

# **The exploitation of electricity production projects from Renewable Energy Sources for social and economic development.**

## **The case of Greece.**

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# Scope of the presentation

This presentation aims to examine the following issues:

- description of the existing situation in Greece regarding the development of electricity production power plants from Renewable Energy Sources (R.E.S.)
- consequences from the configured situation
- proposals towards the rational development of R.E.S. projects in Greece and globally.

- First chapter:  
The existing situation



# The electricity production licensed projects

Total power of licensed projects for electricity production from R.E.S. (MW)			
Wind parks	Biomass	Geothermy	Solar plants
23.250,66	479,23	8,00	481,70
Small hydro power plants	Photovoltaic stations	Hybrid power plants	Total
968,07	4.422,04	421,85	30.031,54

Comments:

- the annual power demand peak in Greece is around 11GW
- the total power of the submitted applications for licensing, remaining still under evaluation, is estimated around 50GW.

# Characteristic cases of submitted or licensed projects

Characteristic cases of the submitted applications or issued licenses are those regarding groups of small insular systems, such as:

- electricity production license from wind parks of 317,4MW total nominal power for the islands of Anafi, Astypalaia, Amorgos and Ios
- electricity production license from wind parks of 348MW total nominal power for the islands of Kalymnos, Kos and Leros
- electricity production license from wind parks of 330MW total nominal power for the island of Ikaria
- application for electricity production from wind parks of 1.047MW total nominal power for the islands of Milos, Kimolos, Sikonos, Folegandros and Astypalaia.

# Characteristic cases of submitted or licensed projects

	Population	Area (km <sup>2</sup> )	Maximum annual power demand (MW)	Annual electricity consumption (MWh)
<b>License case 1: 317,4 MW</b>				
Anafi	271	39,0	0,553	1.179
Astypalaia	1.334	96,9	2,250	6.670
Amorgos	1.859	121,5	2,900	9.072
Ios (interconnected with Paros, Naxos etc)	2.030	108,7	62,400	194.740
Total	5.494	365,7	68,103	211.661
<b>License case 2: 348 MW</b>				
Kalymnos	16.179	110,6	90,500	352.984
Kos	33.388	290,3		
Leros	7.917	54,1		
Total	57.484	455,0	90,500	352.984

# Characteristic cases of submitted or licensed projects

	Population	Area (km <sup>2</sup> )	Maximum annual power demand (MW)	Annual electricity consumption (MWh)
<b>License case 3: 330 MW</b>				
Ikaria	8.423	255	7,380	27.613
<b>Application case 1: 1.047 MW</b>				
Milos	5.129	150,6	11,500	45.402
Kimolos	838	37,4		
Sikinos (interconnected with Santorini)	260	41,7	90,500	352.984
Folegandros (interconnected with Santorini)	780	32,4		
Astypalaia	1.334	96,9	2,250	6.670
Total	8.341	359,0	92,750	359.654

# Map depiction of applications / licenses according to Regulatory Authority of Energy

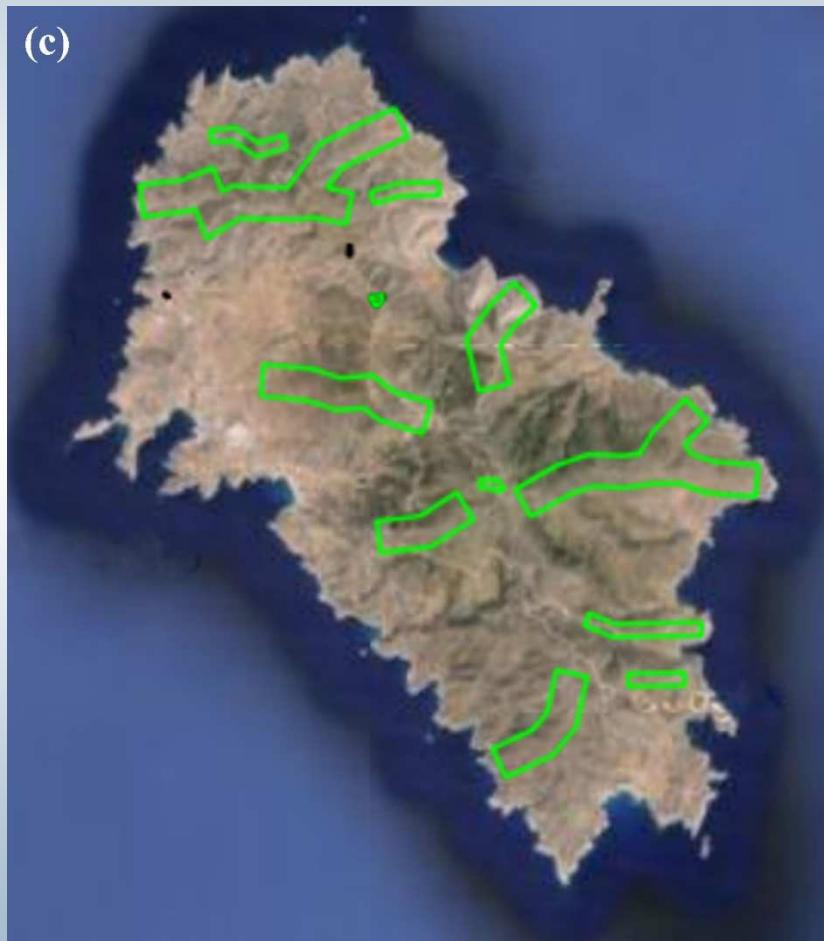


# Map depiction of applications / licenses according to Regulatory Authority of Energy



Amorgos

# Map depiction of applications / licenses according to Regulatory Authority of Energy

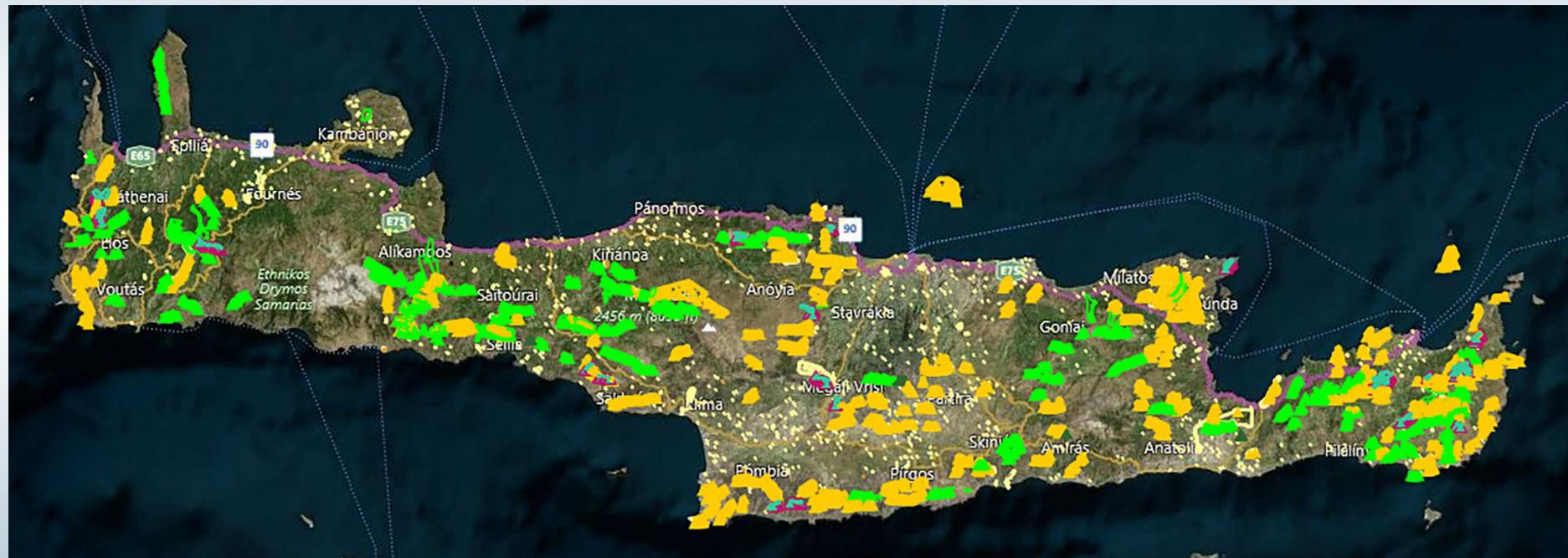


Ios



Kythnos

# Map depiction of applications / licenses according to Regulatory Authority of Energy



Crete: Total submitted / issued power: 5.000MW

# Characteristics of the applications / licenses Violation of the national siting and development plan

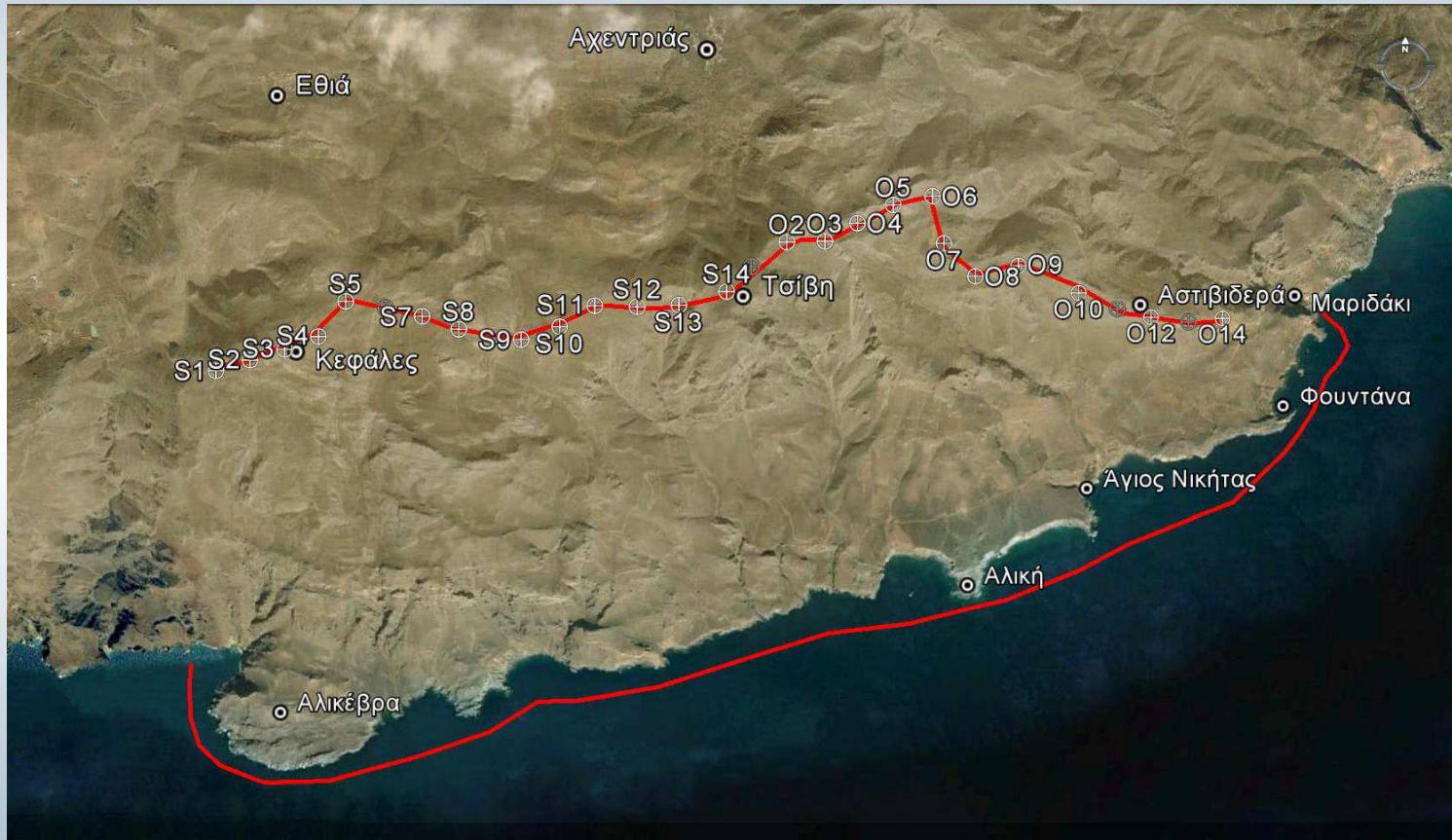
- In many occasions, the submitted applications and issued licenses violate the existing national siting and development plant about R.E.S., regarding natural or cultural restrictions.



Issuance of power production license for a wind park in a NATURA 2000 Zone A area

# Characteristic features of the applications

## Violation of the national siting and development plan



- Total length of coast: 5,60 nautical miles (10.370m)
- Total siting length of the wind park on the mountain top: 7.670m.

# Characteristic features of the applications

## Effects on the territories general attitude

- The siting of these large scale projects in small geographical territories, such as the insular ones, often occupying all the available hills and mountains, certainly affects the existing human activities and turns the existing traditional (and usually insular) attitude into an electricity production industrial area.



# Characteristic features of the applications

## Lack of information of the local communities

- Most probably none of the owners of these projects took the initiation to present the project to the local communities and Municipal Councils beforehand. Certainly there is not such a legal obligation defined anywhere. On the other hand, the local communities absolutely have the right to be informed about such large projects in their territory and to express their opinion on that, which should be respected and taken into account.
- In most occasions these large applications and licenses were communicated to the local population and their local authorities by the media, the announcements of R.A.E. etc.
- It is now more than implicit that, given the lack of any promotional policy and the size of these projects, the inhabitants perceive these applications and licenses more as raging invasions, rather than as developmental proposals.

# Characteristics features of the applications Land properties

- Moreover, it is mathematically sure, mainly due to the huge land areas required for the large applied or issued R.E.S. projects and the existing legislation, that the possession of the necessary land properties for the installation of the R.E.S. power plants has not been justified in any of these applications and licenses.
- Most probably, the owners of the land have not even been informed about the existence of the R.E.S. project's application or license in their property.
- In such occasions, the land owners, being indirectly informed from several other sources, feel threatened by forces that neither know, nor are able to detect, while their right on the properties is provoked, as well as their sense of pride and independence.

- Second chapter:  
Consequences



“Crete’s mountains are not for sale to the multinational companies”

# The common opinion about R.E.S. today

**ΑΡΧΙΚΗ**

**ΜΕΛΗ**

**ΝΕΑ** (highlighted)

ΕΚΔΗΛΩΣΕΙΣ-ΔΡΑΣΕΙΣ

ΒΙΝΤΕΟ

-

ΑΡΘΡΑ

ΕΠΙΚΟΙΝΩΝΙΑ

**ΙΔΙΟΚΤΗΣΙΑΚΟ ΣΤΗΝ ΚΡΗΤΗ ΚΑΙ ΑΙΓΑΙΟ**

ΕΝΗΜΕΡΩΘΕΙΤΕ ΑΠΟ ΤΟΥΣ ΗΑΗ ΠΑΘΟΝΤΕΣ ΣΤΟ ΑΠΟΠΗΓΑΔΙ ΜΕ ΠΛΗΡΗ ΡΕΠΟΡΤΑΖ, ΦΩΤΟ ΚΑΙ ΒΙΝΤΕΟ

ΨΗΦΙΣΜΑ 1η ΣΥΝΑΝΤΗΣΗ ΔΙΚΤΥΟΥ ΠΑΝΟΡΜΟ 14/11/11

ΔΙΑΒΑΣΤΕ ΣΧΕΤΙΚΑ ΑΡΘΡΑ ΚΑΙ ΕΝΗΜΕΡΩΘΕΙΤΕ

ΝΕΑ ΜΕΛΗ ΠΟΥ ΥΠΕΓΡΑΨΑΝ ΤΟ ΨΗΦΙΣΜΑ

ΑΠΕΙΛΟΥΝΤΑΙ ΟΙ ΒΙΤΣΙΔΕΣ... ΚΑΙ ΣΤΗΝ ΚΟΖΑΝΗ!

ΔΕΙΤΕ ΟΛΟ ΤΟ ΒΙΝΤΕΟ ΠΟΥ ΕΦΤΙΑΞΕ Η 'ΚΙΝΗΣΗ ΠΟΛΙΤΩΝ ΣΙΑΤΣΤΑΣ ΚΑΤΑ ΤΩΝ ΑΙΟΛΙΚΩΝ ΣΤΟ ΜΠΙΟΥΡΠΙΝΟ', ΔΕΝΕ ΟΧΙ

**NEA**

[Εγγραφή σε αναρτήσεις](#)

**Κινητοποίηση ενάντια στο υβριδικό υδροηλεκτρικό στο Αζιλακόδασος**

αναρτήθηκε στις 21 Απρ 2012 12:50 μ.μ. από το χρήστη Marina Zafeiraki



Φωτογραφία από το Αζιλακόδασος

Την Τρίτη 24/4 στις 1.00 μ.μ. στην Πλατεία Ελευθερίας στο Ηράκλειο

Λέμε ΟΧΙ στην νέα κατοχή μέσω ΑΠΕ

Εκφράζουμε την αντίθεση μας στη φαρανική κατασκευή του Πλαγκρήπου Υβριδικού Υδροηλεκτρικού που θα καταστρέψει το φυσικό περιβάλλον

**“NO to the new occupation from R.E.S.”**

# The common opinion about R.E.S. today

**"Βιομηχανικές ανανεωσίμες πηγές ενέργειας--αληθειες και ψεματα"**

αναρτήθηκε στις 24 Μαρ 2012 11:54 π.μ. από το χρήστη Marina Zafeiraki [ ενημερώθηκε 24 Μαρ 2012 4:16 μ.μ. ]



“Endless energy production factory from RES. Is that that we want for Crete?”

# The common opinion about R.E.S. today

 [Ελλάδα](#) [Τοπικά](#) [Κόσμος](#) [Οικονομία](#) [Αθλητισμός](#) [Ψυχαγωγία](#) **Επιστήμη** [Γυναίκες](#)

Μοιραστείτε το:    (0)  Προσθήκη στα αγαπημένα |  Σχόλια

## "Όχι" από τη Ζάκρο στις Βιομηχανικές ΑΠΕ

Ψήφισμα από τη Γενική Συνέλευση του ΤΟΕΒ Ζάκρου  
Ενημερώθηκε: 04.05.2012 // 11:34 Κατηγορηματικά αντίθετος στη σχεδιαζόμενη εγκατάσταση ΒΑΠΕ στο ανατολικό άκρο της Κρήτης εμφανίζεται ο ΤΟΕΒ Ζάκρου με ψήφισμα της γενικής συνέλευσης. ΤΟ ΨΗΦΙΣΜΑ Εκφράζουμε την κατηγορηματική μας αντίθεση στη σχεδιαζόμενη εγκατάσταση Βιομηχανικών Ανανεώσιμων Πηγών Ενέργειας (Β.Α.Π.Ε.) στο ανατολικό άκρο της Κρήτης και ιδιαίτερα στους ορεινούς όγκους από το Δ.Δ. Παλαικάστρου μέχρι δυτικά του Δ.Δ. Ζάκρου της Δημοτικής Ενότητας Ιτάνου του Δήμου Σητείας. Είναι γνωστό ότι οι ορεινοί αυτοί όγκοι αποτελούν ένα μοναδικό καρστικό υδροφορέα που τροφοδοτούν αιώνες τώρα την πηγή της Ζάκρου και όλες τις γεωτρήσεις της περιοχής μας. Αιώνες τώρα, σ' αυτή την εσχατιά της Ελλάδας, ζουν και προκόβουν οι άνθρωποι χάρις στο πολύτιμο νερό που μας δίνει τη δυνατότητα να...



Cretalive.gr

Cretalive.gr · Πριν από 10 μέρες, 22 ώρες ·  

 **1 Ειδήσεις**  **Σχόλια**

**"NO from Zakros to the RES projects"**

# The common opinion about R.E.S. today

Αρχική > Green Report > Πραυτική Ενέργεια

Επικοινωνία

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## Αντιδράσεις για τις ΑΠΕ στην Κρήτη

Ξένος Γιώργος | 23/04/2012 - 05:31 μμ

Διαμαρτυρία θα πραγματοποιήσουν το μεσημέρι της Τρίτης 24 Απριλίου και ώρα 13:00, επιτροπές από όλη την Κρήτη κατά των ΑΠΕ αντιδρώντας με αυτό τον τρόπο σε μεγάλες επενδύσεις που σχεδιάζονται στο νησί εκτιμώντας πως θα αλλιώσουν το φυσικό περιβάλλον της περιοχής.



Οι επιπροπές πολιτών από το Αποπηγάδι Χανίων, από την περιοχή Δήμου Άγιου Βασίλειου Ρεθύμνου, από το Βραχάσι και την ευρύτερη περιοχή του Δήμου Αγ. Νικολάου και από το Κράσι και την ευρύτερη περιοχή Δήμου Χερσονήσου μαζί με φορείς μέλη του Παγκρήτιου Δικτύου Αγώνα κατά των ΑΠΕ, με ανακοίνωση που εξέδωσαν εκφράζουν τη διαφωνία τους στην κατασκευή του παγκρήτιου υβριδικού υδροηλεκτρικού.

ΤΕΛΕΥΤΑΙΕΣ ΕΙΔΗΣΕΙΣ

- > 14/05/2012 Ενέργεια και ασφαλτωμένο νερό ταυτόχρονα σε πρόγραμμα της Αιγύπτου
- > 14/05/2012 Κοντά στο στόχο για τις ΑΠΕ η Γερμανία με το βάρος όμως στα νοικοκυριά
- > 11/05/2012 Πράσινες εφευρέσεις στηριζόμενες στη νανοτεχνολογία
- > 10/05/2012 Επενδύσεις σε αιολικά από ασφαλιστικούς ομίλους
- > 10/05/2012 Η εναλλακτική ανακύκλωση και το μέλλον της
- > 10/05/2012 Σε γεωτρήσεις επτενδύει 250 εκατ. δολάρια η Τουρκία
- > 09/05/2012 Το βάρος στις ΑΠΕ δίνει η Αλβανία
- > 09/05/2012

“Reactions against RES projects in Crete”

# What we have heard since 2009

From rather moderate comments ....:

- Lubricants leaked out from the wind turbines, littering the ground.
- The access and internal wind parks roads affects and alter the natural mountainous landscape.
- Wind turbines constitute a threat for the birds.
- Wind turbines are ugly.  
They affect negatively the natural landscape.
- The noise emitted from the wind turbines is unbearable.



# What we have heard since 2009

... to the most imaginary claims:

- Wind turbines send away the clouds, contributing to poor annual rainfalls and, gradually, to desertification.
- Wind turbines emit radioactivity, causing cancer.
- Wind turbines cause depression to sheep and cows, making them to reduce their daily quantities of food and bring them to bad mood for reproduction.
- Wind turbines are responsible for multiple events in human beings, such as boredom, insomnia, general feel of fatigue (the so-called myth of “wind turbines’ syndrome”).

## 1<sup>st</sup> conclusion

The existing applications – licenses of large size have significantly contributed to the configuration of a definite negative common attitude on R.E.S., toughening any future effort for R.E.S. projects development, even of smaller size, rationally designed and sited ones.

# Existing applications – licenses and national development

- It is certain that the unobstructed implementation of any project requires the existence of a positive common opinion about this.
- The common attitude against R.E.S. projects, which prevailed in Greece during the last years for the above presented reasons, especially in the insular part of the country, consists the first, fundamental, negative parameter, regarding the implementation of the applied or issued R.E.S. power plants.



“Don’t make plans, for they will remain just in paper”

# Existing applications – licenses and national development

- The perverted legislation framework gives full priority and exclusivity to a R.E.S. project's application that comes first in a specific land area, against any other applications that come later in the same area, even if the later ones exhibit a higher extent of maturity.
- As a result, a mature application with:
  - certified R.E.S. potential measurements captured inside the proposed installation site
  - the possession of the required land properties justified
  - all the required preliminary positive opinions issued from the authorities responsible for the project's licensing
  - the support of the local communitieswill not be evaluated if there is a land overlay, even a partial one, with another application that comes first, even if it does not exhibit a tiny trace of maturity.

# Existing applications – licenses and national development

- The large size applications and licenses in the insular systems have already remained almost stable for more than five years (since 2009), without any fundamental progress towards their final licensing, obviously due to the significant problems that they exhibit, arising from the deficient preparation and the low maturity of the initial applications.
- These applications and licenses, for more than five years, have captured the, anywise, limited geographical territories, preventing the submission of mature and carefully designed applications for projects of smaller size, which are much more realistic to be implemented.

# Aeolian Land's projects versus applications – licenses of large size



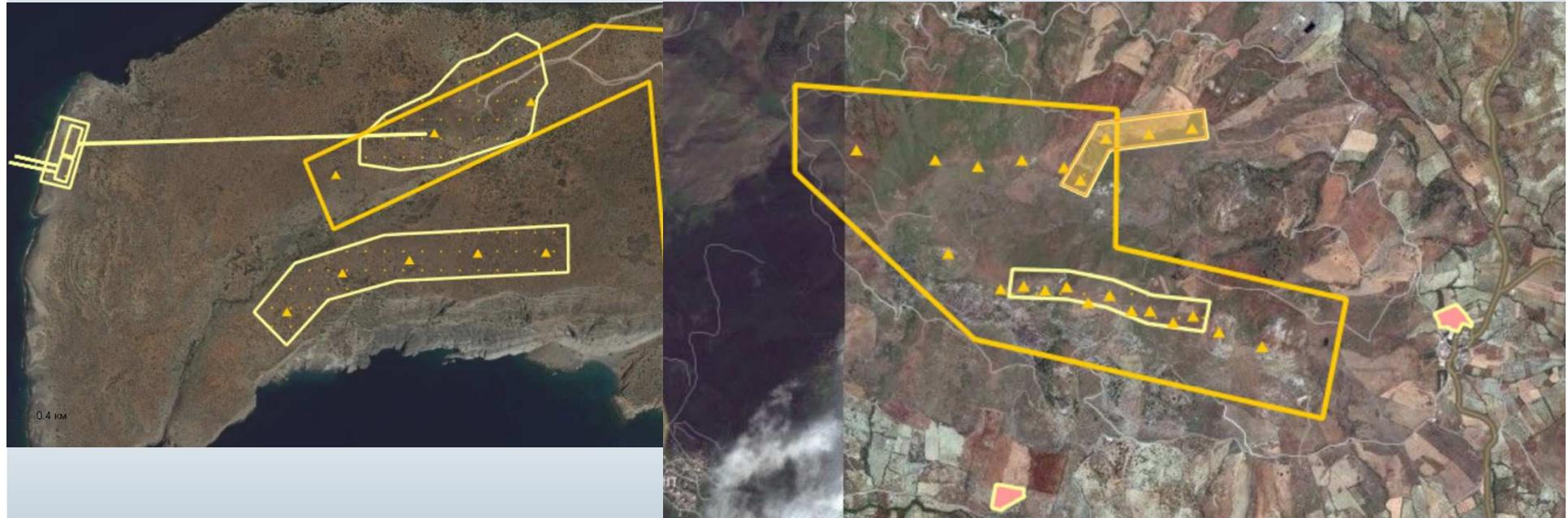
Hybrid power plant of Astypalaia with 2,5MW guaranteed power  
(wind park 4,5MW and pumped hydro storage system)

# Aeolian Land's projects versus applications – licenses of large size



Hybrid power plant of Kasos with 4,0MW guaranteed power  
(wind park 4,5MW and pumped hydro storage system)  
land overlapping with large applications - licenses

# Aeolian Land's projects versus applications – licenses of large size



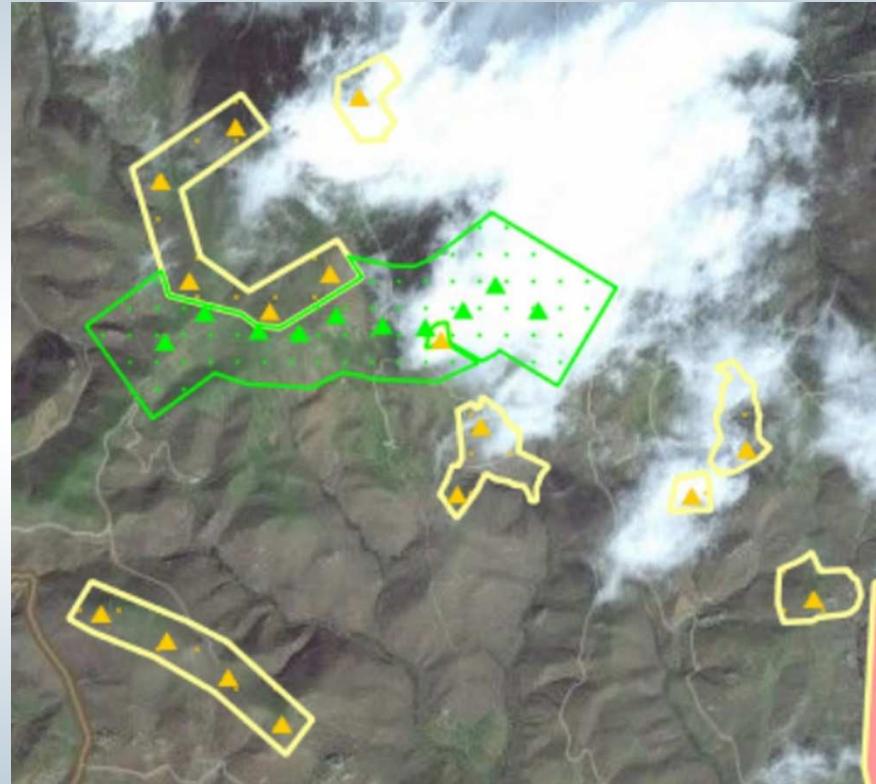
Hybrid power plant in Crete with 36MW guaranteed power  
(wind park 42MW and pumped hydro storage system)  
land overlapping with large applications - licenses

# Aeolian Land's projects versus applications – licenses of large size



Hybrid power plant in Samos with 20MW guaranteed power  
(wind park 24MW and pumped hydro storage system)  
land overlapping with large applications - licenses

# Aeolian Land's projects versus applications – licenses of large size



Hybrid power plant in Crete with 55MW guaranteed power  
(wind park 66MW and pumped hydro storage system)  
land overlapping with large applications - licenses



## 2<sup>nd</sup> conclusion

The contribution of the existing large size applications and licenses towards the national target of the maximization of the R.E.S. exploitation in Greece is also strongly negative.

# Benefits from the implementation of the submitted applications



Δοκιμάστε το Pure Acai Berry Max το καλύτερο συμπλήρωμα διατροφής με Acai Berry



14/03/2012

Το έργο «Κρήτη Πράσινο Νησί» του επιχειρηματικού ομίλου Elica Group, συμφερόντων των Ομίλων Κοπελούζου και Σαμαρά, είναι ύψους €1,99 δισ. και αφορά στην ανάπτυξη 36 συστοιχιών Αιολικών Σταθμών ισχύος 1.005 MW στην Κρήτη και στη διασύνδεσή τους μέσω υποθαλασσίου καλωδίου με την ηπειρωτική Ελλάδα.

Λόγω της λειτουργίας των αιολικών πάρκων του επιχειρηματικού ομίλου Elica Group, θα επιπευχθεί η αποφυγή εκπομπής 3 εκατ. τόνων CO2 σε ετήσια βάση, ενώ θα εξοικονομηθούν 253 χιλ. τόνοι πετρελαίου, με αποτέλεσμα την εξοικονόμηση συναλλάγματος λόγω μη εισαγωγής πετρελαίου της τάξης των €150 εκατ. ετησίως.

Θα επιπευχθεί η αποφυγή καταβολής δικαιωμάτων εκπομπής αερίων του Θερμοκηπίου που θα ισχύσει από το 2013 της τάξης των €90 εκατ. ετησίως, με αντίστοιχη συμβολή στο ισοζύγιο τρεχουσών συναλλαγών και στο περιορισμό της αύξησης της τιμής του ηλεκτρικού ρεύματος.

Επιπλέον, θα περιοριστεί η αύξηση της ανεργίας με τη δημιουργία 1.000 νέων θέσεων εργασίας στη φάση της κατασκευής, και σημαντικό αριθμό μονίμων εργαζομένων στη φάση της 20ετούς – τουλάχιστον – λειτουργίας.

Πέραν αυτών θα επιπευχθεί η μείωση του κόστους ηλεκτροπαραγωγής της Κρήτης για την περίοδο 2017 – 2040 κατά το ποσό των €6,8 δισ.

Επίσης ο επιχειρηματικός ομίλος Elica Group αναφέρει ότι όσον αφορά τα έσοδα προς το Ελληνικό δημόσιο, αναμένεται σημαντική συνεισφορά για τους Δήμους εγκατάστασης των Αιολικών Σταθμών, ενώ τα συνολικά φορολογικά έσοδα εκπιμώνται σε € 1.400 εκατ. .

ΕΛΛΑΣ

- ▶ [Παγκρήτιο Δίκτυο Αγώνα κατά των Βιομηχανιών Α.Π.Ε. : Συνάντηση στην Ιεράπετρα](#)
- ▶ [Απόρριψη του Ηλιοθερμικού στο Χώνο Σητείας από την Επιτροπή Περιβάλλοντος](#)
- ▶ [Μείωση 12,5% στις ταρίφες των φωτοβολταϊκών συστημάτων](#)
- ▶ [Χάρτης της ΡΑΕ για τα έργα ΑΠΕ σε Ηράκλειο , Λασίθι](#)
- ▶ [Αποφάσεις Επιτροπής Περιβάλλοντος και Χωροταξίας Περιφέρειας Κρήτης στις 24 - 2-2012](#)

Αναζήτηση



# Benefits from the implementation of the submitted applications

In the framework of a general promotion campaign of the licensed large scale projects, their owners present them as projects of public benefit, of ultimate national importance, justifying these theses with a list of arguments, such as the following:

- the reduction of the greenhouse gas emissions, due to the lower electricity production from the thermal power plants
- the reduction of the imported fossil fuel consumption for electricity production and the corresponding national currency saving
- the strengthening of the national economy through the taxation of the revenues from the produced electricity selling and the avoidance of penalties for the greenhouse gas emissions
- the creation of new employment positions, which are not numbered, mainly during the construction of the projects and, secondly, during their permanent, commercial operation

# Benefits from the implementation of the submitted applications

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- the generation of an annual income (public rates) for the local Municipalities equal to 3% of the investments' revenues
- the reduction of the electricity production specific cost (in €/kWh) for the autonomous insular power systems.

It is understandable that the above presented, and mostly promoted, positive consequences from the construction and the operation of electricity production power plants from R.E.S., are the implicit ones, the minimum ones that could be expected from such projects.

# Benefits from the implementation of the submitted applications

- A basic issue is also the origin of the required funds for the R.E.S. projects' construction, as well as the destination of the expected profits: will they remain inside the borders of the country in order to be reinvested in further developmental plans, multiplying thus the added valued of the initial R.E.S. projects for the local economies, or are they going to be disposed for the repayment of extremely heavy loans from offshore subsidizers, minimizing their contribution to the national and local economies?
- It is implicit that the economic slump and the cash shortage recorded in Greece during the current economic crisis time period unavoidably lead the potential investors out of the country's borders for seeking funds. Consequently, the construction and the operation of the above presented large R.E.S. projects will simply switch the final destination of the national currency from the oil production countries to the funding organizations around the world for the repayment of the heavy required loans for their implementation.

## 3<sup>rd</sup> Conclusion

The contribution of the existing large size applications and licenses to the recovery of the Greek national economy and the development of the local communities will be the minimum one, the inevitable one, as a result of the way that these projects have been designed and are going to be implemented.

All the huge potential social and economic benefits that can be gained from these projects in favor of the national economy and the local communities are simply ignored.

## 3<sup>rd</sup> Conclusion

Simultaneously, the installation of these large projects will terminate any further possible development of R.E.S. projects in Greece, since all the available land and the electricity demand of the country will have been covered.

So the perspective of the economic growth based on the exploitation of R.E.S. in Greece will be practically lost for ever

and the country will be deprived one of the most promising prospects for a healthy, social and economic development.

- **Third chapter:  
R.E.S. and development  
Proposals**



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## Licenses recall

- According to the law 4152/2013, there will be a penalty of 1.000€/MW for the R.E.S. projects that their installation has not begun after four years from the issuance of the power production license.
- This can be considered as a positive measure, expected to contribute to a first screening of the existing situation.

# Applications rejection

- There is no prediction about the applications still under evaluation. For some of them their evaluation has already been delayed since 2010. The number of these applications is rather high, occupying corresponding large land areas.
- The definition of a maximum evaluation time period, of about two years, for the issuance of the power production license sounds sensible and will certainly be a correct measure. If the application can not be evaluated with the applicant's responsibility, it must be rejected after this maximum time period.



# Justification of the land properties possession

- The issuance of power production licenses after 2011 for immature projects, led to considerable delays in the exploitation of R.E.S. in Greece, as justified above.
- It seems that the retraction of the applicant's obligation to justify the land's properties possession straight from the power production license application, was a rather wrong decision that should be recalled, at least for the main installation site of the applied project, if not for the accompanied required works (access roads, connection grid etc).

# Wind potential evaluation

- Especially for the wind parks, the measuring of wind potential with wind mast installed in positions located not farther than a maximum radius from the installation site (e.g. 5 km depending on the land morphology) constitutes, on the one hand, a requisite technical spadework and, on the other, a clear proof regarding the applicant's intentions.
- Hence, it must be required for the issuance of the power production license as well.

# Offshore wind parks

- The offshore wind parks must be installed in specific sites, selected under a strict siting plan, in order to protect the sea environment and to maintain the existing human activities (transportation, recreation, commercial activities).
- For these reasons, the issued licenses for offshore wind parks must be recalled.
- The total offshore wind power that can be installed in the country must be the result of the above suggested national siting plan.
- The investors for the offshore wind parks development must be selected under an open national proclamation.

# Public rates for the local Municipalities

- A wind park installed in an insular Greek site with:
  - annual final (after losses) capacity factor of 40% [1-10, 48-51] (such wind potential, or even higher, is met in the most mountainous insular territories in Greece)
  - a set-up specific cost of 1.100€/kW
  - a feed-in-tariff electricity price of 0,090€/kWh
  - an annual electricity rejection of 10%
  - public rates 3% over the annual revenues
  - a funding scheme of 40% equities and 60% loan capital with a payback period of 10 years and a loan rate of 7,0% exhibits a payback period of 3 years and an Internal Rate of Return (I.R.R.) of 27%, calculated on the investment's equities.

# Public rates for the local Municipalities

- For the same project, if all the above presented assumptions are kept but the public rates increase from 3% to 15%, the payback period increases to 5.5 years and the I.R.R. becomes 18%. Consequently, by increasing the public rates at 15% of the annual revenues, the investment still exhibits high economic efficiency.
- Consequently, by increasing the public rates at 15% of the annual revenues, the investment still exhibits high economic efficiency.
- The value of the public rates percentage must be evaluated specifically versus the type of the R.E.S. project, (wind park, photovoltaic station, hybrid station etc), the size of the project, the site of installation, the power plant's capacity factor, the existence of any type of subsidy etc.

# Local investors and Municipalities participation

- The benefits for the local communities will be much higher in case local private or public organizations and companies invest in R.E.S. projects.
- Tens of examples of R.E.S. projects development and operation from local communities and Municipalities can be retrieved from Europe, Australia and U.S.A.
- In these occasions the economic benefits from the development and operation of R.E.S. power plants are maximized, since the profits from these projects return to the local investors, residing and activating at the same geographical area.
- By reinvesting these profits in the same geographical region, the economic benefits are multiplying.

# Local investors and Municipalities participation

- The financial inadequacy of most Municipalities is the basic obstacle for their participation in R.E.S. projects with, for their standards, high set-up costs. To overcome this, the introduction of specific measures in the relevant legislation is necessary, such as:
  - Exemption from the obligation to justify their financial adequacy to develop a R.E.S. project, for the application of the first power production license. Once this first license is issued, the Municipality can either proceed to an open proclamation for the selection of the investor for the project's funding, or apply itself for the project's funding in external funds.
  - Projects' funding from the State and repayment from the project's revenues, after the beginning of its commercial operation.



# Communities wind parks

Community Windpower Ltd - Mozilla Firefox

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http://www.communitywindpower.co.uk/news.asp

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communities wind farms - Aðalmynd G... Community Windpower Ltd

The screenshot shows a Mozilla Firefox browser window displaying the website for Community Windpower Ltd. The address bar shows the URL <http://www.communitywindpower.co.uk/news.asp>. The page content includes a sidebar with links such as Home, About Us, Projects, Wind Energy, Climate Change, Community Benefits, BeGreen Shops, Developing Windfarms, Children's Windy World, Media Centre, Environmental Policy, Young SET Ambassadors, Landowners, Useful Links, and Contact Us. The main content area features a large image of wind turbines in a field under a cloudy sky. Below the image, a section titled "Latest News" contains an article about the first Siemens 3MW Direct Drive wind turbine being built at Millour Hill. The article states: "The first Siemens 3MW Direct Drive wind turbine has been built onshore in the UK at our Millour Hill Community Windfarm." It also mentions that deliveries were completed last week and turbines are being erected, with the second turbine due to be finished imminently. The remaining turbines will be built during the coming few weeks. Another section titled "WIND POWER PASSES THE SIX GIGAWATT THRESHOLD" discusses RenewableUK reaching a landmark 6 gigawatts of installed capacity, enough to supply 3,354,893 homes. The date 30th Jan 2012 is also visible.

Source: <http://www.communitywindpower.co.uk/news.asp>



# Communities wind parks

Westmill Wind Farm - Mozilla Firefox

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http://www.westmill.coop/westmill\_home.asp

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Westmill Wind Farm Community Windpower Ltd

  
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WIND FARM  
CO-OPERATIVE LIMITED

  
Clean, Green Energy

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**Latest News**

24/11/2011  
Tour & On-site Visit Saturday 26th November  
Tour of solar and wind farms at Westmill farm, SN6 8TH 2.00 3.00pm Presentation in Watchfield Village Hall 3.30 4.30pm Tea and biscuits provided

[Read More >>>](#)

**Welcome to the Award Winning**

**Westmill Wind Farm Co-operative Ltd**

Westmill Wind Farm Co-op was established to build the first onshore wind farm in the south-east of England and is 100% Community Owned.



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Westmill Wind Farm Co-operative

Source: [http://www.westmill.coop/westmill\\_home.asp](http://www.westmill.coop/westmill_home.asp)



# Communities wind parks

about :: Hepburn Wind - Mozilla Firefox

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*about hepburn wind*

Hepburn Wind is the owner and operator of Australia's first community owned wind farm, at Leonards Hill, just south of Daylesford Victoria.

The 4.1 MW wind farm comprises two turbines and is located at Leonards Hill, in Central Victoria, just south of Daylesford and approximately 100 km north-west of Melbourne.

Hepburn Wind is the trading name of Hepburn Community Wind Park Co-operative Ltd, a co-operative registered in Victoria, Australia.

Hepburn Wind was established in 2007 by the Hepburn Renewable Energy Association, now known as SHARE.

*the co-operative*

Hepburn Community Wind Park Co-operative Ltd (Hepburn Wind) is a trading co-operative registered in Victoria (Reg. No: G0003442Y, ABN: 87 572 206 200) with over 1900 members, the majority of whom are local to the project. The co-operative structure, with each member having one vote, ensures democratic control however members will receive dividends proportional to

Done

**Πηγή: <http://hepburnwind.com.au/about/>**



# Communities wind parks

Samsoe: A role model in self-sufficiency | Sustainable Cities - Mozilla Firefox

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http://sustainablecities.dk/en/city-projects/cases/samsoe-a-role-model-in-self-sufficiency

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Samsoe: A role model in self-sufficiency Community Windpower Ltd

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Oddsøre wind turbines at Samsoe, By Samsoe Energy Academy

**CASE**

### Samsoe: A role model in self-sufficiency

In just eight years, a broad collaboration on Samsoe has managed to convert the island's energy production from oil and coal to renewable energy. Local involvement has created a bit of a social energy movement. Today, the island produces more renewable energy than it uses and exports excess energy to the mainland. Samsoe has an international lead as an

**SORTING**

**MAKING THE CHANGE**

Since 1998, Samsoe's politicians, farmers, consumers and contractors have managed to convert the production of energy to sustainable and renewable energy.

In 2001, the consumption of fossil fuels on Samsoe was reduced by half. In 2003, the island exported electricity to the mainland.

Samsoe is proof that it is possible to transform a small community to renewable energy within a foreseeable time span.

**FACTS**

**CITY FACTS**

Area: 114,26 km<sup>2</sup>  
Population: 4.003 (2009)  
Density: 36/km<sup>2</sup>  
GNP: 35.787 USD  
Country: Denmark

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**Source:** <http://sustainablecities.dk/en/city-projects/cases/samsoe-a-role-model-in-self-sufficiency>

# Protection against projects of large size

- The local small investors, public or private, must be protected from investments of very large size, which can occupy a high percentage of the total R.E.S. power that can be potentially installed in a geographical territory, determined either by land or energy terms, especially in cases of insular systems, connected or not to mainland's grids.
- Specific restrictions for maximum R.E.S. nominal power per application can be introduced for such systems, the size of which can be defined as a maximum percentage of the annual maximum power demand of the insular system.
- In systems of small and very small size, with annual maximum power demand lower than 10 MW, this restriction can not be applied, since the power plant's low size, in combination with the annual low electricity consumption, can probably affect negatively the investment's feasibility.



# The growth of a new positive attitude on R.E.S.

- The reversal of the existing negative common opinion back to the positive one recorded until 2008 is a fundamental necessity and a basic prerequisite for the unobstructed R.E.S. projects development in Greece. To approach this scope, two steps are required:
  - the implementation of the above proposed actions, such as the rejection of all the existing large applications, the definition of substantial benefits for the local communities, the introduction of supporting measures for the local Municipalities and the local investors participation in R.E.S. investments etc
  - a carefully designed informative and promotion campaign on R.E.S. projects, developed and supported by the State and implemented by official academic organizations and institutes specialized on R.E.S., generally acclaimed by the people.



# R.E.S. projects for the local communities

The R.E.S. projects  
just like every development project  
should basically focused  
on the development of Local Communities  
which, cumulatively, will lead to the overall National Development.

The ultimate scope of every R.E.S. project should be  
the maximization of its added value at the area of installation  
which, in turn, can lead  
to a long-term, sustainable development.



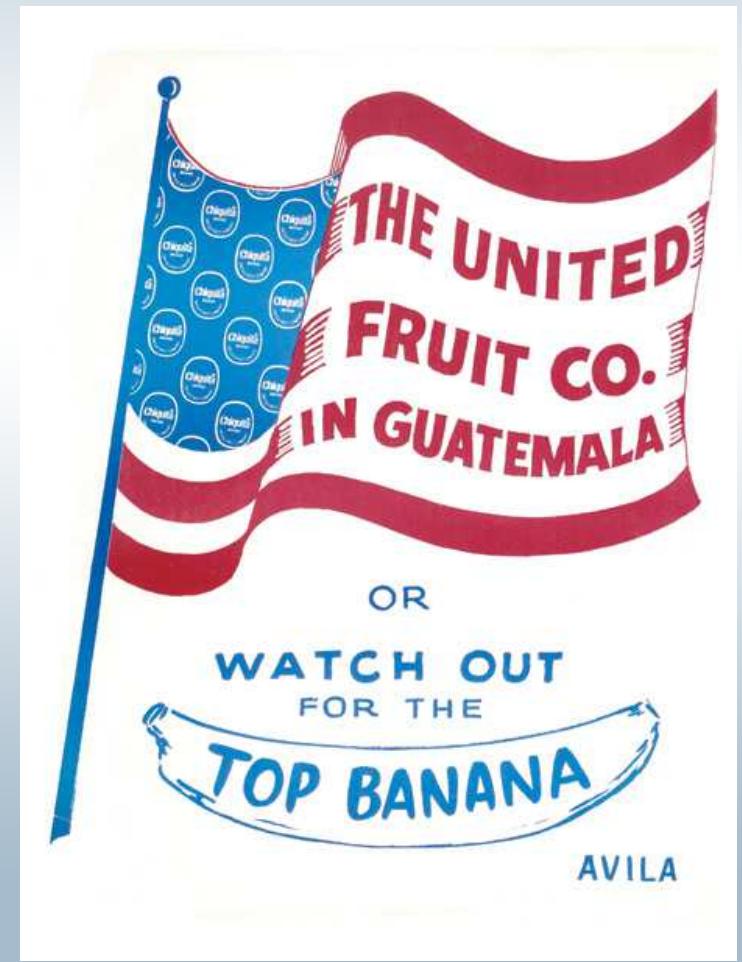
# R.E.S. projects for the local communities

The R.E.S. projects' development based on exogenous funds  
which will determine the projects' Engineers and Consultants  
the equipment providers  
the way that the project will be implemented  
and all the prerequisites and terms for the project's construction  
resembles slavery regimes  
inappropriate for any free nation in the world  
even more for a country – member of the European Union  
even more for the country – origin of Europe.



## “Development” examples from the world

The economic development that United Fruit Co. have brought in Guatemala.



# “Development” examples from the world

The economic development that Shell have brought in Nigeria.



# What can we expect about Greece?



For these children the Greek State has bequeathed a failed economy and an insecure future.



Children of the elementary school of a small mountainous village in the southern Crete at the early '80s

# What can we expect about Greece?



Children of a kindergarten  
in Heraklion, Crete, in  
2010.

When the contemporary politicians talk about “Green Development”, what kind of development do they refer to? Similar to the one in Guatemala or Nigeria?

Which is the future reserved for the children of 2010 in Greece?

# Epilogue

The healthy forces in Greece and every country in the world  
Investors, Local Municipalities,  
Academic Institutions, Environmental Organisations  
should act in common  
towards a unique target:  
**the claim of a better future for the country**  
through the objective and fare sharing of R.E.S. wealth

Thank you for your attention

