CRITICAL REVIEW OF THE INSTITUTIONAL FRAMEWORK FOR RES IN GREECE: WIND FARM SITING POLICIES AND CASE STUDY

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ABSTRACT

Since Renewable Energy Sources (RES) are considered to be a sustainable solution to the environmental problems and many countries have formed National Action Plans (NAP) targeting increased RES contribution to primary energy demands, they have experienced strong growth. However, researchers consider restrictions on siting as a barrier of RES development. The present study deals with the institutional framework for Industrial RES installations, applied in Greece. More specifically, the question is whether it boosts the environmental protection and serves social interests or it supports RES as financial investments, looking for profit maximization, under the existing market rules. Study focuses on wind power, as its' participation in the electricity production will be more than 50% until 2020, according to the NAP. To enlight on the questions raised, the case study of a wind farm at 'Vermio' mountain region, is going to be analysed. The project has already been environmentally approved and is under construction. The very first finding is that the existing legislation is fragmented. Trying to be harmonised with the European directives, it doesn't take into account the country-specific needs. Additionally, during the years of economic crisis, for reasons of 'overriding public interest' the existing legal protection frame for vulnerable areas collapsed. At the same time, RES investments are highly subsidised and have secure profits. However, consumers pay the high energy cost, while installation areas and local communities are slightly benefited.

Keywords: Renewable Energy Sources, wind farm, institutional framework, Mount Vermio, environmental protection, societal benefits

1. Introduction

Conventional power generation is considered to be a highly polluting activity, having severe impacts on natural and human environment. Renewable Energy Sources (RES) address climate change by providing a non-polluting source of energy. Therefore, under the Energy Efficiency Directive (2012/27/EU), EU Member States (MSs) are obliged to draw up National Energy Efficiency Action Plans, outlining how they plan to increase renewable energy penetration levels (on electricity). Unfortunately, during the past few years of economic crisis in Greece, there has been a gradual weakening of the legal protection of environmentally sensitive areas through the abolition of the minimum RES siting restrictions (Κλαμπατσέα, 2012). RES power plants can be installed in forests, reforested and protected areas. At the same time, local communities appear to derive meagre benefits.

2. Methodology

The present paper aims to study the institutional framework in order to shed light to distortions and gaps on siting, licensing and decision making process, and evaluate the public welfare of RES projects. The study is based on two research pillars: The first one is a decoding process of the institutional framework for industrial RES and highlights critical issues concerning environmental protection and social benefits. The study focuses on wind energy production, as wind farms are of key importance in reaching the national target '20-20-20', as defined in Law 3851/2010. The second pillar discusses a wind power plant that has been licensed and is going

to be installed at Mount 'Vermio'. That large-scale renewable energy investment will be used in order for locally occurring contradictions and inequalities to emerge.

3. European and National Institutional Framework

Environmental protection has been a statutory objective of the EU since the Single European Act and was for the first time associated with the economy in 1987, in the light of 'sustainable development'. According to Maastricht treaty, signed in 1992, environmental protection, economic development and competitiveness have a positive association. The Single European Energy Policy (2007) sets the promotion of energy efficiency, energy conservation and the development of renewable energy sources as its main objectives[1], while two years later, Directive 2009/28/EC is the first to set binding energy targets for MSs to be fulfilled by 2020, requiring National Action Plans development.

In terms of legislation, energy production from RES was first introduced in Greece in 1994, by Law 2244/1994, establishing the licensing process. Under Law 2773/1999 green electricity production has both priority access to the network and favourable pricing. In 2001, by Law 2941/2001, RES facilities were characterised as 'public utility works' and wind farm siting was permitted in forested land and woodlands. Under Directives 2001/77/EC and 2004/8/EC, incorporated in Greek legislative framework by Law 3468/2006, national targets for increased participation of RES produced electricity in the energy balance had been set but not achieved. It was not until 2008 that the 'Special Framework for Spatial Planning and Sustainable Development for Renewable Energy Sources (RES-SFSPSD) was adopted, with a view to making policies for RES plants siting process in the form of rules and criteria.

Law 3851/2010 'RES development acceleration to address climate change [...]' was established during the economic crisis in Greece, in order to simplify licensing process and incorporate Directive 2009/28/EC in the Greek law. The last one establishes an overall EU binding target of a 20% share of renewable energy sources in energy consumption, as well as binding national targets by 2020 (20-20-20) in line with the overall target. According to the Greek Action Plan for RES, wind power is expected to produce more than 50% of the total green energy.

It is obvious that the national policy on RES is clearly oriented towards the development of large scale renewables, projects of dubious environmental compatibility (Morrison and Sinclair, 2004) that have nothing to do with the spirit of sustainability. At the same time, this model preserves the perverse idea that rural regions must bear the weight of feeding urban areas with natural resources, without obtaining any benefits (Katsoulakos *et al*., 2010). Additionally, a significant failure of the Institutional Framework is that it doesn't include any energy saving measures by applying consumption reduction and natural resources management, which is the very core of sustainability.

An integrated energy policy mecessarily entails the recording of national ,local and sectoral energy needs (domestic, industrial, tourism, trade, transport, etc.), and the specification of any exclusion and priority areas for power plant siting, in order to protect the natural and human environment. Instead, what actually happens is the uncritical incorporation of European Directives into the national legislative framework, without taking into account the geological, geomorphological, ecological, cultural and economic specifics of the country, perpetuating the energy and environmental problems of the country.

3.1. Wind farm sitting policies

As mentioned before, the aim of RES siting policy should be the formulation of a clear framework, using spatial criteria, to facilitate the development of sustainable RES facilities, integrated into the natural and human environment, at a local level. More specifically, the present study focuses on wind power plants, as wind energy plays a key role in power industry.

[1] Consolidated version of the treaty of the functioning of the European Union, Official Journal of the European Union, vol. 55, 26 October 2012

The SFSPSD-RES introduced in 2008, withdrew the prohibition of RES installation in forested land, woodlands and seashores, a process that had already started in 2001 and was accelerated in 2012 by Decision 2499/2012 of the State Council. The above decision is considered to be unconstitutional, as it contradicts paragraph 4 of Article 117 of the Constitution of Greece: The expropriation of forests and forest expanses owned by individuals or by private or public law legal persons shall be permitted only in cases benefiting the State, [...], for reasons of public utility; [...].

Forest legislation facilitates these actions too, at it has granted RES projects a status equivalent to military projects. What happens is that any company can apply to the Forest Service for a formal land use characterisation (forested area or not) of any area, anywhere, regardless of the ownership status. By the time an area is classified as a forest, it is managed as public property and, in the case of wind farms, is rented for a token fee. For all the above reasons the vast majority, around 95%, of wind farms in mainland are located in forested land (GWEA, 2010).

Another SFSPSD-RES contribution to lessening environmental legislation is that 'Special Protection Areas' (SPA) of Natura 2000 network can accommodate RES facilities. Due to the aforementioned reasons, Greece is held accountable in the EU, following the no. 2014/4073 warning letter. In addition, Article 8 of Law 3851/10 amended Law 1650/86 'on the environmental protection' in order to be in accordance with unlike SFSPSD-RES provisions. It is clear that the existing legislative framework gives priority to attracting green investments rather than to protecting sensitive areas and it is proved by the fact that SFSPSD-RES defines clearly priority areas, as those of high wind energy potential, without clarifying which are the protected area to be excluded (CES, 2008).

Another issue raised is the binding nature of space planning tools and their relationship. More specifically, the definition of priority areas should be the subject of subordinate design tools (RPSDF and GUP/PSSOOP)[2], under SFSPSD-RES. The last one should provide strategic policy guidance without being absolutely binding (Chaintarlis, 2012), not to mention to predetermine the wind power plants installation areas (Soubasis, 2010).

All in all, over the past few years and in which there was an ' emergency state' (Athanasiou, 2012), a number of fragmented Laws enacted, undermining the existing legal protection of Greek nature and challenging the limits of constitutional legality. Apart from the already mentioned legislation, Law 3894/2010 on 'Acceleration [...] of Strategic Investments', also known as the 'Fast Track Law', can potentially include the construction of any project deemed to be of 'major importance' for the national economy, and bypass all existing laws and restrictions raised therein.

3.2. Licensing Process - Environmental Terms Approval

The Environmental Terms Approval (ETA) is a compulsory process for the authorization of wind power plants larger than 100KW capacity as well as parks which are to be installed into sensitive areas. The competent authority comes to a decision whether to grant permission or not, within 4 months, in accordance with Article 8 of L.3468 / 2006 and Article 3 of N.3851 / 2010, considering the environmental impacts of the project, under the Environmental Impact Study (EIS) submitted by the applicant. The Special Environmental Service of the competent Ministry (MRPEE)[3] is in charge of the transfer of documents to a number of bodies in order to provide advice on the issue in question, within a period of 40 days. Their opinion is advisory, not binding on the MRPEE, which is the decision maker. In case they do not respond in time, the approval is granted without their opinion, a fact that devalues the meaning of consultation and prevents operators from participating in the process (HTSO, 2014).

4. Case study of the Wind Power Station at Mount 'Vermio'

The installation project of Wind Power Station (WPS) at mount 'Vermio' has already been approved and will be used to shed light on the environmental and spatial-social issues as well as

[2] Regional Planning and Sustainable Development Framework (RPSDF), General Urban Plan (GUP) and Plans of Spatial and Settlement Organization for Open Cities (PSSOOP).
[3] Ministry of Reconstruction of Production, Environment and Energy (MRPEE).

the applied siting policies and consultation process used. The total power of the plant will be 465MW of installed capacity, which makes it one of the largest wind farms in Europe.
According to EIS, the wind farm occupies the area of approximately 17,000 acres in a mountainous region of Imathia and Kozani, Greece. Some 24 of the 155 wind turbines are expected to be sited into the European ecological network Natura 2000 (SCI- GR1210001), which is considered to be an exclusion area, according to legislation. There are two major concerns about the project that should be mentioned. The first one is the land-use conflict that will occur between the future wind power plant and the existing tourism facilities of the surrounding area[4]. The second one is the considerable intervention to the natural environment that will occur after the extended road construction for the transportation and installation of wind turbines, as ETA mentions.

4.1. Environmental and Socio-Economic Impact

To begin with, the wind farm is expected to alter the landscape and have a negative impact on terrestrial ecosystems. The technical works, such as the road construction will cause land fragmentation, having negative consequences to living conditions of the fauna, animal migration and the land-use change from mountain meadows and pasture lands to an energy production zone. The already overexploited area, where a great number of lignite plants are located, is once again granted to investors, for green energy production this time. This practice is not consistent with a balanced distribution of power production throughout the country.
The WPS at mount 'Vermio' is considered to be a large-scale investment project. However, there is a number of incentives given to make the investment more appealing, such as tax exemption, high subsidies, priority in absorption of the electricity produced by the network and the high selling prices. On the other hand, consumers' purchase price is high, as they are asked to pay RES taxes.

The existing legislative framework[5], provides countervailing benefits to the hosting local community, corresponding to 3% of annual revenues. The 1% of the total amount is granted to consumers as electricity bill reduction. A comparable amount is given to the corresponding municipalities involved. In the case of mount 'Vermio' wind power plant, there are three municipalities involved. The last 0.3% is awarded to the 'Green Fund' which is supposed to promote the development of green projects. Unfortunately, this is not going to happen as, according to Law 4024/2011, 95% of the fund's money is bound by the national budget. Finally, as mentioned above, the local municipality and public forestry do not benefit from the lease of the forested land as investors pay a token amount of money.

As for the level of participation of the local community at the decision making process, it is worth mentioning that the final Ministerial grant was given to the project, despite the fact that Municipality of Naoussa had rejected the EIS as incomplete.

5. Conclusion

The first finding of the study is that national energy policy emanates from the European directives, without taking into account the particularities of the application countries. Going down to national level, the lack of planning leads to unequal contribution of subregions to energy production. The case study used illustrates the argument clearly as a forested land, part of it belonging to Natura 2000 network, is planned to produce large amount of energy, to be consumed in areas of high demand.

Additionally, the current institutional framework doesn't include precautionary measures to prevent the environmental problem, namely energy saving and rational use of natural resources. Instead, there is an overproduction of 'clean energy' and a crave for large-scale applications. Vast areas of the mainland are characterized as 'Priority areas' for wind farm establishment, without a clear exclusion of the environmentally sensitive areas or setting environmental priority criteria to siting process. The case study shows that yet another one already ecologically compromised

[4] Decision 274/2012 of Naoussa City Counsil (no. 12/30.07.2012 meeting).
[5] Article 7 of Law 3851/2010

region is assigned, once more, to accommodate rapid growth of green energy production activities. The implementation of RES policy burdens the national budget, the HTSO and the consumer. Local communities are effectively excluded from the decision making process while there is a mismatch on the amount of compensation paid to host communities by facility developers' reciprocal benefits. It became increasingly apparent that the concept of 'public interest' is abused in order to serve private interests. Accordingly, the government uses the institutions and the legal framework in order to put the private interests above the public ones, having negative impacts on the environment.

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