



IS RENEWABLE ENERGY FOR KASTELLORIZO A POSSIBILITY?

By Dr George Stabelos, Melbourne

The wind and the sun have played an important role in the history of Kastellorizo's glorious past and hold potential for the island's future.

According to *The Lonely Planet Travel Guide*, Kastellorizo has been "Home to the best harbour between Beirut and Piraeus, a prosperous trading port for the Dorians, Romans, Crusaders, Egyptians, Turks and Venetians... it had the largest merchant (sailing) fleet in the Dodecanese" (1) and as revealed in a recent edition of *Filia* included sailing ships of up to 600 tons (2). This was during a time when harnessing the power of the eastern Mediterranean and Aegean winds was vital for trade and economic prosperity.

Wind and sun past and present

The sea winds of Greece are legendary. It is these fierce winds, which once blew mighty waves towards Odysseus and are described in Homer's *Odyssey*:

"After the escape (from Poseidon), Odysseus and his crew stayed with Aeolus, a king endowed by the gods with the winds. He gave Odysseus a leather bag containing all the winds, except the west wind, a gift that should have ensured a safe return home. Just as Ithaca came into sight, the greedy sailors naively opened the bag while Odysseus slept, thinking it contained gold. All of the winds flew out and the resulting storm drove the ships back the way they had come".(3)

The Meltemia (Greek: μελέμια), are the strong, dry north winds of the Aegean Sea from about May to September and are a dominant weather influence in the Aegean Basin and some of the Mediterranean (4-5). They are at their strongest in the afternoon and often die down at night, but sometimes meltemi winds last for days without a break. As evidenced by the many anecdotal stories of Kastellorizian sea farers of the past, Meltemi and other main winds may be dangerous to sailors, because they come up in clear weather without warning and can blow at 7-8 Beaufort (28-40 knots or 55-70km/hr, producing 4m-7.5m waves) (6). Some yachts

and most inter-island ferries cannot sail under such conditions. However, they often provide a good, steady sailing wind, favoured by leisure sailors (4-5). Today as much as ever, meltemi and other main sea winds and the power of the sun, when harnessed, have the potential to play a positive role in Kastellorizo's future.

Renewable energy potential

Renewable energy is energy that is collected from renewable resources, which are naturally replenished, such as wind, sunlight, rain, tides, waves, and geothermal heat. As of 2015 worldwide, more than half of all new electricity capacity installed was renewable, and wind turbine power alone is projected to supply up to 20% of global electricity by 2030 (7-8). However, Greece and Australia lag behind numerous other countries. Data available suggest that Greece generated 20% of its total electricity in 2016 from renewable sources (9-10) and Australia 17% (2016)(10). This compares to a 20% average for the European union and 40-50% for countries such as Sweden and Finland.

The advantages of renewable energy are that it is potentially infinite as an energy source and on average, more kind to the environment. Just like other non-interconnected Greek islands, Kastellorizo is currently entirely dependent on power generation from its one DEI plant on the south-east of the island which burns diesel fuel in inefficient and expensive diesel generators. Apart from costs, the significant down sides include environmental effects and reliance on the importing of diesel by tanker from overseas. Similarly, the smaller Greek islands like Kastellorizo have insufficient water resources and have to be supplied via tanker ships at a high cost.

Green power has many potential benefits for Kastellorizo including sustainability, energy security, and when sensitively introduced, economic and environmental benefits. Energy and water supply are strongly interrelated and their efficient management is crucial for a sustainable future (12). Renewable energy has the potential for

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contributing to a solution for the island's fresh water challenges, by being a power source to the newly to be constructed water desalination plant. Seawater desalination using renewable energy is a realistic emerging option and designs have even included wind turbine powered floating desalination plants. The results of feasibility studies and modelling exercises as at 2014 show that the water selling prices for islets such as Kastellorizo may be reduced up to a factor of four (12).

Greece has some of the most attractive sites for the use of wind energy in Europe, with average capacity factors of around 25% for the mainland and an even greater 30% for the islands including Kastellorizo. The economic wind energy potential in Greece is considerable, being estimated at 10,000-12,000 MW. (13)

Solar energy is also playing an increasingly important part in the energy mix of Greece. The country has high levels of solar irradiation. The Dodecanese islands including Kastellorizo have amongst the highest levels of solar radiation exposure in Greece and Europe at large and even more so than most of the Greek mainland. With around 4.1 million m² of solar thermal systems installed, Greece has the second largest total capacity in Europe after Germany. It also has the third largest per capita ratio of installed collector surface after Cyprus and Austria. (13)

Is renewable energy a realistic strategy for Kastellorizo?

Renewable energy need not be a pie in the sky dream for Kastellorizo and there are several local successful models that can be emulated to turn this vision into reality. On Samso island in Denmark, "Electricity bill shock has become a distant problem for residents on this island. It is far more likely they will receive a cheque in the mail for their power. The island is carbon neutral and runs on renewable energy, with power and profits flowing back into the community. It produces more than enough clean energy for all its 4000 residents." (14)

A tourism industry attracting thousands of visitors each year has sprouted around the island's innovative energy generation methods. Samso gets its electricity mainly from wind turbines, both on the island and offshore. Five of the 10 offshore wind turbines are owned by the local government, three are privately owned mainly by local farmers who pooled their money to fund the project, and the last two are owned by a co-operative of small investors. One of the residents stated, "On our island, this produced new income streams for our economy, new jobs for our residents, and even cheques in the mail for households – rather than an electricity bill – because people had the opportunity to become direct shareholders. A wind turbine looks different when you own it! Seeing such benefits can transform someone quickly from a so-called nimby (not in my backyard) to a yimby (yes, in my backyard)." (15)

Closer to home, the Greek Dodecanese island of Tilos is set to be the first island in the Mediterranean powered by wind and solar energy. Tilos (population 400), which has recently won European awards for

innovation in sustainable energy, and Hepburn Springs in Victoria, Australia, are local examples where the entire local population's energy needs are set to be met by Green power sources. By installing a single wind turbine and small photovoltaic park, Tilos is creating a hybrid micro-grid that will generate and store energy. Installation is under way and an 18-month pilot begins in late 2017. The \$16 million project is funded largely by the European Union, with help from the Eunice Energy Group, a Greek renewable energy developer and engineering design input from engineers at the Technological Educational Institute (TEI) of Piraeus, Athens (16-17). Eventually, Tilos could export excess power to Kos, and the goal is to roll out similar projects on other small islands in Europe. There is an opportunity here for Kastellorizo, if local authorities see benefit, the island is united and has governmental support.

Legacy

Renewable energy has much potential for Kastellorizo, an island that in the past, partly as a consequence of wind and sun, has held significant strategic and economic importance for Greece, Europe and the wider region. It is the furthest south-eastern point of Greece, Europe and subsequently the Western world and forms a connection between East and West. Harnessing the wind and sun may once more be an important vision for Greece's Kastellorizo, leaving a worthwhile legacy for generations to come and ensuring energy and water sustainability, security and aiding in guaranteeing Kastellorizo's future.

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STUDENT EXCHANGE

By Kristina Todd, Konstantine Manios and Matthew Zounis

A Step in my Ancestors' Shoes: by Kristina Todd

I recently travelled to Greece as part of the Kastellorizian student exchange program. This exchange program has changed my perspective on Greece, as I have been well educated on its history and culture. I followed the footsteps of my ancestors and what their lives were like on this small island. I got the opportunity to see the many layers of history on the island from the classical to the Hellenic periods. Before arriving on the island, one night was spent in Rhodes where we were given the chance to see the old town. When arriving on the Blue Star Ferry, it was amazing to see Kastellorizo for the first time; the island looked bigger than I imagined.

The first couple of days were spent learning and unfolding what life was like on the island whilst also visiting the many archaeological sites. We walked the mountains with the great company of two boys who became good friends [XHONY ALLA AND NICOLA]. We were shown many sites on the island, including Army bunkers and just three of the 42 churches on the island. The Limani was surrounded by beautiful neo-classical buildings and the crystal clear water [Pera Meria]. The Mosque Museum opened my eyes to the culture of the island and seeing what they used and what they wore in their day to day lives [the Kastellorizian dress & embroidery]. The museum opened my eyes to the culture of the island and seeing what they used and what they wore in their day to day lives [the Kastellorizian dress & embroidery]. I got the great opportunity to see my ancestor's house on the island, (my great grandmother's house). I have now seen where my ancestors lived and tried to understand how their lives were affected from the war, as the house was in ruins.

We also danced with the locals and listened to Greek music, which I thoroughly enjoyed. Another highlight was going to the local bakery and experiencing the food and enjoying the food at the local restaurants.

The highlights on the island were meeting the children at the Santrape School, seeing what their schooling life is like, and visiting the many historical sites of the island including the Passas Wells and the Catacomb of St George of the Mountain. Visiting the Grotto was one of my favourite places. The water was as blue as blue. We also got to watch Kyria Despina making Katoumari and

actually trying to follow her instructions as she involved us. It was amazing to watch Kyria Despina cook with so much passion.

Towards the end of my time on the island, I had the pleasure of meeting one of the many characters on the island, my long distance cousin [Maria Lazarakis]. Maria shared many great stories with us whilst we were enjoying the katoumari that Kyria Despina made. My perception of the island has changed as now I see it as a very peaceful, relaxed and friendly place to live. Leaving the island was as emotional just as when I arrived.

After having a great experience on the island we had another great experience in Athens. In Athens we got the opportunity to visit the Acropolis, the Acropolis Museum, Olympic Stadium, Evssonnes changing of the guards, the National Archaeological Museum, Benaki museum, Panathenaic Stadium and Syntagma Square.

In Athens, I also had the opportunity to volunteer in the *Boureme* program that made me feel so good inside to know that we were helping people less fortunate than others. I was fortunate to work with other volunteers from various parts of the world. While doing the volunteering I saw what the outer suburbs were like in Athens, which made me aware of the living circumstances in other countries. I would like to see this volunteering continued for future exchange students, as I would like them to have the same experience.

I am very thankful and feel extremely privileged to have received this great experience. I feel I have connected with my ancestry and I will always treasure the week I spent on Kastellorizo, the memories and friendships I've made. I would like to personally thank Marilyn Tsolakis for putting up with the three of us for two weeks and making this exchange possible in the first place. A lot of personal time has gone into this exchange and I am thankful to have obtained such knowledge and history and to see how passionate Marilyn is about the island. Furthermore, I would like to thank my two new friends which I will never forget Konstantine Manios and Matthew Zounis. We share very fond and fun memories together from this exchange. We have all individually said that we love KASTELLORIZO.

I would sincerely like to thank *Friends of Kastellorizo* and *The City of Perth* for generously sponsoring this program. I hope, in the near future to have similar opportunities with the company of my family.



My Kastellorizo: by Konstantine Manios

It was a Monday morning, the sky was bright and blue, the sun shining high over the Turkish mountains. The Blue Star ferry turned the corner towards Kastellorizo, and as I had seen in so many pictures there was the u-shaped limani, aligned with so many doll-like houses, one after another, and the amazing colour of water aligned with so many colourful boats.

My heart was pounding; I was excited, nervous and feeling overwhelmed with the sheer beauty of this island that my four great grandparents had called home. My dream of coming to Kastellorizo was just about to be fulfilled. As I waited with anticipation, the boat got closer and closer, the sound of people chattering in Greek got louder and louder. As we grabbed our bags and stepped off the boat, waiting for us with great delight was my cousin Margarita Kannis with three school boys, Yianni, Pano, and Nicholas, who helped us with our luggage as we walked around to our hotel, The *Poseidon*.

Our days on Kastellorizo were endless; there were so many highlights and so much walking. We took many walks up the mountains, up the 400 steps, so sad to think my ancestors ran up those steps, to get away from the bombings; for them it was a matter of life or death. The views were breathtaking of the surrounding islands and of Turkey, a stunning panoramic view of the picturesque limani, aligned with its houses, interspersed with beautiful churches. The terrain was rugged, under my every step lay numerous remains of ancient buildings, amongst bushes of aromatic herbs.

One day we took a sea taxi to St George Island and had lunch there and we swam for three hours in the beautiful water. Another highlight was going to the grotto; this was amazing, the colour of the water was indescribable, so rare, so pure, and so blue.

Meeting the students at Santrapeia School was another highlight; we played ping pong with the senior school students, and made some great friendships with the boys. Most of them spoke to us in Greek. Luckily I had remembered our Greek lessons with Costa Demetriades in Perth before we left for Greece.

I absolutely loved to walk the Kastellorizo strip; I loved to watch

the turtles; I loved to watch the people; I loved the fresh food and to hear the Greek music play at the restaurants. I could never understand how the tables and chairs were so close to the edge, yet I never saw anybody fall into the water. I also couldn't believe how many cats were on the island; they were everywhere.

I was also lucky to see my great grandparents' homes, to have stood where they stood and to have imagined how life would have been for the family.

We also visited Despina Misomike who welcomed us into her home and taught us how to make katoumari which was a lot of fun. I loved the fact that the island feels safe, the island has a feeling of freedom, and peacefulness and the people are very laid back and relaxed.

We also travelled to Rhodes and Athens. Whilst in Athens we participated in the *Bouroume* programme in the afternoons. We went to the markets and together we filled up trolleys with fruit and vegetables that the farmers didn't want, and loaded it up into a van which was delivered to the church to help people in need. The success of the Bouroume programme seems to be growing and it was a wonderful feeling knowing we were helping people in need.

I have gained so much from this experience; the week I spent on Kastellorizo has changed my life. I now understand the courage and strength my great grandparents had to have to flee an idyllic island that was full of war, to start a new life in a new country with no understanding of the language or culture.

The island is full of history and I feel so proud to have met so many wonderful people who made me feel at home. I feel so connected to Kastellorizo. I would like to thank the generosity and kindness of everyone on Kastellorizo; it was truly overwhelming.

I would also like to thank Kristina and Matthew. I feel like we've made great new friendships and Greece wouldn't have been the same without you.

I would also like to thank Marilyn Tsolakis; I have learnt so much. You have opened up my mind about how much history this beautiful island has, and full of so many untold stories. I feel so privileged to have been a part of this journey. I will never forget you Kastellorizo; you are definitely planted firmly in my heart.



My Student Exchange to Kastellorizo: by Matthew Zounis

Going to Kastellorizo and seeing where my great grandfather and grandmother came from was a very eye opening experience, especially when we went to the museums and saw all the old pictures of when the island had a population of 10,000 people, a harbour filled with sailing boats and houses that were just about built into each other, with funny little arches in the back streets to stop invading pirates. And then you leave the museum and walk around the island and see it as it is today. All the boats have engines now, the permanent population has dropped to 250 people, and many of the houses and arches of the backstreets lay in ruins.

It makes me proud to be a descendant of people who had to put up with great difficulties in the First World War and then make a life changing decision to travel to the other side of the world, to start life anew.

As soon as we got off the boat we were greeted by three of the local boys, who very kindly helped us take our baggage to our hotel. We exchanged numbers and met up with them later that day. We walked a loop of the island and up the 400 steps to the St George of the Mountain Monastery, past the airport and churches as you come into the harbour by boat, and back down to the harbour. We made it to a perfect spot just in time to see the sunset. It was amazing. A perfect end to our first day on Kastellorizo.

Over the next few days we went up to the school in the mornings and got to experience a Greek island education. The first thing we noticed is that all the students seemed to be a lot more relaxed than students in Australia. They were all friendly and conversational. We got invited to play soccer in the afternoons, watch movies on Friday night and two boys took us to a cafe every night after dinner and walked with us back to our hotel. At school we got to participate in robotics, soap making and Greek dancing. Even though the school was understaffed, they did a great job keeping the lessons interesting, exciting and educational.

On our third day, we went to the blue cave, I had so much fun swimming in the water, which glowed like it was lit up at the bottom. But it wasn't. It was just the sun reflecting through the tiny opening in the side of the cliff. The opening was so small we all lay down in the tiny dinghy boat just to get inside.

I would like to thank everyone in the Kastellorizian community for sponsoring and helping to make this trip possible, without it the trip wouldn't have been possible. It has galvanised my passion for history and ignited a desire to learn the Greek language. And of course thank you to Marilyn Tsolakis for taking us and sharing her vast and abundant knowledge of the island with us.





HOLIDAY WITH A PURPOSE

Are you travelling to Greece in 2018 and interested in volunteering some time to assist people in need?

The Hellenic Initiative Australia's volunteering program offers Greek Australians and philhellenes of all ages the opportunity to help its partner charity, Boroume, deliver its innovative food saving programs.

From joining teams collecting unsold fruit and vegetables at Athens farmers' markets to harvesting donated crops, Boroume volunteers play a vital role in saving food for donation to local charities.

Volunteering is a great way to assist relief efforts, gain a unique insight into Greek life, learn important life-skills and meet locals and fellow international volunteers.

Volunteering opportunities can be tailored to individual Greek language skills, interests and availability.

Consider spending an extra day or two in Athens or Thessaloniki during your next visit to Greece – volunteers can dedicate a few hours or a few weeks. Just bring your passion for Greece and desire to help.

About Boroume

Boroume, "We Can", organises the distribution of surplus food to charities throughout Greece - offering more than 19,000 portions of food through their network on average every day.

Boroume provides a critical link between companies with surplus food and the welfare institutions and soup kitchens that are struggling to meet the increased demand for assistance from people reeling from the impact of prolonged economic hardship.

Since 2012, Boroume has saved more than 12.5 million portions of food, valued at €18.7 million, donating it to more than 1,000 organisations throughout Greece.

About The Hellenic Initiative Australia

The Hellenic Initiative Australia is part of a global diaspora initiative to support Greece through programs assisting local crisis relief efforts and economic development.

Since 2015, THI Australia has partnered with Boroume to support its ground breaking food saving initiatives through crisis relief grants.

How you can help

Boroume welcomes volunteers from Australia to help support its activities. About 40 volunteers assist Boroume on a weekly basis, including volunteers from Europe and the US.

Boroume provides training and support for all volunteers.

Boroume at the Farmers' Market

Join the teams of Boroume volunteers collecting surplus fresh produce from farmers' markets around Athens. In 2016, Boroume saved and donated 22,372 kgs of fresh market produce, which was donated to selected local charities.

Boroume currently collects from six markets, with more coming on board in 2018.

House of Boroume

If you have more time and a good command of the Greek language, Boroume can train volunteers to assist at their office in Monastiraki, Athens, coordinating daily donations and supporting larger projects, events and operational needs.

To participate please contact info@thehellenicinitiative.com.au or phone +61 (03) 9021 967

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