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SELF GOVERNMENT- SUSTAINABLE DEVELOPMENT AND THE QUALITY OF LIFE- THE EXAMPLE OF ANAVRA, MAGNESIA, GREECE- LOCAL AND REGIONAL DEVELOPMENT

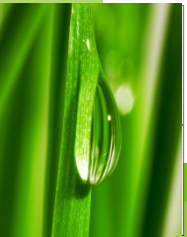
Abstract: Anavra Magnesia a successful implementation of regional sustainable development: A remote village whose principal income source was mountainous agriculture and herding of sheep which created health problems as the animals lived with humans within the village limits. It provided insufficient jobs for the local population. The social services and infrastructure were problematic: The elderly had no assistance for their care; the youth were unemployed and left for distant jobs in larger cities. Traditional homes and architectural/ cultural monuments were unpreserved and falling apart. The village had no paved roads, no access to the national bus network, no public lighting, no waste water sanitation network, no clinic nor any local doctor, no local teacher (day-care and school required travel hours away), no sports infrastructure and expensive electric current and natural water sources near the village were under exploited

The state made no efforts to save this village in economic decline, after 1990 sustainable growth, prosperity and quality of life was achieved when the new elected mayor Mr. Dimitris Tsoukalas a former executive from the Greek Electric Power Company knowledgeable in renewable energy sources returned to his village from Athens and secured European funds. Inhabitants supported the plan to have the entire energy produced locally from wind-energy parks which enabled it to self-finance all previously mentioned infrastructure and social expenses and create an environmental-cultural park and a permanent animal sanctuary. While exempted from law "Kapodistrias" (1998), for merging municipalities, the Law "Kallikratis" (2011) merged it with the unsustainable larger municipality of Almyros holding back its progress. Today, despite the economic crisis, thanks to past decades achievements, residents enjoy an excellent quality of life with high incomes

Keywords: Self- Government, Sustainable Development, Quality of Life, Anavra Magnesia

Introduction

- 1. The evolution of Anavra and its importance for the greater region**
- 2. The former situation**
- 3. Strategic planning and prioritization- Initiatives and projects**
- 4. Developmental Results and multiple benefits**
- 5. Preconditions and necessities**
- 6. Possibilities and Prospects - Urban and regional development**
- 7. References**



Introduction

Anavra Magnesia a remote village whose **principal income source was mountainous agriculture and herding of sheep** which created **health problems** as the animals lived with humans within the village limits. It provided **insufficient jobs** for the local population. The social services and infrastructure were problematic: The elderly had no assistance for their care; the youth were unemployed and left for distant jobs in larger cities. **Traditional homes and architectural/ cultural monuments were unpreserved and falling apart.** The village had **no paved roads, no access to the national bus network, no public lighting, no waste water sanitation network, no clinic nor any local doctor, no local teacher** (day-care and school required travel hours away), **no sports infrastructure and expensive electric current and natural water sources near the village were underexploited.**

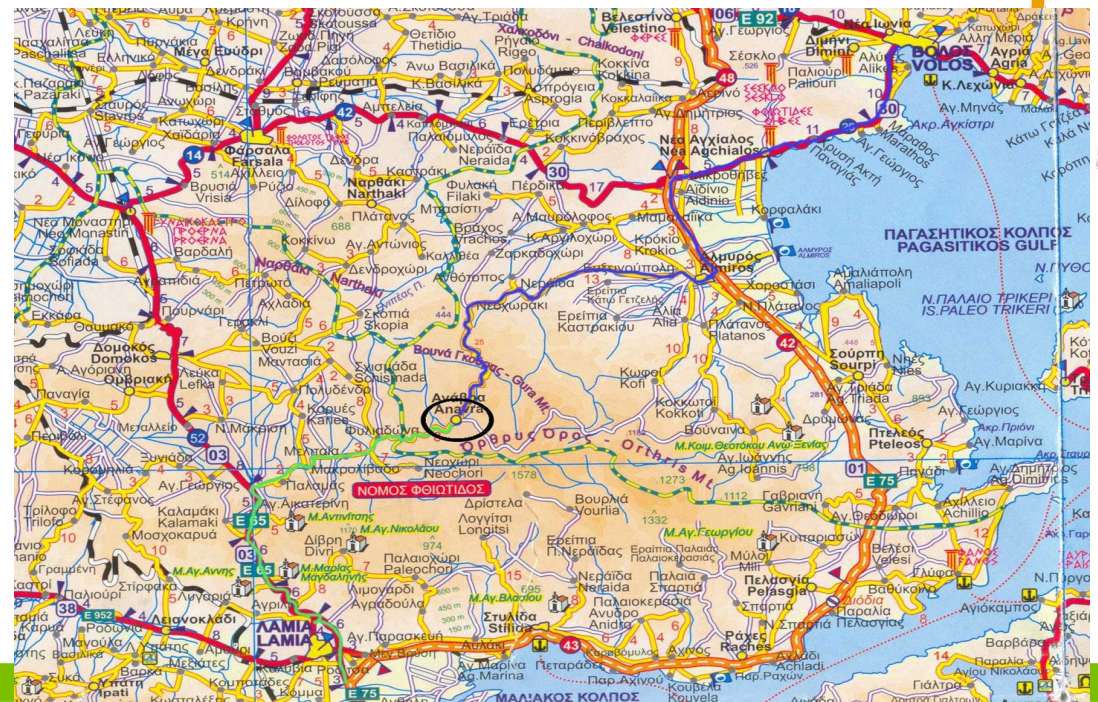
The state made no efforts to save this village in economic decline, after 1990 sustainable growth, prosperity and quality of life was achieved when the **new elected mayor Mr. Dimitris Tsoukalas** a former executive from the Greek Electric Power Company knowledgeable in renewable energy sources returned to his village from Athens and secured European funds. **Inhabitants supported the plan to have the entire energy produced locally from wind-energy parks which enabled it to self-finance all previously mentioned infrastructure and social expenses and create an environmental-cultural park and a permanent animal sanctuary.**

1. The evolution of Anavra and its importance for the greater region

Anavra is located on Mount Othris at an altitude of 900 m, near a rich water basin where its name originated from (Map 3). Far from the big urban centers (250 kms from Athens) and the nearest (72 kms from Volos, 40 kms from Lamia), it borders the municipalities of Almyros on the side of Magnesia prefecture of the region of Thessaly of which they have become a part of with the law kallikratis of 2010), Domokos on the side of Fthiotida prefecture and Narthaki from the side of Larisa prefecture (Map 1,2, picture1). The surface of the community is 121.9 km². The population at **the 2001 census numbered 987 total inhabitants, 700 of which were year round permanent residents** [KARALI 1994, 2002].

It has a rich natural environment, a variety of flora and fauna and water resources, with the springs of the river Enipea, the tributary of Pinios (the third in Greece in length). The area was inhabited since the Neolithic era. The settlement dates back to the 6th c. During the Byzantine period, the region was a site of barbarian invasions, which forced many residents to abandon it. In the 15th century there was a presence of breeders. During the Ottoman occupation in the 18th century it reached almost 10,000 inhabitants mainly nomads living in the mountainous areas.

Anavra then exported its goods to Northern Greece, the island of Syros and abroad. In 1815-1821 the population fled to neighboring cities until the liberation (21.6.1881) and the annexation of Thessaly to Greece, due to its prosperity, the area was often the victim of robbers' raids, resulting in the fortification of settlements, the fleeing of the population and its decline.



2. The former situation

In 1980, the settlement was isolated, lacking attractiveness for visitors and new residents, showing an image of abandonment. The proximity of residents to animals (over 15,000) in settlements caused health, hygiene and functionality problems, which were exacerbated by the lack of a waste disposal system [LACROIX]. The lack of a main technical infrastructure (mostly damaged water supply network) lack of accessibility, such as paved main and inland roads (existence of dirt roads only), resulting in difficult transportation in the winter, and a lack of infrastructure for health, education, culture and sports were good indicators. Indicatively, despite the geographical isolation and distance of the village from the neighboring settlements, there was no primary school in operation, nor was there a place for gathering the inhabitants (general assemblies, etc.). The need for the community to provide shelter to landless and new citizens, the relocation of breeders to the most appropriate parts of the settlement, and the care of lonely and/or elderly patients had to be included in the planning.

Lack of interest was highlighted in terms of tourist attraction and promotion of the image of the settlement, while the economic decline, the low level of income of the employed in livestock farming was characteristic. This was accentuated by the zero absorption of community funds, the lack of income for the community and the benefits to the residents, etc.



3. Strategic planning and prioritization- Initiatives and projects

The vision of the Community Authority was to create a small, modern and progressive community, with income generation, promoting culture and upgraded quality of life by exploiting the comparative advantages of the region and renewable energy sources.

The Strategy involved 3 steps:

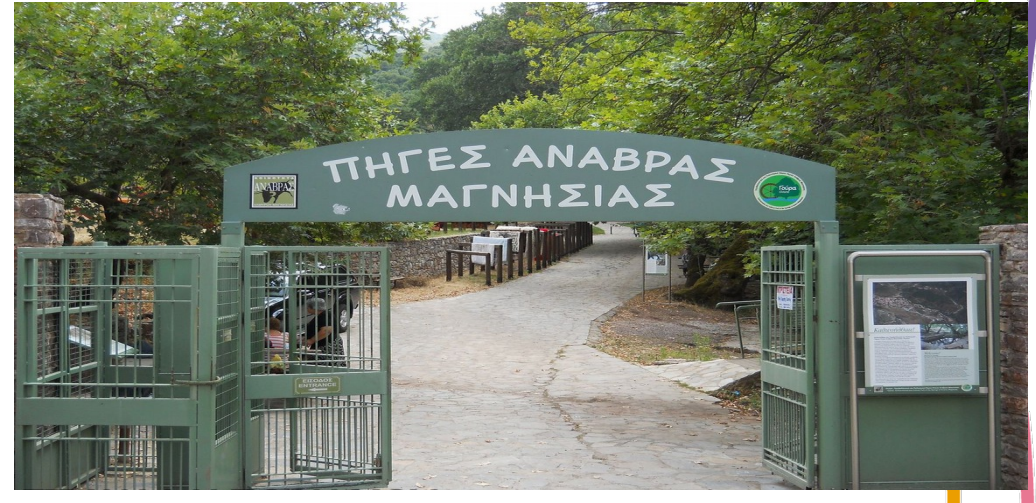
A) A business planning process provided the mapping of the problems of the settlement, their classification and their ranking by policy axes. B) The comparative advantages (water, air, sun, etc. and livestock farming) and the possibility of their optimal utilization were evaluated. Given the available natural resources, sustainable development was recognized as the right choice. And last C) The most important goal was the absorption of the available Community funds and state funding (programme "Theseus" 2006-2010, with criteria such as mountainousness, etc.), while seeking additional resources. Three initiatives followed:

- 1) The relocation of animals outside the populated city limits, for accommodation and grazing, which led to the development of organic livestock farming.
- 2) Developing a road infrastructure, water supply, waste management
- 3) Education, health and culture.

The small road network was completed (only a main road was operating), the water supply network was restored and road and other infrastructure projects were launched, while the supply of (7) de-icing machines was implemented. The village was now accessible by car, with paved roads, cement and asphalt. Reforms of the square and community buildings followed by improvement techniques, functional and aesthetic interventions and the creation of open public spaces for the gathering and resting of the residents (squares, plateaux, fountains, etc.) that highlight the natural beauties and Traditional character of the place (Pict. 1-4, 6-8).

3. Strategic planning and prioritization- Initiatives and projects (Continued)

In order to preserve the work of the community in the natural, cultural and cultural environments, in August 2010, the non-profit civil society "Volunteer Organization of Magnesia Anavras for Environment, Sustainability and Culture" was founded with the distinctive title " ANVRA-ZO "by seven partner members, including members and employees of the former Community authority.



Picture.2, 3 Anavra springs, Magnesia.

Picture. 4. Environmental Park. Picture. 5. Wind-energy park on Othris mountain. Source: ANAVRA-ZO (a wind farm with a capacity of 17.5 MW, capable of generating electricity for 13.000 homes yeilds an annual revenue of Euro 100000 to 130000 Based on wind potential)

3. Strategic planning and prioritization- Initiatives and projects (Continued)

Initiatives were taken on health and culture issues and the repairs of the square and municipal buildings were carried out with best of class improvement techniques, **functional and aesthetic interventions and the creation of public outdoor and non-public spaces for the assembly, passage and rest of the citizens** (squares, flats, fountains etc.), **which highlight the natural beauties** (with hills, sights and observatories of the wider region, etc.) **of the mountainous and traditional character of the place** (Pictures 6,7,8 below).



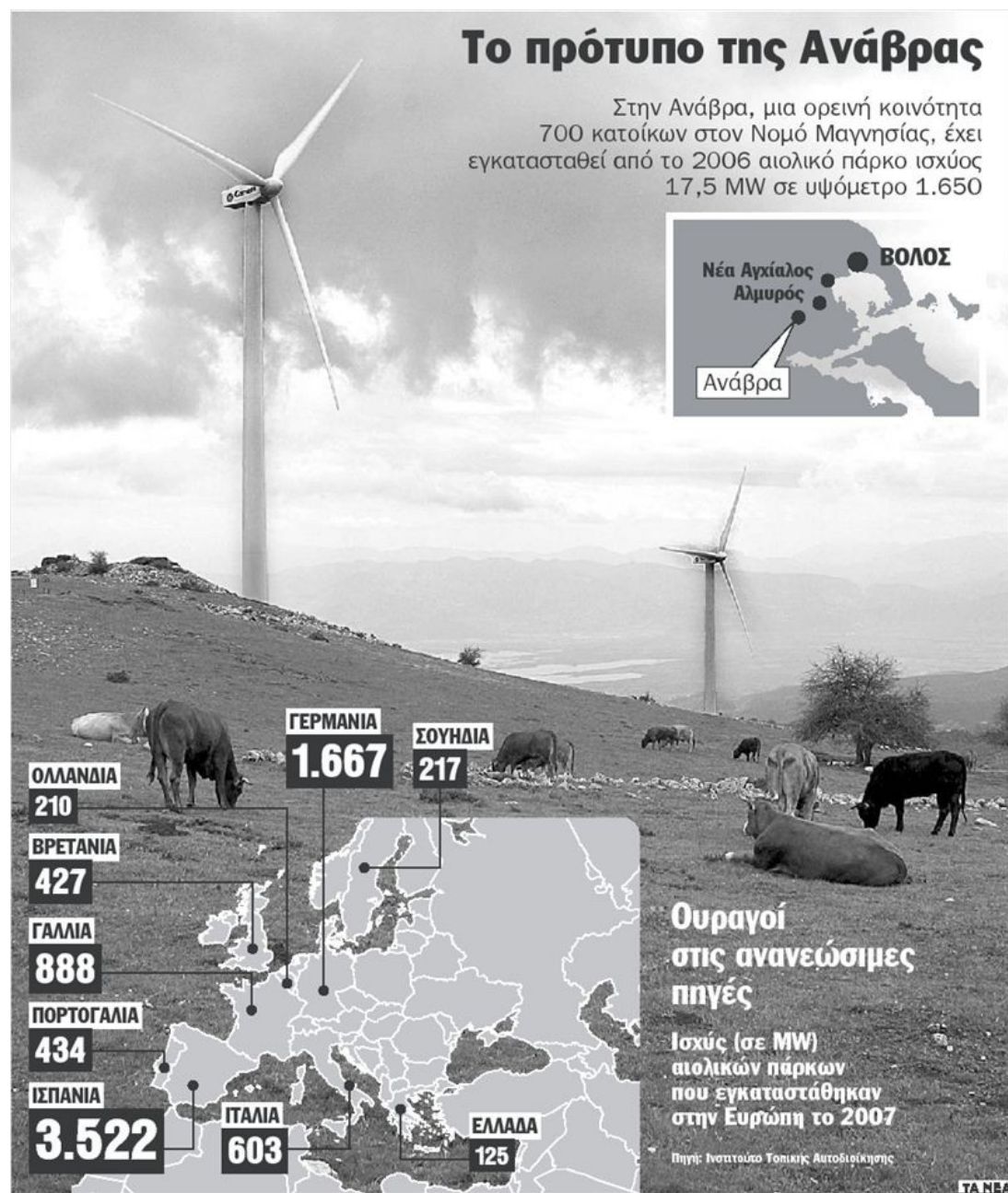
Picture.6. Formation of a traditional faucet on a plateau.

Picture.7. Traditional stone bridge. Source:ANAVRA-ZO.

Picture 8. Theater formation in the environmental park.

Source: www.forthnet.gr/templates/news

4. Developmental Results and multiple benefits



Picture 9 . Comparison of Anavra with Greek and European data regarding the installation of wind parks.

Source: <http://images.tanea.gr/assetservice/Image>.

5. Preconditions and necessities

A great concern for the local population and the previous local authorities was the inclusion of the village in the Law Kallikratis with its inclusion in the Municipality of Almyros. To unite with other communities of Greece, as an independent / pure 'local' self-government entity, came at a price with the “Kalikratis” Law when it lost its independence in manageability and achievement of the Objectives by the Authority.

On the contrary, the surrounding villages included in a wider, unified municipal ensemble showed little growth as compared to Anavra (bureaucracy, delays, difficulty of controlling a larger field of supervision, ignorance - degradation of local problems, etc.).

The example of Anavra Magnesia is typical of risking a community-model in development and the environment to become a simple member of a wider municipal authority, isolated and degraded and with problems in the management of everyday life of citizens (waste collection, etc.).

This particular experience from Anavra highlights the need to apply additional safeguards for small local communities so that the concentration of the administrative structure does not prevent the design of decentralized development actions and environmental management.

6. Possibilities and Prospects - Urban and regional development

The methodology was also presented together with the process of interventions, the importance of exploiting the comparative advantages of the village and the reliance on renewable energy sources and finally the enormous change that was achieved in over a decade for the village and its inhabitants.

Though its integrated local development programme, Anavra experienced a transformation attributed to the proper implementation of promising best practices in European standards of sustainable development. By scheduling priorities according to local needs, and in time, the Community of Anavra proceeded with a series of techniques, mainly of projects of different scale, breadth, service and feasibility, while foreseeing the needs of future projects (Table 2, 3, 4).

Main development infrastructures in operation in Anavra (2009)

The wind-energy park: Located a little farther from the village, it earns up to \$ 100,000 a year in the community as a fee for the use of space. This amount corresponds to 3% of the value of the electricity produced, purchased by the Greek power company DEH.

The three herding farms, with light, water and proper construction, house 25,000 animals in the winter (Heavy snowfall). The rest of the months graze freely in the mountains. So their meat is famous for its distinct flavor. Livestock farming is the main source of income in Anavra.

The standard organic line slaughterhouse, unique in Greece, certified and European Union code (564), ultra-modern equipment with 2 lines, one of which is considered organic. This created the basis for the development of livestock farming, with the result that producers earned substantial sums of subsidies from the European Union, with funds being made available to them.

The environmental-cultural park, of 240 acres. Fenced area that is also a folk tradition museum. It is a potential source of income for the community, as many schools are interested in visiting and the introduction of a symbolic ticket will cover its maintenance costs.

The two-storey parking lot of 60 seats, which facilitates traffic and offers free parking to residents and visitors. Particularly useful in snowy days during the winter holiday season, which the square is overwhelmed by visitors who come to purchase the famous Anavra meats.

The gym with state-of-the-art equipment, soccer and basketball courts and the folk museum.

Table 2. Main development infrastructures in operation in Anavra (2009) Source: PANTERA

ANAVRA- SECTORS OF PROJECTS IMPLEMENTED IN THE YEARS 1991-1994 AND 1999-2010

EXTERNAL ROAD NETWORK CONNECTING TO PUBLIC BUS TRANSPORTATION

INTERNAL ROAD NETWORK

INFRASTRUCTURE WORKS

REPAIR OF PUBLIC AREAS WITHIN AND OUTSIDE THE CITY.

HEALTH - SOCIAL WELFARE - PUBLIC HYGIENE

EDUCATION - SPORTS - CULTURE

CULTURAL - ENTERTAINMENT EVENTS

LIVESTOCK

COMMUNITY FUNCTION - COMMUNICATION

PROJECTS OF SUSTAINABLE DEVELOPMENT

COMPLETE STUDIES FOR INCLUSION IN PROGRAMES

Table 3. Anavra- sectors of projects implemented in the years 1991-1994 and 1999-2010

ENVIRONMENTAL CULTURAL PARK

PERMANENT GAME SHELTER (8000 ACRES, EXTENSION OF THE PARK)

DISTRICT HEATING

SMALL HYDROPOWER PROJECT

WIND-ENERGY PARK

SOURCES OF ANAVRA

Table 4. Anavra - List of Sustainable Development Projects. Source: PANTERA

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Παραδείγματα από τον ελληνικό και τον διεθνή χώρο

Εκατοντάδες είναι τα παραδείγματα από τον διεθνή χώρο, μικρών ή μεγαλύτερων δήμων, προσανατολισμένων στην “πράσινη” ανάπτυξη (Καλλικαντζάρου 2009α,β). Ενδεικτικά είναι τα ακόλουθα:

Από το νησί Samsø (Δανία) Η Δανία καλύπτει το 20% της ηλεκτρικής της κατανάλωσης από το πλούσιο δυναμικό αιολικής ενέργειας που διαθέτει, ενώ οι βιομηχανίες ανεμογεννητριών της εξάγουν το 90% του προϊόντος τους, κυρίως στην Γερμανία και στην Ισπανία (Τσιπουρίδης www.eletaen.gr/drupal/sites).

Στο Kalundborg (Δανία), (*Kalundborg municipality* www.kalundborg.dk) ετέθησαν τα θεμέλια της βιομηχανικής οικολογίας.

Στη **Βαρκελώνη** (Ισπανία), έχει θεσπιστεί η προώθηση της χρήσης της **ηλιακής ενέργειας** για ζεστό νερό. Τα νέα κτίρια χρησιμοποιούν ηλιακή ενέργεια για να καλύπτουν 60% των αναγκών τους σε ζεστό νερό.

Στη **Στουτγάρδη** (Γερμανία), από το 1999 έχει αποφασιστεί η κατ’έτος συλλογή 60.000 κυβικών μέτρων κομμένων ξύλων και θάμνων από τα πάρκα της πόλης, προκειμένου να χρησιμοποιηθούν για εργασίες ή για θέρμανση. Με αυτό τον τρόπο μειώνεται το κόστος των απορριμμάτων (www.athensgreen360.com/content/).

Στο **Elkhart** της **Indiana** (ΗΠΑ), σε (10) ετών αντικαταστάθηκε το σύνολο των συμβατικών λαμπτήρων στους φωτεινούς σηματοδότες με λαμπτήρες χαμηλής ενεργειακής κατανάλωσης, πρωτοβουλία που συνέβαλε στην εξοικονόμηση ενέργειας, καθώς η διάρκεια ζωής αυτών είναι μεγαλύτερη, ενώ το φως που εκπέμπεται είναι σαφώς πιο ευδιάκριτο. (www.athensgreen360.com/content/).

Ο **Δήμος Κάμπου**, με έδρα τον Σταυρό **Καρδίτσας**, στο βόρειο τμήμα του νομού με σκοπό τον δωρεάν φωτισμό των χωριών του, κατασκεύασε 5 φωτοβολταϊκά πάρκα ισχύος 20KW/h το καθένα. Κάθε χωριό διαθέτει φωτοβολταϊκό πάρκο. Αξιοποιώντας επιδοτούμενο πρόγραμμα του Υπουργείου Ανάπτυξης, από την άνοιξη του 2009 παράγει ηλεκτρική ενέργεια από τον ήλιο και πωλεί στη ΔΕΗ το ηλεκτρικό ρεύμα που παράγει.

Στη **Νιγρίτα Σερρών**, στην Κεντρική Μακεδονία, τα τελευταία έτη υλοποιείται η εγκατάσταση συστημάτων ανανεώσιμων πηγών ενέργειας, με σκοπό την αξιοποίηση ενέργειας, την προστασία του περιβάλλοντος, την οικονομία δήμου και κατοίκων και την προώθηση της οικολογικής αντίληψης του πληθυσμού.

Οι Λειψοί, στο βορειότερο σημείο της Δωδεκανήσου, μεταξύ Λέρου και Πάτμου, την τελευταία εικοσιπενταετία έχουν στραφεί στην αειφορική ανάπτυξη. Ήδη από το 1991 λειτουργεί φυσικό σύστημα **διαχείρισης των υγρών αποβλήτων** ενώ πιο πρόσφατα εγκαταστάθηκαν **ηλιακοί συλλέκτες** για το φωτισμό της παιδικής χαράς. Η ανάπτυξη βασίζεται στην ιστορία της παραγωγής του τόπου, δηλαδή στην αλιεία, στη γεωργία και στην κτηνοτροφία. Ταυτόχρονα, ο δήμος προέβη σε ανακύκλωση των απορριμμάτων, στοχεύοντας επίσης και στη λειτουργία συστήματος **κομποστοποίησης**.

Στη Μήλο, πέμπτο σε μέγεθος νησί των Κυκλάδων λειτουργεί μονάδα αφαλάτωσης νερού με τη χρήση **αιολική ενέργειας**, δυναμικότητας 3.000 κυβικών μέτρων/ημέρα.

Στην Ελευσίνα από τον δήμο 450 ειδικοί κάδοι και πλέον εφαρμόζεται πιλοτικά η οικιακή **λιπασματοποίηση**. Ο δήμος διανέμει το λίπασμα στους δημότες από τα πράσινα απόβλητα που λιπασματοποιεί. Έτσι, ανακυκλώνεται το 35% του συνολικού όγκου των αστικών αποβλήτων.