiction: From 01/01/2016, it must establish a more market based support mechanism, without any of the merits of a market where this new mechanism will be integrated. The details and precise rules of this new electricity market will be known in the future. But those unknown rules will affect the revenues of any wind farms included in the new support mechanism. The new rules, when formed, will impose on RES obligations for direct selling of their production in the market, balancing obligations etc.

This contradiction raises important issues. The most important one is related to financing: Essentially, any wind farms operating under the new support mechanism would have to ensure financing without knowing the exact market rules that will apply after the first years of their operation. Even the exact number of years after which these new rules will be enforced is unknown, since it is not clear when the new electricity market will be implemented and operate.

Roughly, a wind farm which will join the new support mechanism, will gain revenues through two streams: The market revenues and the revenues from the support mechanism.

Today, the market includes a mandatory pool with imbalance settlement. The income from the market will be determined substantially only (i.e. at maximum) by the SMP, on which the income from the new mechanism will be added. This model does not differ in substance from what is happening today, where LAGIE, acting virtually as the representative of the RES, collects the income from the SMP (with some safety protections) and the ETMEAR (which is virtually a surcharge, i.e. a premium).

With the introduction in the future of the new rules, the revenue from the market will be replaced by another flow that will depend on how the RES station will participate in the day ahead market, the intraday market, the balancing services, the imbalances and how it will utilize other features and tools that will be available. The whole of these revenues and penalties will lead to a variable revenue stream to which the income from the new support mechanism will be added.

In essence, the RES stations which will join the new support mechanism are divided into two categories: (i) those that will start operating in the near future, without knowing the future rules of the overall electricity market and (ii) to those which will start up after the formulation, implementation, maturity and consolidation of the new

rules. Obviously, in order for the former to have any chance to secure financing, adequate assurance should be in place today. Hence it is proposed to include in the new legislation for the support mechanism the principle that the expected future rules of the overall market will not affect the level of revenues that these stations will have during the first years of their operation (see par. 2.4 and second basic principle in par. 1).

II. The proposed design for the new support mechanism

This proposal focuses on the design of the RES support mechanism. It does not deal with the future rules of the new electricity market. However, it is accompanied by a study carried out on behalf of ELETAEN by the international firm Poyry, as part of the consultation conducted by RAE on that matter about a year ago.

The proposal for the new mechanism includes:

1. Adoption of a system of variable feed-in premium with one-way payments, with the Imbalance Marginal Price (hourly) as reference price with a protection threshold. This design ensures stable income for the RES stations for the first few years that there is no virtually market in which they can participate. After configuring the new market, the RES stations will undertake market obligations and, as explained, their income will depend on how they respond to them (see first principle in par. 1 and par. 2.2.1). The absence of the new total electricity market imposes to not select as reference price a mean value within any time window (see par. 2.2.2).
2. The administratively defined strike price is proposed to be slightly increased in relation to the prices set by law 4254/2014. This request is justified by the rapid deterioration of the expected returns of the RES investments occurred after that law due to the significant increase of the risk margins and the cost of capital, the successive tax and other charges on RES, etc. (see par. 2.3). Of course, the strike prices will be updated and revised each year for new projects based on the LCOE of the portfolio of projects that are expected or sought to be realized.
3. For the exemptions it is proposed to apply the limits laid down in the Guidelines and to exclude stations in non interconnected islands (see par. 2.1).
4. With regard to the transitional provisions: It goes without saying that the new legislation will not affect the operating and under construction projects and should contain sufficient transitional provisions (see fourth basic principle in par. 1). The new legislation should not affect the PPAs to be signed until its enactment. Also, projects which will have been awarded a binding grid connection offer having filed the relevant letter of guarantee up to 31.12.2015 should remain in the current FIT system (see par. 3).

5. The method of funding the FIP support mechanism of the new projects should be distinct from the funding of the FIT mechanism of the pre-existing projects and be undertaken by suppliers (see par. 4).

III. About competitive tenders

On the issue of determining the premium through tendering or not from 01.01.2017, ELETAEN substantiates with this proposal that, especially for wind energy, Greece fulfills the criteria laid down in the Guidelines for exemption from that obligation. The documentation is based on an analysis of the actual situation of the Greek market (see par. 5.1.1) which reads as follows:

1. Due to the high hysteresis of wind energy targets, the minimum size which should be launched each year within the possible tenders is 1.100 MW.
2. Based on the historical wind energy market development data, it is evident that the level of installation capacity that can be considered entirely possible assuming investment, economic and political stability, ranges around and just above its long-term annual average (153MW). In any case - even when the growth showed trends for acceleration - this level remained very low compared to the need of 1.100 MW per year.
3. The general economic environment in recent years and the successive burdens and barriers to RES has reduced the number of investors who would be willing to explore the possibility of investment (indicatively, this was proved by the extremely high percentage, 65%, of projects that did not submit letters of guarantee, although obliged). The number of potential candidates is even more limited in view of the abandonment of the FIT system.
4. The uncertainties caused by bad debts of the supply sector, the cash deficits in the electricity market, the delayed payments and the consequent insecurity of income, forbid any tendering process. It is not reasonable to require investors to participate in tenders (undertaking the relevant costs and risks) when the state has not addressed the basic question of the safe operation of the electricity market[1].

[1] To deal with the cash problem of the electricity market, RES associations have proposed to strengthen the market along the lines of the recapitalization of the banking system. This may be achieved with transfer of all of the deficit, including the bad debts of the supply sector, to the Operators, its direct securitization and coverage of issued securities by the resources of the Memorandum. Especially today, where in the framework of the Memorandum III, 25 billion euros have been pledged to recapitalize banks and it seems that only half of them will not be needed as a whole, it is an opportunity for this government to negotiate placing a small portion of these resources for the "recapitalization" of the other strategic pillar of the economy, i.e. the electrical market (see footnote 11).

All the above demonstrate that (i) only few projects will be supported by investors and meet the eligibility criteria for the tenders, (ii) the prices will be pushed upwards due to the imbalance between supply and demand, the small number of candidates who would be willing only requiring high returns and the risk for strategic bidding and (iii) the rate of projects realization will slow down even more and it will clearly break below the current level.

Additional arguments substantiating why tenders is not an option (see par. 5.1.2) are:

1. Law 4254/2014 has already cut very significantly, and with a retroactive effect, the compensation tariffs. In fact it has led them below the reasonable level. In this sense, the theoretical purpose of tenders, i.e. cutting costs, has already been achieved.
2. The tenders will crush small and medium enterprises since, by their nature, are addressed and favor very large groups that can theoretically take on the increased costs and risks involved. The tenders are the key that opens the door to a less democratic energy system.
3. Greece has lost in five years 25% -30% of GDP. Growth is the only path to succeed the Program. In this highly impaired environment, anything that increases the slightest investment insecurity is suicidal. The already reduced investment security in the RES sector is further reduced with the abandonment of the FIT systems. If imposed tenders on top, the sector will collapse against the MoU targets.
4. Especially for wind energy, the tenders will lead to overcrowding of installations in the eastern country (see par. 5.2.1, item 4). This will be against geographical distribution, system security, regional development and social acceptability.

Finally, in view of the 5% tender to be held in 2016 - and which can not relate to wind power for the reasons mentioned - ELETAEN proposed a framework of ideas to ensure transparency, equity and - as possible - effectiveness. Indicative, the tender should be electronic, with minimal documentation, a single criterion, all to have access to all data by means of an electronic platform and be legally shielded (see par. 5.2).

IV. Final remarks

In summary, the reality is that because of chronic deficiencies, Greece is unprepared to implement the new support mechanism. However, it must be adjusted but taking all measures that will minimize the negative impact of the new legislation. The aim should be to exploit all possibilities allowed by the Guidelines, to affect as little as possible the development and democracy of the energy sector. Within this overall

policy framework, ELETAEN submits the current proposal and hopes to a fruitful and constructive dialogue with the government and the rest institutions of power.

Introduction - Fundamentals

Today, the penetration of wind energy has lagged considerably, since it has only achieved 50% of the target set by Law 3851/2010 and the RES National Action Plan for 2014 or 28% of the 2020 target. Given that wind energy is, along with the small hydropower, the cheapest form of green energy in Greece, the gap has cost significantly to the national economy. Therefore, the main objective of the National energy policy should be to accelerate the installation of wind farms, in order for the country to converge to the energy and climate 2020 targets and keep alive the way to achieving the 2030 targets.

Under the European legislation, i.e. EEAG[2] and the provisions of the Memorandum III[3] , from 01/01/2016, a revised support mechanism for new RES investments has to be implemented. The main idea of this legislation is that new RES investments should be strengthened through a Feed-in Premium (FIP) mechanism and, from 01.01.2017, the amount of the premium will be determined through tenders.

This reality requires the Government - which has already been delayed - to work intensively and present a specific plan that will be compatible with the above legislation taking into account the market and investment situation in Greece. On account of these two characteristics (i.e. compatibility with European legislation and the actual situation of the market) the design needs to serve the following basic principles:

1st basic principle: Preliminary, it is noted that the implementation of a Feed-in Premium mechanism, such as the one established by the DG Competition's guidelines, requires that the new electricity market will have been formed, will have operated and matured satisfactorily. What is certain is that such a real market, without the current great distortions, will take time to work. Anyway, under the schedule intended to be observed for Greece, the design of a new market will be hopefully fully implemented in about 2 years. According to the stated targets, this new market will include the tools (e.g. intermediate markets) that will allow RES to participate therein with parity and effectiveness, taking into account their natural peculiarities (e.g. thoughtfulness). Today, no such tools exist. Therefore, the deadlines set for the implementation of the FIP mechanism are actually unrealistic.

This prescribes the 1st basic principle: the new FIP system, being compatible with EU law, should ensure that the new investments joining it will be gradually removed - and not at once - from the protection of the fixed income. Moreover, such removal will be carried out together with the implementation and operation of the new design of the electricity market.

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2 Guidelines on state aid for environmental protection and energy 2014-2020, EEAG http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52014XC0628(01)

3 Law 4336/2015, Gov. Gaz. A 94/14.8.2015, p. 1029, point 4.3, subheading Energy

2nd basic principle: The lack of experience in running a substantially deregulated electricity market from all potential players (public and regulatory authorities, operators, conventional and renewable producers, suppliers, consumers etc.) is a fact creating, along with the lack of historical and reliable data, high uncertainty on how the investments will operate once this new market starts working. That fact cannot be ignored by this Government and the European institutions, even if this is a responsibility attributed to all previous Governments of the last 15 years.

This leads to the 2nd basic principle: the new mechanism should include assurances and safeguards that would offer adequate security and confidence to investors and the banks for future investment revenues, given their long-term horizon exceeding 20 years.

3rd basic principle: After a significant increase in the new wind farm projects that were in the process of being signed in 2014, in 2015 the situation in the RES market deteriorated rapidly. The overall economic and political situation and the closures and the virtual collapse of the banking sector that now requires a new recapitalization formed an extremely adverse environment. This has resulted in the rapid decline of investment interest while soaring the required returns from those, few adventurous, having the theoretical ability and probably willing to explore the possibility to invest.

On the other hand, the departure of Greece from the RES targets, especially of the wind energy for 2020, is significant, therefore, the probability of not reaching the target being likewise significant, with all the consequences this might entail for a Member State. Therefore, the Government should request and seek a large increase in the rate of plants by investors.

These two elements, together with other which will be documented subsequently, lead to the 3rd basic principle: the new FIP mechanism should not be accompanied by tendering procedures, not after 01/01/2017 either, which is compatible with the legislation, since in the case of Greece, as will be demonstrated, the criteria a) - c) of par. 126 of EEAG are fulfilled.

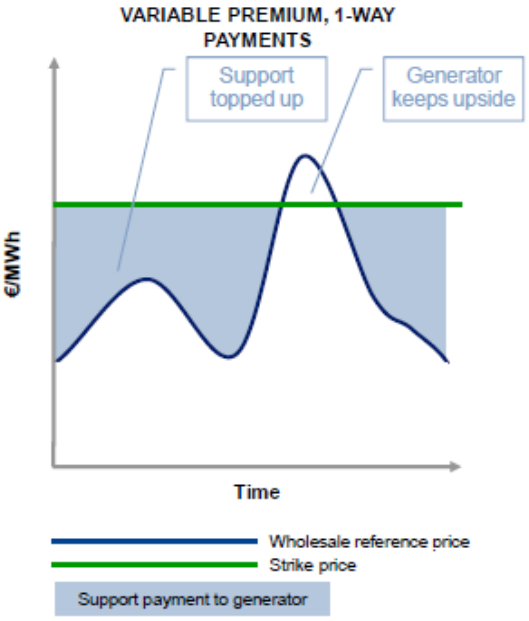
4th basic principle: It is extremely important, and perhaps even more than the foregoing, that the new legislation will not affect the operating and under construction projects and that it contains sufficient transitional provisions that will not affect the mature under development projects. This obvious principle should be highlighted with particular emphasis given the bitter experience the industry had in the recent past.

This principle has been proclaimed many times by the European Commission. The same principle of protecting existing projects governs the spirit of the Guidelines (EEAG). Specifically, the Guidelines are intended to prepare the RES transition to an efficient market system (cost effective delivery through market-based mechanisms) as the mature technologies (established renewables) will gradually become

economically competitive (grid-competitive) during the period 2020-2030 (see par. 108 of EEAG). Namely, the Guidelines recognize that today the conditions for the implementation of such a market approach are not fullfilled and, obviously, are not fulfilled for the operating projects that were installed in the past, which must continue to operate according to the legal, regulatory and economic framework that applies thereto, without any obligation to sell their energy directly to the market or any other similar.

1. Design of the Feed-in Premium system

It is proposed to adopt a variable feed-in premium with one-way payments system be adopted, with the Imbalance Marginal Price (hourly) as reference price with a protection threshold, and an administratively defined strike price slightly increased in relation to the current feed-in-tariffs, as set out in Law 3851/2010 and 4254/2014.



For as long as Greece is in the current market model (mandatory pool), the above mechanism will ensure a fixed income for wind farms. Nevertheless, very soon, when the new electricity market begins to work and the wind farms that will have joined the FIP mechanism assume obligations on the market, their total income (including revenues from the various individual markets and any penalties thereon) will not be fixed but will depend on how effectively they will be participating in the market.

More specifically, the proposal includes the following elements:

1.1. Exclusions

It is proposed as follows:

a) exhausting the limits laid down in par. 125 EEAG and, therefore, continuing to apply the fixed FIT system for new wind farms with an installed generation capacity limit of 3 MW or 3 generation units.

b) continuing to apply the FIT system for wind farms in non interconnected islands, since there is no current or foreseen organized electricity market. A similar exemption has been proposed in France for the overseas possessions.

It is proposed that FIT for the above categories be slightly increased in 2016, by no less than 5% compared with that of Law 4254/2014 for the reasons referred to in point 2.3 below.

1.2. Reference Price

1.2.1. Proposed hourly price

Based on the current organization of the electricity market (mandatory DAS fixing the SMP and imbalance settlement at the Imbalance Marginal Price), it is proposed that a wind farm should collect each hour the Imbalance Marginal Price and a variable premium, in order for its income to equal the target price each hour. It is proposed that the hourly Average Variable Cost of Thermal Power Plants that operated every hour be set as a protection threshold on the reference price (IMP). That is, whenever the IMP falls below this Average Variable Cost of Thermal Power Plants, then the latter will be regarded as the reference price. This proposal is consistent with the current system of calculating the amount payable by the Suppliers to the RES Special Account.

Selecting the IMP is justified by the fact that it effectively reflects the true value of energy every hour and is more insensitive to abusive conduct in the wholesale market by reason of dominance and diversified portfolio of stations of the integrated business.

In the United Kingdom, an hourly market price has been selected as the reference price and has been approved by the DG Competition[4].

This proposal guarantees a stable income to new wind farms for the first few years of their operation, i.e. until the new design of the electricity market starts working. That is, it conforms with the first mentioned principle. When the new electricity market matures, the wind farms will participate in the Day Ahead and Intraday market and will have to balance (depending on the intraday market liquidity), theoretically possessing the tools to respond to price signals and deliver their energy more competitively using forecasting tools, aggregation policies and policies, in general, of operating on the market, which are currently missing. Within the framework of this new market, the income of the wind farms will not be stable but will depend on the way in which they manage to participate in the market.

Ensuring a stable income for the first few years of operation of the new wind farms is important because:

a) it creates a transitional period that helps familiarizing with the new mechanism and gaining confidence not only from investors but mostly by banks,

b) it facilitate banks to loan projects, since, if they feel insecure, they can design more front-loaded repayment schedules.

1.2.2. Why is it wrong to select an average price

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[4] C (2014) 5079 final, par. 20, ftn. 7
http://ec.europa.eu/competition/state_aid/cases/253263/253263_1583351_110_2.pdf

Conversely, selecting an average revenue of wind farms from the market in a period longer than one hour (e.g. one month) as a reference price, whilst maintaining the total remuneration of all wind farms during that time stable (as in Germany[5]) would not be appropriate. Such an option creates variation in the revenues of the wind farms, where some are supported more than others. In principle, this could potentially be considered legitimate (although there are arguments to the contrary), if such differentiation were due to competition for a more efficient market behaviour and better response to price signals. However, this is not the case, since, in Greece, only the mandatory wholesale market works. This differentiation is exclusively due to the installation location of the wind farm and the installation locations of all other wind farms which are known.

Suppose, for example, that all wind farms are located in an area where the wind potential has a positive correlation with the demand and the market price (e.g. in the Aegean arc). It is obvious that the market revenues will be increased and the total premium small. In principle, this does not affect the wind farms since, by their nature and installation location, they mainly generate at times with higher prices. Suppose, however, that another wind farm is installed in a different area with a negative correlation with the market price (e.g. in an area with wind potential in winter and off-peak hours). This new wind farm will be remunerated with the reduced market price at the times of high generation plus a premium that will also be extremely reduced due to the installation locations of the other wind farms.

Therefore, such selection ("integration" of premium within a period) is extremely unfair, since the wind farm cannot manage it. At the same time, it sends a wrong signal to investors against the distribution of investments, which is nevertheless necessary to achieve higher capacity credit and high wind penetration.

Lastly, such a selection creates uncertainty to banks. Even if, in practice, the variation is small or insignificant, the existence of uncertainty - which increases due to the lack of experience and historical data - increases unnecessarily the borrowing cost.

1.3. Target or Strike Price

Law 4254/2014 introduced the new reduced feed-in-tariffs for wind farms as fixed by the state. It is assumed that the new feed-in-tariffs were calculated to ensure certain minimum returns on investment. Apart from the fact that the outcome suggests that the assumptions then used by the Government were unrealistic and particularly unfavorable, even assuming that the returns were well calculated, the

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[5] C (2014) 5079 final, par. 127
http://ec.europa.eu/competition/state_aid/cases/252523/252523_1589754_142_2.pdf

fact is that now the situation has deteriorated too much for the new investments pursued. There are several reasons for such deterioration:

a) at the outset, the overall economic situation of the country is much worse, a fact that has dramatically increased the risk margins (country risk, risk premiums) and, accordingly, both the cost of borrowing and the cost of capital.

b) the realization of new investments in a less protected environment increases the risk and thus the cost of capital. The risks and costs are even greater when one considers that the precise rules of the market, within which the wind farms that will be implemented from 2016 onwards will be required to operate, are not known in detail.

c) the large increase in the tax burden of businesses in general (increased rates, increased advance tax etc.) and RES business in particular (unborn new taxes through the load shedding charge).

d) the implementation of provisions that are very unfavorable to RES producers, such as the guarantee obligation (from the beginning of 2015), at a time when banks are closed and capital controls are imposed, or through the charge for holding the production licenses. All the above increase the cost of development, which must be recovered from on-going investments.

e) the increased risk of future - unknown - production cuts by reason of the penetration that needs to be achieved and the realization, by necessity, of wind farms in areas with lower wind potential, data which were ignored in drafting Law 4254/2014.

f) the increased cost of wind investments by reason of the mandatory realization of more difficult projects in remote areas without infrastructure and networks, since the easier areas have already been covered. That was also ignored in drafting Law 4254/2014.

The above reasons cited by way of indication result in a need to increase the basic strike price by at least 5% compared to the table of Law 4254/2014. The strike price should also be increased by a fixed amount representing the increased cost of participation in the new electricity market when it starts working (management premium). Lastly, the strike price will be increased each year based on the consumer price index for the previous year.

Table I below lists the FITs for projects, for which exemption from the FIP system is proposed, as referred to in point 1 above.

For the purposes of applying the strike prices, it is proposed to group wind farms as follows:

- *Group 1:* Onshore wind farms on the Hellenic Interconnected System up to 5 MW exceeding the installed generation capacity limit of 3 MW or 3 generation units
- *Group 2:* Onshore wind farms in the Hellenic Interconnected System over 5 MW

Table I: *Proposed Feed-in Tariffs for the exempted projects and Strike prices for Groups 1 and 2 for 2016*

	Without subsidy	With subsidy
	€/MWh	
Onshore Wind farms in the Hellenic Interconnected System <5MW	110.25 + m	89.25 + m
Onshore Wind farms in the Hellenic Interconnected System > 5MW	110.25 + m	86.10 + m
Onshore Wind farms in the Non-Interconnected Islands > 5MW	115.50 + m	94.50 + m

m: management premium is added after the start of project participation in the new market. It does not pertain to the exempted projects that remain at FIT.

Without subsidy: projects without the aid according to the definition of Law 4254/2014

With subsidy: projects with the aid according to the definition of Law 4254/2014

- *Group 3:* Wind farms on islands for which it is proposed to be connected through a new subsea interconnector, which is part of the investment plan

For Group 3, the strike price shall be increased by an amount within a certain range depending on the capacity and length of the subsea cable, according to the rationale of the legislation currently in force. It is noted that these special works are necessary to achieve the targets, as they can provide a massive installation of wind power. However, if they do not receive the above aid, it will be impossible to be implemented.

Table II: *Proposed Strike prices for 2016 (Group 3)*

	Without subsidy	With subsidy
	€/MWh	
In interconnected islands	110.25 + m + a	86.10 + m + a

In non interconnected islands	115.50 + m + a	94.50 + m + a

m: management premium is added after the start of project participation in the new market.

a: surcharge for subsea connection

Without subsidy: projects without the aid according to the definition of Law 4254/2014

With subsidy: projects with the aid according to the definition of Law 4254/2014

- *Group 4:* Offshore wind farms

  With respect to this group, the exercise price should also be increased according to the provisions of the current legislation, so as to produce a total compensation covering the levelized cost of electricity (LCOE) and leading to sustainable investments. The following table contains one column, since, especially in the case of offshore wind farms, no other aid is expected.

  Table III: *Proposed Strike prices for 2016 (Group 4)*

	€/MWh
Offshore wind farms	113.40 + m + θ

m: management premium is added after the start of project participation in the new market.

θ: surcharge

Of course, the above strike prices will be checked on an annual basis against the LCOE, as specified in the relevant provisions of EEAG, in order to be updated for new investments. Upon calculating the LCOE, the following should be taken into account:

- The weighted cost of capital for investments of this kind in Greece, which incorporates borrowing costs, the risk free rate, the risk premium and coefficient of variation of the specific investment class in relation to the Greek market,
- The investment cost, as estimated to be shaped on the basis of the project types, which are expected or intended to be realized, and the developments in equipment and services prices
- Energy efficiency as assessed based on the works of the pipeline
- To operating costs, taxation and other charges.

1.4. Potential options for the first projects

An important issue that must be addressed in principle by the new legislation is that new wind farms joining the Feed-in Premium system will be required, at a certain time, to operate in an electricity market environment that today does not exist, not

even on paper. In order for these projects to be financed today, the new legislation should contain assurances and safeguards that would offer investors and banks adequate security and confidence for future investment revenues (it pertains to the 2nd general principle mentioned above).

It is therefore proposed to establish, as of now, a body (which should be LAGIE) that will act as an aggregator of last resort, which the new projects may, instead of directly participating in the market, ensuring such prices so as to maintain an aggregate compensation at the level fixed upon joining the Feed-in Premium system without the management premium.

This option may also apply to other projects that will be implemented after the launch of the new market but at rather lower prices.

2. Transitional provisions

Legal certainty and credibility of the investment environment are extremely important for development, in general, and for exiting the crisis. Especially in our industry, the state is offered the opportunity to remedy the reliability shocks, as far as possible, by reason of the recent retroactive interventions in operating projects. This positive message can be sent, if the state drafts and implements fair and consistent transitional provisions that will not reverse the business planning anew while respecting their efforts and commitments to date.

In light of the above, the following are proposed:

1. The new support mechanism should come into force upon its adoption by the Greek Parliament. This - although it seems obvious - should be clarified as of now, by specifying that in the meantime the existing statutory provisions will be applied, without being suspended, by everyone, including of course operators and LAGIE. Specifically, where prospective investors meet the statutory requirements and wish so, they will have the option to sign a purchase agreement according to the applicable legislation. Moreover, the new legislation should not contain retroactive provisions affecting the agreements signed.

2. Projects with a binding grid connection offer up to 31.12.2015, which they have accepted by filing the required letter of guarantee and have thus proved the strong commitment of their actors in developing it, will remain in the existing FIT system regardless of whether they will have time to sign the purchase agreement before the enactment of the new law.

   That request is consistent with the spirit of the definition of Art. 44 par. 19 of EEAG. At this point, "start of works means either the start of construction works for the investment or the first firm commitment of the company to order equipment, or any other commitment which makes investment irrevocable, regardless of which one is the earliest". Obviously, when an investor gives a letter of guarantee for the binding grid connection offer, that investor has irrevocably decided and has been committed to implement the investment thereof.

3. Method of funding the support mechanism - To premium cost will be incorporated in the cost of Suppliers

The experience in the method of funding the current RES support mechanism through the RES Special Account and ETMEAR should be used to avoid the mistakes of the past. The method of financing should also be compatible with the future model of the electricity market.

ELETAEN has long suggested that responsibility of RES payments should be transferred to Suppliers by integrating the current ETMEAR at cost thereof. Namely, Suppliers will buy the share of electricity they supply and which corresponds to energy from RES at a cost equal to the total RES payments, they will integrate it into their results and manage it as part of their pricing policy. They will not operate simply as "accounting bearers" of ETMEAR, which - under the current system - does not affect their results at all. The current system creates an incentive for Suppliers to seek reducing their market payments to the RES Special Account, since that reduces their cost and increases ETMEAR borne by the consumers, not by their results. Integrating ETMEAR in the cost of Suppliers will eliminate the issue of subsidizing the cost of the competitive part of the Suppliers' invoice from the RES Special Account and reduce the regulatory risk of RES payments, since their resources will be fixed automatically, not administratively, through a simple and workable mechanism that will take place in the accounting departments of operators and suppliers. Occasionally, the RES players have proposed individual measures that will enhance and help Suppliers operate in the above method of financing (e.g. settlement in a relatively long time window at least yearly, deriving benefit from the fall of SMP etc.).

Essentially, we describe a way to finance RES payments [6] similar to those that applied to the payment of power availability and recovery of variable costs to conventional power generators, similar to the one applicable in Greece before Law 2773/1999 and similar to the one considered by the European Court in the case of Preussen Elektra C-379/98.

In our view, this method should apply not only to the funding the existing Special Account pertaining to existing RES projects but also to payments to new RES projects.

In any case, it is not possible not to apply to the funding of payments to new RES joining the FIP market system.

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[6] A more detailed explanation of the above can be found in the simplified equations of the Annex to the Article in the following link http://eletaen.gr/%CE%B7-%CE%B1%CF%84%CE%B5%CE%BB%CE%AE%CF%82-%CE%B1%CF%80%CE%B5%CE%BB%CE%B5%CF%85%CE%B8%CE%AD%CF%81%CF%89%CF%83%CE%B7-%CF%84%CE%B7%CF%82-%CE%B1%CE%B3%CE%BF%CF%81%CE%AC%CF%82-%CE%B7%CE%BB%CE%B5%CE%BA/

Likewise, the funding of new RES through the same RES Special Account and the same ETMEAR is not possible. That would raise huge questions of "cross-subsidization" of payments among producers joining different aid schemes and will further intensify the similar problem that has already emerged among various technologies (where cheaper technologies essentially "subsidize" payments to the more expensive ones, thus all facing the same deficit and the same payment delays).

4. Tenders? No, thanks.

The Guidelines (EEAG) determine the general rule that, from 2017 onwards, the premium will be paid through competitive processes.

4.1. Why are tenders not an option

4.1.1. The EEAG criteria

At the outset, it is noted that the model of the Commission tenders is too restrictive. It is based on a unilateral insistence of its Bureaucracy, which has never presented even a plausible argument for its anxiety to impose its obsession on the elected governments of the Member States. Generally, there is little to no evidence that tenders are the most cost-effective way for the development of RES, especially in markets with a small "depth", such as the Greek market (small market size, few active players, etc.). Instead, preparing effective tenders involves the commitment of considerable resources in advance with a small guarantee of success.

For example, in the case of Brazil, it became apparent that the downward price trend is not guaranteed: tenders started in 2009, prices fell to the lowest in December 2012 and then began to climb. Moreover, experience in South Africa shows that tenders do not necessarily entail sufficient level of competition[7]. Similar negative conclusions were drawn from the experience in Ireland implementing tendering models between 1996 and 2005. Specifically, after some apparent successes of the system during the first rounds of implementation concerning a relatively small capacity, the subsequent results (from 1997 onwards) were a big fiasco, both in terms of the project realization pace and the prices pursued[8],

In any case, we believe that Greece is exempted from the obligation of granting aid, from 01/01/2017, to new RES projects as a part of a competitive bidding process, because it meets the criteria a)-c) specified in the third subparagraph of par. 126 of the Guidelines. According to these criteria:

a) Member States demonstrate that only one or a very limited number of projects could be eligible; or

b) Member States demonstrate that a competitive bidding process would lead to higher support levels (for example to avoid strategic bidding); or

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[7] *Tendering models for onshore wind - experiences from abroad*. A study carried out by consultancy IZES for German wind energy association BWE http://www.izes.de/cms/upload/publikationen/V_UL_20141120_Kiel.pdf

[8] IWEA Response to the DG Competition Draft Guidelines on Environment and Energy Aid for 2014-2020, 14 February 2014

c) Member States demonstrate that a competitive bidding process would result in low project realization rates.

In order to prove that Greece meets these criteria, a reference should be made to the actual situation on the current Greek market. More specifically:

1. According to Directive 29/2008 on the participation of RES in the domestic consumption of electricity, Law 3851/2010 and Ministerial Decision Φ1/oik.19598 /11.10.2010 on the pursued ratio of installed capacity, the 2020 target is 7,500 MW of installed wind capacity. The 2014 target was 4,000 MW. Nevertheless, currently, the total installed capacity of wind farms is less than 2,100 MW. Therefore, the 2020 targets would be achieved if wind farms of approximately 1,100 MW were installed each year. This is the minimum capacity size the state has to launch each year within the possible premium tenders[9].

2. During the period 2006-2014, the annual wind power installation average in Greece was 153MW. In fact, there were two time points, in which that pace tended to rise and escape from this standstill. The first was in 2011, with the installation of wind farms of 315MW. That trend, however, was not subsequently confirmed, mainly because of the massive shift of investors to photovoltaics that soared during 2012-2013. The second point was in 2014, when the number of new wind farms that were in the process of being signed was sharply increased, which were realized in 2015, with that year being expected to become the second best wind year in Greece after 2011, clearly surpassing the annual average. Unfortunately, the overall economic and political problems in 2015 suspended within a few years the growing trend of wind energy for the second time.

   The above short analysis leads to a basic conclusion: The hitherto existing framework has roughly determined a capacity level that can be considered entirely possible, if investment, economic and political stability is ensured. That level ranges around and just above its long-term annual average (153MW). In any case - even when the growth showed trends for acceleration - this level remained very low compared to the need of 1.100 MW per year.

3. As already mentioned, it has been proved that the basic pillar of growth, to date, is the investment, economic and political stability. More specifically, it has been proved that the basic pillar is the guaranteed Feed-in Tariffs system. The importance of this pillar is better illustrated if we consider the general situation in the country and the industry: extremely difficult economic environment, bank closures, capital controls, virtual collapse of the banking system and inability to finance new investments, soaring taxes, retroactive reductions in feed-in-tariffs under the new deal, an increasing tax burden on RES businesses (licensing

[9] Even if it is assumed that the 2020 target is extremely reduced, e.g. to 5,000 MW, there would still remain 580 MW required annually.

charges, provision of guarantee, and imminent load shedding levy), highly increasing costs of bureaucracy, etc.

Within such environment, the number of investors who are able and willing to explore the possibility of investing in RES is extremely reduced[10]. The structure of the wind energy market in Greece indicates a clear niche market with features of overconcentration, which has intensified in recent years. Indicatively, over the past 2.5 years, i.e. from early 2013 to June 2015, 75% of new wind capacity was installed by only three investment pools (two Greek and one French). In total, only six investors invested in wind power exceeding 10MW.

The number of potential investors is expected to decline further by reason of the overthrow of the Feed in Tariffs pillar. Specifically, by its nature, the new Feed in Premium system restricts interested investors to large groups that are more able to absorb the additional risks and costs. On the contrary, FIT had at least attracted on the market many small players, who - under the German or Danish model - invested in the industry but now will be absent.

In any case, the small number of investors will lead to a level of potential installation capacity much less than the long-term 153MW average.

Eventually, the number of prospective candidates being able and willing to participate in tenders will be too small (those, for example, that they were able to work with a financing bank by offering apparently high guarantees in return, and decided, apparently, to bear the participation cost).

4. The problem of small number of stakeholders is even more accentuated by cash problems occurring in the Greek electricity market and, in particular, the problem of outstanding accounts resulting in bad debts of the supply sector. The above is a key issue, as payment certainty is extremely important to investment evaluation. This uncertainty tends to become non-manageable and apparently deters stakeholders. When the state calls prospective generators to invest in the most competitive environment of the Feed in Premium, it should ensure that the

[10] As evidence of the difficult situation that is currently leading investors to being reluctant to realize even small RES investments is the fact that, out of the 242 projects that ought to submit a Letter of Guarantee to the Independent Power Transmission Operator for maintaining the Binding Grid Connection Offer, there were, eventually, no letters submitted for 156 of them (i.e. a rate of 65%). The above producers also include foreign companies that recently tend to abandon the domestic market. Moreover, in addition to failing to pay the letters of guarantees, a number of investors did not wish to pay the prescribed annual charge on the Right to Hold the Production License for their projects.

bad debts of the supply sector are eliminated. Until then, it cannot raise the already high uncertainty through tenders[11].

Accordingly, it is established that:

a) **The first criterion is met**, since only a few projects will be supported by prospective investors, who meet the tender participation and eligibility criteria.

b) **The second criterion is also met**. Specifically, the picture shaped is that there is a high need for installing wind power and low interest for investment realization. Such a balance of high demand and low supply and, hence, reduced competitiveness, is obviously pushing the prices in potential tenders extremely upstream.

In the same sense, the few private producers, who would dare to take part in the tendering process, will offer very high prices, since in case of failure there will be no significant impact for them, since under the current data they had no intention to realize their projects in the first place. On the other hand, if they succeed, this will happen at a fairly high price that will ensure increased returns.

Finally, the small number of candidates favors practices of bidding strategy.

c) **The third criterion is also met**, not because of fear of low prices - since this is not the case as explained - but of the fact that the increased tendering cost for participants in conjunction with the increased risk, to which investors will be exposed, even if they succeed in the tender, further restricts the projects that will participate and, thus, may be realized. It is certain that the investment realization pace will fall apart because of tenders standing well below the current realization level and much lower than the rate required to achieve the targets.

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[11] In order to deal with the cash problem of the electricity market, the RES entities have proposed to explore the possibility of using the European Financial Stability Facility (EFSF) through the Greek HFSF for strengthening the electricity system along the lines of the recapitalization of the banking system. This may be the case by transferring all of the deficit, including the bad debts of the supply sector, to the Operators, direct securitization thereof and coverage of issued securities by the Facility or the European and international institutions in general. Especially in the present time, where, in the context of Memorandum III, 25 billion Euros have been committed for the recapitalization of the banks and, they will not reportedly be used in their entirety, the current Government is offered the opportunity to negotiate the disposal of a small part of these resources for the "recapitalization" of another strategic pillar of the economy, being the electricity market.

Details on the above proposal can be found in the Framework of Actions proposed by ELETAEN in June 2015

http://eletaen.gr/wp-content/uploads/2015/04/PLAISIO-DRASEON_BASIKO-KEIMENO-THESEON-ELETAEN-APRIL-2015.pdf

4.1.2. Additional arguments

Beyond the above-mentioned, the following additional general arguments are cited explaining why there should be no tenders:

1. Law 4254/2014 introduced a significant reduction in feed-in-tariffs for RES. That cut subsequently eliminated even the minimum margins of satisfactory returns under the previous compensation level. In fact, as already explained above, the current level of return is below the fair and reasonable level. Therefore, the target of lower prices, which theoretically tenders serve, has already been achieved.
2. As already explained, the new Feed in Premium system restricts, by nature, stakeholders to large groups. However, the recovery of the Greek market, at least in the coming years, is also in need of the small and medium-sized investors. Their presence is also dictated by political, developmental and social reasons as well as reasons of democratic operation of the energy system. These small and medium-sized investors, who can invest in projects with more than 6 wind turbines, will be exposed to an increased uncertainty because of the Feed in Premium system. It will not be possible to afford any additional risks associated with tenders. Avoiding tenders will hopefully enable some of them to become stronger so as to effectively operate in the new competitive market.
3. Greece in five years lost 25-30% of its GDP. The only hope of success of the Programme (Memorandum III) is the recovery through investment. Energy (along with tourism and perhaps agriculture) is one of the few sectors, where the country can expect to attract investments. This parameter cannot be ignored by the European Commission, which - after all - as a representative of the creditors and partners has an increased interest to see the Memorandum succeeding. Obviously, every choice increasing uncertainty within such environment is taking that target away from being attained. Tenders are one of these choices.
4. A very specific and important reason prohibiting tenders in Greece, especially for wind energy, is relating to the necessity of its geographical distribution. Specifically, the wind potential is located mainly in the eastern country. Suppose, for the sake of argument, that all arguments on paper favoring tenders are in practice effective; then, it is expected that the entire growth will be concentrated in the few areas with sufficient wind potential, since no candidate will be risking failure by participating in the tender with projects in other areas. Such overconcentration in the few areas of the eastern country has obvious negative impact on multiple levels:
    - Geographical distribution of the generated energy cannot be achieved, resulting thus in lower capacity credit, more difficult daily system scheduling and increased grid losses.

- No balanced regional development can be achieved, leading thus economic, developmental and social benefits to be identified in a few areas.
- Local power structures in such a few areas will be required to manage, in political and social terms, an increased investment burden (under exclusivity terms indeed), affecting both local acceptance and relations of such powers with the investments.

4.1.3. Conclusion

The Greek Government should explain, in a stable and consistent manner, the specific reasons for which the country should be exempted from the obligation of tenders.

For all these reasons, there is no point in including wind energy in the tender to be held in 2016 regarding 5% of the expected RES capacity for the period 2015-2016.

4.2. What will happen when and if the criteria are no longer met

Given that the Guidelines set out a mandatory tender in 2016 regarding 5% of the expected capacity for the period 2015-2016, that tender should be well designed and distinguished by some key characteristics, in order to reduce uncertainty and ensure investment security, transparency and equity.

Further, there is the unlikely possibility that, at some point, the above criteria analyzed in par. 5.1 will no longer be met, because the situation will improve surprisingly well and fast, the growth of wind power will soar demonstrating a dynamic approach of the target, and the economy and the banks will be in such a good condition that will trigger a huge investment interest. When these occur, Greece will be able to launch tenders for the premium of the new - at that time - RES investments.

The following are submitted regarding the main pillars for potential future tenders and the 2016 tender accordingly:

1. The tenders should be distinguished according to the data technology of the various characteristics and growth level thereof.
2. They should be very frequent - at least every 4 months or for more frequently - and their schedule should be communicated in advance at predetermined fixed dates, e.g. on the 10th of February, the 10th of June, and 10th of October each year (or the next business day, if it is a public holiday).
3. Tenders should exclusively be electronic.

4. The sole tender criterion should be the desired strike price. It is recommended that it is not capped. However, if it is, then this should be much higher, e.g. by 25%, than the corresponding strike price that is administratively fixed.

5. The terms, conditions, and all the details of each tender should be defined once and from the beginning, without being changed at every tender. It is proposed that the RES stations participating in a tender should be required to possess an installation permit without having been put into trial operation.

6. The installation permit must have been obtained no less than 10 days before the tender, i.e. it must have been submitted to the electronic platform on 1 February, 1 June, 1 October of each year (or the next business day if it is a public holiday). Any other simple documentation required will be posted together (e.g. legalization documents, etc.). The entity of the tender will verify the documentation and, within 6 days, electronically notify the businesses that are eligible to participate by allocating them a unique password. On the day of the tender, eligible businesses may connect at the predetermined time to the system and submit their bid (the required strike price) together with an electronic copy of a letter of guarantee, which should be relatively small (the original of which will be submitted on the next business day).

7. The results will be released automatically and on the same day. All submitted documentation will be published on the electronic platform on the same day and will be accessible by everyone involved.

8. Objections will be lodged exclusively within 5 days, only by those who participated in the tender if their bid was formally accepted but not selected and only against other bids that were selected. The final decision on the objections will be adopted within 20 days. If the objection is followed by a rejection decision and then by a court decision upholding the administrative appeal against the rejection decision, the sole impact will be the expansion of the list of successful candidates, so as to select bids that would have been selected had the bid, against which the succeeding objection was filed, not been accepted. It should be expressly defined that there are no consequences as to the selected bid to which the objection pertained. It should also be expressly defined that no injunctions can be brought against the committee's decisions.

9. Following the decision of the committee on any objections, each selected business must produce a letter of guarantee of an adequate amount and will have to put the plant into trial operation within 42 months. The following need to be clarified:

    - The legislation on the term of the installation permits and the conditions of extension thereof remains in force and applies as is, until the entity is selected in a tender, with the following change: if the entity has not been

selected in a tender, the term of the installation permit starts from the time of completion of the first tender that will be launched after it has been issued.

- Once the entity has been selected in a tender, then the relevant provisions on the term of the installation permit will cease to apply and the term thereof will coincide with the project's realization period (42 months).
- Once an installation permit is issued and then expires without the entity having been selected in a tender, then the entity is no longer entitled to participate in tenders (unless a fresh installation permit is issued if permitted by law).

10. The project's entity that will have been selected in a tender has the right to modify any permit of the investment, under the provisions of the applicable law, without the outcome of the tender, in which it participated, being affected, provided that the installed capacity of the station is not increased by more than 10% compared to the capacity for which it participated in the tender in which it was selected. These modifications do not change the 42-month period.
11. A project that participated in the tender and was selected cannot participate in subsequent tenders.
12. Given that tenders will be as frequent as proposed, they could be cleared on the Pay as Clear system (PAC). It is expected that, in this way, candidates will be tending to reveal their true cost, as they will expect that a more expensive candidate will set the price. Nevertheless, Pay as Bid (PAB) is an equally reasonable option, although it might probably lead candidates to bid higher than they would do, if PAC applied, but it can result in a cheaper overall outcome. It goes without saying that, if tenders are not close among them and pertain to a very large volume of capacity, the PAB system should apply.

It is especially noted that, if ever the circumstances allow the holding of tenders for wind energy, then those pertaining to the Hellenic Interconnected System should be set up in two distinct geographical groups (roughly western - eastern country) at different prices for each one of them for the reasons explained in point 5.1.2.4 above.

5. Summary proposal

Subject	Proposal
Mechanism	Variable feed-in premium with one-way payments.
Exclusions	As provided for in the EEAG (3 MW or 3 generation units) and wind farms in non interconnected islands
Reference price	Hourly Imbalance Marginal Price with protection threshold the hourly Average Variable Cost of Thermal Power Plants that operated every hour.
Target or Strike Price	The administratively defined strike price for 2016 slightly increased in relation to the current feed-in-tariffs set by Laws 3851/2010 and 4254/2014.
Investment security	It is proposed to establish, as of now, a body (which should be LAGIE) that will act, when the new electricity market starts working, as an aggregator of last resort, which the new projects joining FIP can select until the launch of the new market, in order to protect their total compensation.
Transitional provisions	The new legislation should not contain any retroactive provisions. Projects that have accepted the binding grid connection offer and have filed a letter of guarantee up to 31/12/2015 will remain in the FIT mechanism.
Funding	The funding of the FIP support mechanism of the new projects should be distinct from the funding of the FIT mechanism of old projects. To premium cost should be incorporated in the cost of Suppliers.
Tenders	No, because the criteria set by EEAG are met.