Version 1.1

MUSES PROJECT

CASE STUDY 7: MARINE RENEWABLE ENERGY SOURCES & DESALINATION, FISHING & TOURISM IN THE SOUTH AEGEAN: THE CASE OF MYKONOS ISLAND (GREECE - MEDITERRANEAN SEA)

MUSES DELIVERABLE:
D3.3 - CASE STUDY IMPLEMENTATION - ANNEX 10

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TABLE OF CONTENTS

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1 GEOGRAPHIC DESCRIPTION AND GEOGRAPHICAL SCOPE OF THE ANALYSIS

The Aegean Sea is a typical archipelago of continental islands (Fig. 1), whereas around 7500 islands and islets occur at a various topographic features and geographical levels (Sfendourakis, S., 2017). The Aegean Sea stands in the centre of the conjunction of three continents, namely Europe, Asia, and Africa (Triantis K.A.,2009) and is an elongated embayment of the Mediterranean Sea located between the Greek peninsula on the west and Asia Minor on the east(between the mainlands of Greece and Turkey). It is about 380 miles (612 km) long and 186 miles (299 km) wide, it has a total area of some 83,000 square miles (215,000 square km). In the north, it is connected to the Marmara Sea and Black Sea by the Dardanelles and Bosphorus. while the island of Crete can be taken as marking its boundary on the south (https://www.britannica.com/place/Aegean-Sea)

The Cyclades is an island complexion of about 30 islands, southeast of the Greek mainland, and belong to the the Aegean Archipelago. The name Cyclades means “encircling islands” and refers to the islands that form a circle around the sacred island of Delos (Cyclades in Greek “means those that form a circle (kiklos)”) which was the legendary birthplace of Artemis and her brother Apollo. Delos and Rineia islands and several inhabited islets belong to the Municipality of Mykonos (total area 105.183 km2)(https://www.britannica.com/place/Aegean-Sea, https://en.wikipedia.org/wiki/Aegean_Sea).

Mykonos is situated 93 nautical miles southeast of Athens (capital of Greece), lying between the islands of Tinos, Paros and Naxos. The island spans an area of 85.5 km2 and has around 10.134 inhabitants (2011) (https://en.wikipedia.org/wiki/Aegean_Sea).

Concerning the geological characteristics, Mykonos has granites and gronodiorites, which are waterproof and limited aquifers are developed within the deposits of stream mouthS. The island is hilly and in some areas sub mountainous, with slopes of small inclination, and its highest point is 372m. Several hydro biological basins are formed in Marathi (10m2), Ftelia (5,5 km), Ano Mera (4000 km) and Merchia (4 km2) (Veronis, Ch., 2000).

. Along the northern coastline, the landscape is rocky and uneven and many areas are eroded by the strong winds, while on the southern part beaches are sandy.

Mykonos has a Mediterranean climate, where the sun shines approximately 300 days a year and the average temperature is 28 °C in the summer and 15 °C in the winter. The island is windy and cooler than the other islands of Greece, and known also as the “Island of the winds”. During summer, a northern wind named "Meltemi" is formed, caused by low barometric pressure from the Balkans clashing with the higher, hot blasts from Africa (https://el.wikipedia.org/wiki/%CE%9C%CE%B5%CE%BB%CF%84%CE%AD%CE%BC%CE%B9)

The geographical location of the island has been selected due to its potential to make use of marine renewable energy sources in combination with a second use that may appear relevant to local needs on the basis of the input from local stakeholders.

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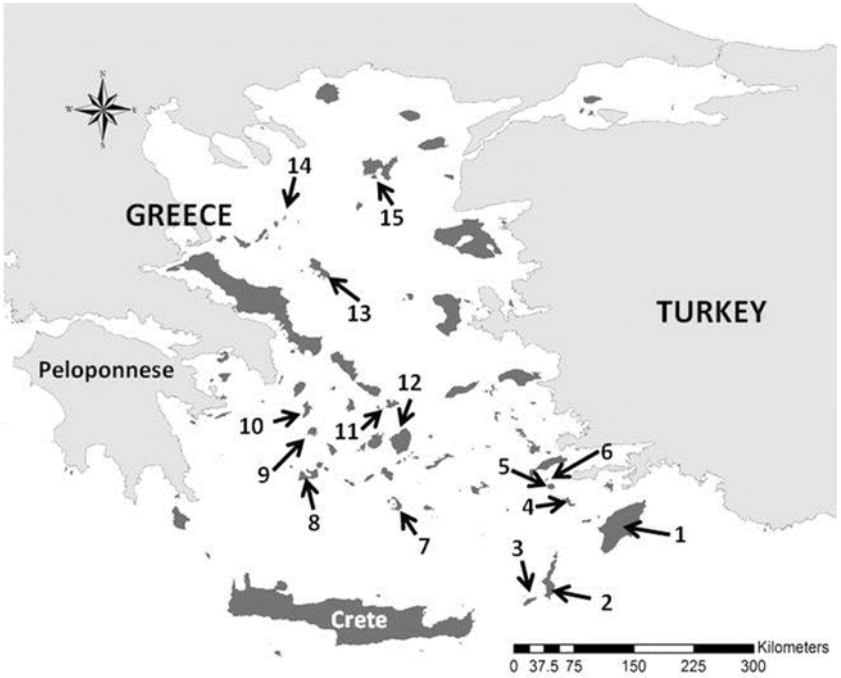

Figure 1 Map of the Aegean archipelago (darker islands). Numbers indicate islands mentioned in the text. 1 Rhodes, 2 Karpathos, 3 Kasos, 4 Tilos, 5Nisyros, 6 Gyali, 7 Santorini (Thira), 8 Milos, 9 Serifos, 10 Kythnos, 11 Dilos, 12 Naxos, 13 Skyros, 14 Gioura, 15 Limnos (source doi: 10.1186/s40709-017-0061-3)

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2 CURRENT CHARACTERISTICS AND TRENDS IN THE USE OF THE SEA

In Mykonos tourism is the cornerstone of the local economy and the island is world famous as a touristic attraction particularly for those who seek “destinations of luxury” or “fun destinations” (Michalena, 2008).

Although 90% of the economic activity of the island is linked directly or indirectly to tourism, Mykonos’s traditional occupations were agriculture, livestock, fishing and naval professions. Today there are 111 small scale fishing vessels registered in Mykonos (2016), with an average length of 6-12 m, whereas 10 years ago there were 170 fishing vessels registered (Eleftheriou, A., 2007, Daphne Network Report)

Along with the increasing touristic influx, new infrastructures have been constructed (port facilities, roads, expansion of the airport, water and sewage network). One of the biggest projects on the island was the construction of the new port in 1999.

Mykonos has an old and a new port, both operational. The old harbour is located on the west coast of Mykonos and serves ferries, local fishing vessels and small ferries that communicate with Delos. The new port, “Tourlos Marina”, (Fig. 2) is located at the bay of Tourlos at the north-west of the island and 2 nautical miles of the old port of Mykonos. It serves as a ferry and a cruise ship harbour, a yachting marina and a fishing shelter connecting the islands of the North Aegean, the Eastern and the Dodecanese. In spite of the lack of supplementary infrastructure needed and the poor protection that Marina Tourlos offers from the strong west-southwest winds during the winter, it is the safest harbour of Mykonos in the summertime (Eleftheriou, A., 2007, Daphne Network Report)

Two additional fishing shelters are provided in the old port (next to the new port) and at the Ornos bay 3.5 km south of the port. Other smaller coastal infrastructures also exist that meet the needs of medium-sized fishing boats and yachts such as the 20m pier at the area of Divounia (Kalafatis Inlet), the 60m x 15m pier on the west side of Platis Yialos beach and a slide for the launching/lifting of small boats at Ftelia beach and Korfos beach (Fig.2)

As long as winds are light and the sea is smooth, Mykonos morphology with laced coasts forming its coastline is favouring fishing activities, touristic boat tours and trips (e.g. to Delos and Rineia), sailing excursions, and boat transfers between beaches serving as private taxis. Maritime activities, such as transportation, yachting, sailing, surfing and touristic boating tours are very regular mainly during summertime. The marine area around Mykonos is also habitat for the Mediterranean monk seal, Monachus monachus, one of the most endangered species of mammals , which is encountered mainly at the marine area of Panormos and Traganissi.

For scuba-diving enthusiasts, Mykonos is also a favourite destination with organized diving centres on the island. Mykonos has natural underwater geological formations and lively ecosystems that can attract all-season tourists of medium to high income.

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Figure 2 Photo of Tourlos Marina - Mykonos (Source: http://www.gtp.gr/)

Figure 3 Map of Mykonos (Source: https://www.e-kyklades.gr/tourism/mykonos_map?lang=en)

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3 MULTI-USE OVERVIEW

In order to explore multi-use ("MU") potential in Mykonos, desk research (literature review, existing projects overview) has been combined with input provided by local stakeholders. During desk research the information that has been compiled referred to a) legal documents, b) action plans and national strategies c) scientific publications and d) project reports. Through that, existing and potential MUs, drivers, barriers, added values and negative impacts ("DABI"), were tracked. In addition, on the basis of this process related stakeholders and experts were identified, who were then invited to provide their feedback on the potential of MUs in Mykonos using semi-structured interviews conducted via phone, skype, or face-to face. Indeed, the requested stakeholder input included their views about the examined MUs, their roles in MU development, their opinions on what kind of actions may have to be developed to strengthen any benefits or lessen any barriers/risks.

In general, as described in the county report about Greece, the idea of MUs has not been explicitly framed so far in legal, policy, strategic and planning documents, either at national or at local level. What is more, there are numerous restrictions arising from national development plans tackling single sectors (e.g. aquaculture) if these are to be combined with other, two or more, uses, which complicates the process to apply for a license to develop MUs. However, on both the national, as well as the local level, quite a few stakeholders have expressed their interest in learning more about MU potentials and investigate their possible future application in Greek waters.

Mykonos island has been selected for exploring the MU offshore potential in Greece as it is a famous tourist destination, where energy and water demands increase particularly during the peak of the touristic season. Indeed, the main problems that Greek islands confront due to their distance from the mainland, in environmental, socio/economical and technical terms are, the costly and non-sufficient energy generation, the lack of freshwater and the waste management.

Furthermore, as the local authorities, as well as the society in Mykonos, are sceptical on hosting tech infrastructures on land, where real estate prices are also extremely high, the only remaining possibility is to introduce uses related to renewable energy and water provision in suitably selected offshore areas.

Hence, the main focus of the Greek case study was decided to examine the possibility of installing offshore marine renewable energy platforms, considering first of all offshore wind farms, and exploring at the same time the best options for combined synergetic activities. At this point it should be mentioned that in the proposal, one of the possible uses to be explored along with renewable energy in the Greek case study was intended to be aquaculture. However, at that time the reformed national spatial plan for aquaculture development that eventually excluded Mykonos from the proposed sites was not available. Hence, it has not been considered as relevant to explore aquaculture co-development in the frame of a potential MU conceptual approach off Mykonos.

Following the above, an effort was exerted to describe local characteristics shaping societal needs.

The island of Mykonos is not connected to the central national water provision. The water supply is ensured through the application of a mixed system in order to tackle the problem of water storage by a) wells, b) transportation of water from private drillings c) transportation of water indirectly by two dams (Marathi and Ano Mera), and d) three desalination units on land. (Veronis, CH., 2000)

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In the past water supply was based on wells, and since 1980 more that 1000 private water well drillings are constructed in specific areas, with supplies up to 10m3/hour (Veronis, CH., 2000). The Marathi dam (1991) was the first roller – compacted concreter dam (RCC dam) ever constructed in Greece and the 4th in Europe, has a capacity of 2.900m3 and its able to ensure 600.000m3 of annual water supply. The Ano Mera dam (1997), was constructed with the same method (rollcrete) with a capacity of 1 million m3 of annual water supply. The transportation of water from the two dams to the Municipality is ensured through a pumping station, two water supply reservoirs, one irrigation reservoir and pipes for the transportation of irrigation and water supply.In 1989, a seawater reverse osmosis ("SWRO") plant of 1,200 m3/day (2,600 m3/day) began to operate, and in 2001 and 2008, two more seawater ("RO") plants of 1,800 m3/day and 4,500 m3/day have been also established, with the 4,500m3/day RO unit being the largest installed desalination unit for municipal use in the Greek islands (Economou, 2010). However, there are still increased demands for freshwater provision on the island.

Then Mykonos belongs to the non-interconnected Aegean islands – it is not yet connected to the central national grid for electricity provision – although it is intended to be connected to the mainland power system within the present decade (see relevant project http://www.admie.gr/en/transmission-system/system-development/erga-eyropaikoy-tameioy-perifereiakis-anaptyxis/project/article/2825/) and for the moment it depends on electricity production locally by diesel generators. Based on data from the Public Power Corporation ("PPC"), in 2011 the island's electricity is produced by an autonomous power station ("APS") of 65.27 MW installed power and the energy produced from these units was 5.52157 MWh (PPC, 2011). However, a major drawback of such an autonomous power system is the high electricity production costs due to its dependence on international gas prices.

Furthermore, there are two wind turbines currently in operation with a total capacity of 1.2 MW, as well as the installed capacity of photovoltaics ("PV") is 20 kWp (PPC, 2011). According to PPC, for 2011 the energy produced from the wind turbines was 361.89 MWh while from PVs was of 0.69 MWh, resulting in a total of 362.58 MWh, which corresponds to a contribution of 6.2% of the total electricity production of the island.

In the last few decades, the exploitation of wind potential (and other renewable energy resources) to produce freshwater through desalination has been considered as a promising alternative for standalone or grid-connected units (Economou, 2010).

The benefits of the use of renewable energy sources in desalination units have already been tested at a research level by Xenarios et al (2012), who developed a methodology for the design of a wind desalination system that matches the needs of the local society where the existing, grid-connected, SWRO, producing 4,500 m^3/day, was considered as the basis for the analysis and a series of common commercial wind turbines and were examined to suit the site characteristics and energy demands. The target was to cover the energy needs of the desalination unit exclusively from wind energy.

Within the frame of another pilot project, the first platform in the world working with wind turbine and PV systems was created in 2003 – a wind powered floating desalination plant named "Ydriada" (partners Ecowindwater and University of the Aegean, Department of shipping, trade, & transport) (Fig. 3). The plant was able to deliver both freshwater and electricity in a dynamic configuration, covering the needs of approximately 300 people and producing 70 m^3/day of water, including catering

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for seasonal fluctuations (Glykas, 2008). The platform was installed at the entrance of the port of the island of Irakleia, which also belongs to the Cyclades complex. It is however, worth mentioning that the plant is currently inactive, due to conflicting interests among key related stakeholders and mainly freshwater provision enterprises from the mainland.

Finally, as the port of Mykonos is also growing rapidly with an expected increase of water demands by 250%, from 6000 m^3/year to 15.000 m^3/year, a wave powered desalination pre-feasibility study examined the possibility of supplying the island with freshwater, using wave powered desalination (Sygma Hellas Ltd). The location of the unit was suggested to be installed within 1.9 km from the New port, and concluded that an adequate wave resource would be provided covering 40 m^3/day or 15000 m^3/year of fresh water. Hence, the most prominent potential MU offshore of Mykonos seems to be "Renewable energy sources (wind/solar/wave) and Desalination", which is a "Multi-use of technical resources". This refers to installations that combine two uses i.e. energy production and desalinated water production. In this case two sectors are involved and benefit by the synergetic co-existence – the energy sector and the water supply sector. Indeed, the renewables sector in Mykonos appears to hold a promising future. The island of the winds, both inshore and offshore, can support the installation of wind farms, and specifically for offshore wind farms a suitable location has been identified offshore the northern part *(*Soukissian et al., 2017) (Fig. 4), then the placement of wave energy converters near shore (e.g. at the port of Mykonos) for the production of electric energy seems to be quite relevant due to the high intensity of winds and waves, and finally the development of PV systems could be another option due to the intense sunlight during most days of the year.Regarding existing MUs offshore in Mykonos, there is only one example and this is "Fishing Tourism" which is a "Multi-use of geographical, human, biological resources" and it refers to the use of a small-scale fishing boat (up to 12 m) for touristic and educational purposes. Two sectors are involved in this MU and benefit by it, the tourism sector and the fishing sector. A catalogue with boats licensed for fishing tourism has been provided for the purposes of the project by the Greek Ministry of Rural Development and Food. Currently in Mykonos, there is only one licensed small-scale vessel for fishing tourism activities and there is a second application pending. As the Joint Ministerial Decision has been issued since January 2015, this MU is quite recent and no more than 50 vessels at the national level are actually practicing it especially in locations attracting tourists that aim to experience local traditions. In effect, during the summer season (June – September), commercial small-scale fishermen compete for the already limited fishing resources due to the high demand for fishery products, mainly from restaurants and hotels. Hence, fishing tourism may provide the opportunity to fishermen to diversify their effort, limiting the pressure to the natural resources and have an additional income, by promoting ecotourism and educational activities, and to introduce a new, alternative touristic service.

However, in Mykonos it seems that there is low interest in developing the MU of fishing tourism, as fishermen enjoy the high profits offered from their original fishing activity during the touristic period. Indeed, even the fisher holding this MU permit is not actually practicing it, admitting that the options for such a MU on this island targeting high quality luxury tourism are rather limited. Such a MU would be possibly of interest to the Mykonian fishers only in conjunction with efforts of increasing awareness regarding the need to lower the pressure on the resources and by diversifying efforts on other activities (such as fishing tourism) under an ecosystem based umbrella of capacity building. However, if these efforts are not coupled with similar ones from the tourism sector promoting eco-friendly

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products, fishing tourism being an example, the Mykonian tourism will not seek to explore alternative options. The aforementioned MUs are also described in Table 1.

Table 1 Existing and potential MUs in the marine area of Mykonos

Multi Use	Type	Uses	Comments	Status
Fishing & Tourism	Geographical, human, biological resource	Fishing & Tourism	One user licensed and one application pending. Recent application of MU	Existing
Marine Renewable Energy Sources (RES) (wind, wave, solar energy) & Desalination	Technical resources	Energy & Desalination	Identified potential installation marine area for OWF. Need for RE and Water supply	Potential

Figure 4 Photo of Ydriada, Irakleia (source, The "hydra" of Herakleia ruins, 26.08.2015 http://www.kathimerini.gr/828422/article/epikairothta/ellada/skoyriazei-h-ydriada-ths-hrakleias

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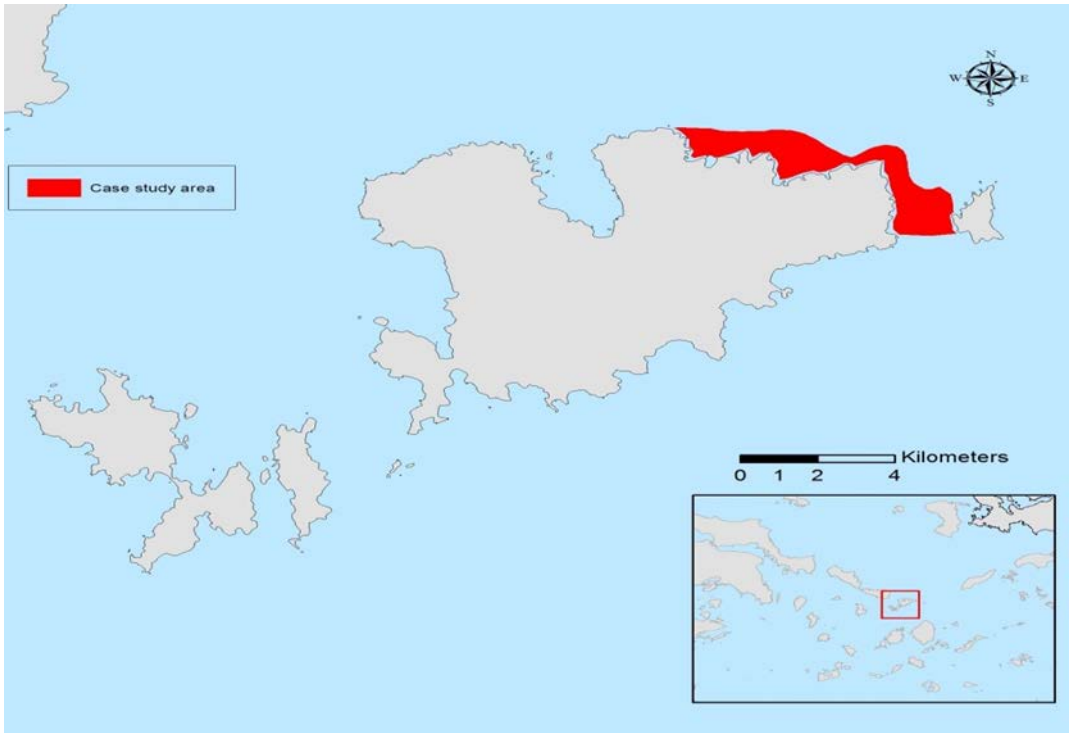

Figure 5 Map of the case study area, Mykonos island, Cyclades, Greece (provided by Eleni Gadolou)

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4 CATALOGUE OF MU DRIVERS, BARRIERS, ADDED VALUE, IMPACTS

The DABI's that affect the development of each (existing or potential) MU have been identified via desk research and were then validated/commented on by stakeholders based on the methodology described in "D3.1-WP3-Case-study-methodology". The DABIs are categorized by considering key issues for MU development, such as policies, administrative/legal aspects, environmental and socio-economic constraints, technical capacity, knowledge gaps (technology, environmental impacts, health and security issues etc.), and interactions with other uses etc.

4.1 DABI for the MU Renewable Energies and Desalination

The combination of the MU renewable energies and desalination, as identified through the national sea basin results, is at a pilot conceptual/demonstrative phase. The advantages identified by national stakeholders from the application of this MU were energy independence of the desalination unit, mobility of the (floating) installation, green energy provision, and spatial conflict minimization. As it has already been mentioned a pilot project was funded to test this MU in the Cyclades region, and although the results were promising there was no continuation of the operation of the platform due to conflicting interests at the local scale. Furthermore, there was no interest by decision makers at national scale to fund the application of this MU in other locations, through more projects or other ways of subsidization. It seemed that the main barriers for the latter were mainly linked to legal/policy gaps, huge bureaucracy causing dysfunction and uncertainty and hence stalling investments, and lack of political will to promote ideas that administrators identified as advantageous as mentioned above; the latter "bad practice" institutional approaches were also projected at the local level.

Indeed, the barriers identified at the national level, were verified also in local level; the wave powered desalination pre-feasibility study conducted in 2009 for Mykonos, although considered as innovative and useful, it remained in the drawer of the municipal officer, indicating once again reluctance to facilitate the transition of breakthrough project results to bankable ones that would definitely contribute to public wellbeing.

Table 2 Catalogue of factors that reflect Drivers and Barriers for the MU Combination renewable energies & Desalination PART 1: DRIVERS AND BARRIERS.

DRIVERS = factors promoting MU	**BARRIERS** = factors hindering MU
Category D.1 – policy drivers	***Category B.1 – legal barriers*** Factor B.1.1 Institutional and legal obstacles to facilitate the transition of research projects to commercial ones
Category D.2 – interactions with other uses/environmental Factor D.2.1 Lack of fresh water Factor D.2.2 Salt resulting from desalination on land discharged close to the coast	***Category B.2 – administrative barriers*** Factor B.2.1 Overlapping of competencies may slow down the implementation stage Factor B.2.2 Need for consensus of multiple administrative and private interests may slow down the implementation stage and block the operational

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DRIVERS = factors promoting MU	**BARRIERS** = factors hindering MU
	stage
Category D.3 – economic drivers Factor D.3.1 Unstable electricity pricing when diesel generators are used	***Category B.3 – financial barriers / risks*** Factor B.3.1 Lack of funding Factor B.3.2 It costs more to install, sustain and function the MU at sea than in land Factor B.3.3 High cost of desalinated water transfer from sea to the main pipe - land in land Factor B.3.4 Already approved the installation of a second desalination unit at the port area of Mykonos Factor B.3.5 There is diesel generator in Mykonos but will be a connection with the continental Greece and the main electricity grid - Locally there is not so big interest Factor B.3.6 Although the cost of buying or renting land in Mykonos is very expensive - Sea use would be more expensive
Category D.4 – societal drivers Factor D.4.1 Water stress during high tourism season	***Category B.4 – barriers related to technical capacity*** Factor B.4.1 Waterborne corrosion of MU Factor B.4.2 Damage repair flexibility in land than at sea Factor B.4.3 he desalination unit cannot independently be supported by the OWF as its electric power depends on the weather. The provision of electricity storage in batteries is necessary Factor B.4.4 There is enough space in land - no need to install at sea
Category D.5 – Technical Drivers Factor D.5.1 When it is a floating MU not need local infrastructure (roads, cranes etc) Factor D.5.2 Floating platforms are dependent of water depths Factor D.5.3 Lack of connection to the electricity grid Factor D.5.4 Better wind quality at sea (OWF) than in land (WF)	***Category B.5 – barriers related to social factors*** Factor B.5.1 Visual pollution - Mykonians and tourists will be negative and hostile towards the installation of a big infrastructure in the sea Factor B.5.2 Reluctance to innovation because it is usually linked to high risk

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Table 3 Catalogue of factors that reflect Drivers and Barriers for the MU Combination renewable energies & Desalination PART 2: ADDED VALUES AND IMPACTS

ADDED VALUES = positive effects of MU	**IMPACTS** = negative effects of MU
Category V.1 – economic added value Factor V.1.1 Lower price of desalinated water Factor V.1.2 Low loses of energy due to use one source Factor V.1.3 Avoidance of water transportation costs Factor V.1.4 Cost reduction by integration of offshore activities	***Category I.1 – economic impacts*** No impacts identified
Category V.2 – societal added value Factor V.2.1 Stakeholder engagement for site selection Factor V.2.2 Floating MU it can be moored at various locations avoiding conflicts with other sectors	***Category I.2 – societal impacts***
Category V.3 – environmental added value Factor V.3.1 Low carbon footprint of desalination Factor V.3.2 Autonomous supply of clean renewable energy	***Category I.3 – environmental impacts***
Category V.4 – better insurance policies and risk management	***Category I.4 - technical impacts***
Category V.5 - technical added values Factor V.5.1 Micro-grid continuous water and/or electricity production in a fixed location Factor V.5.2 Off-grid continuous water and/or electricity production Factor V.5.3 Can be used in combination to a third use (e.g. aquaculture) Factor V.5.4 Grid connected (water, electrical) simultaneous water production and electricity export Factor V.5.5 Mykonos is connected with the main electricity grid of continental Greece - MU will give power to Greece	

4.2 DABI for the MU Fishing and Tourism

The combination of the MU Fishing and Tourism, as identified at the national level sea basin results, should be considered as supporting the bio-economy chain, generating added value along the entire production chain (sustainable management of resources, sustainable food production, healthy food, reduce environmental impacts, create synergies, contribute to coastal development). This MU combination is existing/planned in all the Mediterranean countries analysed with some degree of development depending on the local/regional context and on the regulatory framework in place.

However, the perceived drivers and added values at the national level, were not verified at the local level, as due to the very specific touristic profile of Mykonos, attracting mainly tourists seeking high quality services, there was no interest in developing this MU which may constitute a more suitable option for more traditional island destinations in the country.

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Table 4 Catalogue of factors that reflect Drivers and Barriers for the MU Combination Fishing & Tourism PART 1: DRIVERS AND BARRIERS.

DRIVERS = factors promoting MU	**BARRIERS** = factors hindering MU
Category D.1 – policy drivers Factor D.1.1 Need for Ecosystem based approach Factor D.1.2 Future amendment of the fishing tourism law to open the activity to larger fishing boats	***Category B.1 – legal barriers***
Category D.2 – interactions with other uses/ environmental Factor D.2.1 Demand for fish stocks and sustainable fisheries	***Category B.2 – administrative barriers*** Factor B.2.1 Lack of monitoring mechanisms Factor B.2.2 Insurance processes for fishing boats is time consuming
Category D.3 – economic drivers Factor D.3.1 Increasing demand for fish Factor D.3.2 Ensure all year around eco-tourism Factor D.3.3 Diversification of maritime and coastal and maritime tourism Factor D.3.4 Interest from Investors	***Category B.3 – financial barriers / risks*** Factor B.3.1 Overcapacity from tourism activities Factor B.3.2 Lack of long term strategic planning Factor B.3.3 There is only one fishing tourism initiative -No high interest to develop due to other forms of tourism and weather conditions Factor B.3.4 Concurrence from other tourism sectors (e.g. recreational fishermen)
Category D.4 – societal drivers	***Category B.4 – barriers related to technical capacity*** Factor B.4.1 Lack of other supportive infrastructures
Category D.5 – administrative drivers Factor D.4.1 Licensing process for fishing tourism is very simple	***Category B.5 – barriers related to social factors***
	Category B.6 – barriers related to environmental factors

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Table 5 Catalogue of factors that reflect Drivers and Barriers for the MU Combination Fishing & Tourism PART 2: ADDED VALUES AND IMPACTS

ADDED VALUES = positive effects of MU	**IMPACTS** = negative effects of MU
Category V.1 – economic added value Factor V.1.1 Diversification of fishery sector Factor V.1.2 Support the development of Eco-Tourism Factor V.1.3 Improve commercialization of local products Factor V.1.4 Taxation for fishermen applying tourism activities is favourable	***Category I.1 – economic impacts*** No impacts have been identified
Category V.2 – societal added value Factor V.2.1 Creation of specialized professions FactorV.2.2 Stakeholder involvement, Education, Outreach Factor V.2.3 Local development, Capacity building Factor V.2.3 Local community benefits by co-management Factor V.2.4 Additional income for small scale fishermen	***Category I.2 – societal impacts***
Category V.3 – environmental added value	***Category I.3 – environmental impacts***
Category V.4 – better insurance policies and risk management Factor V.4.1 Ecosystem based approach and integrated approach Factor V.4.2 More efficient monitoring activities Factor V.4.3. Facilitation of the establishment of Management Bodies to ensure implementation and monitoring of such MU Factor V.4.4 Stakeholders benefit by learning how to co-manage the area Factor V.4.5 Reduction of illegal activities Factor V.4.6 All incomes are controlled by the taxation system	***Category I.4 - technical impacts***
Category V.5 - technical added values	

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5 RESULTS OF DABI SCORING: ANALYSIS OF MU POTENTIAL AND MU EFFECT

As described in "D3.1-WP3-Case-study-methodology" in this step the DABIs for MU development identified previously have been scored by stakeholders according to their background, knowledge and experience. The relative balance between drivers and barriers will further devise on the potentials for the specific MUs development in the study area, while the relative balance between values and impacts will identify the effects of MU development. During this phase stakeholders have been also asked to consider and eventually integrate the catalogue of listed DABIs based on their experience. The results presented here integrate scores given by all the stakeholders. The final score for each factor is the mean value of individual scores. Average score is calculated by averaging scores given by all the stakeholders for the same factor. Factors are listed from +3 to 0 for drivers and added values, and from -3 to 0 for barriers and impacts.

5.1 MU Renewable Energies & Desalination

5.1.1 Analysis of MU Potential

The DABIs for renewable energies & desalination have been explored at the Case Study Level, with the aid of twelve (12) Stakeholders from different action arenas: the former Mayor of Mykonos; a mechanical engineer (Veronis); the deputy regional governor for culture (Briggos); a Policy officer in the prefecture of south Aegean (Nokas); an energy expert (Kounanis); a tourism expert (Kammi); a municipal officer (Nazos); a regional development consultant (Voltis); three members of local political parties (Samprouni, Aggelataki, Vardachos); a maritime transport policy officer (Panagopoulos); a wind energy expert (Tsipouridis). A more detailed description of the stakeholder profiles is provided in section 7.

According to the scoring, the drivers proposed by the majority of the local representatives match a number of different societal, economic, environmental and technical needs. More precisely, the most important driver is the increasing need for freshwater particularly during the high demand summer season(social driver),the unstable and high electricity pricing of diesel generators that are currently used (economic), the impact of discharges in the marine ecosystem of the land based plants producing desalinated water (environmental), the better wind quality of sea-based than land-based wind farms (technical), and the high costs of land for MU installation (economic).

The barriers that have been identified for this MU proposed by the majority of the representatives are: legal, administrative, economic, technical and social. The institutional, legal, and private stakes, as well as the overlapping competencies and sectorial approaches in institutional and governance levels, appear to be the most important barriers blocking either the transition of pilot research projects to commercial/bankable ones (e.g. Ydriada) or the initiation of new efforts (institutional, economic). Additionally, there is a reluctance to explore new practices/methods as a higher risk is perceived when deriving from traditional attitudes and is related to the poor economic conditions prevailing in Greece, as well as a low awareness of the local communities (economic, social).

Moreover, economic and technical barriers, such as the higher cost of a sea-based than of a land-based renewable energy installation, maintenance, damage repair, monitoring and connection with the water and electricity supply network (economic, technical), the visual pollution caused by installa-

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tions in the sea (social), especially in a small island with laced shores and coasts which is a high end, luxurious touristic destination offering beautiful landscapes and romantic sunsets to the Aegean Sea, were also quite prominent.

5.1.2 Analysis of MU effect

The most important added values for this MU proposed by the majority of representatives are related to the simultaneous energy and water autonomy and the possibility for energy export when Mykonos will be connected to the central national electricity grid (technical, economic), while being at the same low carbon footprint energy/water supply (environmental). There have not been identified negative impacts for this MU.

In Appendices an overall DABI scoring table is included, indicating scoring results from all the stakeholders.

Table 6 Scored DABI for the MU Combination renewable energies and Desalination

DRIVERS = factors promoting MU			BARRIERS = factors hindering MU		
Factor	**Category**	**Average score**	**Factor**	**Category**	**Average score**
Lack of fresh water	Environmental	2.8	Waterborne corrosion of MU	Technical	- 2.9
Better wind quality at sea (OWF) than in land (WF)	Technical	2.8	Lack of funding	Economic	-2.7
Water stress during high tourism season	Social	2.7	Visual pollution - Locals and tourists will be negative and hostile towards the installation of a big infrastructure in the sea	Social	-2.6
When it is a floating MU not need local infrastructure (roads, cranes etc)	Technical	2.5	Institutional and legal obstacles to facilitate the transition of research projects to commercial ones	Legal	-2.6
Unstable electricity pricing when diesel generators are used	Economic	2.4	it costs more to install, sustain and function the MU at sea than in land	Economic	- 2,6
			Overlapping of competencies may slow down the	Administrative	-2.5

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DRIVERS = factors promoting MU			BARRIERS = factors hindering MU		
			implementation stage		
Floating platforms are dependent of water depths	Technical	2,0	Need for consensus of multiple administrative and private interests may slow down the implementation stage and block the operational stage	Administrative	-2.5
Salt resulting from desalination on land discharged close to the coast	Environmental	1,9			
Lack of connection to the electricity grid	Technical	2,0	Damage repair flexibility in land than at sea	Technical	-2.1
			The desalination unit cannot independently be supported by the OWF as its electricity power depends on the weather - wind. The provision of electricity storage in batteries is necessary	Technical	-2.0
			There has been already approved the installation of a second desalination unit at the port area of Mykonos	Economic	-1.9
			High cost of desalinated water transfer from sea to the main pipe inland land because the high distance between the case study area	Economic	- 1.8

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DRIVERS = factors promoting MU			BARRIERS = factors hindering MU		
			(northeast) and the high need of desalinated water in central Mykonos (southwest)		
			There is diesel generator in Mykonos but will be a connection with the continental Greece and the main electricity grid - Locally there is not so big interest	Economic	- 1.8
			Reluctance to innovation because it is usually linked to high risk	Social	-1.5
			Although the cost of buying or renting land in Mykonos is very expensive - Sea use would be more expensive	Economic	-1.2
			There is enough space in land - no need to install at sea	Technical	-1.1
DRIVERS average score		**2.43**	**BARRIERS average score**		**2.18**
MU POTENTIAL			**2.43+(-2.18)/2=0.12**		

ADDED VALUES = positive effects of MU			IMPACTS = negative effects of MU		
Factor	**Category**	**Average score**	**Factor**	**Category**	**Average score**
Low carbon footprint of desalination	Environmental	2.8	No impacts have been identified		
Stakeholder engagement for site selection	Social	2.7			

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ADDED VALUES = positive effects of MU			IMPACTS = negative effects of MU		
Lower price of desalinated water	Economic	2.6			
Can be used in combination to a third use (e.g. aquaculture)	Technical	2.5			
Micro-grid continuous water and/or electricity production in a fixed location	Technical	2.4			
Avoidance of water transportation costs	Economic	2.4			
Off-grid continuous water and/or electricity production	Technical	2.4			
Autonomous supply of clean renewable energy	Environmental	2.3			
Cost reduction by integration of offshore activities	Economic	2.2			
Grid connected (water. electrical) simultaneous water production and electricity export	Technical	1.8			
Mykonos is connected with the main electricity grid of continental Greece - MU will give power to Greece	Technical	1.4			
When it is a floating MU it can be moored at various locations avoiding conflicts with other sectors	Social	1.3			
ADDED VALUES average score		**2.32**	**IMPACTS average score**		0
MU OVERALL EFFECT			**2.32+0)/2=1.15**		

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Table 7 Scored DABI PER CATEGORY for the MU Combination renewable energies and Desalination

DRIVERS = factors promoting MU		BARRIERS = factors hindering MU	
Category	**Average score**	**Category**	**Average score**
Societal drivers	2.7	Legal barriers	-2.6
Economic drivers	2.4	Administrative barriers	-2.5
Relation with other uses/ Environmental	2.4	Barriers related with economic availability / risk	-2.1
Technical Drivers	2.2	Barriers related with social factors	-1,9
		Barriers related with technical capacity	-1.8
ADDED VALUES = positive effects of MU		IMPACTS = negative effects of MU	
Category	**Average score**	**Category**	**Average score**
Environmental added values	2.5	No impacts have been identified	
Economic added values	2.4		
Technical added values	2.1		
Societal added values	2.3		

5.2 MU Fishing Tourism & Environmental Protection

5.2.1 Analysis of MU Potential

In relation to the DABI for Fishing Tourism, seven (7) stakeholders have been identified as relevant and provided their input. These were the same stakeholders as in the previous section, except for the former mayor of Mykonos (Veronis), the energy expert (Kounanis), the regional development consultant (Voltis), the deputy regional governor (Brigos), the expert in maritime transport (Panagopoulos), the expert in wind farm (Tsipouridis) and there was also a representative from the small-scale fisheries association (Papoutsas).

According to the scoring, the drivers proposed by the majority of representatives are

- the need for an ecosystem based approach (policy driver),
- a sustainable fisheries management (environmental, economic driver), and
- the reduction of bureaucracy of the process for obtaining a fishing tourism permit at a national level (administrative driver).

The barriers that have been identified for this MU proposed by the majority of representatives are,

- the specific touristic profile of Mykonos including mainly the delivery of superior quality services (socioeconomic barrier)
- the unfavourable weather conditions (strong winds) (environmental barrier),
- the high profit from fishing activities especially during the summer season (economic)

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- the lack of long term strategic planning at a national level, including also bureaucracy issues mentioned above, which increases reservations and reluctances of small scale fishers to further examine the potential of developing this MU (policy, administrative barrier).

5.2.2 Analysis of MU effect

The added values for this MU proposed by the majority of local representatives are the support to the development of ecotourism and educational activities, the improvement of commercialization of local products, the diversification of the fishery sector in being engaged to a new touristic service once properly promoted by tourism operators which will reduce pressure exerted on fish stocks securing the fishers livelihood (economic).

Negative impacts have not been identified for this MU.

Table 8 Scored DABI for the MU Combination Fishing and Tourism

DRIVERS = factors promoting MU			**BARRIERS** = factors hindering MU		
Factor	**Category**	**Average score**	**Factor**	**Category**	**Average score**
Need for Ecosystem based approach	Policy drivers	2.9	Overcapacity from tourism activities	Barriers related with economic availability / risk	2.9
Demand for fish stocks and sustainable fisheries	Relation with other uses/ Environmental	2.6	Lack of long term strategic planning	Barriers related with economic availability / risk	2.9
Increasing demand for fish	Economic drivers	2.0	Lack of monitoring mechanisms	Administrative barriers	2.6
Licensing process for fishing tourism is very simple	Administrative drivers	2.0	Lack of other supportive infrastructures	Barriers related with technical capacity	2.4
Ensure all year around eco-tourism	Economic drivers	1.7	There is only one fishing tourism initiative -No high interest to develop due to other forms of tourism and weather conditions	Barriers related with economic availability / risk	2.3
Interest from Investors	Economic drivers	1.5	Insurance processes for fishing boats is time consuming	Administrative barriers	1.4
Diversification of maritime and	Economic drivers	1.4	Concurrence from other tourism	Barriers related with economic availability /	1.0

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DRIVERS = factors promoting MU			**BARRIERS** = factors hindering MU		
coastal and maritime tourism			sectors (e.g. recreational fishermen)	risk	
Future amendment of the fishing tourism law to open the activity to larger fishing boats	Policy drivers	1.4			
DRIVERS average score		**1.93**	**BARRIERS average score**		**-2.21**
MU POTENTIAL			**1.93+ (-2.21))/2=-0.14**		

ADDED VALUES = positive effects of MU			**IMPACTS** = negative effects of MU		
Factor	**Category**	**Average score**	**Factor**	**Category**	**Average score**
Ecosystem based approach and integrated approach	Better ensure policy and risk management	2.3			
Diversification of fishery sector	Economic added values	2.1			
Support the development of Eco-Tourism	Economic added values	2.0			
Additional income for small scale fishermen	Economic added values	1.9			
Reduction of illegal activities	Better ensure policy and risk management	1.8			
Facilitation of the passing of presidential orders	Better ensure policy and risk management	1.7			
Improve commercialization of local products	Economic added values	1.6			

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ADDED VALUES = positive effects of MU			**IMPACTS** = negative effects of MU		
Stakeholder involvement. Education. Outreach	Societal added values	1.6			
Creation of specialized professions	Societal added values	1.4			
Local development. Capacity building	Societal added values	1.1			
Taxation for fishermen applying tourism activities is favourable	Economic added values	1.0			
All incomes are controlled by the taxation system	Economic added values	0.6			
ADDED VALUES average score		**1.6**	**IMPACTS average score**	**0**	
MU OVERALL EFFECT			**(1.6+0)/2=0.8**		

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Table 9 Scored DABI PER CATEGORY for the MU Combination Fisheries and Tourism

DRIVERS = factors promoting MU		BARRIERS = factors hindering MU	
Category	**Average score**	**Category**	**Average score**
Policy Drivers	2.4	Barriers related with technical capacity	-2.4
Relation with other uses/ Environmental	2.6	Barriers related with economic availability / risk	-2.3
Administrative Drivers	2.0	Administrative barriers	-2.0
Economic drivers	1.7		
ADDED VALUES = positive effects of MU		**IMPACTS = negative effects of MU**	
Category	**Average score**	**Category**	**Average score**
Better ensure policy and risk management	1.9	No impacts have been identified	
Economic added values	1.5		
Societal added values	1.4		

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6 FOCUS AREAS ANALYSIS

Only the already identified KEQ for the Focus Areas have been replied. No additional relevant and specific questions arose during case study implementation.

6.1 KEQs for Focus-Area-1 "Addressing Multi-Use"

1) Is it possible to establish / widen / strengthen MU in the case study area? For which MU combination in particular?

Not for Fishing Tourism. Possibly for RES and Desalination.
What needs would MU satisfy?

Energy and water supply, spatial use optimization

2) Is space availability an issue for MU development / strengthening in the case study area at present? (Y/N) No
Will space availability become an issue for your area in the future? (Y/N) No

For what elements space availability is / could become an issue?

Maybe if cruise boats increase or if there are restricted/ protected zones for nature conservation.

3) Are there MUs combinations and potentials that will share the same resources but in different times (e.g. reuse of an infrastructure after the end of its first life and original scope)? (Y/N) No

4) What would be the most important resources to be shared between uses (infrastructures, services, personnel, etc)?

MU platforms providing energy with combinations of uses that are no possible on land any more (e.g., desalination, but also waste management, docking of ships, bunkering)

5) Are existing and/or potential MUs taken into account within the existing or under development Maritime Spatial Plans? (Y/N)

There is no MSP yet, neither at national nor at a local level. The sectorial spatial framework for renewable energy / wind farms does not explicitly mention combination with other uses (MUs) but it does not prohibit it either. The sectorial spatial framework for tourism, encourages any uses that may be related to tourism, but at the moment there seems to be no interest for alternative types of tourism in combination with other types of activities in Mykonos. Finally, the sectorial spatial framework for aquaculture includes a number of restrictions related to the operation of other activities in the vicinity of farms, however this is not relevant for the Mykonos case study, as the area is not included in the proposed ones for the development of this sector.

6) How are MUs connected or related to land-based activities?

The needs for water and energy are directly linked to increased demands for land based activities (mainly tourism related) and as land real estate values are very expensive on the island, but also rele-

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vant installations there are perceived as visual pollution, alternative options such as in offshore out of sight areas may be considered as suitable for the development of such needs.

7) Is the needed knowledge and technology for MU development/strengthening in the case study area already available? (Y/N) Yes
What is the level of maturity of available knowledge?

It is relatively satisfactory, considering that there is a number of research projects exploring MU potential development in Greek waters, one of which off Mykonos island.

What is the level of readiness of available technology? Relatively satisfactory at least at the design/research level.
Are there still research needs? (Y/N) Yes

9) What action(s) would you recommend to develop / widen / strengthen MU in the case study area?

Political will on the different levels of administration: need to strengthen integration between central and local governance institutions towards adopting strategic spatial development vision on the basis of local characteristics/needs, decrease bureaucracy, increase public awareness and capacity building.

What actor(s) do you see particularly important to develop / widen / strengthen MU in the case study area?

According to our survey, the opposition political parties show strong support to technological innovations and alternative types of tourism. However, such an effort should be organized in an integrated way adopting a multi-disciplinary approach by involving actors from central and local administration, tech innovators, industry and the local community.

6.2 KEQs for Focus-Area-2 "Boosting Maritime Blue Economy"

1) Do you see added values for society and economy at large and/or for local communities of developing / widening / strengthening MU in the case study area? (Y/N). Yes
What are the most important ones?

Change of people's mentality to accept more ecological solutions. Development of sectors that are more oriented to eco-friendly tourism activities, as well as to the adoption of energy solutions with reduced carbon footprint.

2) Is it possible to quantify the socio-economic benefits related to MUs and how they (could) contribute to the sea economy at local and regional/national scale? (Y/N) Yes
What tools, knowledge, experiences are available?

Classical indicators such as turnover and employment but also sustainability assessment, product life cycle assessment, Blue Growth contribution to regional sustainable development.

Would MU development / strengthening be an opportunity for job creation and / or job requalification in your area? (Y/N) Yes

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3) *Do you see possible elements of attractiveness for investors in developing / widening / strengthening MU in the case study area? (Y/N)* Yes
What are these elements?

The promotion of Innovative technologies, ensuring societal benefits, local community engagement, contribution to the increase of GNP

4) What are possible investors interested in developing / widening / strengthening MU in the case study area?
Investors from RES clusters may be interested in developing MUs combining energy provision with other types of services (e.g.desalination), however, their engagement would be feasible through an integrated and holistic approach ensuring the economic viability and sustainability of such projects, along with tackling issues related to policy gaps and decreasing bureaucracy already mentioned above. Particularly for the sustainable development of marine renewable energy in the Mediterranean a fully detailed roadmap has been recently published which could serve as benchmark enabling the evaluation of RES potential in the region (Soukissian et al., 2017).

5) Is there sufficient dialogue between the stakeholder sectors for developing / widening / strengthening MU? (Y/N) No
Would dialogue facilitation be an asset? (Y/N) Yes

6) In order to promote MU development / strengthening in the case study area,
- would the availability of a vision/strategy (e.g. at national or sub-regional level) be helpful? (Y/N) Yes
- would a feasibility study including evaluation of alternative scenarios be helpful? (Y/N) Yes
- would detailed projects on already identified simulations be useful? (Y/N) Yes
- do you see other enablers?

The development of methods of successful conflict management (identification, avoidance, resolution), facilitation of allocation agreements and benefit sharing from collocation/coexistence/simultaneous use of space or infrastructures. Provision of relevant guidelines and advisory services from specialised experts' consultants would speed up the processes of MU developments

6.3 KEQs for Focus-Area-3 "Improving environmental compatibility"

1) What are / would be the environmental added values (= positive environmental impacts) of developing / widening / strengthening MU in the case study area?

More space for nature, energy efficiency, energy saving, water saving, easier monitoring.

2) Which tools (conceptual, operational) are used or should be further developed and used to better estimate environmental impacts and benefits of MU?

Cumulative impact assessment, risk assessment, marine ecosystem services valuation, trade off analysis, scenario development and analysis

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3) Is saving free sea space for nature conservation a driver for MU the case study area? (Y/N) No
Are there evidences about the present and future benefits of reserving free sea space? (Y/N) No
What are they?

Currently there are no intentions to reserve free spaces for nature conservation; however, such evidence could be provided by feasibility studies (environmental cost benefit analysis should be used), environmental impact assessments and special environmental impact assessments (when designating locations as MPAs) investigating if the specific sites may provide real benefits to the local community.

4) What practical actions would you undertake to link MU development / widening / strengthening to improved environmental compatibility of maritime activities?

Scenario analysis with various levels of development and environmental impact assessment to evaluate possible pressures on ecosystem components. Comparison of impacts and benefits between zoning every use separately and combining uses when possible.

5) Are there win-win solutions triggering both socio-economic development and environmental protection already available for the case study area that MU should take up? (Y/N) No

6) Is the environmentally friendly knowledge / technology for MU development/strengthening in the case study area available? (Y/N) Yes
Which is the level of readiness of available solutions? Unknown
Are there still research needs on blue/green technologies for MU? (Y/N) Yes

7) Would it be possible to promote MU through SEA/EIA procedures? (Y/N) Yes
What modifications would you suggest at your national / local level to promote MU through SEA/EIA procedures?

See proposals above i.e.

Scenario analysis with various levels of development and pressure to the ecosystem.

Comparison of impacts and benefits between zoning every use separately and combining uses when possible.

Proposals for ways towards successful conflict management (identification, avoidance, resolution), facilitation of allocation agreements and benefit sharing from collocation/ coexistence/ simultaneous use of space or infrastructures

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7 STAKEHOLDER ENGAGEMENT AND LOCAL STAKEHOLDER PROFILES

7.1 *Engaging stakeholders*

Stakeholders were identified based on their relevance to the MU on the case study level. Their selection was based either through nomination by another key SH (e.g. the former mayor of Mykonos), or by their participation in previous MU projects, or by internet research. The SHs identified were engaged in a participatory process following a step by step approach. Primarily (step 1) they were contacted via telephone, they were introduced to the aim of the MUSES project, the research already conducted on a national level, and the MUs identified at the CS level. They were invited to be engaged to the research for the CS, as key stakeholders due to their geographical relation, their expertise, their stakes and their level of power. Nineteen (19) stakeholders were contacted from which three (3) were not interested in being involved, while for most of the rest (sixteen) who were finally involved in the process, there was a continuous struggle for more than three months to finalize our appointments with them, as till the end of October they were unavailable calling off previously set communications/meetings. Semi-structured interviews were then conducted via phone, skype, or face-to face (step 2) and their views about the MUs under study were integrated in the DABI catalogue, which was sent to them for scoring (step 3) based on the relevance of importance (Table 11).

Table 11 Activities of engaging Stakeholders

Code name	Stakeholder (Name of organization)	Short description How he affects or is affected by the MU)	Relevance for MU	Selection method (i.e. nominated by other SH, identified in previous project, HCMR SHs lists)	Indicate the form of interview (i.e. tel., personal talk, other-specify)	Notes Comments (some highlights from the discussions with them)
Interviewee 1	Christos Veronis	Former Mayor of Mykonos	Mechanical Engineer,local resident	Nominated by Konstantinos Voltis	Email, telephone talk and in person interview	Helped in organizing, in person interviews with local stakeholders
Interviewee 2	Konstantinos Kounanis	Technical Director of the Municipal Water Supply and Sewerage Company in Mykonos,	Expert in Energy and Desalination, local resident	Nominated by Christos Veronis	Email, telephone talk and in person interview	Found wave & desalination a more promising MU than, OWF or Photovoltaics Based

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Code name	Stakeholder (Name of organization)	Short description How he affects or is affected by the MU)	Relevance for MU	Selection method (i.e. nominated by other SH, identified in previous project, HCMR SHs lists)	Indicate the form of interview (i.e. tel., personal talk, other-specify)	Notes Comments (some highlights from the discussions with them)
Interviewee 3	Ilias Nokas	Head of the *South Aegean* Water Decentralised Directorate, Syros Island	Expert in Marine and Water Resources Management, Policy maker	Nominated by Nikitas NIkitakos	Email, telephone talk and skype interview	Found that MUs are less costly to be applied on shore than offshore

7.2 *Local stakeholder profile*

The SH' profiles have been described in order to enable the identification of the different types of actors, who may be relevant in providing their feedback for the two MU combinations, as well as who of these actors was in favour or against these MUs.

The profiles include information about their position, power, network, activity related even partially to the MU under study, as well as their overall attitude towards MU. The approach followed to compile profiles has been based on the guidelines provided by the MUSES Deliverable "Stakeholder Profiles". Tables that support the following analysis are found in the Annex.

7.2.1 *Analysis of stakeholder's profiles for the MU Fishing tourism*

Most SHs who have been approached were reactive and positive towards the potential of this MU. At the local level, they were commercial businessmen with expertise on desalination, consultants on renewable energy projects with low power to influence indirectly the MU indirectly and policy makers (previous mayor) with medium power to influence the MU directly.

Local cross-sectorial representatives of citizens and representatives of local political parties were also positive with medium power to influence the MU development directly and one local cross-sectoral policy maker with the same type/level of power.

At the regional level (south Aegean prefecture), only two cross sectorial policy makers with medium power to influence the MU directly were negative towards this MU, stating that offshore installations are generally more costly than on the land.

At the national level one consultant with expertise on renewables, with low power to influence indirectly was neutral, a cross-sectorial researcher with the same type and level of power was positive and a policy maker with strong power to influence the MU directly was positive.

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7.2.2 *Analysis of stakeholder's profiles for MU renewable energies and Desalination*

From the Fishing Sector, the owner of the small-scale fishing vessel who is licensed for fishing tourism activities, was dormant while an intermediary, the president of the association of the small-scale fishermen in Mykonos with medium power to influence the MU indirectly was reactive but with a negative attitude towards the fishing/tourism MU.

From the environmental sector we could not track relevant stakeholders at the local scale.

From the tourism sector, one representative of a local political party (belonging to the category "NGOs and other intermediaries") with medium power to influence this MU indirectly was reactive but with negative attitude towards the specific MU. A similar position was adopted by another national stakeholder from academia who teaches tourism related topics but has low power to influence indirectly.

At the cross sectorial level two representatives of local political parties (belonging to the category NGOs and other intermediaries) with medium power to influence this MU indirectly were reactive but with negative attitude towards the MU.

However again as with the previous MU there were some local policy makers with high-medium power to influence the MU directly, who were dormant (i.e. the current mayor and municipality officers). It is possible that this attitude is usually adopted by elected administrators who are reluctant to take a clear position for or against an issue of concern (in this case the MUs) as such an attitude would be criticized by certain people (voters) either from the opposition or even from their own party.

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8 CONCLUSIONS AND RECOMMENDATIONS FROM THE CASE STUDY TO THE ACTION PLAN

8.1 *Current stage of MU development*

The potential MU Renewable Energies and Desalinisation, was examined to assess the DABIs from the key stakeholders. From the literature review, there are examples of pilot projects either including a research study, with a real application of a MU combination at a local scale (e.g. Ydriada/ RES & desalination) and, although demonstrating promising results, they have not succeeded to become operational (i.e reach the market), or including a pre-feasibility desk research study (e.g. Wave Energy Research study, Xenarios et al (2012), but have not been implemented at an operational scale. The main reasons, seemed to be legal/policy gaps (no policy agreements explicitly referring to MU), , administrative/institutional constraints (e.g bureaucracy, lack of governance integration at the different levels, lack of vision for strategic development), or were due to social and/or financial reasons, such as reluctance to visual pollution, concerns regarding the costs for offshore installations. Furthermore, the local society in small isolated islands is usually not prone to be accustomed to new ways in their everyday living due to lack of trust and awareness and prefer to maintain traditional customs and habits; in Mykonos however if the public authorities/local tourism industry would decide to be in favour for a MU the local society would easily agree to it too.

8.2 *Best potential MU combination(s) for the future in the area*

The combination of renewable energies & desalination in the study area is not considered as an urgent need, but could be considered as an option by the local community according to SHs' perceptions. The local authority (Municipality) has asked for the completion of a research study (as stated above) on the MU wave and desalination which reveals the interest to investigate innovative options, however, further steps should be taken to make such projects bankable as already mentioned above.

The best option for a future RE combination with e.g. desalination would be the one not causing visual pollution; due to the morphology of the area and the main financial activity taking place there (i.e. high quality tourism), the renewable energies of wave and solar panels, attracted more favourable attention in relation to offshore wind farms.

8.3 *Key solutions and actors that can contribute to enhance MU in the area*

There is a need for innovative bankable projects, involving also the local community in a truly transparent and participatory process, which would contribute to raising their awareness as for the benefits and added values that could derive from a MU combination that would contribute to meeting their expectations and needs.

There is a need for strengthening the interfaces between policy, science, industry and society in order to promote innovative concepts, such as MU combinations, that best fit to the societal needs in the different regions/sub-regions of the EU Seas.

However, the adoption of a clear strategic vision by national policy makers on key issues of concern related e.g. to the country's energy development agenda would enable the implementation of policy agreements facilitating suitable investments. Then, horizontal (i.e. inter ministerial) but also vertical

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(top-down) integration of the different governance levels, through a truly participatory process, would prioritize key enablers for sustainable economic development in the different regions of Greece, which would definitely enhance innovative strategic planning elucidating options for relevant scenarios of development (e.g. MUs) under the Blue Growth umbrella, streamlining at the same time an inspiring implementation of the MSP Directive.

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APPENDIX 1 – SCORED DABI SHEETS

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	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6	Interviewee 7	Interviewee 8	Interviewee 9	Interviewee 10	Interviewee 11	Interviewee 12		
Combination: Renewable Energies & Desalination	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Factor average for all stakeholders**	**Category average (average of all factors averaged for all stakeholders)**
DRIVERS														
Category D.1 - Policy drivers														
Factor D.1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	
Average	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**		-
Category D.2 - Relation with other uses/ Environmental														
Factor D.2.1 Lack of fresh water	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	2,0	3,0	2,0	2,8	
Factor D.2.2 Salt resulting from desalination on land discharged close to the coast	1,0	2,0	1,0	3,0	3,0	3,0	3,0		1,0	2,0	2,0	0,0	1,9	
Average	**2,0**	**2,5**	**2,0**	**3,0**	**3,0**	**3,0**	**3,0**	**3,0**	**2,0**	**2,0**	**2,5**	**1,0**		2,4
Category D.3 - Economic drivers														
Factor D.3.1 Unstable electricity pricing when diesel generators are	3,0	3,0	3,0	3,0	3,0	3,0	2,0	3,0	1,0	2,0	1,0	2,0	2,4	
Average	**3,0**	**3,0**	**3,0**	**3,0**	**3,0**	**3,0**	**2,0**	**3,0**	**1,0**	**2,0**	**1,0**	**2,0**		2,4
Category D.4 - Societal drivers														
Factor D.4.1 Water stress during high tourism season	3,0	3,0	2,0	3,0	3,0	3,0	3,0	3,0	1,0	2,0	3,0	3,0	2,7	
Average	**3,0**	**3,0**	**2,0**	**3,0**	**3,0**	**3,0**	**3,0**	**3,0**	**1,0**	**2,0**	**3,0**	**3,0**		2,7
Category D.5 – Technical Drivers														
Factor D.5.1 When it is a floating MU not need local infrastructure (roads, cranes etc)	3,0	3,0	3,0	0,0	3,0	3,0	3,0	2,0	3,0	2,0	2,0	3,0	2,5	
Factor D.5.2 Floating platforms are dependent of water depths	2,0	2,0	1,0	3,0	1,0	2,0	3,0	1,0	3,0	2,0	1,0	3,0	2,0	
Factor D.5.3 Lack of connection to the electricity grid	1,0	1,0	0,0	3,0	3,0	3,0	0,0	3,0	3,0	2,0	2,0	3,0	2,0	
Factor D.5.4 Better wind quality at sea (OWF) than in land (WF)			3,0	3,0	3,0	3,0	2,0						2,8	
Average	**2,0**	**2,0**	**1,8**	**2,3**	**2,5**	**2,8**	**2,0**	**2,0**	**3,0**	**2,0**	**1,7**	**3,0**		2,2

2,44

	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6	Interviewee 7	Interviewee 8	Interviewee 9	Interviewee 10	Interviewee 11	Interviewee 12		
Combination: Renewable Energies & Desalination	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Factor average for all stakeholders**	**Category average (average of all factors averaged for all stakeholders)**
BARRIERS														
Category B.1 - Legal barriers														
Factor B.1.1 Institutional and legal obstacles to facilitate the transition of research projects to commercial ones	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-1,0	-2,0	-3,0	-1,0	-2,6	
Average	**-3,0**	**-3,0**	**-3,0**	**-3,0**	**-3,0**	**-3,0**	**-3,0**	**-3,0**	**-1,0**	**-2,0**	**-3,0**	**-1,0**		-2,6
Category B.2 - Administrative barriers														
Factor B.2.1 Overlapping of competencies may slow down the implementation stage	-2,0	-2,0	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-1,0	-2,0	-3,0	-2,0	-2,5	
Factor B.2.2 Need for consensus of multiple administrative and private interests may slow down the implementation stage and block the operational stage	-3,0	-3,0	-1,0	-3,0	-3,0	-3,0	-3,0	-3,0	-1,0	-2,0	-3,0	-2,0	-2,5	
Average	**-2,5**	**-2,5**	**-2,0**	**-3,0**	**-3,0**	**-3,0**	**-3,0**	**-3,0**	**-1,0**	**-2,0**	**-3,0**	**-2,0**		-2,5
Category B.3 - Barriers related with economic availability / risk														
Factor B.3.1 Lack of funding	-3,0	-3,0	-3,0	-3,0	-3,0	-3,0	-1,0		-3,0	-2,0	-3,0	-3,0	-2,7	
Factor B.3.2 It costs more to install, sustain and function the MU at sea than in land	-3,0	-3,0	-3,0	-2,0	-3,0	-2,0	-2,0	-2,0				-3,0	-2,6	
Factor B.3.3 High cost of desalinated water transfer from sea to the main pipeland in land because the high distance between the case study area (northeast) and the high need of desalinated water in central Mykonos (southwest)	-2,0	-2,0	-3,0	-1,0	-1,0	-1,0	-2,0	-1,0				-3,0	-1,8	
Factor B.3.4 There has been already approved the installation of a second desalination unit at the port area of Mykonos	-1,0	-1,0	-3,0	-1,0	-3,0	-2,0	-2,0	-2,0				-2,0	-1,9	
Factor B.3.5 There is diesel generator in Mykonos but will be a connection with the continental Greece and the main electricity grid - Locally there is not so big interest	-1,0	-1,0	-2,0	-3,0	-1,0	-2,0	-1,0					-3,0	-1,8	
Factor B.3.6 Although the cost of buying or renting land in Mykonos is very expensive - Sea use would be more expensive	-3,0	-3,0	0,0	-1,0	0,0	0,0	-1,0	0,0				-3,0	-1,2	
Average	**-2,2**	**-2,2**	**-2,3**	**-1,8**	**-1,8**	**-1,7**	**-1,5**	**-1,3**	**-3,0**	**-2,0**	**-3,0**	**-2,8**		-2,1
Category B.4 - Barriers related with technical capacity														
Factor B.4.1 Waterborne corrosion of MU			-3,0	-3,0	-3,0	-3,0	-2,0	-3,0				-3,0	-2,9	
Factor B.4.2 Damage repair flexibility in land than at sea	-2,0	-2,0	-2,0	-2,0	-2,0	-2,0	-2,0					-3,0	-2,1	
Factor B.4.3 The desalination unit cannot independently be supported by the OWF as its electricity power depends on the weather - wind. The provision of electricity storage in batteries is necessary	-1,0	-1,0	-2,0	-2,0	-3,0	-3,0	-1,0					-3,0	-2,0	
Factor B.4.4 There is enough space in land - no need to install at sea	-3,0	-2,0	0,0	-1,0	-3,0	0,0	0,0	0,0				-1,0	-1,1	
Average	**-2,0**	**-1,7**	**-1,8**	**-2,0**	**-2,8**	**-2,0**	**-1,3**	**-1,5**				**-2,5**		-1,9
Category B.5 - Barriers related with social factors														
Factor B.5.1 Visual pollution - Locals and tourists will be negative and hostile towards the installation of a big infrastructure in the sea			-3,0	-3,0	-3,0	-3,0	-2,0	-3,0				-1,0	-2,6	
Factor B.5.2 Reluctance to innovation because it is usually linked to high risk	-1,0	-1,0	-3,0	0,0	-2,0	0,0	-1,0	-3,0	0,0	-2,0	-3,0	-2,0	-1,5	
Average	**-1,0**	**-1,0**	**-3,0**	**-1,5**	**-2,5**	**-1,5**	**-1,5**	**-3,0**	**0,0**	**-2,0**	**-3,0**	**-1,5**		-1,8
Category B.6 - Barriers related with environmental factors														
Factor B.6.1	-	-	-	-	-	-	-	-	-	-	-	-	-	
Average	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**		-

-2,19

	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6	Interviewee 7	Interviewee 8	Interviewee 9	Interviewee 10	Interviewee 11	Interviewee 12		
Combination: Renewable Energies & Desalination	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Factor average for all stakeholders**	**(average of all factors averaged for all stakeholders)**
ADDED VALUES														
Category V.1 - Economic added values														
Factor V.1.1 Lower price of desalinated water	3,0	3,0	0,0	3,0	3,0	3,0	3,0	3,0			3,0	2,0	2,6	
Factor V.1.2 Low loses of energy due to use one source	2,0	2,0	3,0	3,0	3,0	3,0	2,0	3,0	2,0	2,0	1,0	2,0	2,3	
Factor V.1.3 Avoidance of water transportation costs	3,0	3,0	0,0	3,0	3,0	3,0	3,0		3,0	2,0	3,0	0,0	2,4	
Factor V.1.4 Cost reduction by integration of offshore activities	3,0	3,0	1,0	2,0	2,0	2,0	1,0	3,0	3,0	2,0	3,0	1,0	2,2	
Average	**2,8**	**2,8**	**1,0**	**2,8**	**2,8**	**2,8**	**2,3**	**3,0**	**2,7**	**2,0**	**2,5**	**1,3**		2,4
Category V.2 - Societal added values														
Factor V.2.1 Stakeholder engagement for site selection		3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	2,0	2,0	1,0	2,7	
Factor V.2.2 When it is a floating MU it can be moored at various locations avoiding conflicts with other sectors	2,0	2,0	3,0	0,0	0,0	2,0	3,0	3,0	3,0	2,0	3,0	0,0	1,3	
Average	**2,0**	**2,5**	**3,0**	**1,5**	**1,5**	**2,5**	**3,0**	**3,0**	**3,0**	**2,0**	**2,5**	**0,5**		2,3
Category V.3 - Environmental added values														
Factor C.3.1 Low carbon footprint of desalination	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	2,0	2,0	2,0	2,8	
Factor C.3.2 Autonomous supply of clean renewable energy	1,0	2,0	2,0	3,0	3,0	3,0	3,0	3,0	2,0	3,0	2,0	1,0	2,3	
Average	**2,0**	**2,5**	**2,5**	**3,0**	**3,0**	**3,0**	**3,0**	**3,0**	**2,5**	**2,5**	**2,0**	**1,5**		2,5
Category V.4 - Better ensurance policy and risk management														
Factor V.4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	
Average	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**		-
Category V.5 - Technical added values														
Factor V.5.1 Micro-grid continuous water and/or electricity production in a fixed location	3,0	3,0	3,0	2,0	2,0	3,0	3,0	3,0	2,0	2,0	2,0	1,0	2,4	
Factor V.5.2 Off-grid continuous water and/or electricity production	3,0	3,0	3,0	2,0	2,0	2,0	3,0	3,0	2,0	2,0		1,0	2,4	
Factor V.5.3 Can be used in combination to a third use (e.g. aquaculture)	3,0	3,0	2,0	3,0	3,0	3,0	3,0		3,0	2,0	2,0	0,0	2,5	
Factor V.5.4 Grid connected (water, electrical) simultaneous water production and electricity export	3,0	3,0	3,0	1,0	0,0	0,0	2,0	3,0	2,0	2,0	2,0	1,0	1,8	
Factor V.5.5 Mykonos is connected with the main electricity grid of continental Greece - MU will give power to Greece		3,0	0,0	1,0	0,0	1,0	2,0	1,0				3,0	1,4	
Average	**3,0**	**3,0**	**2,2**	**1,8**	**1,4**	**1,8**	**2,6**	**2,5**	**2,3**	**2,0**	**2,0**	**1,2**		2,1

2,33

	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6	Interviewee 7		
Combination: Renewable Energies & Desalination	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Score**	**Factor average for all stakeholders**	**Category average (average of all factors averaged for all stakeholders)**
NEGATIVE IMPACTS									
Category I.1 - Economic impacts									
Factor I.1.1	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	
Average	**1,0**	**1,0**	**1,0**	**1,0**	1,0	1,0	1,0		1,0
Category I.2. - Social impacts									
Factor I.2.1	-	-	-	-	-	-	-	-	
Average	**-**	**-**	**-**	**-**	**-**	**-**	**-**		-
Category I.3 - Environmental impacts									
Factor I.3.1	-	-	-	-	-	-	-	-	
Average	**-**	**-**	**-**	**-**	**-**	**-**	**-**		-
Category I.4 - Technical impacts									
Factor I.4.1	-	-	-	-	-	-	-	-	
Average	**-**	**-**	**-**	**-**	**-**	**-**	**-**		-
Category I.5 - xxx									
Factor I.4.1	-	-	-	-	-	-	-	-	
Average	**-**	**-**	**-**	**-**	**-**	**-**	**-**		-

APPENDIX 2 – STAKEHOLDERS PROFILE TABLES

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Renewable energies and desalination

Theme:	Renewable energies (RES)					
MU:	RES and desalination					
	Attribute 1 - Overall interest in MU	Attribute 2 - Overall attitude towards MU	Attribute 3 - Geographical scale at which certain stakeholder has the power	Attribute 4 - Organisation of stakeholders	Attribute 5 - type of power	Attribute 6 - Level of Power
Category						
Policy makers (Interviewee 1)	reactive	positive - driving forces	local-regional	monopoly of one organisation	power to influence directly	medium
Policy makers (Interviewee 14)	reactive	positive - driving forces	national	monopoly of one organisation	power to control and make decisions	strong
Business support – consultancies (Interviewee 8)	reactive	positive - driving forces	local-regional	couple of individual organisations	Power to influence indirectly via someone	low
Business support – consultancies (Interviewee 16)	reactive	neutral/undecided	national	couple of individual organisations	Power to influence indirectly via someone	low

Theme:	Desalination	
MU:	RES and desalina-	

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	tion					
	Attribute 1 - Overall interest in MU	Attribute 2 - Overall attitude towards MU	Attribute 3 - Geographical scale at which certain stakeholder has the power	Attribute 4 - Organisation of stakeholders	Attribute 5 - type of power	Attribute 6 - Level of Power
Category						
Intermediaries (Kounanis)	reactive	positive - driving forces	local-regional	monopoly of one organisation	Power to influence indirectly via someone	low

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Theme:	**Cross Sector**					
MU:	**RES and desalination**					
	Attribute 1 - Overall interest in MU	Attribute 2 - Overall attitude towards MU	Attribute 3 - Geographical scale at which certain stakeholder has the power	Attribute 4 - Organisation of stakeholders	Attribute 5 - type of power	Attribute 6 - Level of Power
Category						
Policy makers (Interviewee 9)	reactive	positive - driving forces	local-regional	monopoly of one organisation	power to influence directly	medium
Policy makers (Interviewee 5)	reactive	negative - imposing barriers	local-regional	monopoly of one organisation	power to influence directly	medium
Policy makers (Interviewee 3)	reactive	negative - imposing barriers	local-regional	monopoly of one organisation	power to influence directly	medium
Policy makers (Interviewee 14)	reactive	positive - driving forces	national	monopoly of one organisation	power to influence directly	strong
NGOs and other intermediaries representing society at large (Interviewee 6)	reactive	negative - imposing barriers	local-regional	couple of individual organisations	Power to influence indirectly via someone (indicate whom?)	medium

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	Attribute 1 - Overall interest in MU	Attribute 2 - Overall attitude towards MU	Attribute 3 - Geographical scale at which certain stakeholder has the power	Attribute 4 - Organisation of stakeholders	Attribute 5 - type of power	Attribute 6 - Level of Power
Category						
NGOs and other intermediaries representing society at large (Interviewee 11)	reactive	positive - driving forces	local-regional	couple of individual organisations	Power to influence indirectly via someone (indicate whom?)	medium
NGOs and other intermediaries representing society at large (Interviewee 4)	reactive	positive - driving forces	local-regional	couple of individual organisations	Power to influence indirectly via someone (indicate whom?)	medium
NGOs and other intermediaries representing society at large (Interviewee 12)	reactive	positive - driving forces	local-regional	couple of individual organisations	Power to influence indirectly via someone (indicate whom?)	medium
Research organisation (Interviewee 15)	reactive	positive - driving forces	national	monopoly of one organisation	Power to influence indirectly via someone (indicate whom?)	low

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Fishing & Tourism

Theme:	**Fisheries**					
MU:	**Fisheries and Tourism**					
		Attribute 2 - Overall attitude towards MU	Attribute 3 - Geographical scale at which certain stakeholder has the power	Attribute 4 - Organisation of stakeholders	Attribute 5 - type of power	Attribute 6 - Level of Power
Category						
Commercial Business (Interviewee 7)	dormant	negative - imposing barriers	local-regional	monopoly of one organisation	please choose from the drop down menu	no power
Intermediaries (Interviewee 6)	reactive	negative - imposing barriers	local-regional	a lot of individual organisations	Power to influence indirectly via someone (indicate whom?)	medium

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Theme:	Tourism					
MU:	Fisheries and Tourism					
	Attribute 1 - Overall interest in MU	Attribute 2 - Overall attitude towards MU	Attribute 3 - Geographical scale at which certain stakeholder has the power	Attribute 4 - Organisation of stakeholders	Attribute 5 - type of power	Attribute 6 - Level of Power
Category						
NGOs and other intermediaries representing society at large (Interviewee 4)	reactive	negative - imposing barriers	local-regional	couple of individual organisations	Power to influence indirectly via someone (indicate whom?)	medium
Research organisation (Interviewee 13)	reactive	negative - imposing barriers	national	couple of individual organisations	Power to influence indirectly via someone (indicate whom?)	low

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Theme:	Cross Sector					
MU:	Fisheries and Tourism					
	Attribute 1 - Overall interest in MU	Attribute 2 - Overall attitude towards MU	Attribute 3 - Geographical scale at which certain stakeholder has the power	Attribute 4 - Organisation of stakeholders	Attribute 5 - type of power	Attribute 6 - Level of Power
Category						
Policy makers (Interviewee 9)	reactive	positive - driving forces	local-regional	monopoly of one organisation	power to influence directly	medium
Policy makers (Interviewee 6)	reactive	negative - imposing barriers	local-regional	monopoly of one organisation	power to influence directly	medium
NGOs and other intermediaries representing society at large (Interviewee 10)	reactive	negative - imposing barriers	local-regional	couple of individual organisations	Power to influence indirectly via someone (indicate whom?)	medium
NGOs and other intermediaries representing society at large (Interviewee 11)	reactive	positive - driving forces	local-regional	couple of individual organisations	Power to influence indirectly via someone (indicate whom?)	medium

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	Attribute 1 - Overall interest in MU	Attribute 2 - Overall attitude towards MU	Attribute 3 - Geographical scale at which certain stakeholder has the power	Attribute 4 - Organisation of stakeholders	Attribute 5 - type of power	Attribute 6 - Level of Power
Category						
NGOs and other intermediaries representing society at large (Interviewee 12)	reactive	negative - imposing barriers	local-regional	couple of individual organisations	Power to influence indirectly via someone (indicate whom?)	medium

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APPENDIX 3 – LIST OF LAWS, STRATEGIES AND OTHER PUBLICATIONS REVIEWED

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 727451

Laws

JMD 31722/2011: Adoption of a Special Framework for Spatial Planning and Sustainable Development for Aquaculture and its Strategic Environmental Impact Assessment.

JMD 24208: Adoption of a Special Framework for Spatial Planning and Sustainable Development and Strategic Environmental Impact Assessment regarding Tourism

Law 4179/2013: Simplification of procedures for enhancing entrepreneurship in tourism, restructuring of the Hellenic Tourism Organization and other provisions.

Law 3409/2005: Recreational diving and other provisions.

JMD 414/2354: Prerequisites, conditions and procedures for carrying out fishing tourism by professional fishermen.

Case specific decisions for the Establishment of Visiting (marine, sea, underwater) Archaeological Sites at specific locations.

JMD 49828/2008 Approval of a special framework for spatial planning and sustainable development for renewable energy sources and its strategic environmental impact assessment.

Law 3851/2010: Accelerating the development of Renewable Sources Energy for Climate Change and other provisions in matters of competence of the Ministry of Environment, Energy and Climate change.

Law 3983/2011: National Strategy for the Protection and Management of the Marine Environment - Harmonization with Directive 2008/56 / EC of the European Parliament and of the Council of 17 June 2008 and other provisions

Law 3937/2011: Conservation of Biodiversity and other provisions

Case specific decisions for the Establishment of MPAs

National and local strategies

Ministry of Agricultural Development and Food, 2014: Multi-annual National Strategic Plan for the development of aquaculture in Greece, 2014-2020

Ministry of Tourism, 2013: Draft directions for national strategic development of Tourism for period 2014-2020

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Reports

ENVECO, 2015. Strategic Environmental Impact Assessment of the National Development Programme for Offshore Wind Farms Based on National Legislation 3851/2010

WWF Greece, 2015 Blue Growth at the Mediterranean Sea: The challenge of the Good Environmental Status. Greek Report

European Commission, 2011. Exploring the potential of maritime spatial planning in the Mediterranean. Country Report Greece.

MSP IOC-UNESCO Overview of MSP Around the Globe- Greece: http://msp.ioc-unesco.org/world-applications/europe/greece/

European MSP platform- Country Information- Greece: http://msp-platform.eu/sites/default/files/download/greece_13.06.2017.pdf

European Maritime and Fisheries Fund – Operational Programme for Greece 2014-2020. Ref. Ares (2015)4433579 – 20/10/2015

Projects (proposed or approved already)

Wave Powered Desalination, Pre – Feasibility Study for the Municipality of Port of Mykonos, Sigma Hellas Ltd, 2009

MARIBE project, Aegean Offshore Wind Desalination, EcoWindwater, http://maribe.eu/blue-economy-growth-science-research-offshore-wind-desalination/

Scientific Publications

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