

“Biofuels and Electric Propulsion Creating Sustainable Transport in Tourism Resorts – BIOSIRE”, I.E.E. programme

**Region of Crete –
Regional Energy Agency of Crete**

Road Map for Changing Behaviour

Deliverable 3.1 of the BIOSIRE project

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1. Summary in Greek

Η Περιφέρεια Κρήτης – Ενεργειακό Κέντρο συμμετέχει στο ευρωπαϊκό έργο «Πρώθηση των Βιοκαυσίμων και των Ηλεκτρικών Οχημάτων για την Επίτευξη Βιώσιμων Μεταφορών σε Τουριστικές Περιοχές - BIOSIRE». Το έργο αυτό υλοποιείται στα πλαίσια του προγράμματος «Ευφυής Ενέργεια για την Ευρώπη (Intelligent Energy Europe)».

Η Περιφέρεια Κρήτης – Ενεργειακό Κέντρο είναι ένας από τους έξι συμμετέχοντες οργανισμούς οι οποίοι καλούνται να προωθήσουν την υλοποίηση επιδεικτικών δραστηριοτήτων χρήσης βιοντίζελ και ηλεκτρικών οχημάτων. Για αυτό το σκοπό, εκλήθησαν οι σχετικοί σημαντικοί φορείς της Κρήτης να συμμετάσχουν στην «Τοπική Συμβουλευτική Επιτροπή» ώστε να υλοποιηθεί ένα σχέδιο δράσης το οποίο θα λαμβάνει υπόψη τις προοπτικές από τα αναπτυξιακά, οικονομικά και περιβαλλοντικά οφέλη αλλά θα συνεκτιμήσει και τα τεχνικά, νομοθετικά και οικονομικά εμπόδια που ανακύπτουν.

Δεδομένου ότι η Κρήτη διαθέτει ένα μεγάλο δυναμικό χρησιμοποιημένων μαγειρικών ελαίων το οποίο μπορεί να αξιοποιηθεί ως πρώτη ύλη από τις βιομηχανίες παραγωγής βιοντίζελ, υλοποιήθηκε σε πρώτη φάση η καταγραφή των εταιρειών που δραστηριοποιούνται στη συλλογή χρησιμοποιημένων μαγειρικών ελαίων στην Κρήτη. Η καταγραφή των εταιρειών συλλογής πραγματοποιήθηκε με καταχώρηση δημόσιας πρόσκλησης στις εφημερίδες της Κρήτης. Η καμπάνια αυτή στέφθηκε με επιτυχία και δημιουργήθηκε για πρώτη φορά στην Κρήτη μια λίστα με τα στοιχεία όλων των επιχειρήσεων που δραστηριοποιούνται στη συλλογή χρησιμοποιημένων μαγειρικών ελαίων.

Παράλληλα, πραγματοποιήθηκαν συναντήσεις εργασίας με τους εκπροσώπους των καταστημάτων εστίασης (εστιατορίων, ψητοπωλείων κλπ.). Οι εκπρόσωποι των καταστημάτων εστίασης δεσμεύτηκαν να συνδράμουν στην καμπάνια πληροφόρησης και παρακίνησης των μελών τους ώστε να συμμετέχουν στη συλλογή χρησιμοποιημένων μαγειρικών ελαίων και λιπών. Επιπλέον, παρείχαν σημαντικές πληροφορίες για τις προοπτικές της συλλογής αλλά και τα προβλήματα που ανακύπτουν.

Το Ενεργειακό Κέντρο της Περιφέρειας Κρήτης οργάνωσε σχετική ημερίδα στον συνεδριακό χώρο της Περιφέρειας Κρήτης με τη συμμετοχή όλων των σχετικών φορέων αλλά και πολιτών. Τα αποτελέσματα της ημερίδας είναι

πάρα πολύ σημαντικά για την ευρεία ανάπτυξη της συλλογής χρησιμοποιημένων μαγειρικών ελαίων στην Κρήτη κυρίως διότι:

- ο Γνωστή αλυσίδα Σουπερμάρκετ δεσμεύτηκε να συμμετάσχει στη συλλογή χρησιμοποιημένων μαγειρικών ελαίων τοποθετώντας ειδικούς κάδους συλλογής στα καταστήματά της.
- ο Φορείς του Τουρισμού όπως π.χ. αλυσίδες Ξενοδοχείων δεσμεύτηκαν επίσης να συμμετάσχουν στη διαδικασία συλλογής και να εντάξουν την πρωτοβουλία αυτή στις δραστηριότητες για τον «Πράσινο» Τουρισμό.
- ο Οι εταιρείες συλλογής βρέθηκαν για πρώτη φορά στον ίδιο χώρο – εκδήλωση και μπόρεσαν να συζητήσουν τις προοπτικές της επιχείρησής τους και τις δυσκολίες που αντιμετωπίζουν.
- ο Εταιρεία παραγωγής Βιοντήζελ συμμετείχε επίσης και παρουσίασε σημαντικά στοιχεία για τη συλλογή των μαγειρικών ελαίων και τις προοπτικές από την προώθησή τους για παραγωγή βιοντήζελ.
- ο Οι παριστάμενοι εκπρόσωποι Δήμων δεσμεύτηκαν να υποστηρίξουν την συλλογή χρησιμοποιημένων μαγειρικών ελαίων.

Η Περιφέρεια Κρήτης – Ενεργειακό Κέντρο υλοποίησε συναντήσεις εργασίας με σκοπό τη δημιουργία ενός δικτύου συλλογής χρησιμοποιημένων μαγειρικών ελαίων στην Κρήτη και την διασύνδεσή του με τις εγχώριες βιομηχανίες παραγωγής βιοντήζελ. Αυτό είχε ως συνέπεια το έντονο ενδιαφέρον των εταιρειών παραγωγής βιοντήζελ και την ευρεία ανάπτυξης της αγοράς χρησιμοποιημένων μαγειρικών ελαίων στην Κρήτη.

Παρήχθη επίσης ειδικό ενημερωτικό φυλλάδιο για τη συλλογή των χρησιμοποιημένων μαγειρικών ελαίων το οποίο σε συνεργασία με τις Δημοτικές Επιχειρήσεις Ύδρευσης Αποχέτευσης όλης της Κρήτης διανεμήθηκε σε όλα τα νοικοκυριά και τις επιχειρήσεις του νησιού. Ταυτόχρονα, επετεύχθη η συμμετοχή γνωστών αλυσίδων σουπερμάρκετ στη συλλογή χρησιμοποιημένων μαγειρικών ελαίων και λιπών σε συνεργασία με εταιρείες συλλογής. Όλες αυτές οι δραστηριότητες «αλλαγής συμπεριφοράς» έδωσαν σημαντική ώθηση στην ανάπτυξη της αγοράς χρησιμοποιημένων μαγειρικών ελαίων, καθιστώντας το νησί ως ένα πολύ σημαντικό προμηθευτή πρώτης ύλης για την εγχώρια παραγωγή βιοντήζελ.

Όσον αφορά τη διακίνηση του βιοντήζελ στην Ελληνική αγορά, το νομοθετικό πλαίσιο είναι ακόμα αρκετά δύσκαμπτο. Σύμφωνα με τις ισχύουσες διατάξεις, κάθε χρόνο ορίζεται η κατανομή των ποσοτήτων αυτούσιου βιοντήζελ ανά δικαιούχο εταιρεία με Κοινή Υπουργική Απόφαση.

Οι ποσότητες αυτούσιου βιοντήζελ απορροφώνται από τα διυλιστήρια όπου γίνεται η ανάμιξή τους με πετρέλαιο κίνησης. Η Περιφέρεια Κρήτης – Ενεργειακό Κέντρο είναι σε επαφή με όλους τους αρμόδιους φορείς για την προώθηση ενός πιο ευέλικτου μοντέλου διακίνησης του βιοντήζελ. Ειδικότερα προτείνει την εξαίρεση των μέσων μαζικής μεταφοράς – μεγάλων στόλων οχημάτων ώστε να μπορούν να χρησιμοποιούν μεγάλα μίγματα βιοντήζελ. Η ευρεία χρήση βιοντήζελ στα μέσα μαζικής μεταφοράς θα δημιουργήσει ένα «πράσινο» - αειφόρο προφίλ το οποίο είναι ήδη ζητούμενο από μεγάλο μέρος των τουριστών – επισκεπτών της Κρήτης.

Ειδικότερα για τα ηλεκτρικά οχήματα, γίνεται καταγραφή της αγοράς ηλεκτρικών οχημάτων ώστε να καθοριστούν τα τεχνικά χαρακτηριστικά τους, οι χρήσεις τους, το κόστος τους κλπ. Παράλληλα, πραγματοποιούνται στοχευμένες δράσεις ώστε να ενταχθούν κυρίως από επιχειρήσεις που συνδέονται με τον τουρισμό όπως για παράδειγμα τα ξενοδοχεία καθώς από τις εταιρείες ενοικιάσεων αυτοκινήτων. Υλοποιούνται ταυτόχρονα προτάσεις στους Δήμους για την εισαγωγή ηλεκτρικών οχημάτων και τη δημιουργία πιλοτικών σταθμών φόρτισης των οχημάτων αυτών. Οι δήμοι μπορούν να λειτουργήσουν ως παράδειγμα καλών πρακτικών με χρήση παρόμοιων οχημάτων στα ιστορικά κέντρα και να συνεισφέρουν στην ευρεία υιοθέτηση των ηλεκτρικών οχημάτων τόσο από επιχειρήσεις όσο και από το ευρύ κοινό.

Στα πλαίσια της προώθησης των βιώσιμων μεταφορών στην Κρήτη και της «αλλαγής συμπεριφοράς», η Περιφέρεια Κρήτης – Ενεργειακό Κέντρο ετοιμάζει ειδικά αυτοκόλλητα – σήματα:

- **Σε πρατήρια υγρών καυσίμων:** θα ενημερώνουν όλους τους οδηγούς ότι ήδη καταναλώνουν βιοντήζελ σε μικρό ποσοστό ώστε να γίνει ευρέως γνωστό και αποδεκτό από το ευρύ κοινό.
- **Σε επιχειρήσεις που συλλέγουν χρησιμοποιημένα μαγειρικά έλαια:** θα ενημερώνουν τους πελάτες των επιχειρήσεων (π.χ. εστιατόρια) ότι συμμετέχουν στο πρόγραμμα συλλογής των χρησιμοποιημένων μαγειρικών ελαίων με σκοπό την παραγωγή βιοντήζελ.
- **Σε επιχειρήσεις που χρησιμοποιούν ηλεκτρικά οχήματα:** θα ενημερώνουν τους πελάτες των επιχειρήσεων (π.χ. ξενοδοχεία) ότι χρησιμοποιούν ηλεκτρικά οχήματα και με τον τρόπο αυτό συμμετέχουν στη βιώσιμη κινητικότητα και συνεισφέρουν στην αντιμετώπιση της κλιματικής αλλαγής.

Το Ενεργειακό Κέντρο της Περιφέρειας Κρήτης υλοποιεί στοχευμένες παρεμβάσεις σε Δημοτικά Σχολεία και σε Γυμνάσια «καλλιεργώντας» την «Αλλαγή Συμπεριφοράς» τόσο για τη συλλογή των χρησιμοποιημένων μαγειρικών ελαίων και την προώθησή τους για παραγωγή βιοντήζελ όσο και για τη χρήση των ηλεκτρικών οχημάτων.

Στόχος του Ενεργειακού Κέντρου της Περιφέρειας Κρήτης είναι η επίτευξη και ανάδειξη καλών πρακτικών (συλλογή χρησιμοποιημένων μαγειρικών ελαίων, βιοντήζελ, ηλεκτρικά οχήματα), η στήριξη και ανάπτυξη της αγοράς και η αλλαγή της συμπεριφοράς των φορέων, των επιχειρήσεων (ειδικά των τουριστικών) και των πολιτών προς τις βιώσιμες μεταφορές.

2. Introduction

The Region of Crete – Regional Energy Agency of Crete (REAC) is one of the six demonstrator partners within the BIOSIRE project and it is responsible for the tourist region of Crete. The objective of REAC is to ensure a comprehensive approach of sustainable transport in Crete giving also emphasis to sustainable transport in tourism.

The demonstration strategy consists of three phases:

a) **Activating Enabling Strategies**

The objective of this phase was the development of policies, strategies and networks for sustainable transport. It was a preparation phase enabling critical actors for the integration of alternative fuels (biodiesel) and electric vehicles. REAC has established a Local Working Group with the participation of very important public and private key actors for the amelioration of the suitable strategies for the region of Crete. Local workshops have also been implemented in order to conduct consultation with key demand and supply side actors, to identify and discuss opportunities and finally to overcome obstacles. It is an important phase for the implementation of demonstration activities in Crete because the specific policy approach for Crete has been defined. All this work has been utilised for the development of the “Market Transformation Plan” which is the reference document for the implementation of the next phase. The achievements of this phase are:

- I.) The re-generation of the used cooking oil collection and its transformation as a major entrepreneurial activity
- II.) The monitoring of the used cooking oil producers (restaurants, hotels etc.)
- III.) The operation of REAC as an “umbrella” for the creation of a reliable market network of used cooking oil collection
- IV.) The motivation of the collectors (used cooking oil collection companies) and the standardisation of their activities
- V.) The motivation of the Greek Biodiesel Companies for getting interested in the Cretan market of used cooking oil collection

VI.) The re-opening of the discussion for alternative fuels (biodiesel) and their importance for sustainable transport (in connection to the used cooking oil as feedstock for biodiesel production)

VII.) The enhancement of the interest of transport providers for the current biodiesel status and their intentions for the implementation of pilot high blend biodiesel use

VIII.) The promotion of electric vehicles and the important interest from the tourist sector (hotels, car-rental companies etc.)

IX.) The motivation of Municipalities for adopting electric vehicles and their interest for electric mini-busses

X.) The participation of all representatives from all the related organisations (public and private) in the local working group from the sectors of transport, tourism, public authorities, municipal authorities, entrepreneurs etc.

XI.) The transparency of the respective initiatives – transparent market

b) Market Transformation

REAC has implemented a market transformation plan at the end of the previous phase. That plan summarized the conclusions from the first activities at regional (also national) level and provides a detailed planning for the coming phase. The main objective of the Market Transformation phase has been the implementation of activities for the specification and qualification of the technical – economic characteristics of the demonstration in Crete. During this phase, REAC has stretched its activities in very specific actors and sectors in order to prepare the implementation of pilot activities for biodiesel use and adoption of electric vehicles. REAC has examined the following critical factors:

I.) The entire value chain for the pilot implementation of high biodiesel mixtures in transport (fuel supply, distribution network, petrol stations etc.)

II.) The legal implications regarding the national legislation – policy on biofuels

III.) The status of the current biodiesel market in Greece (biodiesel companies)

IV.) The possibilities of the transport providers to get a key role in the extensive use of biodiesel

V.) The obstacles which have been defined by the consultation with key demand and supply side actors

VI.) The interconnection of the used cooking oil collectors with the biodiesel production companies operating in the mainland

VII.) The regional and national market of electric vehicles

VIII.) The potential uses of electric vehicles giving emphasis to tourist related companies

IX.) The interconnection of electric vehicles with the rejected R.E.S. electricity by the electric grid

A summarization of the activities of REAC at this phase is describing bellow:

- Continuation of the large promotional – dissemination campaign for the Collection of Used Cooking Oil in cooperation with Cretan Municipalities and other relevant stakeholders
- Continuation of monitoring and support of the Used Cooking Oil Collection Network (collection companies as well as feedstock providers)
- Fruitful cooperation with tourist related companies (e.g. Hotels) for the collection of used cooking oil as well as for the integration of electric vehicles in their fleet
- Work meetings with Transport Providers – Motivation and exploration of their intentions for participation in pilot use of high biodiesel blends
- Motivation to Biodiesel Companies in order to involve them in the political lobbying for a more flexible biodiesel distribution
- Constant interventions to the Ministry of Environment, Energy & Climate Change for the development of a more flexible distribution of biodiesel – Top Level Communication (Minister – General Secretary of the Region)

- Targeted interventions for electric vehicles – Recording and Evaluation of the current situation – Contacts with all the Cretan automobile companies (representatives) – Involvement of Car Rental Companies
- Preparation of special labels - signs a) for making known the recycling of fried oils (hotels, restaurants etc.), b) for the electric vehicles users etc. and c) specific labeling for Petrol Stations
- Transparency of the initiatives – Market Transparency

c) Changing Behaviour

The phase of Changing Behaviour is the last phase of the demonstration programme in Crete. At this task, tangible “real life” behavioural changes are expected in the use of biodiesel and electric vehicles. The current essay, “Roadmap for Changing Behaviour”, is the fundamental document for the implementation of this phase at local level in Crete. The analytical structure of this deliverable is following bellow:

- Tools for road map deployment
 - Swot analysis results
 - Business economic model
 - Marketing plan
 - Financing and Legal issues
- Objectives for behaviour change
- Actions for change
- Policies for change

3. Tools for road map deployment

3.1 Swot analysis result

Internal Factors: Factors internal to the implementation activities and to alternative propulsion (biodiesel and electric vehicles)

a) Strengths:

1. Organized approach of the market
2. Relatively simple know – how
3. Economic efficiency
4. Link with other relevant activities
5. Exploitation of no – tapped potential (feedstock)
6. Very good and stable relations – ties with key market actors
7. Update and promotion of previous relevant best practices – interconnection
8. Fruitful approach of key tourist actors (sustainable tourism)

b) Weaknesses:

1. Restricted technical know – how
2. Difficult start – up (financial part of view)
3. Reluctant market
4. Difficulty of the companies to accept innovation as reliable practice

External Factors: Factors presented by the external environment influencing the implementation of alternative propulsion (biodiesel and electric vehicles)

a) Opportunities:

1. Common approach with the relevant market actors
2. Environment awareness
3. Link of biofuels with waste recycling
4. EU targets for biofuels in transport (2020)
5. Need of green image by tourist entrepreneurs
6. Willingness for participation in pilot schemes from key actors
7. Interest of Municipalities
8. Strengthening of the National Policy – New Ministry of Environment, Energy & Climate Change
9. Exploitation of the long-standing interventions for schools

b) Threats:

1. Inflexible legislation (legal restrictions)
2. New “immature” market
3. Low specific awareness
4. Lack of infrastructures
5. Global financial crisis restrains new investments
6. Activities based to solely market approach may lead to “no profitability”
7. Extensive competition may cause the damage or even the closure of small companies

All the above, are integrated in the next table:

Internal	<p>Strengths</p> <ol style="list-style-type: none"> 1. Organized approach of the market 2. Relatively simple know – how 3. Economic efficiency 4. Link with other relevant activities 5. Exploitation of no – tapped potential (feedstock) 6. Very good and stable relations – ties with key market actors 7. Update and promotion of previous relevant best practices – interconnection 8. Fruitful approach of key tourist actors (sustainable tourism) 	<p>Weaknesses</p> <ol style="list-style-type: none"> 1. Restricted technical know – how 2. Difficult start – up (financial part of view) 3. Reluctant market 4. Difficulty of the companies to accept innovation as reliable practice
External	<p>Opportunities</p> <ol style="list-style-type: none"> 1. Common approach with the relevant market actors 2. Environment awareness 3. Link of biofuels with waste recycling 4. EU targets for biofuels in transport (2020) 5. Need of green image by tourist entrepreneurs 6. Willingness for participation in pilot schemes from key actors 7. Interest of Municipalities 8. Strengthen of National Policy – New Ministry of Environment, Energy & Climate Change 9. Exploitation of many-year interventions for schools 	<p>Threats</p> <ol style="list-style-type: none"> 1. Inflexible legislation (legal restrictions) 2. New “immature” market 3. Low specific awareness 4. Lack of infrastructures 5. Global financial crisis restrains new investments 6. Activities based to solely market approach may lead to “no profitability” 7. Extensive competition may cause the damage or even the closure of small companies

3.2 Business economic model

a) Establishment of a concrete network of used cooking oil collection in Crete for biodiesel production

Entire chain of involved actors:

1. REAC → Coordination
2. Biodiesel Companies → Receivers of used cooking oils as feedstock for biodiesel production
3. Used Cooking Oil Collection Companies → Used cooking oil collection
4. Supermarkets → Active involvement – participation in the used cooking oil collection as intermediary partner
5. Hotels, Restaurants, Households etc. → Provision of used cooking oils
6. Media → Promotion of pilot activities

The above business economic model is in full scale progress, has been well accepted and has been a success so far. The collection market has restarted-up through the public call and official registration of the collection companies by the Region of Crete – Regional Energy Agency of Crete. The following promotional - awareness activities has enlarged and stimulated the regional market. Furthermore, the consultation with key demand and supply side actors (local workshops) contributed to the prevention, to the overcoming of market obstacles and to the presentation of eventual opportunities. Additionally, the collection companies developed strong links with biodiesel companies and consequently a fair competition has been achieved. A critical factor of success is also the direct involvement of big chains of supermarkets. This gave a further impulse to the collection of used cooking oils in Crete. The involvement of hotels is also very important for the collection of used cooking oil, especially in the tourist sector.

So far, there has not been any financial incentive from the State, but the market has already created its internal financial procedure and operates successfully. The final target is the growth of the collected quantities in

order to exploit the great regional potential as well as the market transparency. The Region of Crete – Regional Energy Agency of Crete deploys continuous efforts for this target and many activities have been already promoted by the regional media.

b) Pilot implementation of high biodiesel blends in large fleets

Entire chain of involved actors:

1. REAC → Coordination
2. Ministry of Environment, Energy & Climate Change → Regulations / Exemptions
3. Biodiesel Companies → Distribution Network
4. Transport Providers → Use of High Blends of Biodiesel in their Fleets
5. Media → Promotion of pilot activities

The above business economic model is in its preparation phase; this is mostly due to the current legislative restrictions. So far, the distribution of biodiesel in Greece is implemented through predefined mixtures by the refineries. The biodiesel companies sell biodiesel directly to the refineries. Therefore, blends of diesel (main fuel) and biodiesel reach to the final users through the network of petrol stations.

The Region of Crete – Regional Energy Agency of Crete implements interventions at political level for achieving an exemption or a regulation for high biodiesel mixtures in public transport / large fleets. A public bus company and a biodiesel company have already expressed their interest and support for a pilot scheme of biodiesel use in Crete. If the political decision for the avoidance of the legal restrictions is achieved, the Region of Crete – Regional Energy Agency of Crete will coordinate the whole procedure and will provide all the technical know how as well as monitoring and support.

A new regulation for biodiesel use in public transport should be combined with incentives for the participated transport providers in order to develop potential infrastructures or mechanical modifications.

c) Integration of electric vehicles in tourist related companies

Entire chain of involved actors:

1. REAC → Coordination
2. Automobile Companies (representatives) → Market of Electric Vehicles
3. Tourist Companies (e.g. Hotels) → Adoption and Use of Electric Vehicles
4. Car Rental Companies → Adoption and promotion of Electric Vehicles for hire
5. Municipalities → Adoption of electric vehicles and pilot infrastructures (recharging units)

The above economic business model is under development and implementation. The Region of Crete – Regional Energy Agency of Crete has implemented various interventions for tourist companies in order to promote electric vehicles. So far, two groups of hotels have adopted the use of electric vehicles and they have installed recharging units. These activities will be promoted as best examples for the further adoption of electric vehicles in tourism. Furthermore, there is a close cooperation with the representatives of automobile companies in Crete for the promotion and widening of electric-vehicle market.

Specific interventions for Municipalities are implemented for the development of electric-vehicle schemes. Work meetings and contacts with Mayors – Vice Mayors have been implemented for the promotion of this concept. A Municipal Scheme of Electric Vehicles will have great publicity by the regional media, attracting people's attention.

Taking into account that Crete has a great potential of R.E.S. electricity which can not be integrated 100% by the electrical grid, a possible specific pricing policy should be adopted. The recharging of the electric vehicles could be implemented during the night with lower tariff exploiting the energy produced by R.E.S. in the night.

3.3 Marketing plan

Campaign for used cooking oil collection:

Continuation of the promotional – marketing – dissemination activities for the collection of used cooking oils:

- a) Used Cooking Oil Collection Companies,
- b) Used Cooking Oil Providers (e.g. restaurants, hotels etc.),
- c) Supermarkets,
- d) General Public (e.g. collective housing)



Labelling procedure

Production of specific labels for the indication of these companies which has adopted:

- Used cooking oil collection and / or
- Electric vehicles

The labels can indicate for instance:

- a) hotels,

- b) restaurants,
- c) canteens,
- d) fast-food,
- e) golf clubs,
- f) public / municipal authorities and organisations,
- g) tourist companies etc.

These activities will have a great impact for the change of behaviour.

Campaign – labelling for biodiesel in petrol stations

Special labels for petrol stations will be produced in order to increase the “biodiesel market awareness”. Only a small percentage of the general public has been informed that fixed quantities of biodiesel blends are distributed through the network of petrol stations. This campaign will increase the awareness, will strengthen the biodiesel market and will create the base for further biodiesel use in transport.

Petrol stations → a) Transport Providers, b) Tourist Fleets, c) General Public etc.

Biodiesel market

Operation of REAC as a “catalyst” for the creation of an “Interconnection” between the Political Authority and the End User in order to “wake-up” the Biodiesel Market

- Ministry of Environment, Energy & Climate Change
- Refineries
- Biodiesel Companies
- Petrol Stations
- Transport Providers

Campaigns for Schools

The experts of the Regional Energy Agency of Crete implement special interventions for Primary and Secondary Schools

- Presentations
- Lectures
- Technical Visits
- Educational Material etc.

All the above activities cultures the “Changing Behaviour” of the children – young people for the used cooking oil collection, the biodiesel and the electric vehicles.

3.4 Financing and legal issues

Concrete suggestions and proposals for change in the national and local regulatory framework:

- Incentives for the companies which contribute to the used cooking oil collection
- Establishment of specific public control for registering the collected quantities of used cooking oils, inspecting the final destination and ensuring the legal purpose of exploitation e.g. biodiesel production
- Public financial support to Municipalities to establish and install used cooking oil collection e.g. for provision of special buckets/bins and tanks, tank-trucks etc.
- Official “green” certification of the companies which participate in the collection of used cooking oils
- Improvement of the national procedure of biodiesel distribution at the Greek market – Creation of efficient market
- Exemptions for the use of high biodiesel blends in public transport, municipal fleets and large tourist fleets
- Regulations on biodiesel use for industrial purposes
- Measures for the containment of biodiesel price at low level in order to be a competitive fuel
- Official “green” certification for the companies which participate in pilot schemes of high biodiesel blends
- Obligation of public authorities for green procurement in order to adopt electric vehicles
- Incentives for Municipalities in order to implement pilot recharging units for electric vehicles and adoption of electric vehicles at least for their internal transport needs
- Incentives for tourist related companies (e.g. hotels) to adopt electric vehicles
- Official “green” certification for the companies which have adopted electric vehicles

4. Objectives for behaviour change

1.) Settle the tourist island of Crete as a “reference region” for the collection of used cooking oils in tourist sector

- Organised approach of the new market with all relevant stakeholders
- Consolidation of the used cooking oil collection in Crete
- Expansion / certification of the Collection Network
- Participation of the major target groups in the collection programme
- Involvement of the local authorities e.g. active involvement and participation of the Municipalities in the promotional campaign of REAC
- Continuation of the promotional activities

2.) Claim by the transport providers for the implementation of a pilot programme for high biodiesel blends in large fleets

- Raising awareness campaign for biodiesel
- Official claim by the transport providers for high biodiesel blends
- Active involvement of the biodiesel companies for supporting the procedure
- Achievement of the political decision for legislative regulations / exemptions
- Demand by local authorities (e.g. Municipalities) for high biodiesel mixtures in their fleets
- Intensive promotional activities

3.) Adopt various types of electric vehicles for specific uses – innovation in tourism

- Wide adoption of electric vehicles by tourist related companies
- Strengthening of the regional market of electric vehicles
- Connection of electric vehicles with green image especially in tourism
- Active motivation and involvement of Municipalities
- Activities for raising awareness

5. Actions for change

a) Used Cooking Oil Collection

- Support the collection programme providing continuous information at all levels of the procedure
 - a) feedstock providers → b) direct collectors → c) indirect collectors (e.g. Supermarkets) → d) biodiesel companies
- Enable the labeling procedure for the companies (e.g. Hotels, Restaurants, Supermarkets) which participate in the collection of used cooking oils
- Strengthen and widening of the collection network in order to achieve a competitive regional market
- Implement a new strategy for the wide exploitation of households in the collection of used cooking oils
 - Specific guidance for collectors / proposals to prevent technical difficulties
 - Provision of useful information in order to approach households
- Cooperate with NGOs
- Raise awareness in Schools in the framework of on-going energy / climate educational activities
- Intensive promotion – dissemination activities / Coverage by the regional media / Internet

b) High Biodiesel Mixtures in Large Fleets

- Enabling the labeling procedure for petrol stations in order to create the necessary sustainable behaviour for biodiesel in the local society → support by the general public
- Pressure to the Ministry of Environment, Energy & Climate Change for specific regulations / exemptions for the Cretan transport providers

- Motivation / Encouragement of the transport providers to claim exemptions / regulations for a flexible distribution network of high biodiesel mixtures
- Ensuring the support and involvement of biodiesel companies
- Creation of a three-fold alliance (1. Region of Crete – Regional Energy Agency of Crete 2. Biodiesel Companies 3. Transport Providers) for “pushing” the Ministry to the political decision of legal regulations / exemptions
- Intensive promotion – dissemination activities / Coverage by the regional media
- Pilot project as a “flag” and demonstration / information activity

c) Adoption of Electric Vehicles

- Enabling the labeling procedure for companies (e.g. Hotels) which adopted electric vehicles for specific transportation (e.g. Vehicles for Tourists, Vehicles for Luggage)
- Emphasise on the benefits of the use of electric vehicles 1. tax exemptions 2. traffic privileges (circulation) 3. environmental benefits etc.
- Promotion of the green image of electric vehicles – Targeted information for tourists (integration of specific information in hotels’ newsletters)
- Provision of specific information for tourist companies in order to adopt the use of electric vehicles (types of vehicles, costs, technical features, advantages etc.)
- Promotion of pilot use of electric vehicles (recent adoption) in group of hotels as best examples (e.g. vehicles for tourists, vehicles for luggage) – Integration to a “Green Hotel” image
- Link the electric vehicles for getting power from the peak-off electricity production by RES – Storage / management of RES electricity
- Intensive promotion – dissemination activities / Coverage by the regional media

6. Policies for change

Biodiesel

The legislation for biodiesel in Greece is completely inadequate for the further promotion of biodiesel in transport. The biodiesel distribution is implemented through the following scheme:

- Biodiesel Companies: provide biodiesel to the refineries
- Refineries: implement the blending of biodiesel with diesel fuel
- Petrol stations: they provide the fuel (as mixture) to the end users

A brief list of the proposed “policy changes” is the following one:

- Expansion of biodiesel trade market – Biodiesel companies should not be obliged to sell all of their quantities to the refineries or abroad
- Official amendment for the growth of the legal maximum blend of biodiesel in transport
- Permission for use of high biodiesel blends in public transport
- Permission for use of high biodiesel blends in municipal fleets
- Permission for use of high biodiesel blends in tourist fleets
- Official amendment for the legal provision of high biodiesel blends (for public transport, municipal and tourist fleets) from the petrol stations
- Regulations for higher biodiesel blends for these municipal / transport / tourist companies which participate in the used cooking oil collection

Energy cultivations

There is not any financial support for energy cultivations by the State. There is neither any European subsidy / financial assistance for these cultivations. Taking into account the financial crisis in agriculture, the financial support of farmers is imperative in order to support the energy cultivations.

Taking into account that there are many Greek Biodiesel Companies, the contractual cultivations for biodiesel production should be promoted, supported and strengthened. In that field, the Unions of Agricultural Cooperatives in cooperation with the Ministry of Agricultural Development

have to support and guide the Cretan farmers for the suitable energy cultivations for the local climatic conditions.

Nevertheless, we have to note that tourist islands like Crete have not large available fields for energy cultivations in contrast to the mainland. Therefore, the development of energy cultivations in tourist islands is very restricted.

Electric vehicles

The wide integration of electric vehicles in Crete should be combined with the development and implementation of infrastructures. For that reason, Municipalities should play a key role in the use of electric vehicles. Initially, no large investments are needed for infrastructures. A pilot re-charging unit would be an important “starting point”. For example, a big Municipality could install a pilot re-charging unit in the central square of the city. That pilot unit would cause a constant motivation for the general public and it would be promoted as best example. Therefore, Municipalities have to integrate concrete measures for electric vehicles in their internal policies e.g.

- Green municipal procurement,
- Traffic exemptions for electric vehicles in the centre of the city,
- Free parking stations for electric vehicles,
- Use of electric vehicles for the internal transportation between the various municipal buildings / authorities,
- Infrastructures for re-charging units of the electric vehicles etc. (e.g. at the historical city centres)