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Local Communities' Perceptions of Offshore Wind Farms in Greece: Evidence From the Diapontian Islands

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Abstract

The development of offshore wind farms (OWFs) has become central to Europe's low-carbon transition, offering opportunities to decarbonize energy systems, reduce reliance on imported fossil fuels, and expand the blue economy. Greece, endowed with rich wind resources in its territorial waters, has recently adopted a comprehensive framework for offshore wind development, aiming to achieve 2 GW of installed capacity by 2030 and 12 GW by 2050. However, offshore wind deployment is not solely a technical or economic endeavor; it also depends on governance arrangements, social acceptance, and the ability to reconcile national ambitions with local realities. Drawing on 21 semi-structured interviews with local stakeholders conducted in September 2024, this article aims to map and analyze the attitudes and perceptions of local communities and stakeholders towards the potential environmental, social, and economic impacts of the planned OWF, focusing on the case of the Diapontian Islands. The sea area of the Diapontian Islands—a small island complex of the Ionian Sea, northwest of Corfu—has been designated as one of the potential areas for OWF installation. The findings demonstrate that perceived negative impacts on biodiversity and local economic activities, particularly tourism and fisheries, along with mistrust or distrust toward public authorities, fuel widespread opposition to the planned OWF in the area. Inclusive participation, transparent planning, and tangible reciprocal benefits emerge as key prerequisites for addressing public concerns and building trust around energy transition strategies.

Keywords

blue economy; Diapontian islands; energy justice; Greek islands; offshore wind farms; renewable energy governance; social acceptance

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1. Introduction

The nexus between oceans and climate change represents one of the most pressing governance challenges of the 21st century. Oceans are vital carbon sinks and climate regulators; at the same time, they are increasingly threatened by climate change impacts such as sea-level rise, ocean acidification, and biodiversity loss, while also serving as indispensable sites of economic activity. Although the ocean economy is a significant driver of climate change—through sectors such as shipping, fishing, and tourism—ocean-based renewable energy technologies, including offshore wind farms (OWFs), offer substantial potential for emissions reduction and the achievement of climate neutrality, provided that their deployment minimizes adverse impacts on marine ecosystems (Cooley et al., 2022).

OWFs can be conceptualized as complex socioeconomic and environmental systems, involving synergies and trade-offs between human societies and natural environments. These interactions are dynamic and non-linear. Consequently, understanding the interplay among social, economic, and environmental priorities is crucial for minimizing the potential adverse effects of offshore wind energy strategies on both societies and ecosystems (Gill, 2005; Katsanevakis et al., 2011).

Moreover, OWFs frequently encounter resistance from local communities, environmental organizations, and other stakeholders. Acceptance of such projects is strongly mediated by governance processes, distributional outcomes, and levels of trust in institutions (Firestone & Kempton, 2007; Wolsink, 2007, 2018; Wüstenhagen et al., 2007). In 2024, offshore wind accounted for only 7.3% of the total global wind capacity (83 GW), although the offshore market expanded at an average annual rate of approximately 10% throughout the 2010s (Global Wind Energy Council, 2025). Deployment has accelerated across Europe, positioning the sector as a cornerstone of the European Green Deal and the EU's strategy for climate neutrality by 2050. In 2020, the EU held 42% of the global offshore wind market and set binding targets of 60 GW by 2030 and 300 GW by 2050, signaling a rapid expansion of offshore renewables (European Commission, 2020).

With its extensive maritime zones and abundant wind resources, Greece has emerged as a potential leader in offshore wind energy production. In 2022, Greece adopted a dedicated legal framework for offshore wind development, and in 2024, it updated its National Energy and Climate Plan setting capacity targets of approximately 2 GW by 2030 and 12 GW by 2050. Furthermore, the 2023 National Development Program for Offshore Wind Farms (NDPOWF) designated relevant sites, underscoring the strategic importance of offshore renewable energy as a core component of Greece's decarbonization pathway and transition toward climate neutrality.

This article focuses on the case of the Diapontian Islands, a small island complex in the Ionian Sea, northwest of Corfu Island, which has been identified as one of the potential areas for OWFs installation. This case therefore offers a clear illustration of the interactions between national climate strategies and the lived realities of small, peripheral island communities. Drawing on 21 semi-structured interviews with local stakeholders conducted in September 2024, the study examines local perceptions and attitudes toward OWFs, as well as emerging sea-use conflicts that are exacerbated by the absence of comprehensive maritime spatial planning (MSP).

2. Contextualizing the Diapontian Islands as a Prospective Site for OWFs Development

2.1. The European Context

The EU, acting as a global leader in the pursuit of climate neutrality by 2050, has adopted a robust legislative and financial framework to promote renewable energy production, including OWFs. The Renewable Energy Directive (RED) 2009/28/EC (2009) first established binding targets of 20% renewable energy sources (RES) in total energy consumption and 10% in transport by 2020—targets that were ultimately achieved (European Environment Agency, 2021). Its revised version, RED II, Directive (EU) 2018/2001 (2018), adopted as part of the "Clean Energy for All Europeans" package, raised the 2030 target to 32%, while a separate Governance Regulation (EU) 2018/1999 (2018) required member-states to submit ten-year National Energy and Climate Plan for 2021–2030 and report progress biennially, which are considered essential strategic planning tools for delivering a fair, resilient, and climate-neutral Europe. The European Green Deal (European Commission, 2019) marked a decisive step in this direction. The European Climate Law, enacted through Regulation (EU) 2021/1119 (2021), made the EU's target of at least a 55% reduction in greenhouse gas emissions by 2030 legally binding, while the "Fit for 55" package (European Commission, 2021) was designed to align EU energy and climate legislation accordingly.

The Russia–Ukraine war revealed the energy vulnerability of the EU countries and the major energy security challenges, accelerating the transition toward green energy through the adoption of the REPowerEU plan (European Commission, 2022), which aims to reduce Europe's dependence on fossil fuels. In the same year, the EU introduced temporary measures to streamline permitting procedures for renewable energy projects. Subsequently, RED III (Directive (EU) 2023/2413, 2023) further increased the 2030 RES target to at least 42.5% (with an indicative 45% ambition), explicitly recognizing the strategic role of offshore renewable energy. Moreover, the directive mandates the integration of offshore RES generation into MSP, promotes cross-border cooperation, e.g., through joint projects, and introduces "renewables acceleration areas" with clearer and shortened time limits for environmental assessments and administrative procedures.

Moreover, the EU Offshore Renewable Energy Strategy (European Commission, 2020) established milestones to expand offshore capacity from 12 GW in 2020 to 60 GW by 2030 and 300 GW by 2050. In addition, the revised Trans-European Networks for Energy Regulation (Regulation (EU) 2022/869, 2022) strengthened cross-border planning and reaffirmed the importance of regional cooperation, explicitly enabling the development of joint projects. Political momentum was further reinforced by the European Commission (2023) communication, which set non-binding capacity objectives (111 GW by 2030, 317 GW by 2050) and outlined priority actions related to grids and regional cooperation, accelerated permitting, integrated MSP, infrastructure resilience, research and innovation, and supply chains and skills.

In parallel, multiple EU financial instruments support offshore renewable projects. The Recovery and Resilience Facility earmarked 37% of its resources for the green transition, while additional funding is available through the 2022 State Aid Guidelines for Climate, Environmental Protection and Energy, the InvestEU program, the European Regional Development Fund, and the Cohesion Fund, with a particular emphasis on less-developed regions. Since 2007, the EU budget has allocated €2.3 billion to offshore technologies, and the European Investment Bank has provided €14.4 billion in loans and equity financing for such projects (European Court of Auditors [ECA], 2023).

Moreover, the MSP Directive (Directive 2014/89/EU, 2014) emerges as an integral component of the offshore renewable energy development. It seeks to reduce conflicts among maritime activities, safeguard biodiversity, and the sustainable use of marine resources, as well as to create more stable and secure conditions for investments. To this end, the directive establishes a common EU framework for member-states to develop and implement maritime spatial plans that integrate economic, social, and environmental dimensions of sustainable blue economy, while promoting the coexistence of multiple sea uses.

2.2. The Greek Context

The development of OWFs remains central to Greece's energy transition strategy, as articulated in the NDPOWF and the relevant Strategic Environmental Impact Assessment (SEIA) drafted in late 2023 by the Hellenic Hydrocarbons and Energy Resources Management Company (HEREMA). HEREMA is the state-owned company responsible for managing Greece's exclusive rights to explore and identify suitable areas for OWFs (Hellenic Parliament, 2022). The NDPOWF aims to delineate specific zones for offshore wind development across Greek maritime space (HEREMA, 2023a). To this end, HEREMA applied a total of 20 exclusion criteria to safeguard environmentally sensitive areas and marine activities in the Greek territory, including, inter alia, national security and passenger navigation, airports, minimum distance from the coastline, areas of environmental and cultural importance, tourist activities, aquaculture areas, and other uses.

The NDPOWF further identifies 10 eligible areas for offshore wind energy projects by 2030, designated as Organized Development Areas for Offshore Wind Farms (ODAOWFs), with an estimated total capacity of approximately 4.9 GW, relying primarily on floating wind technology. More specifically, the ODAOWFs identified for the medium-term development phase are geographically distributed across Eastern Crete, Southern Rhodes, the Central Aegean, the Evia-Chios axis, and the Ionian Sea (see HEREMA, 2023b, p. 93). These areas do not include the marine area between Evros and Samothraki, which is defined by law as an area for the development of pilot OWF projects (Hellenic Parliament, 2022).

However, this legislative framework coexists with the Special Framework for Spatial Planning and Sustainable Development for RES, adopted in 2008 (Coordination Committee of Government Policy on Spatial Planning and Sustainable Development, 2008), which is widely regarded as outdated. Article 10 of this Joint Ministerial Decision sets out the criteria for wind installations in marine areas and on uninhabited islets, permitting them where wind conditions are favorable and no explicit prohibitions apply. It excludes marine protected areas (MPAs), underwater archaeological sites, and passenger-shipping routes, while establishing minimum distances from settlements (1,500 m from the coastline), heritage sites, and productive zones. It also requires compliance with landscape integration and electricity transmission constraints.

Furthermore, Law 4964/2022 forms part of a broader policy framework (Hellenic Parliament, 2022). As specified in Article 67, this framework encompasses the national energy planning and objectives as set out in the Greek National Energy and Climate Plan, the National Spatial Strategy, and the Special Spatial Framework for RES, alongside Article 13A of the spatial and urban planning legislation, the National Spatial Strategy for the Marine Space (Hellenic Parliament, 2014), and legislation on marine spatial plans (Hellenic Parliament, 2018). It also incorporates parameters such as national security, navigation safety, marine infrastructure, and biodiversity protection, as well as productive activities like fisheries and tourism.

To accelerate project deployment and align implementation with national energy objectives, permitting, and planning procedures were further streamlined, and HEREMA's NDPOWF was formally operationalized (Hellenic Parliament, 2024). In this context, a binding target of at least 2 GW of offshore wind capacity by 2030 was established, in line with Greece's commitments under the EU's 2030 climate and energy framework. Complementary provisions streamline environmental licensing for RES projects (Hellenic Parliament, 2020) and define the governance framework for spatial planning to ensure the compatibility of offshore projects with broader territorial strategies (Hellenic Parliament, 1999).

According to the NDPOWF (HEREMA, 2023a), one of the eligible areas for medium-term offshore wind energy projects to be developed by 2030 is the sea area of the Diapontian Islands, a small island complex located northwest of Corfu and marking Greece's westernmost point. This island complex consists of three larger islands and several smaller islets. Othoni, Erikoussa, and Mathraki are the three main islands, each hosting between approximately 330 and 500 permanent residents. The islands are characterized by rich fauna and flora, and a substantial part of their territory is included in the Natura 2000 network or has been recognized as an important area for birds (HEREMA, 2023b, p. 516). According to the NDPOWF, the planned OWF will be installed in the sea area between these islands, with the installation of dozens of wind turbines with a rotor diameter of 236 m and a height of up to 280 m. Accordingly, SEIA (HEREMA, 2023b, p. 436) indicates that the OWF would cover an area of 54 km² and comprise fixed-bottom wind turbines with a proposed total installed capacity of 270 MW, located at a minimum distance of 1,890.92 m from the coastline (for more, see Avrami et al., 2025).

The uniqueness of the area, combined with the scale and characteristics of the proposed project, poses significant challenges for local communities and the marine environment, leading to unanimous opposition among local stakeholders. Local and regional public authorities, representatives of the fisheries and tourism sectors, as well as civil society organizations, have publicly expressed concerns regarding the planned OWF in the area ("Baraz antidraseon gia," 2023; Syndesmos Epicheirimation Arilla Kerkyras, 2013).

Notably, the SEIA emphasizes the relatively low wind potential of the Diapontian Islands area compared to other designated sites. Low wind potential refers to conditions in which wind speeds are insufficient for conventional wind turbines to operate efficiently or even initiate operation, typically falling below the cut-in speed (approximately 10–15 km/h). In these cases, increasing both technical complexity and project costs (Nizamani et al., 2024). This issue was also emphasized by representatives of national agencies involved in the planning and implementation of offshore wind energy projects, who noted that wind speeds in the area are considered inadequate, rendering the investment economically non-viable. As a result, investment interest in the area remains extremely limited (Avrami et al., 2025).

In this context, the Diapontian Islands in the Ionian Sea appear likely to be excluded from HEREMA's medium- and long-term offshore wind energy planning following strong opposition from local communities and regional authorities. However, no formal decision to this effect has yet been adopted. In the meantime, the Greek Ministry of Culture approved the NDPOWF SEIA (HEREMA, 2023b) in August 2024, which continues to include the Diapontian Islands among the planned areas. Regardless of the final outcome, the Diapontian Islands constitute a highly relevant case study, as they illustrate how national offshore wind ambitions intersect with local perceptions and constraints in Greece's emerging offshore renewable energy landscape—particularly in a context where the social dimensions of offshore RES deployment remain largely understudied.

3. Potential Socioeconomic and Environmental Impacts of OWFs: Islandness and Social Acceptance in Greece and Abroad

The relevant literature highlights the potential negative environmental and social impacts associated with the development of OWFs. In particular, issues related to social (in)justice have been identified, including the displacement of populations and/or activities, the phenomenon of "ocean grabbing," the degradation of marine environments and ecosystem services, adverse impacts on fishers, and restricted access to marine resources for certain user groups. These challenges are frequently accompanied by social and cultural repercussions stemming from the disruption of traditional livelihoods, landscapes, and settlements, as well as from infringements of indigenous rights and the lack of inclusive and participatory governance processes in offshore renewable energy development (Bennett et al., 2021). Moreover, several studies emphasize the intensifying competition over marine space, particularly in the Mediterranean, where a wide range of activities—such as fisheries and aquaculture, maritime transport, and recreation—coexist with multiple, and often competing, uses of marine areas. These include MPAs, ports, military zones, sites of archaeological interest, tourism infrastructure, and submarine infrastructures (Soukissian et al., 2017).

3.1. Environmental Impacts

Offshore renewable energy farms play a decisive role in decarbonizing the energy sector and enhancing energy security (Esteban et al., 2011; Gattuso et al., 2018). However, a range of potential ecological impacts must be carefully addressed during the planning and implementation phases. In particular, the foundations of offshore wind turbines may function as artificial reefs, creating new habitats for fish and invertebrates and potentially increasing the local abundance and diversity of certain species (Lemasson et al., 2024; van Hal et al., 2017). Empirical evidence from two offshore wind farms in south-eastern Sweden has documented the colonization of turbine structures by diverse marine species (Wilhelmsson et al., 2006). OWFs may also contribute to conservation objectives by acting as de facto MPAs, where fishing activities are restricted and benthic habitats have the potential to recover (Gasparatos et al., 2017; Hammar et al., 2016). Additional evidence suggests possible increases in fish stocks and indirect protection of species due to the exclusion of bottom trawling (Ashley et al., 2014; Buck et al., 2017).

Nevertheless, the pressures exerted on marine ecosystems cannot be overlooked. The construction and operational phases involve seabed disturbance, sediment resuspension, and underwater noise, all of which may negatively affect sensitive species (Gill, 2005). Marine mammals, particularly *harbour porpoises*, are vulnerable to acoustic disturbance, which can cause behavioural disturbances, reduced acoustic activity, and temporary habitat avoidance (Brandt et al., 2012; Tougaard et al., 2009). Moreover, alterations in local hydrodynamics and sedimentation processes may affect the distribution of plankton, fish, and benthic organisms, with implications for ecological interactions and food-web stability (van Berkel et al., 2020). Physical modifications of seabed environments may also threaten endemic habitats, notably *Posidonia oceanica* meadows, potentially leading to biodiversity loss in affected areas (Lloret et al., 2022).

Avian species may face comparable risks. Collision mortality associated with wind turbines can have population-level consequences for vulnerable bird species, particularly where developments overlap with important migration routes (Desholm et al., 2006; Furness et al., 2013). Recent studies further indicate that such impacts may remain significant even when mitigation measures are implemented (Ayadi &

Forouheshfar, 2023), underscoring the importance of avoiding high-biodiversity areas and sites adjacent to existing MPAs (Lloret et al., 2022).

At the policy level, the European Court of Auditors (ECA) has emphasized the persistent challenges associated with assessing the cumulative impacts of offshore renewable energy developments in combination with other maritime activities, noting that impacts may vary across technologies and project life-cycle stages. In a recent report, the ECA highlights that environmental considerations are not yet sufficiently integrated into offshore energy planning processes. Potential consequences include species displacement, changes in population structures, and disruptions to marine and coastal biodiversity. Accordingly, the ECA warns that the large-scale expansion of offshore renewable projects in Europe could occur at the expense of the marine environment above and below the sea, if they are poorly sited and/or not adequately monitored (ECA, 2023).

3.2. Economic Impacts

Increasing renewable energy production is generally associated with a range of positive macroeconomic benefits, including job creation in the green technology sector, higher household disposable income resulting from reduced energy costs, and overall economic growth driven by investment and enhanced energy security. Nevertheless, OWFs frequently generate conflicts with other maritime and coastal sectors, such as fisheries, shipping, and tourism. The relevant literature indicates that OWF operation may reduce fishing activity and income, restrict navigation, and negatively affect tourism due to visual intrusion and landscape alteration (Hooper & Austen, 2014; Ladenburg & Lutzeyer, 2012; Westerberg et al., 2013).

At the same time, increasing attention has been paid to the potential synergies among activities sharing the same maritime space. The concept of multi-use offshore areas refers to zones in which diverse activities—such as aquaculture, tourism, and renewable energy production—are combined (Nassar et al., 2020). Empirical studies suggest that certain productive uses, including seaweed and mussel farming, can coexist with OWFs, generating both economic and environmental benefits through carbon sequestration, mitigation of ocean acidification, and the production of sustainable biofuels (Buck et al., 2017; Christensen et al., 2015; High-Level Panel for a Sustainable Ocean Economy, 2020; van den Burg et al., 2017). Evidence from the North Sea further indicates that such co-location arrangements can reduce operational costs and create mutual economic gains (Christensen et al., 2015; van den Burg et al., 2017). However, the success of multi-use models hinges on appropriate site selection, favorable biophysical conditions, and safe platform design (Demmer et al., 2022; Lacroix & Pioch, 2011).

Additional synergies may arise when multiple RES are integrated within the same offshore installation. Combining wind energy with wave or solar technologies can enhance efficiency and cost-effectiveness, thereby improving the overall economic viability of offshore renewable energy systems (Astariz et al., 2015; Demmer et al., 2022; Mikkola et al., 2018; Nogueira et al., 2023). Comparative studies across the Baltic, North Sea, Atlantic, and Mediterranean regions confirm the existence of such opportunities, while also emphasizing that local environmental conditions ultimately determine the feasibility of specific technology combinations (Christensen et al., 2015).

Although offshore wind farms have often been perceived as detrimental to tourism, recent evidence suggests that they may support complementary economic activities. Coastal OWFs may attract visitors for educational or recreational purposes, including diving tourism associated with artificial reef formation around turbine foundations (Carr-Harris & Lang, 2019; Fotiadou & Papagiannopoulos-Miaoulis, 2019; Smythe et al., 2020). Fisheries may also experience indirect benefits, as restricted-access zones surrounding OWFs can facilitate stock recovery and higher yields over time (Hooper et al., 2017). Nevertheless, according to the ECA (2023), coexistence between offshore renewables and other maritime sectors—particularly fisheries—remains limited and requires more effective and integrated marine spatial planning. The ECA further highlights missed opportunities for cross-border offshore projects that could enable more efficient use of maritime space, as well as delays caused by fragmented licensing procedures across member-states. Moreover, while offshore renewables can enhance energy security and reduce dependence on energy imports (Krohn et al., 2009), increasing reliance on third countries—particularly China—for critical raw materials needed for clean energy technologies may create new strategic dependencies, potentially constraining deployment rates and undermining the EU's energy objectives (ECA, 2023).

3.3. Social Impacts

The social sustainability of offshore renewable energy installations is explicitly recognized in EU policy. Both the MSP Directive (Article 5) and the EU Strategy for Offshore Renewable Energy (European Commission, 2020) require member-states to consider social dimensions when designing maritime plans, emphasizing that offshore renewables can only be sustainable if they do not undermine social cohesion.

A key concern relates to the unequal distribution of costs and benefits associated with OWF development (Avila, 2018; Bennett et al., 2021). The impacts of OWFs are socially and geographically uneven: while some communities bear visual disturbance and spatial restrictions (Kaldellis et al., 2016), others benefit from lower energy prices and environmental gains without experiencing comparable burdens. The literature warns that the expansion of OWFs may exacerbate existing inequalities through the uneven distribution of economic benefits and burdens, as well as the displacement of traditional livelihood activities, restricted access to marine resources, and marginalization of local communities in decision-making processes (Bennett et al., 2021; Devine-Wright, 2011; Issifu et al., 2023; Zhang et al., 2017).

At the same time, research highlights notable social benefits, particularly job creation and improvements in infrastructure and services (Elisha, 2019; Esteban et al., 2011; Glasson et al., 2022; Hattam et al., 2015). Employment in the offshore wind sector increased from fewer than 400 workers in 2009 to approximately 77,000 in 2020, with Germany, Denmark, the Netherlands, and Belgium emerging as leading employers (ECA, 2023). However, a shortage of specialized labor may constrain further growth. According to ECA (2023), 30% of firms reported significant skills gaps in 2021. Consequently, reskilling workers from the oil and gas sector have been recommended as a strategy to meet the labor demands of the offshore renewable industry. Conversely, the expansion of offshore renewables may threaten employment in traditional sectors such as fisheries, where limited retraining opportunities and restricted access to fishing grounds raise concerns among local workers. Overall, empirical evidence on the broader social and economic impacts of offshore renewables remain limited. The ECA (2023) identifies the systematic assessment of these effects as a future EU priority, while several member-states, including France, Spain, and the Netherlands, have already initiated detailed studies on the socioeconomic consequences of offshore renewable energy deployment.

3.4. Islandness and Social Acceptance

A substantial body of literature demonstrates that islandness and insularity play a significant role in shaping social acceptance of large-scale infrastructure projects, such as OWFs. Islandness is a multidimensional concept that extends beyond the mere geographical boundedness of islands by the sea, encompassing distinct socio-cultural characteristics, economic dependencies, and political conditions shaped by small scale, limited resources, peripherality and/or isolation, as well as deeply rooted collective identities (Baldacchino, 2020; Mitropoulou & Spilanis, 2020). These studies show that island-specific conditions, such as strong attachment to place, heightened environmental vulnerability and awareness, dependence on a narrow set of economic activities, and distrust toward central government authorities, play a decisive role in shaping how island communities perceive large infrastructure projects, including OWFs. Consequently, such projects are often evaluated not solely on technical or economic grounds, but also through concerns related to territorial integrity, ecological risk, the preservation of local culture, and the reinforcement of centre-periphery power relations (Kaldellis et al., 2016).

Patterns of tension between local communities and central authorities have been widely documented across European islands, where tourism dependence, ecological sensitivity, and distrust toward national planning processes shape responses to offshore wind development. A study of the Greek island of Paros, for example, shows that stakeholders assess offshore wind projects by weighing environmental risks, economic trade-offs, and social justice considerations in ways that closely resemble findings from Northern European island contexts. This suggests that insularity amplifies both perceived risks and demands for participatory governance. Mediterranean islands, therefore, do not represent an exception but rather reflect broader European dynamics concerning the social acceptance of OWFs (Skiniti et al., 2026). These insights are consistent with earlier nationwide evidence from Greece, where survey data indicate that concerns about ecological impacts and distrust toward investors and public authorities are the strongest predictors of opposition to wind energy projects. Conversely, transparency, continuous information, and perceived fairness significantly enhance public acceptance. In this sense, opposition observed in island contexts should not be interpreted as an isolated phenomenon, but rather as an intensified manifestation of wider national patterns, in which social acceptance is closely linked to environmental considerations and the perceived legitimacy of decision-making processes (Skiniti et al., 2022).

4. Unpacking Local Communities' Attitudes and Perceptions Towards OWFs: Findings of the On-Site Qualitative Research in Corfu and the Diapontian Islands

4.1. Methodology

To identify the key factors shaping local resistance to or acceptance of OWFs, this study employed a qualitative research approach based on 25 semi-structured interviews conducted in Corfu and the Diapontian Islands in September 2024. The interviews were carried out by the research teams of the National Centre for Social Research (EKKE) and the Hellenic Centre for Marine Research (HCMR) within the framework of the JustReDI research project entitled Resilience, Inclusion and Development: Towards a Just Green and Digital Transition of Greek Regions and implemented within the framework of the National Recovery and Resilience Plan Greece 2.0 with funding from the EU NextGenerationEU.

All interviews were conducted face-to-face and had an average duration of approximately one hour. The interview guide covered the following thematic axes: local development challenges, knowledge, and perceptions of RES, perceived environmental, economic, and quality-of-life impacts of OWFs, trust in institutions, consultation processes, and governance transparency. All participants were informed about the objectives of the study and the intended use of the data, and anonymity was fully ensured. The research adhered to ethical standards, including informed consent, voluntary participation, and confidentiality.

A purposive sampling strategy was adopted to capture a wide range of perspectives from relevant stakeholders. This was subsequently complemented by snowball sampling in order to broaden participation through interviewee referrals. The final sample comprised 17 interviewees from Corfu, including representatives of local and regional authorities, professional associations, key economic sectors such as fisheries and tourism, and civil society organizations. In addition, two representatives of local authorities were interviewed on Othonoi Island, along with one representative of local authorities and one representative of local economic sectors on Erikoussa Island. Regarding the sample characteristics of interviewees in Corfu and the Diapontian Islands, more than half of the participants were over 60 years old (13 out of 21). Three participants were aged 50–59, one was in the 40–49 age group, and four were between 30 and 39 years old. In terms of educational attainment, the majority of respondents hold a university or technical university degree (13 interviewees), including two with postgraduate or doctoral qualifications. With respect to employment status, most participants reported permanent, non-seasonal employment, and the majority were employed outside the coastal zone of Corfu and the Diapontian Islands (17 interviewees).

The interviews were audio-recorded with the participants' consent and fully transcribed using a transcription tool developed by the ATHENA Research Center in Greece. For the data analysis, we applied open coding and subsequently axial coding, relying on a manual, non-software-assisted approach.

4.2. Findings

4.2.1. Level of Knowledge of RES and Attitudes Towards RES Projects

The research analysis revealed that all respondents had sufficient information of wind energy and other RES, as well as of good practices and the potential environmental, economic, and social impacts of RES development in Greece and other European countries. Most respondents recognized the need to increase green energy production and acknowledged the associated benefits; that is, they recognized the positive impacts of RES production in reducing energy costs and the environmental footprint of energy consumption, while enhancing energy security. However, almost all local stakeholders who participated in the research remained skeptical and expressed strong concerns regarding the potential impacts of OWFs in the sea area of the Diapontian Islands. Their concerns mainly revolved around issues of aesthetic and environmental degradation, negative impacts on local economic activities—especially tourism and fisheries—the absence of consultation with local communities in the designation of the specific ODAOWF, and the overall limited participation in decision-making processes.

Therefore, local stakeholders in Corfu and the Diapontian Islands underlined the need for all RES projects, and especially OWF planning, to be adapted to the specific characteristics of each region and to

ensure the quality of life of local communities, along with the protection of cultural heritage and the natural environment. In this context, there was moderate acceptance of smaller-scale wind projects (e.g., stand-alone turbines) that would cover only local energy needs without supplying electricity to the national grid; in other words, respondents would accept wind turbines only if they were harmoniously integrated into the local setting. Moreover, there was also moderate acceptance of small-scale photovoltaic installations at the single or multi-residence level. Such installations were considered to have fewer negative social and environmental impacts and were therefore perceived as a more appropriate solution for the energy self-sufficiency of the Diapontian Islands, especially Erikoussa, where frequent power outages have been reported.

4.2.2. Perceived Impacts of the Planned OWFs in the Diapontian Islands

Our findings indicate that perceived negative impacts on biodiversity, local economic activities—especially tourism and fisheries—and marine transportation, along with mistrust or distrust towards public authorities, fuel widespread opposition to the planned OWF in the area. Almost all local stakeholders in Corfu and the Diapontian Islands who participated in the research assessed the potential effects of the operation of an OWF in the region as very negative for residents' quality of life.

As evidenced by the interviews conducted, as well as by protest resolutions issued by local bodies and authorities, it is widely considered that both the planned location of the OWF and the type of wind turbines proposed will maximize negative impacts on the local communities and the natural environment. According to the NDPOWF, the OWF is planned to be installed in the sea area among the three main islands (Othonoi, Erikoussa, and Mathraki) and at a distance of just 1.4 nautical miles from their coastlines (HEREMA, 2023a). The planned installation of offshore wind turbines with fixed foundations on the seabed (rather than floating ones), with a height of approximately 280 m—exceeding the highest natural peaks of Erikoussa and Mathraki—was described by local stakeholders as a "violent intervention" in a pristine natural landscape, with devastating consequences for the natural beauty and aesthetic value of the area.

Although specific exclusion criteria were applied to safeguard "environmentally sensitive areas and marine activities in the Greek territory" (HEREMA, 2023a), as stated in the NDPOWF, survey participants believe that the selection of this specific area is based on "different" criteria and less transparent procedures, aimed at facilitating and attracting private investments. According to respondents, this is due to the relatively shallow waters in the area (approximately 70 m), which renders the installation of fixed-foundation OWFs less costly.

More specifically, the potential negative impacts of the planned OWF concern the destruction of coastal island landscapes, environmental degradation and biodiversity loss, the reduced attractiveness of coastal and marine tourism (both in northern Corfu and the Diapontian Islands), increased challenges for maritime transportation, and adverse effects on other maritime and coastal economic sectors, particularly tourism and fisheries. Several participants also expressed strong concerns regarding the environmental impacts associated with turbine installation activities, as well as the lifespan of the turbines and their end-of-life management. These concerns were intensified by the fact that the proposed wind farm would be located only 247.03 m from the two protected areas of the Natura 2000 network in the Diapontian Islands (HEREMA, 2023b, p. 516). Moreover, respondents highlighted potential impacts on local birdlife, given that the area constitutes a migratory bird corridor, increasing the risk of bird collisions with turbine blades.

Visual nuisance emerged as one of the main perceived impacts of the OWF operation, as reported by all survey participants. To clarify what constitutes visual nuisance for local stakeholders, participants were shown four archival images of proposed or existing OWFs in other countries (e.g., the UK and Spain), depicting wind turbines located at varying distances from the coastline, ranging from 13 km to 44 km. The images featured 20 MW wind turbines with a tower height of 190 m above sea level and a total height of approximately 300 m (including the blades). Given that both the turbine type and distances from the coastline were comparable to those proposed for the Diapontian Islands, these images functioned as "photo simulations," providing a visual representation of hypothetical scenarios and helping participants to better understand how the planned OWF might appear in the real landscape.

Participants were then asked to select the image that did not constitute a visual nuisance to them, without initially being informed of the exact distances from the coastline. Although perceptions of visual nuisance are inherently subjective and no universally accepted threshold exists for minimizing visual impacts, the vast majority of local stakeholders from both Corfu and the Diapontian Islands (19 out of 21 interviewees) considered all images—depicting OWFs at distances of 13 km, 24 km, and 35 km from the coastline—to constitute visual nuisance. Only two participants indicated that the fourth image, showing an OWF located 44 km from the coastline, did not represent a visual nuisance to them.

In addition, local stakeholders emphasized the negative impacts of the proposed project on maritime transportation, particularly concerning connections between Corfu and the Diapontian Islands, as well as among the islands themselves. According to their accounts, the existing ferry route intersects almost vertically with the delineated OWF area. As a result, daily island connections would need to be rerouted, leading to increased travel time and higher transportation costs.

These anticipated difficulties in maritime transportation, combined with the degradation of the natural landscape, visual disturbance, and noise generated by OWF operation, are perceived as having irreversible consequences for coastal and marine tourism and, consequently, for the well-being of local communities. Furthermore, most respondents highlighted the expected economic impacts on local fisheries, noting that the designated OWF area constitutes a traditional fishing ground. Restrictions and prohibitions on fishing activities were therefore perceived as posing severe challenges to the economic viability of the sector in Corfu and the Diapontian Islands. Strong concerns were expressed that fish stocks would decline due to disruptions of marine ecosystems and seabed conditions, alongside a prevailing belief that public authorities would fail to adequately support the approximately 150 professional fishers potentially facing economic hardship. While the NDPOWF states that fishing activities will be considered as an evaluation criterion in subsequent studies for the final siting of OWFs (HEREMA, 2023a), respondents emphasized that such considerations were entirely absent from the initial planning process.

Finally, most of the survey participants argued that the combined economic impacts of the planned project and the increasing difficulties in maintaining maritime connections with Corfu would ultimately force residents to abandon the islands. Given the Diapontian Islands' location at Greece's westernmost point, respondents stressed that ongoing population decline and demographic ageing raise issues of national importance, particularly concerning national sovereignty and jurisdiction over territorial waters and other designated maritime zones.

4.2.3. Trust, Consultation, and Information Deficit

The research analysis demonstrates an evident lack of trust in institutions, which, in turn, increases the skepticism of survey participants towards OWF planning and, in particular, regarding the selection criteria of the specific ODAOWF. It seems that local stakeholders' trust in public authorities is undermined by: (a) insufficient information provision and consultation with local stakeholders; (b) concerns regarding the transparency and reliability of the selection criteria and procedures used to delineate the ODAOWF; (c) uncertainty surrounding the potential reciprocal benefits of the OWF for local communities; (d) ambiguity regarding project management by the competent companies; and (e) the perception that there are no adequate safeguards or a strategic plan for the long-term future of the Diapontian Islands that would ensure the minimization of potential negative impacts on local society and the economy.

All informants, including representatives of public authorities, reported that they have never been invited to engage in discussions with the competent agencies regarding the planning and development of such a project in their area. In their view, the absence of official information and meaningful consultation has generated a sense of alienation, facilitated the spread of misinformation, and reinforced perceptions of limited transparency in governance. As a result, a prevailing view within the local community is that the companies involved operate solely on the basis of profitability and that broader RES planning serves external interests rather than addressing local needs and priorities (e.g., supplying the national grid). This finding resonates with insights from the literature, particularly those related to the procedural justice dimension of social acceptance: When citizens perceive decision-making processes as opaque or top–down, opposition tends to intensify regardless of a project's potential benefits.

Overall, local communities felt that they were being "sacrificed," bearing the negative consequences of RES projects without receiving any substantial benefits in return. Participants referred to experiences from other regions in Greece where RES projects had been developed, noting that although significant social and economic benefits were promised, these commitments were not fulfilled in practice. Consequently, respondents expressed strong skepticism that the reciprocal benefits promised for the planned project would materialize.

5. Conclusions

Our findings indicate that perceived negative impacts on biodiversity and local economic activities—especially tourism and fisheries—along with mistrust or distrust towards public authorities, fuel widespread opposition to the planned OWF in the area, even though local stakeholders acknowledge the need for and the national benefits of energy transition and RES development. These findings align with previous research on island communities' attitudes towards the energy transition, which shows that acceptance depends heavily on the perceived visual, social, economic, and environmental impacts of planned energy projects, as well as on the procedural justice dimensions of their development. At the same time, the specificities of islandness and place attachment significantly shape public acceptance (or lack thereof) at the local level.

Our analysis demonstrates that the concerns expressed by the local stakeholders in Corfu and the Diapontian Islands are primarily driven by perceived negative impacts on marine ecosystems and biodiversity, the fisheries and tourism sectors, landscape quality, and a deficit in participatory processes.

In other words, the analysis confirms that public opposition to RES projects is not rooted in a rejection of the energy transition itself, but rather in skepticism regarding how it is governed and regulated. Moreover, local communities' perceptions appear to be shaped less by technical considerations or projections of regional economic development than by issues of perceived fairness, transparency, and the distribution of costs and benefits. As such, local resistance tends to reflect a response to uncertainty and limited consultation with local stakeholders. Centralized decision-making traditions in Greece seem to amplify contestation and leave room for the spread of "fake news." In this sense, a more deliberative approach that combines early-stage consultation, transparent spatial criteria, and clear benefit-sharing mechanisms appears essential for building legitimacy for offshore renewable energy projects.

In this context, the non-delimitation of Greece's exclusive economic zone continues to pose significant constraints on the planning and development of offshore RES projects. Under current circumstances, OWFs must be located relatively close to the coastline, increasing visual nuisance and rendering the harmonious coexistence of different maritime economic activities more challenging. In parallel, the completion of MSP in Greece remains a crucial prerequisite for managing conflicts between human activities, fostering synergies, and enabling effective implementation of the national offshore renewable energy development plan.

Socioeconomic impact assessment during the planning phase, along with meaningful consultation with local stakeholders, is essential for minimizing the socioeconomic and environmental impacts on local communities and for building advocacy coalitions for the green transition at the local level. Although not all factors triggering local opposition—such as visual nuisance—can be fully addressed through these processes, trust, communication, and mutual understanding can be strengthened through co-decision and co-design procedures such as communities of practice. Planning processes should be transparent and open to all interested parties, and the reciprocal benefits of planned offshore RES projects should be clearly defined and measurable from the early stages of decision-making, in order to motivate local communities to engage (Demertzis et al., 2025). Moreover, systematically mapping potential socioeconomic impacts on local communities and adopting policy measures to offset potential adverse effects on both the environment and society appear essential for addressing public concerns and building trust around energy transition strategies.

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Conflict of Interests

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Data Availability

The data are available at the JustReDI website (Section: Green Transition and Blue Economy): https://www.justredi.gr/galazia-oikonomia

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