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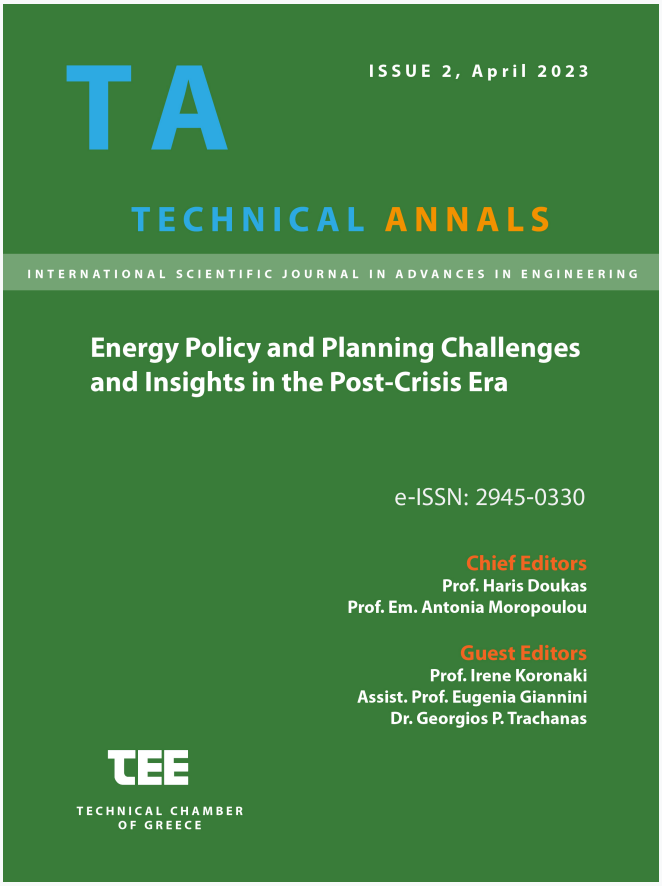

The Hellenic landscape and the renewable energy sources: A social survey (2022) and some considerations

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The Hellenic landscape and renewable energy sources: A social survey (2022) and some considerations

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Abstract. The aim of this paper is to underline the urgent need for the further penetration of renewable energy sources in Greece and the consideration of related problems regarding the natural environment, the archaeological sites, the traditional architecture, and the existing contemporary urban environment. Some references to the theoretical approaches of the subject of environmental Aesthetics are also mentioned. The method to achieve conclusions has been a social survey of the opinions of Greek people, regarding their surrounding environment and the application of renewable energy sources. Concluding, the economic factor proves to be very important, primarily at the individual level and then at the social or national level, while the aesthetic factor seems to follow the economic one, being also very important.

Keywords: environmental aesthetics, environmental psychology, Survey, renewable energy sources, environment

1 Introduction

It is known that Plato was the first in "Kritias" to complain about the alteration of the natural landscape of Athens both by intense natural phenomena, and –especially – by the human activity of logging for building purposes: "…χρόνος δ'ου πάμπολυς, ό'τε δένδρων αυτόθενεις οικοδομήσεις τας μεγίστας τμηθέντων στεγάσματα..", op.cit., III D (… it has not been a long time, since trees around Athens have vanished, in order to construct the roofs…). And at the same time he mentions the climate change: "… γην δε άριστην και ύδωρ αφθονώτατον εχόντων, και υπέρ της γης ώρας μετριώτατα κεκραμένας…", op.cit., III E (before sometime, the land was excellent, we had plenty of water, and the weather was better…).

The problem of intervention and alteration of the natural landscape by man is not new, nor even particularly recent. From the Pyramids to Mexcaltitan and from Cappadocia to the Amazon forests, man has always intervened in the natural landscape, even invoking the idea of "Monument" or "human needs". The problem has of course grown since the so-called "industrial revolution". The needs for both energy and concentrations of workers and consumers, have led to the current state and situation. Factories, dams, pipelines, power stations and transport networks, transport axes, quarries and logging,

and of course cities and towns, strongly demonstrate the alteration of the natural environment.
Nevertheless, energy needs are constantly increasing, resulting in the depletion of natural resources and the increase of pollution. The need for a shift to renewable and non-polluting energy sources has been emphasized since 1973 (first oil crisis and "The Limits to Growth" [11]. In Greece, we are dealing with natural gas and lignite while Rifkin [15] during an interview has stated that "…your country with so much sunshine and so many winds, I do not understand how it is not energy independent...".

1.1 The background

Several famous Greek architects have mentioned the destruction of the Greek landscape by human interventions. Dimitris Pikionis with "Γαίας ατίμωσις" (The disgrace of earth [13]), "The meaning of each building lays(for Pikionis) in absolute relation to the earth's surface, and as soon as the earth suffers anything, the meaning is erased from the buildings, or else, his architecture was distorted" (Lorentzatos[10]). And Pikionis says: "But the needs? You will ask me. Those who ask the question know very well that it is not the absolute necessity, per se, that is the cause of the disaster.", (Gaias Atimosis, op.cit). And also Aris Konstantinidis [6] blasts those who "... They want to impose themselves 'artistically' with ostentatious constructions, in order to amaze a consumers' society that seeks, unthinkingly, any stimuli to overcome its boredom, as well as its illiteracy and lack of any intellectual culture."
The references cited are based on our classical education for beauty. Aristotle had already stated in his "Rhetoric": "Καλόν εστίν, ο αν δι αυτό αιρετόν όν επαινετόν ή" (it is good, if it is per se elected and admired) and "ο αν αγαθόνον ηδύ η ότι αγαθόν" (nice is that which, by being good, is pleasant) and in the "Meta ta physica", he mentions the elements of beauty: "τάξις, συμμετρία, ορισμένον, πεπερασμένον" (order, symmetry, defined, finite). Thomas Aquinatus redefined later the determination of aesthetically good as wholeness, harmony and clarity (integritas, consonantia, claritas , in "de veritate").
Of course, as J. Joyce [5] points out "fire is good as it warms us up. When it burns us, it's hell". And that helps us wean ourselves off the "pulchra sunt quae visa placent" (St. Thomas, op. cit.), and helps us to relate to usability, to satisfy human needs... Let's also remember Vitruvius who emphasized the concept of Utilitas (utility) along with firmitas (solidity) and venustas (beauty).
Moving on to P. Michelis[12] we find that: "Modern Greek society is far from nature and in contrast to it. It tries to tame it first with technical works, bridges, roads, etc., which will later only allow it to overcome what is practically necessary and glorify ... the "kitsch". However, always seeking the problem of the relationship between utilitarian necessity and aesthetics, we must cite the predicate of Arnold Berleant [3]: "We cannot, in valuing the environment, refer to an object... The usual tactic of contemplative admiration must be replaced by the interactive relationship that entails evaluation".
The approaches to the relationships and interactions between man and the space that surrounds him, apart from our classical education, about which just a little has been mentioned above, are covered analytically by phenomenology, semiotics, deconstruction and in particular by Environmental Psychology, that has left the study of personal

aspects in vitro, and studied them in situ, in the everyday surrounding environment (cf. Kosmopoulos, 2000).

1.2 The current situation

The problem of positions and attitudes towards the new morphological imperatives of the applications of RES in our country is already appearing, and will become more acute with the need to expand these applications because of the recent energy crisis. Photovoltaics in Zagorochoria and Mystras? Wind turbines on the Acropolis and Lycabettus Hill? Traditional settlements, listed buildings, proximity with archaeological sites, natural areas of particular beauty, will definitely trouble us. Personally, it has been a shock when, many years ago, we saw in a village in Austria the bell tower of a church dressed in photovoltaics. How will the modern Greek react? People need electricity in Delphi, but they do not accept to see The Phedriades covered by photovoltaics and wind turbines. On the one hand, the need for independence from imported energy, for economic benefits, for minimization of ecological destruction. On the other hand, the need for morphological intervention. And at the same time, the major economic interests and the micropolitical local businessmen and politicians, who all these, through the dominant media, intervene, influence and determine, Attitudes and Perceptions towards the problems, shaping the "Public Opinion".

2 Method

Before the legislation of the new measures for the expansion of the applications of RES, we completed a survey at a national level on the public's attitudes on this issue (October 2022 – January 2023, 987 questionnaires).The research aimed both at investigating the public's awareness of RES, and -in particular- at attitudes towards morphological interventions at the landscape.

2.1 The Survey results

We present below some important points from the survey:
Sex: Male53.32%, Female46.68%
Age groups: 18-25 6.92%, 26-40 31.28%, 41-60 32.49%, 61 and above 29.31%
Educational level: Compulsory Education 0.80%, Lyceum 1.20%, College 22.65%, University degree41.11%, Master - Ph.D. 34.24%

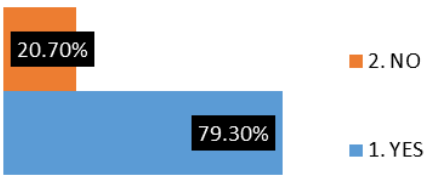

Fig. 1. Do you know that our country depends greatly on imported fuels (oil and gas) in order to have energy?

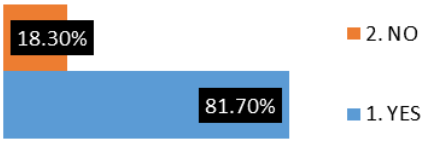

Fig. 2. Do you know that photovoltaics and wind turbines produce electricity, do not pollute the environment and do not depend on imported fuels (oil and gas)?

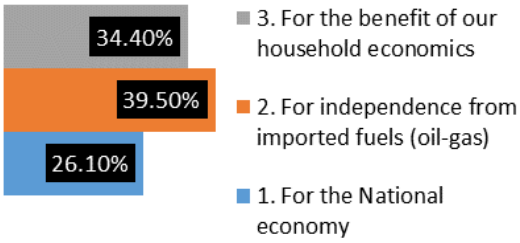

Fig. 3. Do you think that in our country large scale photovoltaic parks and wind turbine parks have to be installed? IF YES

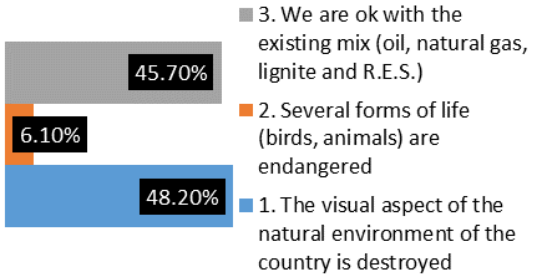

Fig. 4. Do you think that in our country large scale photovoltaic parks and wind turbine parks have to be installed? IF NO:

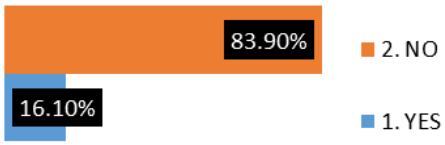

Fig. 5. Do you think that large scale installations of PV parks and WT parks negatively affect or destroy the aesthetics of the natural environment and/or of the buildings?

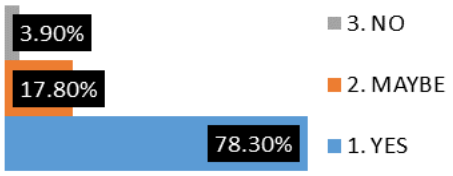

Fig. 6. RES installations should be placed away from agglomerations, tourist attractions and protected natural areas.

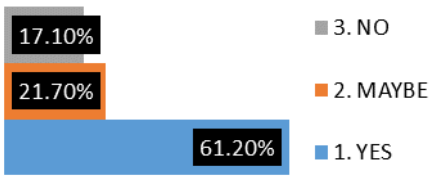

Fig. 7. Do you think that turning to RES (photovoltaics, wind turbines etc.) and the independence from oil/gas/lignite will reduce extreme weather phenomena attributed to the climate change?

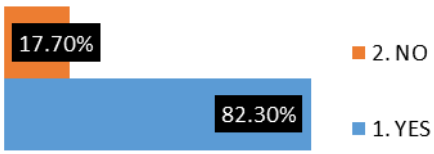

Fig. 8. Do you think that photovoltaics and wind turbines have to be applied at your house (either existing or under construction)?

Fig. 8.1. IF YES, what is the reason?

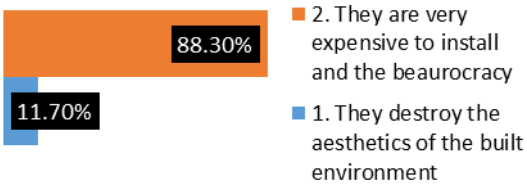

Fig. 8.2.IF NO, what is the reason?

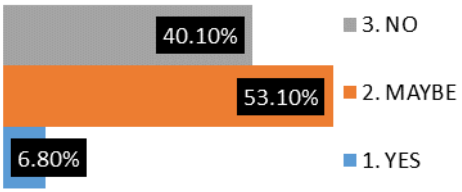

Fig. 9. Do you think that the possible exploitation of fossil fuels in our country (sea, land) will harm the natural environment?

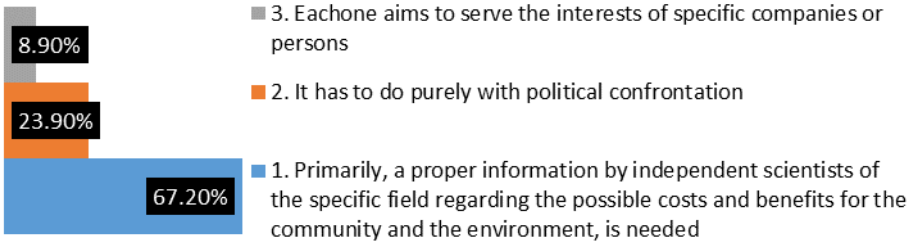

Fig. 10. What do you think about the usual disputes regarding the location of the installation of large-scale projects of RES between each central government and the local authorities, communities and/or any opposition parties?

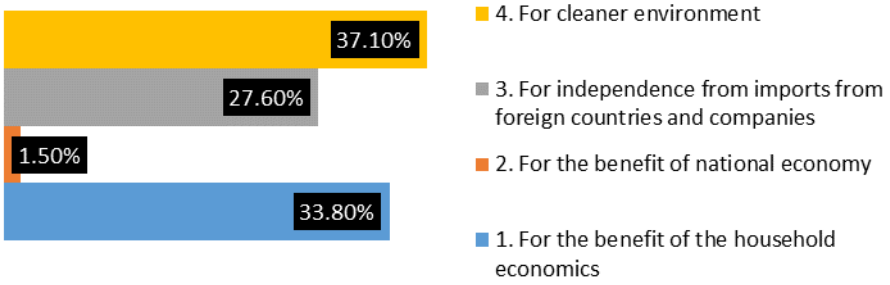

Fig. 11. Finally, the reason you wish the installation of RES is:

The answers of the participants offer a clear and very interesting view of how nowadays Greek people face the subject of the RES application at both small and larger scale, especially after the recent and urgently needed independence from traditional energy sources.
Relative researches on this subject have been carried out by our team and Laboratory, during the past years, long before the almost obligatory implication of RES in our country. Recently the legal framework regarding RES changes from month to month, according to the international and European conditions. It is obvious that the opinions of the people have changed over the last years. It has also been emphasized by the respondents (67.20%) the need for proper information by independent scientists about the costs and benefits of the installation of RES applications.

3 Conclusions

1) It turns out that there is a satisfactory level of public information, which is mainly attributed to the media (television, social media, newspapers, magazines, radio).The economic factor proves to be very important, primarily at the individual level and then at the social or national level.
2) The aesthetic factor seems in principle to follow the economic one, but without being indifferent.
3) At the building level, there is concern about the integration of new elements into the already existing/given forms of the shells. Problems will certainly be encountered in traditional buildings, settlements, and proximity with archaeological sites. In the case of new buildings, the integration of RES seems to be easier.
4) At the suburban and rural environment, due to the size of the required facilities, the problems are more complex. The need for RES is acceptable, but fears are expressed about the alteration of the landscape. Especially emphasized is the NIMBY syndrome (not in my backyard): “to exist but not to see them”.
5) Also, on a general level, it turns out that the immediate economic benefits can bend some aesthetic concerns.
6) It turns out that the modern "social aesthetic perception", in addition to the ways of its affection, will have to face with "utilitarian" concerns and satisfaction of needs, both domestic and national.

4 Remarks

There is a possibility of dealing with problems similar to the sites of waste disposal fields, which for 30 years have been proposed and transferred from place to place. There is a conflict of aesthetic tradition habit with the new morphological imperatives, which overlaps with economic and environmental benefits (sudden revelation: identification of the two factors; the beneficial and the useful).It is good to remind us of the saying of L. Sullivan [16] “Form Follows Function”, at least as far as building envelopes are

concerned. Let's not forget, of course, that Socrates was the first to underline that his ugly nose is "nice" because it absorbs the air better...
The absolute need for Study and Design arises for proper integration of the RES into the landscape (either natural or man-made) to prevent destruction or degradation of the environment.
We believe that remembering in combination the basic positions and views on the aesthetics of space and the environment, mentioned in the first part, can lead us in the best possible way to shape the needs of the modern built environment.
In conclusion, during the phase of planning of the installation of RES, it is good to remember Aristotle (op. cit.) who, between Lack and Exaggeration, emphasized the need for the Golden Mean or Medium, as well as Umberto Eco [4] who in his commentaries on the aesthetics of Thomas Aquinatus states that "The Aesthetic property of the artificial form is a consequence of its ontological reality and is not its primary purpose".

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