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MASTER THESIS

**WINDPARKS UNDER THE EU WINTERPACKAGE: LICENSING PROCESS
AND OTHER LEGAL ISSUES**



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Athens, May 2020

DEDICATIONS

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ABSTRACT

The gradual awareness on environmental issues and the increasing need for environmental protection have put the issue of renewable energy sources at the center of the European's Union policy. Under the prism of increasing the participation of renewable energy sources in the energy mix of Member States and with a view to reduce the levels of carbon dioxide emissions into the atmosphere, Greece has adopted a series of measurements to reach EU'S energy target goals and to exploit its renewable sources. The geostrategic position of Greece in combination with its wind potential makes it an ideal option for investments and could enhance its role in the global energy market. However the Greek licensing process is very complex and time consuming.

A systematic study of international bibliography was conducted to carry out this research. The guidelines of the European Commission, the texts of international agreements as well as the Greek legislative and regulatory framework regarding the spatial planning and licensing of renewable energy projects, and more particularly of wind parks, constituted the main sources of the primary bibliographical references used. The detailed and multi-dimensional articles of reputable online sources have also provided an integrated view of the issue under consideration.

The purpose of this thesis is to provide an overview of the Greek legislative framework for renewable energy sources and a useful step-by-step tool regarding the administrative and environmental procedures that must be followed for the installation and operation of a wind park in Greece.

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ABBREVIATIONS

ADMIE	Greek acronym meaning: Independent Power Transmission Operator
AEPO	Greek acronym meaning: Environmental Terms Approval Decision
CHP	Combined Heat and Power
CoS	Council of State
CRES	Centre for Renewable Energy Sources (KAPE by its Greek acronym)
DAPEEP	Greek acronym meaning: Operator of RES & Guarantees of Origin (ex LAGIE)
DOR	Declaration of Readiness
EEA	European Economic Area
EIA	Environmental Impact Assessment
EMAS	Eco-Management and Audit Scheme
EPO	Greek acronym meaning: Approval of Environmental Terms
Etc.	Et cetera
ETMEAR	Greek acronym meaning: Special Duty of Greenhouse Gas Emissions Reduction
EU	European Union
GCO	Grid Connection Offer
GG	Government Gazette
HECHP	High Efficiency Combined Heat and Power
HEDNO	Hellenic Electricity Distribution Network Operator (DEDDIE by its Greek acronym)
HWEA	Hellenic Wind Energy Association
IBAs	Important Bird Areas
KW	Kilowatt
KWh	Kilowatt hours
L.	Law
LAGIE	Greek acronym meaning: Operator of Electricity Market
MD	Ministerial Decision
MW	Megawatt
MWh	Megawatt hours
NNIs	Non-Interconnected Islands
PPA	Power Purchase Agreement
PPC	Public Power Corporation
RAE	Regulatory Authority of Energy
RES	Renewable Energy Sources
SEA	Strategic Environmental Assessment
SEC	Standard Environmental Commitments
SEDP	Greek acronym meaning: Sliding Premium Operating Aid Contract
SEST	Greek acronym meaning: Fixed Price Operating Aid Contract
SPAs	Special Protection Areas
YPEKA	Greek acronym meaning: Ministry of Environment and Energy
WAA	Wind Appropriate Areas
WPA	Wind Priority Areas

1. INTRODUCTION

The high dependency of the European Union on the import of fossil fuels in combination with the increasing environmental awareness brought the necessity to generate electricity using renewable energy sources within its borders in the forefront. Among the main targets of the European Union's energy policy is the reduction of fossil fuels' imports from third countries, the reduction of greenhouse gas emissions, the increase of the RES share in the energy mix of Member States, the security of supply, the development of economy through the enhancement of local employment and the export of innovative RES technologies.

Wind energy and renewable energy sources in general, constitute a cost effective and environmental friendly way of generating electricity. The wind, the sun and the water are inexhaustible and readily-available energy sources. The rapid technological development has made the exploitation of wind energy and its conversion into electricity much more easy and efficient.

However, due to the chaotic regulatory and legislative framework of Greece the installation and operation of a wind farm in the Greek territory is an extremely complex procedure that requires a prior spatial planning of the location where the power station is going to be installed and put into operation as well as the issuance of a series of administrative and environmental permits. For this reason this paper emphasizes and gives an overview of the acts that must be taken and the steps that must be followed for the installation of wind parks and the production of green energy.

The structure of this thesis is organized as follows: the first chapter consists of the legislative spatial planning framework. The spatial planning includes the choice of a land location that will contribute to the smooth and effective installation and operation of a wind park, through the study and forecast of its environmental and social impacts.

A brief presentation of the European Union's Energy policy follows. More specifically, the main European directives and the three energy packages are analyzed, while there is also a brief overview of the new proposal of the European Commission, namely the so called "Clean energy for all Europeans package", broadly known as Winter Package. The following chapter of this thesis is dedicated on an analytical presentation of the Greek legislative framework regulating the authorization of wind

parks. Explanatory, there is an analysis of the administrative and environmental permits that must be granted to the interested parties in order for a wind park to be legally installed and put into operation. At this point it was considered necessary to mention important decisions of the Council of State (case law) which directly affected the legislative regime through its interpretation or even amendment. Last but not least, the last chapter of this paper emphasizes to the geostrategic importance of our country raising legitimate concerns on the effectiveness of the Greek complex licensing regime of RES projects, averting from the effective exploitation of the favorable climate of our country.

2. WIND ENERGY

The earth is surrounded by atmospheric air, which is in constant motion, due to the solar radiation, the heterogeneity of the terrain and the rotational movement of the earth around its axis. This intense and constant movement constitutes a form of energy that has been perceived and used from antiquity. Some distinct examples are the movement of sailing vessels and the operation of grinding mills.

The usage of wind energy and the research for new exploitation methods and techniques has been significantly decreased, due to the wide spread of steam and charcoal. On the occasion of the first oil crisis however, in the beginning of our century, new methods of exploiting wind energy were sought and several funds were allocated for research and development of modern wind farms machinery.

Nowadays the technology of grid-connected wind turbines has reached such a level of maturity that wind energy can compete economically other forms of energy, such as nuclear and thermal, especially in areas with favorable conditions.

At this point it would be worth mentioning that the usage of wind energy has both positive and negative characteristics, some of which are mentioned below.

2.1. Advantages of Wind Energy

Every day around the world, wind turbines capture the wind's power and convert it to electricity. Wind energy offers many advantages, which explains why it's one of the fastest-growing energy sources in the world.

Wind is a clean, free, and readily available renewable energy source. Wind turbines don't produce atmospheric emissions that cause acid rain, smog, or greenhouse gases. It is true that the manufacturing, transportation and installation of a wind turbine contributes to global warming slightly, but the electricity production itself does not

involve any emissions of climate gases whatsoever. Wind power is renewable and inexhaustible. There is no way we can run out of it since wind energy actually originates from the nuclear fusion processes that takes place on the sun. It could be said that wind is actually a form of solar energy. As long as the sun keeps shining we will be able to harness wind energy on earth in contrast with fossil fuels (e.g. oil and natural gas), which our society relies heavily on today.

As far as the external and social costs of wind energy is concerned it should be highlighted that they are extremely low. Prices have decreased over 80% since 1980 thanks to new technological advancements and the increased demand and are expected to keep decreasing. Wind power is in other words cost-effective. The electricity from wind farms on the one hand is sold at a fixed price over a long period of time (e.g. 20+ years) and its fuel is free on the other hand. Consequently wind energy mitigates the price uncertainty that fuel costs add to traditional sources of energy.

It is generally true that, the operational costs associated with wind power tend to be low, once the turbines have been manufactured and erected. Moreover the dismantling and removal of outdated wind farms is not accompanied by site restoration costs, as the ecological impact is extremely low and almost all wind farm components are recyclable.

Wind energy is also known to be a good domestic potential. People can generate their own electricity with wind power in much the same manner as people do with solar panels (photovoltaics).

Additionally, the potential of wind power is about 20 times more than the needs of the entire human population, while wind turbines are incredible space-efficient. Explanatory, the largest of them generate enough electricity to power 600 homes.

The most important is without a shadow of doubt the fact that the exploitation of the wind enables the production of clean electricity, without causing damages to the environment, the health and the standard of living.

Wind power unfortunately is only accounting for about 2.5% of total worldwide electricity production, but is growing at a promising rate of 25% per year (2010).

Finally, another important characteristic of wind energy production is the double use of land. Explanatory, in parallel with the operation of the wind turbines, the soil can be cultivated or remain a living natural ecosystem, as the wind turbines use only a fraction of the land. Wind power plant owners could built wind turbines on existing farms or

ranches and make rent payments to the farmer or rancher for the use of the land, providing landowners with additional income.

2.2. Disadvantages of Wind Energy

Wind is an unpredictable and fluctuating source of energy and is therefore not well suited as a base load energy source, unless some form of energy storage is utilized (e.g. batteries, pumped hydro).

The cost-competitiveness of wind power is also highly debatable as it must still compete with conventional generation sources on a cost basis. Both utility-scale wind farms and small residential wind turbines typically rely heavily on financial incentives to give wind power a fair chance in the fierce competition against already well-established energy sources, such as fossil fuels and coal.

Another disadvantage of wind energy is the danger that it imposes to the flying living creatures of an area. Turbine blades can be a threat to local wildlife as in many occasions birds, bats and other flying creatures have been killed by flying into spinning turbine blades.

Although wind power plants have relatively little impact on the environment compared to conventional power plants, the noise produced by the turbine blades as well as the visual impacts to the landscape, raise legitimate concerns.

Most of these problems have been resolved or greatly reduced through technological development or by properly siting wind plants.

In subsequent sections of this work we will be given the opportunity to study in detail the views of the jurisprudence in regard with the above arguments.

Before proceeding to the presentation, it is crucial to understand some basic concepts. First of all, as far as the wind-the basis of this study- is concerned, it should be mentioned that it is created due to the different air pressures between different points on the planet. The cause of these various pressures is the heterogeneous heating of the earth from the sun and the absorption of more solar energy radiation in the equatorial region than in the poles. This fact creates various temperatures resulting in heat transfer with movement of air in the lower layer of the atmosphere, the troposphere. The rotation of the earth around its axis further contributes to this movement. When a difference in atmospheric pressure exists, air moves from the higher to the lower pressure area, resulting in winds of various speeds. In many cases the wind circulation is even affected by the ocean currents.

In the scientific community, the name wind power is used to describe three sizes. First of all, the naturally available wind dynamic, namely, the gaseous masses that are annually moving above a certain area. Secondly, the technically exploitable wind potential, that is the part of the naturally available wind potential that can be bound by wind machines. Finally, the economically viable wind power, namely the part of the technically exploitable potential whose cost of exploitation is financially advantageous. For the installation of a wind park, the wind potential of the region is primarily taken into account, so as to ensure that with the installation of the turbines the maximum performance will be achieved.

As far as Greece is concerned, the wind potential is quite satisfactory. Especially at the Aegean islands, the Eastern Central Greece and in Crete. More and more parks, consisting of high-tech wind turbines are created, increasing the rate of RES energy production to a significant degree.

The installation, operation, network connection and maintenance of a wind farm is neither a simple nor a short process. The acquired permissions are too many and the process is very complicated. The licensing process is also often obstructed by the infringement of the projects before the Council of State. In the following sections the licensing process will be analyzed in detail as there will also be a reference to the various legal and real obstacles encountered.

3. CONSTITUTIONAL FOUNDATION

The Renewable Sources of Energy constitute an environmentally, human and nature-friendly way of producing electricity. The protection of the environment is a matter of high concern that is therefore constitutionally imposed.

The article 24 of the Greek Constitution was a peculiar and highly innovative for its time constitutional provision. More specifically, under the article 24 of the Constitution of 1975 there was no explicit declaration of a right to the environment but it was clearly stipulated that the State should take measures for its protection. After the Greek Constitution was revised in 2001 the protection of the environment has now become not only a constitutionally enshrined right but a duty of the State and a right of everyone as well. Today the article 24 of the Constitution is included in the section of individual and social rights and constitutes a direct and mandatory rule that commits all three powers (legislative, executive, judicial).

In particular, the under discussion article obliges the administration to abstain from any action or practice that may have negative impact on the environment. The State is at the same time bound to adopt special preventive or repressive measures for the preservation of the environment. Therefore, the right to the environment has become an individual and a social right that raises claims against the State, and a political right that entails the participation of the citizens to the protection of the environment.

The principle of Sustainability, in accordance with which life on Earth should not use more energy each day than is supplied by the Sun each day, is immediate related and interconnected with the environmental protection. This principle is a statutory principle and a primary goal of the European Union's environmental policy. It combines the social cohesion, the protection of the environment and the economic development. The achievement of growth that balances all these principles is vital.

4. LOCATION OF WIND PARKS

As aforementioned, planning in a sustainable manner is both a constitutionally protected human right (article 24) and an obligation of the State. As arises from the combination of article 24 with the articles 79 par. 8 and 106 par. 1 of the Greek Constitution, the master plan of the country, the arrangement, development, urbanization and expansion of towns and residential areas in general, shall be under the regulatory authority and the control of the State, in the aim of serving the functionality and the development of settlements and of securing the best possible living conditions. Spatial planning is in other words a prerequisite for achieving sustainable development.

For this reason land uses must be defined prior to the establishment of projects and activities and projects must be respectively planned in a way compatible with the land plans of the country, otherwise they will be annulled. If a project is planned without prior detailed land and spatial planning provisions or if permitted contrary to the allowed land uses in the respective area or despite restrictions created from other laws, the project will not be allowed to go forward and the permits will entail considerable legal risk at the Council of State (CoS – the Greek Supreme Administrative Court) after undergoing lengthy procedures.

Rules on allowed land uses or restrictions of activities may derive first of all from the Land Planning Legislation, which provides for (a) strategic spatial plans, applicable on broader areas at national (including sectoral) or regional level. National Plans provide for the overall planning directions at national level or per sector of productive activity.

Regional Plans on the other hand are drafted at regional level adjusted to the basic characteristics of each Region (Periphery) of the country and may also contain organized receptors as well as approved big scale plans, public or private, (b) regulatory spatial plans, setting specific regulations on areas and defining the allowed land uses and planning restrictions, which may be: local spatial plans; or special spatial plans; or urban planning application plans, which specialize the superior land plans at technical and more detailed level. However restrictions on activities or even land use restrictions may also derive from environmental protection rules and sector specific restrictions which may exclude certain activities from certain types of areas.

4.1. Legislative framework of Spatial Planning in Greece

At this point a brief historical overview of the Greek legal framework in regard with the spatial planning, that has been severally revised, would be meaningful. The originally issued Law 360/1976 that provided for national, regional and special spatial planning was never implemented. This Law was followed by the regulatory plans of 1985 for Athens and Thessaloniki and right after the Law 2742/1999 that defined the means of spatial planning, namely the general, special and regional spatial planning frameworks. In accordance with the first article of this Law, as is now in force after its amendment by L. 4519/2018 constituting the main law for spatial planning, the purpose of spatial planning is *“to establish fundamental principles, adopt modern spatial planning instruments, processes and means that promote sustainable and balanced development, guarantee productive ad social cohesion and safeguard the protection of the environment throughout the national territory and its sub-units and last but not least, reinforce the country's position in the international and European context”*.

In 2008 the Greek Parliament in the framework of the previous planning law (2742/1999) approved the first spatial plan in Greece, namely the General Framework of Spatial Planning and Sustainable Development/General Land Plan, (Government Gazette Issue GG/128/A/03.07.2008) that, being still in force, sets governmental policy's goals, has legal effect and is totally binding.

In 2014, the Law 4269/2014 was issued and then consolidated by Law 4447/2016 that simply brought some changes to the names of the individual plans. The Law of 2016 introduced two basic categories of plans: the strategic spatial plans and the regulatory spatial plans. All Spatial Plans are subject to Strategic Environmental Assessment (SEA Directive 2001/42/EC, MD 107017/2006, GG 1225/B/2006). The (strategic) spatial

planning, referred to in Law 4447/2016 as in force after its amendment by Law 4643/2019, aims at sustainable development.

4.2. RES and Spatial Planning

Under the prism of accelerating the implementation of RES power generation projects, the Greek legislature stipulated with Law 3851/2010 (art.8) that the promotion of RES should be taken into account as a priority while drafting a spatial plan. Under article 9 of the same Law, it is required that for the installation of RES electricity plants, only approved spatial, urban, regulatory or other plans and approved studies in compliance with the approved special spatial framework will be taken into account. In the case of absence of such plans, the directions of special spatial framework will be directly applied.

It has been jurisprudentially accepted that special spatial frameworks have full regulatory power as they give general guidelines and specific settings that constitute a prerequisite for RES projects. As a result, these frameworks as well as their approval, revisions and modifications have legal effect, binding character and can be challenged by anyone who has legitimate interest for an application for annulment¹.

Before the first framework for RES was implemented, the permission for installing wind parks was granted after on-spot examination and point location that had been found to be legally replenishing the special spatial plans until their completion.

The Council of State accepted the possibility of a pre-authorization for wind parks until the completion of the spatial planning at a reasonable time, provided that a comprehensive study regarding the energy needs of the area, any possible impact by the installation of the wind turbines and the load capacity of the region, at country or district level has been proceeded. A case of high interest was a case where the Council of State (Decision 2569/2004 Cos) annulled the installation license of a wind park to an area where a large number of installation permissions had already been issued. At such cases the Council of State ruled that a comprehensive study is inadequate for the pre-authorization of a wind park before the completion of the spatial planning and that a special or regional spatial planning framework or the characterization of the area as an organized area of productive activity is required.

Through its case-law it is obvious that, taking into account the chronic inactivity of the administration and the constitutional need for spatial organization, the Council of State

¹ See decisions 3632/2015, 1421/2013, 1422/2013, 4013/2013, 4982/2014, 4966/2014 CoS

became more inflexible and indirectly but clearly forced the legislator to accelerate the spatial planning procedure.

4.3. Special Framework for Spatial Planning and Sustainable Development (SSPF-RES)

In compliance with the above and with a view to support renewable energy sources and to ensure the simplification of the licensing procedures, Greece adopted in 2008 the Special Framework for Spatial Planning and Sustainable Development. This regulatory framework sets criteria and guidelines for the installation of RES projects per category of activity (wind, hydroelectric, photovoltaic- projects) and per type of geographical area. This framework also enables the coherence with other spatial and urban plans and contributes to the achievement of the EU energy goals. The validity of SSPF for RES has been confirmed by the CoS that issued the Decision No. 1422/2013 that constitutes the legal basis for many relevant court decisions.

At this point, brief presentation of the Framework that is divided in seven chapters would be meaningful. In the first chapter of the Special Spatial Framework for Spatial Planning and Sustainable Development, namely under articles 1-3 to begin with, are set some basic definitions, its purpose and its scope of application. It should be highlighted that this framework concerns all RES power plants with the exception of large hydroelectric projects, non-polluting installations and power plants that are excluded from the obligation to obtain an electricity production license².

Secondly, in the second Chapter of the Framework, consisting of articles 4-11, are set some criteria and guidelines for the spatial establishment of wind installations. The national territory is distinguished in four categories based on the exploitable wind potential and particular spatial and environmental characteristics. The country is distinguished in the Mainland that includes Evvoia, in Attica, in the Inhabited islands of the Ionian and the Aegean Sea and Crete (where there is a special category of space, due to their particularities, their scale and their environment), and finally in the Offshore and the uninhabited islands. We should note that the mainland is further divided into Wind Priority Areas (WPA) that have good wind potential and are expected to have high density of wind turbines and Wind Appropriate Areas (WAA) that have been characterized by the Regulatory Authority for Energy (RAE) as energy efficient. In any case however wind power plants are explicitly forbidden in areas that have been declared as monuments of World Cultural Heritage, in areas of absolute protection of

² See Law 3468/2006, as amended by L. 4643/2019, articles 4 and 8.

nature, wetlands of international importance (Ramsar wetlands³), aesthetic and national forests, urban areas, areas of touristic interest, touristic and urban areas that are not formed according to the planning law, coastal zones (including bathing shores), mining and extraction zones.

In article seven as follows are set the special criteria for the location of wind power plants and the maximum density of wind turbines by municipality. In particular it is clearly defined that in Wind Priority Areas of the mainland and in Attica the density of wind turbine cannot exceed the 8% of the municipality surface, while in Wind Appropriate Areas it cannot exceed the 5% of the municipality surface. Respectively, in the inhabited islands of the Ionian and the Aegean Sea and in Crete the density of wind turbine cannot exceed the 4% of the municipality surface. As far as the offshore and the uninhabited islands is concerned, wind parks can be established with no such limit, provided that they do not fall in the aforementioned forbidden zones (monuments of cultural heritage, wetlands etc.).

Chapters three and four concern small hydroelectric and biomass geothermal energy projects respectively, and will therefore not be analyzed as they are irrelevant to the subject-matter of this study.

Moreover, in the fifth chapter is declared that the General Urban Plans and the Open City Spatial and Residential Plans must be in harmony with the Special Spatial Plans, which must be taken into account at the time of their issuance or modification and that they cannot set restrictive arrangements to the development of RES projects.

The sixth chapter of the under discussion framework describes its action plan including its funding bodies and sources.

Finally, in the seventh chapter, which also includes the Annexes, are identified the priority wind areas with their maximum wind potential, their carrying capacity and, the minimum distances to be maintained by wind installations. Furthermore it sets forth the obligation to rehabilitate the installation premises after the expiration of the relevant operation licenses.

³ The Convention on Wetlands is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. The treaty was negotiated through the 1960s by countries and non - governmental organizations concerned about the increasing loss and degradation of wetland habitat for migratory water birds. It was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975. Greece currently has 10 sites designated as Wetlands of International Importance (Ramsar Sites), with a surface area of 163,501 hectares.

The Special Spatial Planning Framework is valid for fifteen years. After the expiration of its validity period it can be renewed. It should be mentioned that the process for revision of the SSPF for RES has already begun.

4.4. Wind parks and bird protection

The abovementioned special spatial framework has been severally challenged before the Council of State. In 2013 the Court decided *inter alia* (decision 1421/2013 CoS) that the in-question framework has full regulatory power, does not promote any specific form of RES and that all energy projects shall comply with its criteria. In addition to that it claimed that the definition of specific areas as areas of wind priority (WPA) does not constitute a spatial planning but simply allows the in priority spatial planning of these areas. Therefore, the Council of State rejected the application for annulment and declared the special spatial framework as perfectly legal.

However, a second application for annulment followed, on the grounds that the framework violated the Directives 79/409/EEC και 92/43/EEC regarding the protection of birds and the obligation to create special protection zones, based on ornithological criteria. As an explanation, the location selected for a wind farm is critically important and therefore sensitive sites must be avoided as a matter of precaution. Strategic Environmental Assessment of wind energy projects, including sensitivity mapping, should be carried out, as well as Appropriate Assessments under the Habitats Directive. In principle the installation into or near areas of the NATURA network or Special Protection Areas (SPAs) is not prohibited. It has been accepted, that wind turbines and birds can coexist, provided that special ornithological assessments on the impact the installation of a wind park may have to the birds and especially to the protected species of a specific area, has proceeded. According to Directive 79/409/EEC areas beyond Special Protection Areas that are characterised as Important Bird Areas (IBAs) shall also be protected. The obligation of drafting a special ornithological assessment for the spatial planning of wind parks in IBAs were illegally not taken into account while drafting the under discussion special spatial framework. The Court postponed the issuance of a decision and gave to the Administration a two-month deadline to supplement the regulation. After this deadline lapsed, the Council of State (Decision 807/2014 CoS) annulled the Administration's failure to add to the Special Spatial Framework a regulation imposing a special ornithological study on areas outside SPAs designated as important for birds (IBAs).

4.5. Wind parks in forests, wooded land and reforestable areas

It has been worldwide accepted that forests, woodlands and reforestable areas are in need of increased protection. According to the 24th article of the Greek Constitution, any alteration of the use or character of State Forests is prohibited except where reasons of public interest prevail. Even in the event of an urgent reason of public interest however, the Council of State has decided that the alteration of the forest character is allowed only under the prerequisite that the sacrifice of forest vegetation is the only appropriate and adequate for the satisfaction of these needs and provided that the interventions are limited to the extent necessary⁴.

In affirmation of the above, the Council of State decided that the in question Special Spatial Framework is indeed a matter of public interest that allows the installation of a wind park in a forestry area, since it aims to the reduction of greenhouse gas emissions, the improvement of the living conditions and the economic growth and prosperity⁵. At any individual case of course, the judge decides whether such an intervention to the environment, is permitted, on the grounds of the lessons of common experience.

This exceptionally permitted intervention in forests is established by Law 998/1979 as is now in force after its latest amendment by Law 4617/2019.

4.6. Wind parks in small islands

Small islands are also special ecosystems that require enhanced protection, as is highlighted in the article 101, paragraph 4 of the Greek Constitution. For their protection, a special spatial plan that promotes only the forms of development that are compatible with the principle of preserving their natural and cultural habitat, is essential. An important factor for the determination of their carrying capacity is their energy system, on which their sustainable development is highly dependent. Small islands constitute the most suitable field for implementation of friendly to the environment methods of electricity production, such as RES, provided that their particularity is taken into account. The special spatial framework plan introduces special planning rules, such as rules for the integration of the relevant RES installations into the landscape that differ from those that apply to the rest of the country.

In summary, it is obvious that the Greek judicial power tried to compel the Administration to establish spatial plans to promote sustainable development. For this reason, the annulment of already established spatial plans is extremely rare. The special spatial planning framework for RES is valid since 2009 and the planning of wind

⁴ Decisions 2971,2/2010 and 2517/2009 CoS

⁵ Decision 1421/2013 CoS

parks and other installations of electricity production has become safer, faster and clearer.

5. EUROPEAN SUPPORT OF RES

Under the framework of a United Europe, energy and its renewable sources (RES) are of increasing importance. Energy is on the one hand vital for the common benefit, the economic growth and the social cohesion, while at the same time it poses a risk to the environment, as its production leads to harmful gas emissions.

Taking into consideration the very small percentage of energy that is produced and consumed within the European Union, it is obvious that the promotion of continuous supply of energy to European industries and final consumers is vital. This set the foundation of the 3 pillars of the European Energy Policy: Security of Supply, Competitiveness of Economy and Environmental Protection. The EU proceeded to a large number of measures for the protection of the environment, on which the Greek Environmental Law is based. The combination of the need of environmental protection and of enhancing the energy sector, led to the vision that Europe becomes a pioneer in RES technologies. The increase of RES generated electricity percentage is expected to reduce the dependence on third oil and gas exporters, create local employment within EU's borders and make Europe a key player in exporting innovative RES technology.

For this reason, the European legislator issued three Energy Packages that included a range of Directives and Guidelines, with a view to support RES, provide incentives for investments in the energy sector and achieve the liberalization of competition in an open market. The first energy package was issued in 1996 and contained timetables for the opening of the European energy market and some first guidelines for the separation of the electricity transmission and distribution services. The second package was published in 2003 and was mainly consisted of Guidelines regarding the obligation for legal separation. The third package that is still valid, was issued in 2009 and includes the creation of ACER and detailed information for the total opening of the energy market.

5.1. Directive 2001/77/EC

The Directive 2001/77/EC constitutes the first effort to create a basis for a future full regulatory framework for RES power generation. The need to promote renewable energy sources was recognized as a priority measure given that their exploitation contributes to environmental protection, sustainable development, security of supply,

creation of local employment, enhancement of social welfare and can speed up the process of meeting Kyoto ⁶targets.

For the achievement of the aforementioned objectives, according to the European legislator, it is necessary for each Member State to set indicative targets for the percentage of electricity generated by renewable sources at national level and to gradually establish a single and common European legislative framework for the RES electricity market. However, in 2001, Europe was not ready for such a wide Community Framework as a result of the national systems' limited experience and of the relatively small share of RES generated power within the Community. This has resulted in the creation of a Directive, which, taking into consideration the special structure of the RES sector, promotes their participation in the electricity generation as a priority measure and sets the basis for a future Community single Energy Planning.

In particular, under the article three (3) of the Directive, each Member State is required to set indicative national targets regarding the percentage of electricity to be produced by renewable sources and describing the measures that have been taken or studied for the achievement of these studies. In addition to this, each Member State shall compile an analytical report every two years about the achievement (or non-achievement) of the national targets, taking into consideration the environmental factors that may have a positive or negative impact. The Commission should assess to what extent Member States have made progress towards achieving their national indicative targets as well as their different mechanisms for support of renewable energy sources, in compliance to article four (4) of the Directive, and present a relevant report every two years with its conclusions *inter alia* about the cost-effectiveness of these support schemes. This report may be accompanied by a Proposal that shall contribute to the achievement of the national indicative targets, promote the use of RES in a meaningful way taking into account their various characteristics, be compatible with the principles of the internal electricity market, be simple and at the same time more efficient, especially in terms of cost. Finally, it should include sufficient transitional periods for the national support schemes of at least seven years and maintain the confidence of the investors.

⁶ The Kyoto Protocol was adopted on 11 December 1997 and entered into force on 16 February 2005. The Kyoto Protocol is an international treaty which extends the 1992 United Nations Framework Convention on Climate Change (UNFCCC) that commits state parties to reduce greenhouse gas emissions. The Convention itself only asks countries to adopt policies and measures on mitigation and to report periodically.

Of equivalent importance is to ensure that the origin of the electricity produced by renewable energy sources can be guaranteed as such, based on objective, transparent and non-discriminatory criteria that according to article five (5) are set at national level. Such Guarantees of Origin can be issued in response to a relevant request by a Member State and shall prove that the energy they sell is produced by renewable energy sources, demonstrating the date and places of the production and in the case of hydroelectric power installations, their carrying capacity as well. Independent Bodies can be selected by the Member States to supervise the issuance of such Guarantees. In the event of refusal to recognize a guarantee of origin (in particular for reasons relating to the prevention of fraud), the Commission may compel the refusing party to recognize it, particularly with regard to objective, transparent and non-discriminatory criteria on which such recognition is based.

The Member States or the competent bodies appointed by them shall evaluate according to article six (6) the legislative and regulatory framework that applies to the authorization procedures for the installation of RES production plants with a view to reduce any barriers (regulatory and non-regulatory) to the increase in RES electricity production, to streamline and accelerate the procedures at administrative level, and to ensure the existence of objective, transparent and non-discriminatory rules, that take into account the particularities of the different RES technologies. Member States shall publish an evaluation report to provide an indication of the progress achieved specifically in regard to the coordination between the different administrative bodies, the deadlines, the reception and treatment of applications for authorizations, the possibility of establishing guidelines, and the feasibility of a fast-track planning procedure for RES electricity producers, and the appointment of authorities to act as mediators in disputes between authorization bodies and applicants.

In compliance with article seven (7) of this Directive, each Member State shall take the necessary measures to ensure that the, in their territory, transmission and distribution system operators guarantee the transmission and distribution of electricity produced from renewable energy sources. They may also provide for priority access of the RES electricity to the grid system, or give priority to new producers that exploit renewable energy sources and wish to be connected to the grid providing them with a comprehensive and detailed estimation of the connection costs. Every five years the Commission shall present to the European Parliament and the Council, a summary report on the implementation of this Directive (Article 8). This report shall consider the progress made, taking into consideration the external costs of non-renewable

produced electricity and the impact of the State Aid that is granted to electricity generation. The capacity of Member States to meet their national indicative targets is also taken into account as well as the existence of discrimination between various energy sources. The report shall be also accompanied by further proposals of the Commission to the European Parliament and the Council.

Finally, Each Member State is obliged under article nine (9), to bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than the 27th October of 2003.

In summary, the Directive 2001/77/EC promotes the in priority contribution of renewable energy sources to the electricity market and requires that Member States set indicative targets for the promotion of RES and the creation of a future Community framework.

In compliance with the abovementioned Directive, the Law 3468/2006 was adopted in Greece and then amended by Law 3851/2010. This law promoted the renewable sources of electricity and the Combined Heat and Power Plants (CHPS) in the market by setting national indicative targets, which at that time ranged from 20% of RES energy to final gross energy consumption and by establishing the legislative framework for the authorization of the production, installation and operation of RES and CHPS, which will be discussed in more detail below, with a goal to create a modern and attractive to the investors environment.

[5.2. Directive 2009/28](#)

The abovementioned directive was followed and subsequently repealed by Directive 2009/28 that sets a regulatory framework for the promotion of energy from renewable sources by demonstrating a 20% target of reducing CO₂ emissions, a 20 % target for the overall share of energy from renewable sources and a 20% improvement in energy efficiency by 2020 (EU's 20-20-20 goals).

For the achievement of these goals, each Member State shall set national targets in the sectors of power generation, cooling/heating and transportation. Apart from that they shall also take measures of target compliance, such as national support schemes and cooperation mechanisms between Member States or even Third Countries. Additionally, Member States shall simplify the authorization process of RES projects and write relevant codes.

Directive 2009/28 also reinforces the institution of Guarantees of Origin of electricity that must now specify whether it relates to electricity, heating or cooling, the source of the produced energy, the space, type and the potential of the power generation installation, its operation date and any received investment aid. Last but not least it must also include the country and date of issuance.

Finally, the Directive stipulates that each Member State shall submit to the Commission reports on its progress regarding the promotion and use of renewables. Subsequently the Commission shall present, every two years, a relevant report to the European Parliament and the Council.

5.3. Law 4414/2016

The purpose of Law 4414/2016 is to develop a new support scheme for electricity from renewables and for highly efficient cogeneration of heat and power, consistent with the Guidelines on State aid for environmental protection and energy for the period 2014-2020. The provisions of this law reform the support scheme of power generation from RES or HECHP plants, in order to achieve their gradual integration and participation in the electricity market at an optimum level of cost and benefit for society. At the same time the level of support is limited so as not to over-reward renewable energy projects.

The feed-in tariff-based (FiT) scheme is replaced by a technology-specific sliding scale feed-in premium (FiP). Explanatory, all RES and HECHP power plants shall be included in a support scheme in the form of Operating Aid, on the basis of a Differential Compensation Price (Sliding Premium), for the power they generate. The Sliding Premium shall be calculated on a monthly basis, in euro per megawatt hour (€/MWh), as the difference between the Special Reference Market Price for the specific RES or HECHP technology and the Reference Value applicable for the "Sliding Premium Operating Aid Contract" (SEDP) for the power generated from RES and HECHP plants that is defined per power plant technology and category. The Reference Value shall be determined per plant category, technology or per project, if the price is the result of a competitive process, with the exception of photovoltaic installations.

Demonstration projects, installed by Centre for Renewable Energy Sources (CRES), university or research foundations or institutes, for the duration of the project shall be paid in the form of a Fixed Price, which is equal to the Reference Value applicable for the "Fixed Price Operating Aid Contract"(SEST) for the power generated from RES or HECHP.

The term of the new FiP and FiT Contracts and therefore of the associated operating aid will be 20 years for all renewable energy projects, other than solar thermal power plants that will enjoy a 25 year term. The form, the content and the details of such contracts will be determined by ministerial decisions that need to be adopted by the Minister of Environment & Energy following a proposal from DAPEEP (ex LAGIE) and an opinion of the Regulatory Authority for Energy (RAE).

The owners of RES or HECHP plants that receive an Operating Aid, shall declare to the competent market Operator the amount of the Aid that was received before the operation (commercial or trial operation) of the station, and are entitled to an annual return on capital, calculated at a specific rate (capital depreciation factor).

Compensation for each technology should be up to the level of the applicable RT, so in case the market value of renewable electricity per technology is in excess of the applicable reference tariff (RT), the excess will be returned to the special account kept by the market operator or the network operator.

The competitive tendering procedures for RES and CHP power plants are described in article seven (7) of the under discussion law. Initially, the Operating Aid scheme through competitive procedures shall be launched on 1st January 2017. The technologies and categories of the RES and CHP power plants that are part of the competitive procedures shall be defined by the Minister of Environment & Energy, following an opinion of the Regulatory Authority for Energy (RAE). RAE takes into account the development targets, the technical constraints of the electricity transmission and distribution network, the cost of the necessary extension of the transmission and distribution network, the need to avoid distortions in the raw material markets, the contribution of the competitive process for setting reference prices and the impact on the total cost of the operating aid scheme in relation to the achievement of national targets for RES and CHPs. The installed electricity power from RES and CHP is annually auctioned through competitive bidding procedures. Only the selected power plants are eligible for support in the form of operating aid.

As far as the bidding process is concerned and in accordance with Law 4414/16, RAE is responsible for issuing a Notice (Announcement) for the competitive bidding process for RES and HECHP power plants, which shall determine the participation and evaluation criteria, the geographical or other spatial constraints, the construction and operation timeline of the selected plants, the letters of guarantee, any reduction in RV as a result of a competitive bidding process for RES and HECHP in an NII in case of

interconnection with the Interconnected System, any special clauses and any other necessary detail related to the conduct of the competitive bidding process. A further condition for the participation in the competitive bidding process is the payment of a participation fee, in favor of RAE. As long as the competitive bidding process is completed, RAE shall issue and post on its website a table of results, including the weighted average RV for each power plant category. A pilot competitive process took place in 2016.

Regarding the Non-Interconnected Islands (NIIs), all RES and HECHP power plants that begin to operate (commercial or trial operation) on or after 1 January 2016 on them, shall be included in the support scheme of Operating Aid, on the basis of a Fixed Price, and their owners shall conclude an operating aid contract with a fixed tariff (SEST in Greek) with the Operator of NIIs (HEDNO SA). (Articles 8-10).

The article 12 of this law, establishes a mechanism for the monitoring of the support scheme of RES and CHP power plants, through the establishment of a Monitoring Committee that has the authority to submit proposals to the Minister of Environment and Energy every six months.

The Special Account for Renewables (ELAPE by its Greek acronym), from which all RES generators in Greece are paid, consists of two separate albeit interlinked Special Sub-Accounts for Renewables that are managed by the market operator (DAPEEP) and the NIIs network operator (HEDNO) for their areas of competence, respectively. Each of these sub-accounts is further divided into the sub-account of electricity market revenues (revenues from the sale of electricity) and the subaccount of subsidies revenues (Special Duty of Greenhouse Gas Emissions Reduction-ETMEAR, revenues from the auctioning of the unallocated CO² allowances corresponding to Greece, special lignite fee (2€/MWh), amounts paid by the load representatives for the grid-connected electric power). In case there is a surplus in the subaccount of subsidies revenues of the non-interconnected islands, HEDNO shall deposit it to the corresponding account of the Connected System and Network, and vice versa, DAPEEP is obliged to deposit the corresponding amount, in case of deficit of the subaccount of subsidies revenues of the NIIs.

As a conclusion, through the new support scheme that is established by law 4412/16, State Aid is only given to the producer that submits the most advantageous, from an economical perspective offer, in the framework of a competitive process and abolishes

the fixed pricing regime, leading to the promotion and the integration of renewables into the national electricity market.

New FiP based Support Scheme

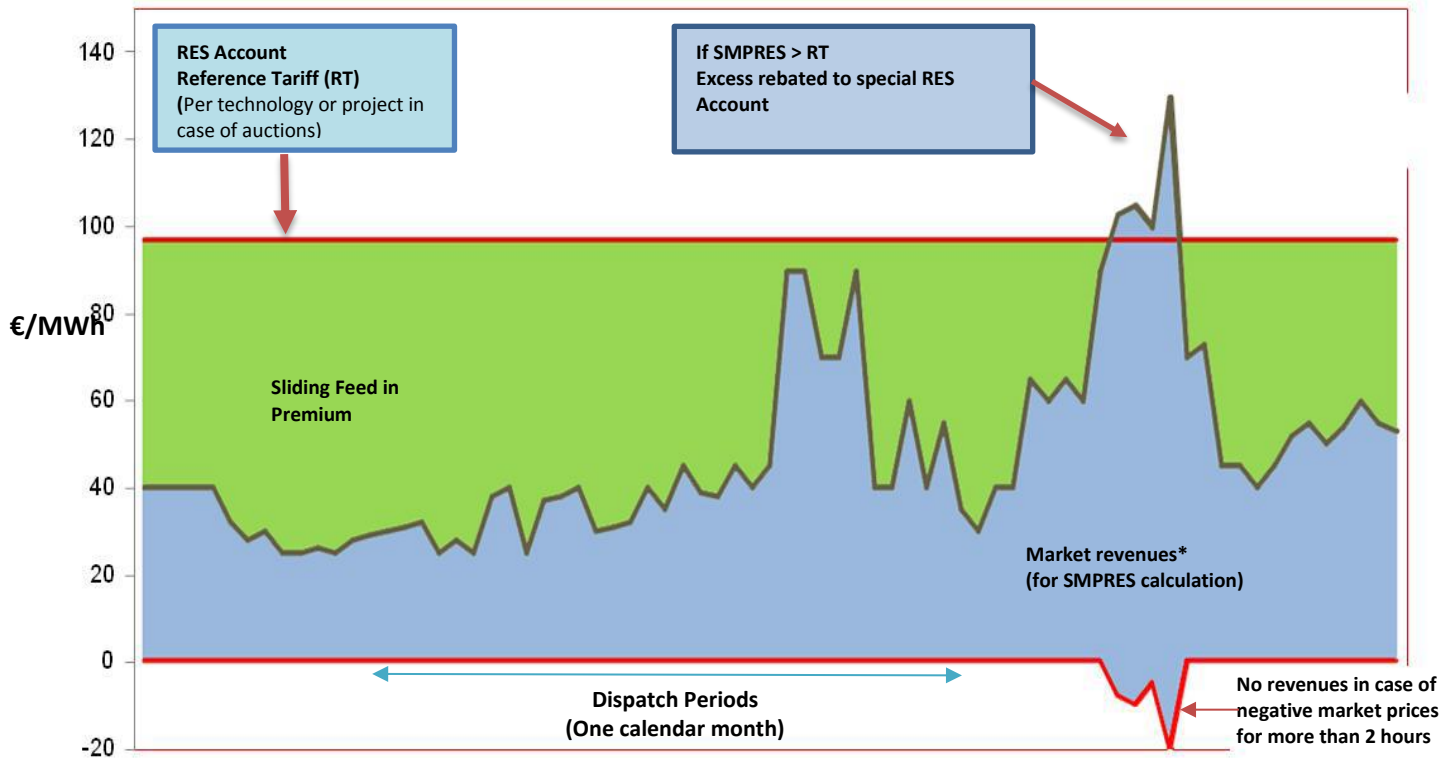


Figure 1

Source: http://www.imbaenergyclub.gr/wp-content/uploads/2017/04/DIMITRIS_ASSIMAKIS_-NORTON_ROSE_FULBRIGHT.pdf

5.4. Winter Package

On 30 November 2016 the Commission presented a package of measures, the so called “Clean energy for all Europeans package” (broadly known as Winter Package), a new energy rulebook that consists of eight legislative acts (with the following subject matters: Energy Performance in Buildings, Renewable Energy, Energy Efficiency, Governance of the Energy Union, Electricity Regulation, Electricity Directive, Risk Preparedness, ACER) to facilitate the transition to a “clean energy economy” and to deliver on the EU’s Paris Agreement commitments for reducing greenhouse gas emissions. These proposals have already taken the form of Directives after their adoption by the European Parliament and the Council. (See table 1). EU countries have 1-2 years to transpose the new directives into national law.

At this point it would be meaningful to give a brief overview of the recast renewable energy directive 2018/2001 that followed the Winter Package proposal (see the table

below) as energy from renewable sources is a main matter of concern of this paper. This Directive amended the Directive 2009/28/EC of the European Parliament and of the Council on the promotion of the use of energy from renewable sources, setting an ambitious binding target of 32% for renewable energy sources in the EU's energy mix by 2030 (article 3). The national targets of 27% set for 2020 (Directive 2009/28/EC), has now become the baseline, below which the national shares of renewable energy should under no circumstances fall. If they do, appropriate measures shall be taken by the relevant Member States. Member States shall set national contributions to meet, collectively, the binding overall Union target and are obliged to draw up and present to the Commission national Energy and Climate plans. The Commission shall respectively support these plans by allocating funds and reducing capital costs of RES projects.

To reach or even exceed the aforementioned target goals, Member States may apply transparent, non-discriminatory, competitive and cost-effective support schemes to ensure the integration of electricity from renewable sources in the electricity market and to ensure that renewable energy producers are responding to market price signals and are maximizing their market revenues. Support shall be granted in the form of a market premium (sliding or fixed).

According to the provisions of article five (5) of this Directive, Member States may open participation in support schemes to producers located in other Member States, through tendering procedures, open certificate systems or Common Support Schemes. However, the produced energy will be attributed to the state that finances the facility.

Furthermore, in article six (6) is provided that the effectiveness of the support schemes shall be assessed every five years by Member States, ensuring however that they are not revised in a way that negatively affects funded projects.

Article eight (8) additionally, declares that Member States may agree on the statistical transfer of a specified amount of energy from renewable sources from one Member State to another. The transferred quantity is included in the calculation of the RES energy share of the Member State that accepts the transfer, not of the State of production.

Member States may cooperate with one or more third countries on all types of joint projects with regard to the production of electricity, heating or cooling from renewable sources. The amount of electricity produced by any installation in the territory of a third country, shall be notified to the Commission. Electricity from renewable sources produced in a third country shall be taken into account for the purposes of calculating

the renewable energy shares of the Member States only where the electricity is produced by any installation that became operational after 25 June 2009, is consumed within the borders of the European Union and the produced and exported amount has not received support from a support scheme of a third country, with the exception of investment aid.

Furthermore, in accordance with article fifteen (15) Member States shall take appropriate measures to ensure that administrative procedures are streamlined and expedited, authorization procedures are simplified and that the relevant rules in regard to authorization, certification and licensing are objective, transparent, non-discriminatory and proportionate. With respect to their building regulations and codes, Member States shall introduce appropriate measures in their building regulations and codes with a view to promote the use of renewable heating and cooling systems and equipment that achieve a significant reduction of energy consumption in the building sector. At the same time, under article sixteen (16), it is necessary to set up or designate one or more administrative contact points that will coordinate the authorization procedure (Provision of information, coordination, Manual of procedures, etc.). It is expressly stipulated that the permit-granting process shall not exceed two years for power plants. Where duly justified on the grounds of extraordinary circumstances, that two-year period may be extended by up to one year. Moreover, there is an increase in RES units in the building sector and a new methodology for calculating the minimum RES energy levels in the new as well as in the already existing buildings to be renovated.

Member States shall simplify grid connections through a simple-notification to the distribution system operator, which, within a limited period following the notification, may decide on the rejection or the approval of the connection request. Concerning installations or aggregated production units with an electrical capacity of above 10,8 kW and up to 50 kW, Member States may, according to article seventeen (17), also allow a simple-notification procedure provided that grid stability, grid reliability and grid safety are maintained.

Article eighteen (18) aims to enhance the information and training of the consumers and to ensure the availability of certification schemes to the relevant actors.

This Directive also includes provisions for guarantees of origin (art. 19) and for the strengthening of the consumers' position that are now entitled to become renewables self-consumers and to sell their excess production of renewable electricity without restraints (art. 21). It is also envisaged to strengthen the position of Energy

Communities (art. 22), whose particularities shall be taken into account by Member States while designing support schemes.

Additionally, with a view to promote the use of renewable energy each Member State shall, under article twenty three (23) of the Directive, increase the share of renewable energy in the heating and cooling sector by a minimum indicative 1,1 percentage points as an annual average. This can be indicatively achieved by means of physical incorporation of renewables in the fuels supplied for heating and cooling, direct mitigation measures such as the installation of highly efficient renewable heating and cooling systems in buildings and of indirect mitigation measures such as certificates proving the compliance with the abovementioned obligation.

In order to enhance the use of renewable energy in the transport sector, article twenty five (25) stipulates that each Member State shall set an obligation on fuel suppliers to ensure that the share of renewable energy within the final consumption of energy in the transport sector is at least 14 % by 2030 (minimum share). Moreover, article twenty six (26) includes the sustainability and greenhouse gas emission reduction criteria for biofuels, bioliquids and biomass fuels produced from food and feed crops.

Finally, this Directive under article thirty three (33) instructs the Commission to monitor the progress in the field of RES, relying, of course, on the integrated national energy and climate plans and corresponding progress reports from third countries, intergovernmental organizations, scientific studies and any other relevant sources of information.

As a conclusion, the Directive 2018/2001 has already been adopted, replacing Directive 2009/28/EC, and will be repealed with effect from 1 July 2021 with a goal to enhance the use of energy from renewable sources.

Energy for all Europeans package - Legislative process						
	European Commission Proposal	EU Inter-institutional Negotiations	European Parliament Adoption	Council Adoption	Official Publication	Journal

Energy Performance in Buildings	<u>30/11/2016</u>	<u>Political Agreement</u>	<u>17/04/2018</u>	<u>14/05/2018</u>	<u>19/06/2018 - Directive (EU) 2018/844</u>
Renewable Energy	<u>30/11/2016</u>	<u>Political Agreement</u>	<u>13/11/2018</u>	<u>04/12/2018</u>	<u>21/12/2018 - Directive (EU) 2018/2001</u>
Energy Efficiency	<u>30/11/2016</u>	<u>Political Agreement</u>	<u>13/11/2018</u>	<u>04/12/2018</u>	<u>21/12/2018 - Directive (EU) 2018/2002</u>
Governance of the Energy Union	<u>30/11/2016</u>	<u>Political Agreement</u>	<u>13/11/2018</u>	<u>04/12/2018</u>	<u>21/12/2018 - Regulation (EU) 2018/1999</u>
Electricity Regulation	<u>30/11/2016</u>	<u>Political Agreement</u>	<u>26/03/2019</u>	<u>22/05/2019</u>	<u>14/06/2019 - Regulation (EU) 2019/943</u>
Electricity Directive	<u>30/11/2016</u>	<u>Political Agreement</u>	<u>26/03/2019</u>	<u>22/05/2019</u>	<u>14/06/2019 - Directive (EU) 2019/944</u>
Risk Preparedness	<u>30/11/2016</u>	<u>Political Agreement</u>	<u>26/03/2019</u>	<u>22/05/2019</u>	<u>14/06/2019 - Regulation (EU) 2019/941</u>
ACER	<u>30/11/2016</u>	<u>Political Agreement</u>	<u>26/03/2019</u>	<u>22/05/2019</u>	<u>14/06/2019 - Regulation (EU) 2019/942</u>

Table 1

Source: <https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/clean-energy-all-europeans>

5.5. Brief review of the European Energy Policy

In summary, it is obvious that the special branch of renewable energy is in high need of promotion and support, so that it gets effectively integrated into the market, due to its expensive technologies, high maintenance costs and lack of investments. For this reason the European as well as the Greek legislator took drastic promotional measures. To revise, the first legislative package consisted of indicative national targets for the in

priority allocation of res energy in the grid and its reinforcement based on a fixed price. The results of this first package are considered to be positive, due to the fact that many RES electricity production units were created after its adoption. The special scheme was retained with the second package of measurements that followed. However the compensation of the producers of electricity from renewable energy sources is now amended. The Producers that get compensated are determined through a competitive bidding process, which seems to be fairer as the aid is given only to the producer that submitted the most advantageous offer. In addition to this, it is stipulated that Member States shall set binding national targets to be achieved by 2020. With the third and last until today package of measurements, the so-called “Winter Package”, the measurements of the two previous packages are considered to be insufficient for the increased integration of renewables in the electricity market. The European legislator, with respect, up to a degree, to the institutional autonomy of Member States, in the field of energy, defines a common European energy planning, cooperation between States and a regional planning as well. Concluding, an increasing involvement of the European legislator is observed in the energy sector, with a view to increase the share of green energy that is produced and consumed within the European geographical area.

6. AUTHORIZATION OF WIND PARKS

At this point it should be highlighted that for the installation and operation of a wind park, the delivery of the produced energy to the grid and the subsequent increase of the electricity generated by renewable sources, a complicated licensing process must precede. This is mainly described in the Law 3468/2006 (after various amendments by Law 3851/2010, as is now in force after its latest modification by L. 4643/2019) that aims at the transposition of Directive 2001/77/EC of the European Parliament and Council and, secondarily in other Ministerial Decisions and legislative provisions and includes the granting of three (3) basic licenses, the production authorization as well as the installation and operation permits.

6.1. Production authorization

To begin with, the authorization to produce electricity from renewables, which is the first stage of the licensing process, is granted by RAE⁷ in accordance with a specific

⁷ In the past, the competent body for issuing and granting production licenses was the Minister of Environment. This authority was transferred to RAE, by L. 3851/2010, in the context of accelerating the licensing procedure. However this competence falls under the final control of the Ministry of Environment and can be challenged before CoS.

procedure, as described in article 3 of Law 3468/2006 and in article 3 of the Ministerial Decision No 14810/2011. In particular, the right to submit a request for authorization is given to natural or legal Persons that are legally established and domiciled in an EU Member State, in the European Economic Area (EEA), in countries of the energy Community, or in any other third country, provided that a relevant bilateral agreement has been concluded with Greece or the EU, or that have legally established branches in Greece. Applications for the production authorization shall be submitted to RAE from the first (1st) to the tenth (10th) day of the months of March, June, September and December (Application cycle). This request must include the detailed data of the applicant, project description, an energy study and documentation of the ability to produce electricity from RES as well as a documentation of the RES potential, a preliminary technical study, a Business Plan of the project, evidence of financial capacity and any other accompanying documents⁸ and declarations.

In the event that a res project concerns an island with a desalination plant, an analytical technical description of the RES installation as well as of the desalination plant, a special technical and economic study and any other additional services of the desalination unit are further required.

In absence of at least one of the above required documents, the request for production authorization gets rejected. Where required, RAE is entitled to request the submission of clarifications or additional data, within a fixed period, after the lapse of which, the request shall be rejected as incomplete.

The application request is also rejected as inadmissible, when submitted for congested networks or for a location where a production license has already been issued. At this case the already paid state fee is not refundable. On the contrary, the state fee is refundable when the rejection concerns overdue or incomplete applications.

The relevant applications and their abstract are published on the website of RAE on the first day of the month that follows their submission cycle and a table of the published applications is sent electronically to the Municipalities.

Anyone with a legitimate interest, may present, within fifteen (15) days after the publication of the submitted application, a reasoned objection before RAE. RAE is obliged to inform the applicant in writing about any objection lodged against his application, and lay down a time-limit for him to submit his views.

⁸ MD 14810/2011, Annex I

6.1.1. Production Authorization in the NIIs

As far as the Non-Interconnected Islands (NIIs) is concerned, namely the islands that are not connected to the mainland's Interconnected System (see picture 2 below) and areas where there are grid congestion conditions, a decision issued by RAE following a recommendation by the System or Network Operator must proceed.

More specifically, areas with congested grids shall be characterized as such by RAE in compliance with the abovementioned procedure⁹, taken into account the production licenses that have been granted into the area of interest, the existent applications for such production licenses, the bidding offers and any other essential data. The capability of absorption of energy in areas with congested grids shall be established by virtue of a decision by RAE after the relevant opinion of the Network Operator¹⁰. That decision shall be made public at RAE's care via Internet or any other proper means.



⁹ MD 14810/2011, articles 9-12

¹⁰ MD 14810/2011, article 10

Picture 1

Source: <https://www.mdpi.com/2076-3298/3/3/18/htm>

6.1.2. Criteria for production authorization

After the deadline for raising objections against the submitted applications (within 15 days after the application of the submitted applications) has lapsed, RAE proceeds to the assessment of their substance, taking into consideration any relevant submitted document, any objection that a third party with legitimate interest may have raised, as well as any other data that is considered to be important at the discretion of RAE.

Regarding the production authorization, RAE is obliged to cumulatively take into consideration the national security, the protection of public health and safety, the overall security of the facilities and equipment of the System and the Network, the energy efficiency of the under assessment project, the degree of maturity of the project implementation process as indicated by the relevant permits or approvals granted by competent services, studies having been prepared, as well as any other pertinent data, the ability of the applicant to carry out the project on the basis of its scientific and technical competence as well as its financial capacity, the provision of services of public interest and of customer protection, the feasibility of implementing the project in compliance with the Special Spatial Planning Framework for RES and Sustainable Development and finally the compatibility of the project with the National Action Plan to achieve the following objectives: the 20% share of RES generated energy in final gross energy consumption, the target of at least 40% participation of electricity generated by renewable resources in the final gross energy consumption, the 20% share of RES generated energy in final gross energy consumption for cooling and heating and last but not least, the 10% participation of RES generated energy in final gross energy consumption in transportation¹¹.

During the evaluation process of the applications a conflict of interest of the projects may be identified in the cases where there is territorial overlap (partial or whole) of the position of the suggested projects, the same energy source cannot be simultaneously exploited especially due to the restriction on network capacity and where the installation of more power plants is unfeasible due to exceeding load capacity. If the conflict of interest is identified in projects for which the applications for authorization

¹¹ See article 3 of L. 3468/2006 and article 2 of L. 3851/2010

have been submitted within the same Application Cycle, RAE shall perform a comparative assessment and draw up a ranking table¹².

It should be mentioned that before issuing a decision, RAE may cooperate with the Operator of the System, the Network or the Network of the islands that are not connected to the mainland's interconnected system for the preliminary selection of the point and mode of connection of the station to the System or the Network. During the evaluation process of the applications, RAE may also cooperate with the Center for Renewable Energy Sources (CRES). It should be pointed out that applications that concern projects in the non-interconnected grid or in areas with congested grids are satisfied with priority.

RAE shall examine the fulfillment of the abovementioned criteria and shall issue a relevant decision regarding the approval (or non-approval) of the application for electricity production authorization within two (2) months from the submission of the application provided that the application file is complete or from the date of its completion. This decision shall be posted on RAE's website, be communicated by RAE to the Minister of Environment and Energy and finally shall be posted at the recipient's care in a daily newspaper of national circulation.

6.1.3. Exemptions from the obligation to obtain a production authorization

In compliance with Law 3468/2006 as is now in force after its amendment by Law 4643/2019, legal or natural persona that own electricity production installations are exempted from the obligation of being granted a production authorization, provided that the installations are located on their property or on other adjacent properties which these persons own, for as long these persons are the lawful owners or occupants, and for as long as power is produced from: a) geothermal energy stations with an installed capacity less than, or equal to a half (0.5) MW, b) stations using biomass or biofuels with an installed capacity less than, or equal to one (1) MW, c) photovoltaic or solar thermal systems with an installed capacity less than, or equal to one (1) MW_{peak}, d) CHP Plants with an installed capacity less than, or equal to one (1) MWe, e) wind parks with an installed capacity less than, or equal to 60 kW, f) power plants with an installed capacity up to five (5) MWe built by educational or research bodies of the public or private sector and for as long as these plants operate exclusively for educational or research purposes and from plants erected by the Centre for Renewable Energy Sources for as long as these plants operate for carrying out certification or

¹² MD 14810/2011, article 14

measurements, g) autonomous power plants with an installed capacity less than, or equal to five (5) MWe, h) RES and CHP plants installed by self-producers in accordance with Article 14A of L. 3468/2006, i) small Hydroelectric Stations with Installed capacity less than, or equal to half (0.5) MW, installed in water supply systems, sewage or irrigation systems, j) miscellaneous plants with an installed capacity less than, or equal to fifty (50) kW in case they utilize one or more types of RES of those included in par. 2 of article 2 of Law 3468/2006 but in a form other than that of the above cases¹³.

Additionally it should be pointed out that under the prism of accelerating the authorization procedure, the obligation of RAE to give to the exempted producers a certification of exemption from the obligation to obtain a production authorization does no longer exist.

The exempted producers are in under no circumstance exempted from obtaining other licenses or approvals that are required by the applicable legislation such as Approval of Environmental Terms (EPO by its Greek acronym), operating and installation permits.

6.1.4. Duration, renewal, modification, transfer and revocation

The production authorization, which must cumulatively include the data referred to in the paragraph 3 of article 3 of Law 3468/2006, shall be granted for a period of up to twenty five (25) years and may be renewed for up to an equal time by virtue of a decision by RAE at the request of the holder of the production authorization, provided that the production authorization of the power station is valid and the latter is operating legally¹⁴.

Regarding the modification of the authorization for the production of electricity using renewable sources or combined heat and power plants (CHPs), it may be revised by virtue of a decision by RAE based on an application by its holder, within sixty (60) days from the relevant application, provided that the application file is complete or from the date of its completion. The production authorization may be revised in case of modification of its elements concerning the holder of the authorization, whether an independent producer or auto-producer, the location where the power station is installed, the installed capacity and the maximum generation output the technology used or the type of RES and the natural or legal persons that undertake the funding and the implementation of the project. The electricity production authorization does not require a modification in case where the installed capacity or the maximum power

¹³ L. 3468/2006, article 4

¹⁴ L. 3468/2006, article 3, paragraph 4

output of a power generation plant connected to the System or the Interconnected System shall change only once and up to 10 percent without any subsequent increase in the installation area of the lot. As a result, the installation permit shall also be modified. The provision of this paragraph shall not apply to congested grid areas. The capability of absorption of energy in areas with congested grids shall be established by virtue of a decision by RAE following a recommendation by the System or Network Operator. That decision shall be made public at RAE's care via Internet or any other proper means. Furthermore, no modification of the production authorization is required in cases where the amendment concerns the domicile or registered office of the licensee, the reduction of the installed capacity or the power output does only affect the size of the surface area and finally in cases where the changes in the data of the production authorization shall not affect the evaluation of the criteria for the authorization. In the above cases the licensee must inform RAE and the Minister of Energy, Environment and Climate Change of any relevant changes. If he omits to do so, the licensee shall be subject to the penalties provided for in article 22 of Law 3468/2006.¹⁵

As far as the transfer of the production authorization is concerned, according to the applicable legislation the holder of the production authorization may, following a decision from RAE, transfer its authorization to another person provided that the criteria laid down in the first paragraph of article 3 of Law 3468/2006 are met. A summary of the transfer request shall be published on RAE's website and any third party with legitimate interest is entitled to raise objections within fifteen (15) days¹⁶.

Another matter of concern is the revocation of the production authorization. More specifically, RAE shall revoke a granted production authorization in any case of identified violation of the legislative and regulatory framework. Indicatively some reasons that may lead to such revocation is the licensee's inaction to proceed to the necessary actions for the issuance of an installation permit (within 30 months from the production authorization), the infeasibility of the implementation of the project, the absence of any of the evaluation criteria as set forth in article 3 of Law 3468/2006, the granting of the authorization on the basis of false or misleading information and of course a relevant request by the licensee. In the case of violation of the legislative and regulatory framework, RAE shall notify the licensee of the violation's identification and

¹⁵ L. 3468/2006, article 3, paragraphs 3 and 5

¹⁶ L. 3468/2006, article 3, paragraph 6 and MD 14810/2011, articles 39 and 40

call him to provide explanations within fifteen (15) days. After the lapse of this deadline, RAE shall revoke the authorization¹⁷.

For granting a production authorization, or modification or revocation thereof, a relevant application should be filed, accompanied by all the supporting documents that are required by Law 3468/2006. RAE shall keep a special registry of electricity generation using RES or CHPs, in which the data of the authorizations, the acts of exemption from the obligation to obtain these authorizations, their transfer, their amendments, as well as any other modification thereof for which no amendment is required shall be entered. RAE shall notify the content of the registry to the relevant Operators and the Minister of Development at the end of every two month period via e-mail or any another suitable means. The licensee shall promptly notify RAE and the Minister of Development with respect to any modification of these data. For the cases where the data changes that have been entered into the special registry do not necessarily amend the production authorizations, RAE shall issue a relevant certificate. RAE may set out in detail any other technical matters and specific issues regarding the assessment method and procedure for the applications submitted¹⁸.

6.1.5. Marine Wind Parks

Of high interest is also the new innovative article 6A of L. 3468/2006, a recent addition relating to marine wind parks. In accordance with this article the installation of a wind park is allowed within the territorial seas of Greece.

The installation permit of a marine wind park, including the binding Connection Offer is issued by virtue of decision of the Minister of Environment and Energy and is followed by the procurement of an open public tender.

For the construction and operation of a marine wind park the subcontractor shall comply with the obligation of environmental assessment consistent to L. 1650/1986¹⁹. It is worth mentioning that the Strategic Environmental Assessment (SEA), in particular, assesses the protection of the marine natural and cultural environment and of the ecosystems, the national security, the energy security of the islands and the safety of maritime transport.

¹⁷ MD 14810/2011, articles 42 and 43

¹⁸ L. 3468/2006, article 5

¹⁹ L. 1650/1986, articles 3-5

The operation permit is granted by the Minister of Environment and Energy in compliance with the process that is described in L. 3468/2006²⁰.

6.2. Installation Permit

The second stage of the authorization process of a power station is the granting of an installation permit. At this point it is recalled that after the granting of a production authorization, its holder shall proceed to the actions that are required for the issuance of an installation permit within a period not exceeding thirty (30) months from the issuance of the production authorization. A power plant using RES or CHP shall be allowed to be installed and operate a) on a lot or an area, where the applicant has the right of lawful use, b) in forests and scrubland provided that the construction of works therein has been permitted according to articles 45 and 58 of Law 998/1979 (GG 289 A'), as in force at each time, or article 13 of Law 1734/1987 (GG 189 A'), as in force at each time, c) on the shoreline, coast, sea or sea bed, provided that their right of use has been conferred according to article 14 of Law 2971/2001 (GG 285 A'), as in force at each time.

Before proceeding to the description of the installation permit framework it is worth mentioning that the under discussion permit must be preceded by other administrative and environmental permits. More specifically after the issuance of a production authorization by RAE, the licensee in order to be granted an installation permit shall simultaneously apply for a Grid Connection Offer (GCO) from the competent Operator, an Environmental Term Approval Decision and a permit for intervention in forest or wooded area (if required) or general permits for the acquisition of the right to use the installation site of the project, as analyzed below.

6.2.1. Grid Connection Offer – 1st sub stage

In accordance with the combined application of law 3468/2006 and the Ministerial Decision No. D6/F1/13310 (GG 1153 BD/10.07.2007) of the Minister of Development, the holder of a production authorization shall submit to the competent Operator (HEDNO/DEDDIE for stations in the interconnected grid, when their load capacity is up to or equal to 8MW, ADMIE when the load capacity exceeds 8MW) a request for a Connection Offer, which shall include a description of the connection methods that will be used for the under discussion power station. The request for a Connection Offer must be accompanied by the supporting documents that are set forth in article 4 of the

²⁰ L. 3468/2006, article 8, paragraphs 11 and 12

Ministerial Decision No 11533/2007. During the evaluation of the submitted request and its accompanying documents, the Operation Codes and Connection Offers that have been granted to other applicants must be taken into account.

The competent Operator grants within four (4) months from the submission of the request a non-binding Connection Offer. For this offer to obtain a binding character, the interested party needs to submit to the competent Operator an Environmental Terms Approval Decision (AEPO) or a Standard Environmental Commitments (SEC), if required. The finalization of the offer is carried out by the competent authority within a month from the submission of the supporting documents, or in the case where an AEPO or a SEC is required within one (1) month from their submission or their issuance.

As far as the duration of the final and binding offer is concerned, it is distinguished depending on whether a prior production authorization in accordance with the fourth article of Law 3468/2006 is required or not. Explanatory, regarding RES or CHP power plants for which there is the obligation to obtain both a production authorization issued by RAE and an AEPO or SEC respectively, the granted binding offer remains valid for a three (3) year period. For power stations that are exempted from the obligation to obtain a production authorization but are still subject to environmental assessment, the Connection Offer has a six (6) month period of validity. Finally, regarding those power stations that are exempted from both the production authorization and the approval of environmental terms, the granted Connection Offer is binding at the first place and binds their holder for six (6) months after its issuance, provided there is available capacity in the respective electrical networks. It is highlighted that, if at the expiration date of the final Binding Connection Offer the installation permit of the station is still valid, the Connection Offer is extended up to the expiration date of the Installation Permit²¹.

After the Connection Offer is formulated, the interested party shall submit a topographic diagram to the competent Operator, capturing the exact location of the station. One more clarification is needed to be made for power stations that are connected to the grid via a substation of medium to high voltage. In that case an extra certification of suitability of the installation area of the substation must be submitted²².

6.2.2. Environmental Licensing (AEPO) – 2nd sub stage

²¹ L. 3468/2006, article 8, paragraph 4

²² MD 11533/2007, article 6

Except for the request for a Connection Offer that is analyzed in the above subsection (See 5.2.2.), another vital and decisive stage is that of the assessment of the impacts the under evaluation project may have to the environment. This assessment is carried out through an Environmental Impact Assessment (EIA) that focuses in the prior estimation of the environmental impacts of the project with a view to suggest alternative solutions, give answers to any questions and possible objections and ensure the protection of the environment through the selection of the most advantageous technology. This assessment is followed by the issuance of an Environmental Terms Approval Decision (AEPO).

Regarding the legislative framework, the European Union has established a mix of mandatory and discretionary procedures to assess environmental impacts. The Environmental Impact Assessment (EIA) Directive (85/337/EEC) is in force since 1985 and has been amended three times, in 1997, in 2003 and in 2009: The initial Directive of 1985 and its three amendments have been codified in Directive 2011/92/EU of 13 December 2011. Directive 2011/92/EU has been amended in 2014 by Directive 2014/52/EU. In 2001, the issue was enlarged to the assessment of plans and programmes by the so-called Strategic Environmental Assessment (SEA) Directive (2001/42/EC). These EU directives have been incorporated into the Greek National Legislation with the Law 4014/2011. Additionally, the Approval of Environmental Terms is also governed by Laws 1650/1986, Ministerial Decision 1958/2012 and Ministerial Decision 15277/2012 regarding the Strategic Environmental Assessment (SEA).

According to article eight (8) par. 6 of Law 3468/2006, for the issuance of an AEPO regarding RES projects a complete file and an Environmental Impact Assessment (EIA) shall be submitted to the competent authority in consistent to the provisions of article 4 of Law 1650/1986, as in force.

In accordance with the first (1) article of Law 4014/2011 projects and activities of both private and public sector, whose construction or operation may affect the environment, are classified in two categories A and B, and each category is divided in subcategories according to the potential environmental impact.

In this respect, projects and activities of category A, which includes projects and activities that may cause very significant (sub-category A1), or significant (sub-category A2) environmental effects, are subject to the environmental permitting procedure and are required to conduct an environmental impact assessment and obtain a decision approving the environmental conditions. For the projects of category A, an

Environmental Impact Assessment and subsequently an Environmental Terms Approval Decision (AEPO) is required. The AEPO in other words is a prerequisite for any further administrative action regarding the implementation and operation of the project. The preliminary environmental assessment becomes optional and is called Preliminary Determination of the Environmental Requirements (PPPA by its Greek acronym)²³. For the subcategory A1, the competent environmental authority for environmental licensing is the Ministry of Environment and Energy (YPEKA), and the approval of environmental terms is made by its Minister, while for the subcategory A2, the decentralized administration is considered to be the competent environmental authority by virtue of a decision of its General Directorate. Finally, consistent to the provisions of Law 4014/2001, for each new project or activity of category A, it may also be requested, where required, a previous simple opinion of the Ministries of Culture and Tourism, of the Department of Archeology and the territorially competent Forestry Office for their area of competence respectively²⁴.

Those projects and activities on the other hand, which cause only local environmental effects are listed in category B and are exempted from the environmental impact assessment procedure. Instead, the aforementioned projects and activities are subject to Standard Environmental Commitments (SEC)²⁵, general specifications, conditions and restrictions, which are automatically granted by the competent authority based on the operator's declaration.

Complex projects that consist of many individual activities, are classified in the subcategory of the individual project or activity, which is expected to cause the most significant effects on the environment and therefore are classified in the higher category²⁶. In the event that a project or activity cannot be included in any of the listed categories of Law 4014/2011, it may follow the ranking of the nearest relevant project or activity by decision of the General Director of the Ministry of Environment Energy and Climate Change at request of either the entity of the project or the competent environmental authority²⁷.

In the event it is deemed by the competent environmental authority that there are effects to the environment causing significant environmental degradation, which were

²³ L. 4014/2011, article 2, paragraphs 1,2 and 3

²⁴ L. 4014/2011, article 2, paragraphs 4,5 and 6 and L. 3982/2011, articles 12,13 and 10 par. 3

²⁵ L. 4014/2011, article 8

²⁶ L. 4014/2011, article 1, paragraph 5

²⁷ L. 4014/2011, article 1, paragraph 6

not provided for in the EIA or the AEPO, then the environmental authority is entitled to impose Additional Environmental Terms, amend the initially approved environmental terms or request the elaboration of a new EIA.

6.2.2.1. Duration, extension and renewal of AEPO

The Environmental Terms Approval Decision (AEPO) is valid for ten (10) years, unless it is issued for a shorter period by a reasoned decision. AEPO's validity can be extended for four (4) years as long as they the European's Union Eco-Management and Audit Scheme (EMAS) as their Environmental Managements System, or for two (2) years concerning projects or activities with an ISO14001 or another similar Environmental Management System.

AEPO can be renewed one or more times for up to an equal time, provided the relevant application is submitted within six (6) months prior its expiration²⁸.

6.2.2.2. Exemptions from environmental licensing

It is already mentioned in detail (See paragraph 5.1.3., Exemptions from the obligation to obtain a production authorization), that RES or CHP plants fulfilling the criteria of article 4 of Law 3468/2006 are exempted from the obligation to obtain a production authorization by RAE. This exemption does not reveal power projects' owners from other required permits such as the Approval of Environmental Terms through a relevant decision (AEPO). However, there are some exemptions from environmental licensing that are independent of the obligation to be attained a production authorization or not.

More specifically, in accordance with article 13 of Law 3468/2006²⁹ photovoltaic power stations and wind turbines on buildings or other infrastructures or within areas with organized industrial activities are exempted from the obligation to proceed to the issuance of an Environmental Terms Approval Decision (AEPO). Apart from these categories, under the same simplified favorable regime may fall RES power plants that are installed on the ground provided that their installed load capacity does not exceed 0,5MW for geothermal photovoltaic or solar power plants as long as power plants using biomass, biogas and biofuels and 20kW for wind power plants. Power plants that fall under the above categories are exempted from the environmental licensing process

²⁸ L. 3468/2006, article 8 paragraph 7 and L. 4014/2011, article 5

²⁹ Combined with article 3 of L. 3851/2010

upon the issuance of a certificate by the relevant environmental authority of the Region concerned, stating that the RES station is exempt from such obligation.

By way of exception, RES power plants with an installed capacity that does not exceed the above limits is subject to environmental licensing and subsequently to the obligation to be attained an AEPO, if they are installed in or near areas of the NATURA networks, in coastal zones placed less than one hundred (100) meters from the shoreline, or if they are adjacent (at a distance of less than 150 meters) to another RES power plant of the same technology, installed in an adjacent land plot for which a production authorization, an AEPO or a Connection Offer has already been granted, when the total power of the plants of the adjacent land lots exceeds the above limits.

It is worth mentioning that projects or activities serving national defense purposes or ensuring rapid response to natural disasters are also exempted from the provisions of Law 4014/2011 regarding the obligation of prior environmental licensing. In addition to this, projects and activities the design and implementation of which is adopted by a special Law are exempted from the provisions of Law 4014/2011, provided that the special legislation that is applied respects and fulfills the provisions of Law 4014/2011 regarding the assessment of the environmental impact of the regulated projects or activities.

6.2.3. Permit for intervention in wooded areas – 3d sub stage

Another prerequisite for the issuance of an installation permit is, where required, a permit for intervention in forests and reforestable areas.

In compliance to Law 998/1979, as in force after its amendment by Law 4617/2019, any permitted intervention in forests, wooded lands, grasslands and rocky areas is considered to be an exceptional measure and is allowed only after the approval of the Secretary General of the relevant Decentralized Administration. The decision of such an approval is issued upon request of the interested party and is accompanied by an informative act of the forestry authority, which specifies the terms and conditions of the intervention. However, it should be noted that if the under discussion project is subject to an AEPO or SEC, the intervention permit is respectively integrated to them. In any case the installation of wind parks or other RES projects is not allowed within national parks, aesthetic forests and declared monuments of the nature.

After the approval of the intervention permit, the forestry authority indicates to the entitled party an area, preferable in the area of the execution of the project or adjacent to it, in which the latter is obliged to carry out a reforestation or afforestation of a land

having the same area as that, in which the intervention was approved³⁰. Apart from this obligation, the entitled body is also subject to a usage fee. It is pointed out that the State, Local Authorities and parastatal bodies are exempted from the usage fee³¹. The amount of the reforestation expense is deposited in favor of the Green Fund.

6.2.4. Installation Permit - Issuance, duration, extension, and revocation

Having completed the proceedings for the issuance of the abovementioned administrative and environmental permits (GCO, AEPO or SEC and permit for intervention in wooded areas) the interested party, namely the holder of the production authorization is entitled to request for an installation permit concerning the installation or expansion of RES power plants, submitting to the competent authority a file including the application for EPO accompanied by an EIA, a file including the AEPO, a file with the permit of intervention to wooded areas where required, a copy of the production authorization, a brief technical description of the project, the GCO and the topographic diagrams of the project.

As far as the competent authority is concerned, the installation permit is granted by virtue of decision of either the Secretary General of the Region, within the limits of which the power station is going to be installed, or the Minister of Environment and Climate Change for their area of competence respectively in compliance to the provisions of Law 1650/1986. The installation permit is granted within fifteen (15) working days from the completion of the supporting documents' evaluation and in any case within thirty (30) working days from the submission of the relevant application³².

The installation permit is issued only once, is valid for two (2) years and can be extended up to two (2) times at the request of its holder, provided that the following conditions are met: the extension is valid for two (2) more years if infrastructure or connection projects corresponding to expenses that exceed the 50% of the total costs have already been executed, if the Contracts regarding the supply of electromechanical equipment required for the implementation of the project have been concluded or if there have already been made some expenses exceeding the 50% of the total expenses calculated for the abovementioned supplies and finally, in case there is the obligation to conduct a tendering procedure for the implementation of the project. Furthermore, an

³⁰ L. 998/1979, article 45, paragraph 4

³¹ L. 998/1979, article 45, paragraphs 8-10

³² L. 3468/2006, article 8 paragraphs 1 and 2

extension for eighteen (18) more months can be granted, provided the expenses that have been made for the executed works covers 40% of the total investment cost.³³

Regarding the revocation of the installation permit the following are noted: the revocation of the production authorization by RAE (see 5.1.4. above) lead to the simultaneous revocation of the installation permit. In addition to this, in the event that no request for a trial operation of the power station has been submitted until the expiration date of the installation permit, the production authorization as well as any other administrative act or contract related to the concerned project shall cease to be applicable. By way of exception, the production authorization is not revoked if the executed works correspond to the 50% of the total investment cost. In that case, a new installation permit is granted and the production authorization is amended in a way that the projects becomes operational.

In the event that after the issuance of a production authorization the legislative and regulatory framework of spatial planning is amended, leading to the infeasibility of the installation of the power plant in the initially determined location, the licensee is entitled to request the modification of the project's location through the modification of the production authorization or the Connection Offer³⁴. The new location of the power plants shall be within an area of five (5) kilometers from the initial location.

6.3. Operation Permit

The third and last stage of the authorization procedure of RES or CHP power plants until they are put into operation is the issuance of an operation permit. The issuance of an operation permit however is preceded by some preliminary stages.

6.3.1. Network Connection and Power Purchase Agreements (1st sub stage)

After the issuance of a production authorization and an installation permit, the licensee submits to the competent Operator a request for the conclusion of a contract regarding the connection of the power station to the System or Network, provided that a final and binding Connection Offer (GCO) has already been granted upon its request. The Network Connection Agreement and the Power Purchase Agreement (PPA) constitute two distinct agreements and the conclusion of the latter is preceded by the conclusion of the Network Connection Agreement³⁵.

³³ 3 L. 3468/2006, article 8 paragraph 10, L. 4203/2016 article 1, MD 13310/2007, article 10

³⁴ L. 4203/2013, article 3

³⁵ MD. 13310/2007, article 9

6.3.1.1. Connection of RES and CHP power plants in the System or in the Interconnected Network as well as in the Network of Non-Interconnected Islands

With regard to the load distribution in RES and CHP power plants that are connected to the System or to the Network, except for the Network of NNIs, and provided that the security of the System or Network is not compromised, the competent Operator of the System or the Network is obliged to give priority to: a) available production facilities in which electricity is produced by RES regardless of their installed capacity, as well as to hydroelectric power plants with installed capacity of up to fifteen (15) MWe, b) available production facilities in which electricity is produced by CHP plants using RES and vice versa in combination with gaseous fuels regardless of their installed capacity and c) available production facilities in which electricity is generated by CHP plants but in a manner different than the abovementioned (under element b).

From 1 January 2020 the competent Operator of the System or the Network is obliged during the load distribution, under the prerequisite that the safety of the System or the Network is not endangered, to give priority to RES and CHP power plants connected to the System or Network except for the Network of NNIs provided that a) they are RES or CHP power plants with installed capacity or maximum power output not exceeding 400kWh, b) they are demonstration power plants installed by CRES, university or research foundations or institutes, for the duration of the relevant project. For power plants that are put into operation (normal or trial) from 1 January 2026 the installed capacity or maximum output limit is reduced to 200kWh³⁶.

As far as the Non-Interconnected Islands is concerned, the competent Operator is obliged to in priority absorb the electricity that is generated by RES power plants of producers or self-producers as well as Hybrid RES stations and then the electricity that is produced by CHP power plants and the surplus of the electricity produced by CHP self-producers. Regarding the load distribution, the competent operator gives priority to Hybrid RES power plants against other RES units³⁷.

It is noted that in cases where the prior issuance of installation and operation permits is not required, the connection to the System or Network request must be accompanied by a certification that proves the legal possession of the installation area, the AEPO and where required, a building permit³⁸.

³⁶ L. 3468/2006, article 9

³⁷ L. 3468/2006, article 10

³⁸ MD. 13310/2007, article 9

6.3.1.2. Power Purchase Agreement (PPA)

For the connection of power plants to either the System or Network or the Non-interconnected network in compliance to the above procedure, except for the Network Connection Agreement and after its conclusion, the competent Operator shall also conclude with the authorized producer a PPA. The PPA is valid for twenty (20) years, with the exception of solar thermal stations for which the agreement has a twenty five (25) validity period, and can be extended upon agreement of the contracting parties, provided that the production authorization is still valid. The PPA can also be modified by an explicit and written agreement between the contracting parties for reasons of harmonization with the legislative framework³⁹.

6.3.2. Temporary connection to the System or Network – Trial operation of the power station⁴⁰ (2nd sub stage)

After the implementation of the works that are required for the installation of the power station, the holder of the installation permit submits to the Operator with whom the Network Connection Agreement was concluded, a request for a temporary connection of the station to the System or Network, so as the necessary tests for the operation of the facilities are carried out. This request shall be accompanied by solemn declarations of the producer and the engineer stating that all works have been executed in compliance with the terms of the installation permit.

As soon as the request for a temporary connection is submitted the competent Operator shall notify to the holder of the installation permit a written notice regarding the terms and conditions of the temporary connection. Within twenty (20) days from this notice, and provided that the terms are fulfilled, the Operator shall proceed to the temporary installation.

Within twenty (20) (for stations that are connected to the Network) or thirty (30) days (for stations that are directly connected to the System) from the inspection of its premises, the producer shall send to the competent operator a Declaration of Readiness (DOR) and the latter, shall carry out within fifteen (15) days on-spot examinations and controls at the under discussion premises. After the successful control and under the prerequisite that the station has operated for fifteen (15) consecutive days without a problem, the competent Operator issues a certification

³⁹ L. 3468/2006, article 12 and MD 17149/2010

⁴⁰ MD. 13310/2007, article 14

verifying the successful completion of the trial operation and the complete execution of the installation works.

6.3.3. Operation Permit – issuance, duration, renewal etc.

Within twenty (20) days from the control regarding the compliance with the technical terms of the installation (during the trial operation) as well as the control ensuring the necessary operational and technical characteristics of the station’s equipment, that can be also carried out by CRES, an Operation Permit is issued upon request of the licensee. This request shall be accompanied by certified copies of the Network Connection Agreement and the PPA, a copy of a certification regarding the successful completion of the trial operation, a certified copy of the building permit, a fire certificate, a solemn declaration stating the compliance with the terms of AEPO as well as a copy of the assignment to the inspection of the station to an engineer and its approval⁴¹.

The Operation Permit is valid for twenty (20) years (25 for solar thermal power stations) and can be renewed for an equal time upon request of the interested party that shall be submitted at least three (3) months prior to its expiration. It should be noted that the duration of the Operation Permit cannot exceed the duration of the Production Authorization⁴².

It should also be mentioned that the Operation Permit can be modified upon request of the interested party. If there is a pending request for the modification of the Production Authorization, a request for the modification of the Operation Permit cannot be submitted.⁴³

A final observation should be made regarding the revocation of the Operation Permit that follows the revocation of the Production Authorization.

Wind parks on land per category of installed capacity $P_{installed}$

$P_{installed} \leq 20 \text{ kW}$	$20 \text{ kW} < P_{installed} \leq 100 \text{ kW}$	$P_{installed} > 100 \text{ kW}$
No Production Authorization or other relevant decision is required		A Production Authorization (issued by RAE) is required. The relevant application must be accompanied by certifications of the wind potential of the project.

⁴¹ MD. 13310/2007, articles 15-17

⁴² MD. 13310/2007, article 18

⁴³ MD. 13310/2007, article 19

<p>A request for a Connection Offer must be submitted to the competent Operator. The Operator grants a non-binding Connection Offer that becomes binding after the environmental assessment (where required).</p>	
<p>A certification of exemption from the obligation to be attained an EPO is required. This certification is issued by the Departments of Environment and Spatial Planning (“ΔΙ.ΠΕ.ΧΩ.”) of the relevant Region within 20 days (L.3851, art.3). By way of exception an EPO is required if the project:</p> <ul style="list-style-type: none"> a) is installed in or near areas of the NATURA networks, b) is installed in coastal zones placed less than one hundred (100) meters from the shoreline, c) is adjacent (at a distance of less than 150 meters) to another RES power plant of the same technology and the total power of the plants of the adjacent land lots exceeds the limit of 20 kW. 	<p>An Environmental Terms Approval Decision is required (AEPO). With the issuance of this decision, the Connection Offer becomes final and binding.</p>
<p>A Permit for Intervention in forest or wooded areas (where required) or general permits for the acquisition of the right to use the installation site of the project is required.</p>	
<p>Wind turbines on buildings or other infrastructures or within areas with organized industrial activities are exempted from the obligation to proceed to the issuance of an Environmental Terms Approval Decision (AEPO). (L.3468/2006, art.8, as amended by L.3851/2010, art.3, §2)</p>	
<p>No Installation Permit is required.</p>	<p>An Installation Permit is required.</p>
<p>No Building Permit is required. Instead an Approval of small-scale works by the competent department of the Directorate of Planning is required (L.3851/2010, art.9, §8). A Network Connection Agreement is required. A Power Purchase Agreement (PPA) is required.</p>	
<p>No Trial Operation is required. No Operation Permit is required. (L.3468/2006, art.8, as amended by L.3851/2010, art.3, §2).</p>	<p>A Temporary Connection for a Trial Operation is required. After the successful operation for 15 consecutive days the competent Operator issues a certification verifying the successful completion of the trial operation (MD.13310/2007, GG.B’1153, and art.14). An Operation Permit is required.</p>

Table 2:

Source: <http://www.desmie.gr/ape-sithya/adeiodotiki-diadikasia-kodikopoiisi-nomothesias-ape/periechomena/aiolika/>

6.4. Conclusions

It is obvious that the licensing of a RES power plant is a complex multilevel and time-consuming process with aspects of both administrative and environmental nature.

Explanatory in most of the cases and especially to those regarding the environmental licensing, the required procedures are extremely time-consuming and it is commonly observed that even the time limits that are set forth in the relevant legislative framework are exceeded. Apart for the fraction of the legal time limits, the chronological order of the subsequent stages is also infringed. In practice, an interested party can simultaneously proceed to the necessary actions for the issuance of both administrative and environmental permits without a predefined chronological order. Moreover, the bodies involved are too many, which in turns slows down the licensing of vital to the national economy projects.

Finally, it should be taken into consideration that the Energy Law is a firm regulated branch of Law. Every stage of the licensing procedure of a power plant is immediate interlinked with the issuance of an administrative act that can be challenged with legal remedies (application for annulment, appeal etc.). As a result the final time limit within which the project must be completed may be extended. Despite the time delay, this is the only necessary and appropriate measure to safeguard the adequate and effective judicial control and protection.

7. Epilogue – the geostrategic importance of Greece’s position

Energy is well known to be not only a very important geoeconomic tool, being a commodity to be traded internationally, but also a very important strategic weapon, that can be used in various different ways to achieve both economic and foreign policy objectives. For a century the fossil fuels have been the leaders of the energy sector. However the gradual awareness on environmental issues and the necessity to protect the environment by reducing the levels of carbon dioxide emissions into the atmosphere, have brought the issue of renewable energy to the forefront. The main renewable energy sources are bioenergy, geothermal, hydropower, ocean, solar and wind, with the last two underscore a very rapid growth. The radical energy transition redefines the geopolitics and the global energy economy. The expansion of renewables has increased the demand for rare earth elements. This evolution, in its turn, creates new challenges for the international community by redefining the geopolitics of energy and underlying, once more, the dependency of human civilization on the natural

resources. The new geopolitics of renewable sources and rare earth elements arise as the main components of the new international energy puzzle.

The geographical position of Greece in the southeastern side of NATO is a geostrategic fact that cannot be ignored. In addition to this, the strategic position of Greece at the crossroads of three continents (Europe, Asia, and Africa) also makes it the leading transit station for energy. Greece is considered to be a country of high geostrategic importance for both NATO and the European Union due to its islands that have enormous geostrategic value. Given its position between Europe and the Middle East Greece offers the opportunity to foreign investors for geopolitical impetus.

Greece is a country with a long coastline and a huge number of islands. Therefore, the strong winds that blow mainly in the island and coastal areas give special importance to the development of wind energy in the country. The exploitable wind potential is estimated to represent 13.6% of the country's total electricity needs.

The Greek legislator, following the requirements of the European legislator, amended the existing legislation in order to bring RES into the country's energy balance. As described in detail, the legislation relating to the licensing of wind parks is quite complicated and often includes long and time-consuming administrative procedures that are often proved to be ineffective. Nevertheless, there is a significant increase in the wind generated electricity in Greece.

In 2019 our country recorded a series of impressive performances and records in the sector of wind energy, as the new parks that were put into operation were more than any other year, almost four times the annual average of the previous decade, resulting in the power of wind farms at the end of the year to exceed 3.500 megawatts.

Total capacity to the grid (MW) per year

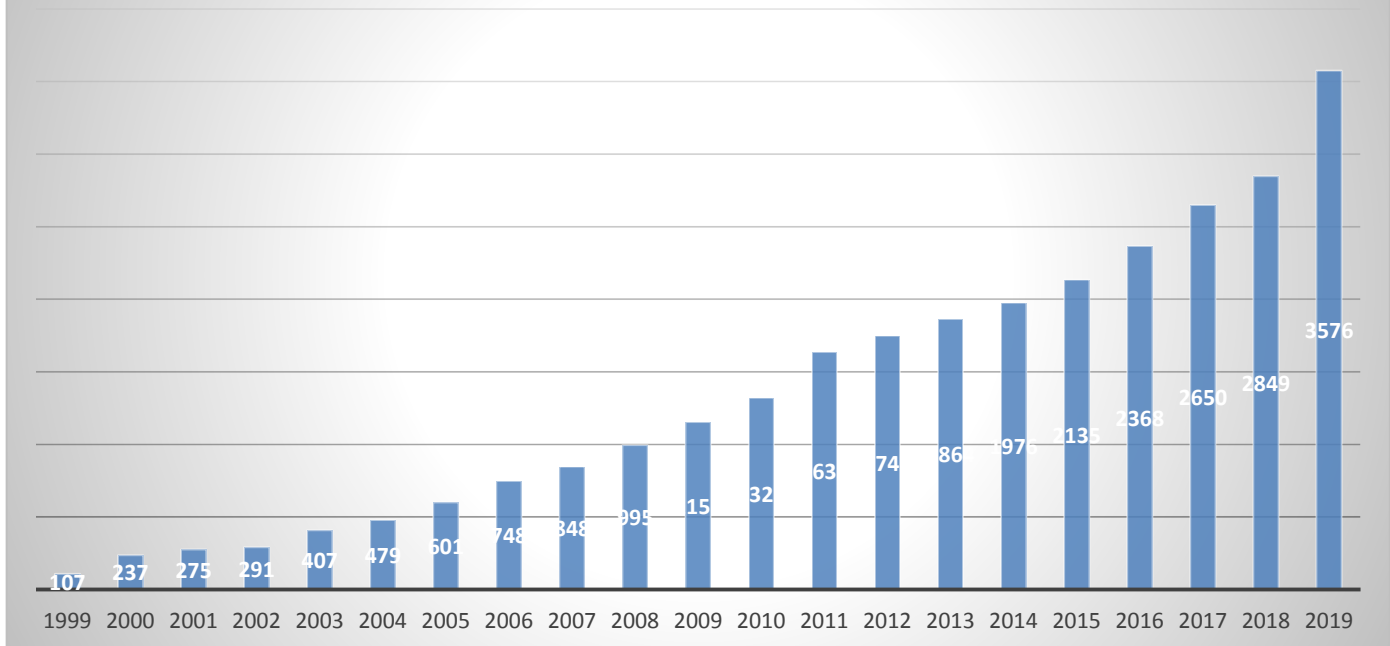


Figure 2⁴⁴

Source: <https://eletaen.gr/hwea-wind-statistics/>

More specifically, according to the Statistics of Wind Energy for 2019, the Hellenic Wind Energy Association (HWEA or ELETAEN by its Greek acronym) announced that, in 2019: Most new wind farms (727.5MW) have been connected, nearly four times the annual average of the previous decade (185MW).

The largest single complex of wind farms (154.1MW) was connected in southern Evia in the area of Kafireas.

PPC has completed the radical renovation (repowering) of the first seven wind farms with a significant reduction in the number of wind turbines. At the site of 62 old wind turbines were installed 15 new ones.

Wind turbines with rotor blades with the largest diameter in Greece (136 meters) were installed in Kozani.

The first Hybrid Power Station of power generation using wind energy and storage in electric batteries was put into commercial operation on the island of Tilos and the first

⁴⁴The HWEA Wind Energy Statistics take into account the wind capacity which is in commercial or test operation in Greece and are based on sources from the market actors.

Hybrid Power Station with pumping storage is already in trial operation on the island of Ikaria.

At the end of 2019, the total number of wind farms in commercial or trial operation was 3.576,4 MW. This power is increased by 25.4% compared to the end of 2018. It should be mentioned that 43% of these windmills belongs to foreign investors, while especially in 2019 from 727.5MW, the 47% of the investments were made by foreign investors.

At regional level, Central Greece remains at the top of wind farms, hosting 1,311 MW (36.7%), followed by the Peloponnese with 587 MW (16.4%) and Eastern Macedonia - Thrace with 466 MW (13%).

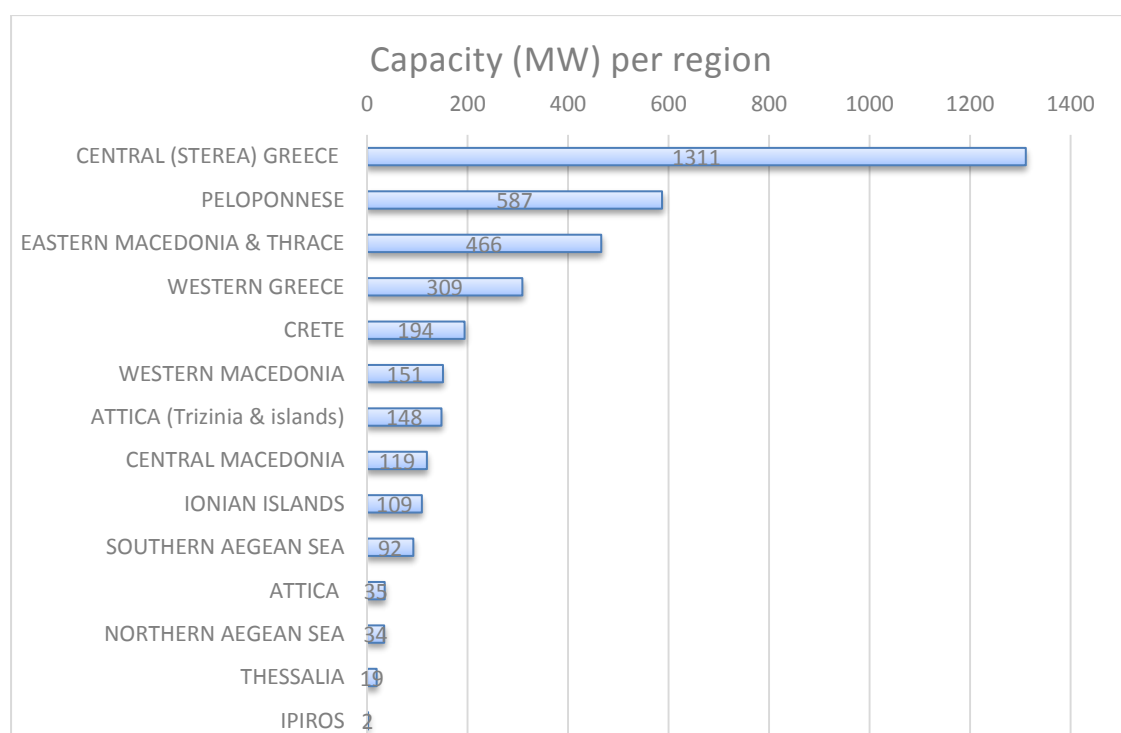


Figure 3
Source: <https://eletaen.gr/hwea-wind-statistics/>

This success is a result of the long-lasting effort of the professionals, the scientific world and the businesses correlating to wind energy that studied, developed, funded and constructed the new projects. In most of the cases these efforts lasted more than ten years. Therefore, it should not be assumed that the repetition of this success is a given for the coming years.

In summary, an emphasis should be given in the importance of the increase of RES in the energy mix of our country. The development and evolution of this sector will ensure

for the next generations a healthier environment, a better quality of life and will enhance our environmental awareness. Especially, the penetration of RES in the island of the Aegean and the Ionian Sea and in Crete will contribute to addressing the energy problem of these areas and at the same time will contribute to maintaining their beautiful and unique ecosystem. Last but not least RES constitute a whole industry that entails large investments.

For these reasons, the support of RES is considered to be vital. The further simplification of the licensing regime shall also be deemed necessary as well as the reduction of the time required for the licensing of wind parks, which often exceeds a decade. At the same time we should promote out-of-court methods for settling any disputes that may arise. A clean legislative and licensing regime is the key that will attract both foreign and domestic investors. Wind parks can co-exist with the human and the nature ensuring a sustainable development. It is up to all of us, not only as a European whole but also as a country separately, to contribute to the development of this field.

The vision of Greece should not be to just reach the EU's targets but to place our homeland at the forefront of Europe, to make our country an exporter of green energy, make use of our rich natural potential and contribute to the geostrategic upgrade of Greece in the energy game of the south-eastern Mediterranean.

“To truly transform our economy, protect our security, and save our planet from the ravages of climate change, we need to ultimately make clean, renewable energy the profitable kind of energy.” - Barack Obama

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