

REPORT

Developing a public engagement framework for offshore wind in Taiwan

Challenges and opportunities for offshore wind public engagement in Taiwan

February 2025



About the report

This report investigates the current challenges in the existing public engagement within Taiwan's offshore wind sector. This report draws from international practices and stakeholder interviews to propose a framework with the objective of enhancing stakeholder engagement, which as a result can foster transparency and support more inclusive offshore wind development.

Acknowledgments

The Carbon Trust wrote this report based on an impartial analysis of primary and secondary sources, including expert interviews.

The Carbon Trust would like to thank everyone who has contributed their time and expertise during the preparation and completion of this report.

For the avoidance of doubt, this report expresses the independent views of the authors.

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Abbreviations

BEIS	Business, Energy and Industrial Strategy
BOEM	Bureau of Ocean Energy Management
COP	Construction & Operations Plan
CSO	Civil society organisation
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
FLOWW	Fishing Liaison with Offshore Wind and Renewables Group
GIS	Geographic Information Systems
GW	Gigawatt
JNCC	Joint Nature Conservation Committee
MoEA	Taiwan Ministry of Economic Affairs
MoENV	Taiwan Ministry of Environment
MSP	Marine Spatial Planning
NEPA	National Environmental Policy Act
NGO	Non-Governmental Organisation
NnG	Neart Na Gaoithe
NOA	Notice of Availability
NOI	Notice of Intent

NYSERDA	New York State Energy Research and Development Authority
OAC	Taiwan Ocean Affairs Council
OSW	Offshore Wind
SEA	Strategic Environmental Assessment
SFF	Scottish Fishermen's Federation
TS	Territorial Sea
UK	United Kingdom
US	United States
WEA	Wind Energy Areas

Executive summary

Taiwan has a flourishing offshore wind market

Offshore wind provides Taiwan with an incredible opportunity for clean power, economic development, and energy security. As a leader in offshore wind (OSW) development in the Asia-Pacific, Taiwan is expanding its industry, making public engagement a critical component for ensuring sustainable growth.

Effective public engagement supports OSW developers in gaining local acceptance for their projects, which is essential for timely execution. For policymakers, it provides a foundation of evidence for informed decision-making on OSW siting and development. Importantly, affected communities—such as fisheries—benefit from opportunities to voice concerns about project locations and potential impacts on their livelihoods.

Without a robust public engagement framework, the OSW industry risks facing community opposition, legal challenges, and environmental oversights. These issues can lead to inefficient project design, delays, and reputational harm for developers, hindering Taiwan's OSW development.

The objectives of this report are to develop a public engagement framework

A public engagement framework would support Taiwan's energy transition through OSW. By balancing social and environmental considerations with the continued growth of the OSW sector, the report aims to provide a foundation for sustainable and inclusive progress. Such a framework should improve engagement approaches but remain practical for delivery and not impede project development.

The specific objectives are to:

- **Identify key issues:** Examine challenges and barriers within Taiwan's existing public engagement process.
- **Highlight learnings:** Draw insights from international best practices in established OSW markets to identify opportunities for enhancing Taiwan's public engagement processes.
- **Develop a framework:** Propose a clear, robust, and transparent public engagement framework as a strategic initiative for the OSW sector in Taiwan.

Current public engagement landscape in Taiwan

We assessed Taiwan's public engagement framework for OSW through a two-phased approach: (i) a desk-based review of literature, policies, and regulations, and (ii) stakeholder interviews with civil society organisations (CSOs), developers, government, and academics. This provided a comprehensive understanding of the engagement landscape and its key challenges.

Key challenges identified for public engagement include:

- **Fragmented stakeholder coordination:** With different entities managing various stages of the engagement process, there is an opportunity to improve communication, strengthen feedback loops, and enhance management across the OSW development lifecycle.

- **Limited transparency:** Information provided during the engagement process may not always provide satisfactory detail on environmental impacts and compensation terms. Offering more comprehensive insights, including explaining why some insights might be difficult and impractical to share, could help build trust and strengthen stakeholder relationships.
- **Limited engagement prior to project approvals:** Public engagement is primarily conducted during the EIA review, which can limit opportunities for early community input. Involving stakeholders earlier in the process could encourage more active involvement and proactive issue resolution.
- **Limited opportunity for input and difficulty in identifying stakeholders:** Fishing communities, particularly smaller-scale groups, could be further represented in public briefing meetings. Avoiding peak fishing periods could support greater participation and more substantial input from these stakeholders. Even where good channels for engagement exist, it is difficult to define a comprehensive stakeholder list for engagement, which risks accidental omission of stakeholders.

Best practices from international examples

To ensure successful public engagement for OSW development in Taiwan, learnings from international practices in countries such as the United Kingdom (UK), United States (US), Australia, France, and Ireland were drawn to provide valuable insights for addressing the key challenges. These examples highlight key principles, including stakeholder inclusion, transparency, early engagement, and coordination, which offer practical guidance for improving engagement processes. Notable examples and their relevance to Taiwan are identified in Table 1.

Table 1 Summary of the learnings from international practices and associated recommendations for Taiwan.

Identified challenge	Examples of international practices	Relevance for Taiwan
Fragmented coordination among stakeholders	In the UK, the Fishing Liaison with Offshore Wind and Renewables Group (FLOWW) collaborative platform was established to ensure effective engagement between the OSW and fishing industries, through regular meetings and development of best practice approaches, such as guidance that emphasised the importance of early dialogue with affected fisheries. The Office of the Australian Energy Infrastructure Commissioner underscores the importance of coordinating and streamlining engagement efforts to prevent stakeholder fatigue and confusion. Proponents are encouraged to collaborate with regulators, developers, and authorities to consolidate outreach efforts and avoid duplicative engagement activities.	Taiwan could consolidate engagement platforms to prevent overlapping engagement practices. Increasing early engagement with key stakeholders, to elevate the number of fisher stakeholders having smaller community-based engagement whilst being mindful of the fishing seasons could boost attendance.

Identified challenge	Examples of international practices	Relevance for Taiwan
Further need for transparency and accessible information	Ireland and Australia's OSW guidelines emphasise transparency, recommending that proponents provide clear, accessible project information from the outset, using visualisations and providing a formal process for managing community inquiries and concerns throughout the project.	The adoption of a novel communication strategy to provide accurate information on the potential OSW projects and potential environmental impacts and economic benefits at an early stage.
Current engagement is late in the overall process	In the US, the Bureau of Ocean Energy Management (BOEM) offers numerous engagement opportunities for the public, including the early planning phase of OSW development.	Establish a formalised engagement platform to involve local communities across the key stages and maintain a channel of communication.
Limited opportunity for input from key stakeholders	FLOWW held quarterly meetings to discuss, agree upon, and disseminate best practices and standardised approaches. The collaborative nature ensures that all parties are heard. In 2015, FLOWW published best practice guidance for fisheries disruption settlements and community funds. The guidance emphasises the importance of early dialogue between developers' company fishing liaison officer and affected fisheries to mutually agree on outcomes.	Appointing fisheries liaison officers with experience in the fishing sector and aligning meeting times with fishers' availability could enhance participation. It will be important to ensure that the voice of small-scale fishers is well-represented in such dialogue through fisheries associations, or through direct engagement with small-scale fishers.
Taiwan's Marine Spatial Plan (MSP) needs to be expanded to facilitate further OSW growth	Many established OSW markets have a comprehensive MSP, including Ireland, UK, Scotland, Netherlands and Germany.	Taiwan could designate a relevant body within the authority to develop an MSP to inform developers of mandated stakeholder engagement.
Transparent design for fisheries compensation schemes	The New York State Energy Research and Development Authority (NYSERDA) commenced development of a standardised process to managing a regional compensation fund for fisheries through a request for proposal process.	Establish a monitoring system for the use of the "Electricity Prosperity Fund". Clear guidelines and transparent reporting that facilitate stakeholder input, allowing concerns about the fund's use to be raised and addressed throughout the project lifecycle.

Identified challenge	Examples of international practices	Relevance for Taiwan
Potential environmental impacts and knock-on effects on the fishing industry	ORJIP for Offshore Wind conducts research into the impacts of OSW farms on the marine environment to enable more informed decision-making around OSW development.	Including stakeholders in research can be a valuable mechanism to ensure concerns are heard and addressed. Conducting such research may help to overcome misinformation and increase the knowledge base of stakeholders.

While these international examples have limitations and may not fully address Taiwan's unique context and challenges, they offer valuable lessons for shaping a more tailored approach. By incorporating relevant good practices and adapting them to Taiwan's specific needs, cultural considerations, and regulatory framework, a robust public engagement strategy can be developed. Drawing on insights from the literature review, stakeholder engagement, and international best practices, the following recommendations present a strategic framework for enhancing public engagement in Taiwan's OSW sector.

Timely engagement is crucial for fostering trust and addressing stakeholders' concerns

Timely public engagement at the various key stages of OSW projects is crucial for building trust and addressing local concerns. International practices demonstrate the importance of early engagement in the planning phase, where public input is actively sought through formal comment periods and community meetings. For example, the US holds public feedback sessions during the planning phase to address local concerns related to environmental and economic impacts, and during the scoping process of the Environmental Impact Statement, public meetings are held in potentially affected communities to refine project plans, consider alternatives, and develop mitigation measures. In Australia, a minimum 60-day engagement period exists during the planning phase when proposing development areas. In the UK, opportunities for public engagement are available throughout the construction phase, including direct communication with local communities affected by the project, such as through public exhibitions and dedicated helplines. In Scotland, the decommissioning phase is prepared well in advance to include input from local communities, environmental organisations, and regulatory agencies to address potential environmental, economic, and social concerns. These practices underscore the importance of engaging stakeholders across the project lifecycle to ensure that local knowledge and concerns are considered and integrated into planning and implementation.

A public engagement framework for OSW

This report proposes a public engagement framework to ensure a coordinated and transparent approach to challenges in Taiwan's OSW sector. The framework consists of the following components:

- **Conceptual Design:** A multi-channel approach that integrates digital and in-person communication methods to promote early-stage stakeholder participation.
- **Stakeholders:** Involving government bodies, local fishing communities, environmental NGOs, OSW developers, and research institutions.

- **Governance:** Establishing a multi-stakeholder governance committee with a dedicated lead to oversee engagement activities and decision-making processes.

Conceptual design of the proposed public engagement platform

Key features of the proposed public engagement platform include diverse communication channels to enhance accessibility, systematic documentation to foster transparency and track action progression, and early-stage engagement starting from the selection of development zones. The platform's primary objectives are to ensure meaningful stakeholder involvement, transparent communication, early integration of public input, and coordinated by a dedicated engagement lead.

Key stakeholders

Stakeholders include fishing communities, residents, OSW developers, government agencies, environmental groups, and civil society organisation. Engagement efforts should prioritise marginalised groups, particularly small-scale fishers.

Governance

A multi-stakeholder governance committee, supported by a dedicated lead with proven stakeholder engagement experience, neutrality, and regulatory expertise, should oversee the framework. Potential leads may include Taiwan's Ocean Affairs Council (OAC), environmental NGOs, industry associations, or independent consultants.

The platform aims to address overarching issues that span OSW projects, ensuring a coordinated approach to challenges such as marine spatial planning, regulatory alignment, and standardised compensation mechanisms. These platform-level issues differ from project-specific concerns, which require tailored engagement at the individual project level.

A stakeholder engagement platform would help ensure a coordinated approach to cross-cutting OSW challenges

A series of proposed updates for each stage of OSW development in the stakeholder engagement process are outlined below. The proposed updates range from having multiple platforms (e.g., online portals, local kiosks) for submitting feedback to increasing the public feedback window. These efforts aim to ensure that all relevant stakeholders—especially local communities—are actively involved. Offshore Wind Block Development Policy Assessment and Strategic Environmental Assessment have been excluded as these will only affect Round 2 developments.

A good engagement approach will not extend the development phase of OSW projects, which would have associated impacts on project lifecycles and development of clean power generation but should provide clear engagement processes within existing timelines.

Table 2 Summary of proposed updates across various stages of the OSW lifecycle

Stage	Current activities	Proposed updates	Time considerations
Preparing Environmental Impact Assessment (EIA)	Developers share project details online, allowing 20 days	Multi-channel feedback: Use multiple platforms (e.g., online portals, local kiosks, SMS) for	Frequency: Every 2 months for 6-12 months.

Stage	Current activities	Proposed updates	Time considerations
	for public feedback. However, this digital-only approach may exclude rural residents and limit diverse participation. In-person meetings and proactive outreach could enhance engagement.	submitting feedback, ensuring inclusivity for rural areas with limited internet access. Pre-EIA workshops: Offer educational sessions on how the EIA process works and how stakeholders can contribute. Open house events: Organise informal events in local community centres to provide opportunities for face-to-face engagement. Partnership with local media: Publish information in local newspapers and radio stations to boost awareness.	
Preparing Environmental Impact Statement (EIS)	Before preparing the EIS, developers must publish its content online and allow 20 days for public feedback, alongside a community meeting. However, the short feedback window and low meeting attendance hinder participation.	Extended feedback period: Increase the public feedback window from 20 to 45 days to give more time for stakeholders to provide comments. More accessible briefings: Hold meetings in community centres in rural and coastal regions, ensuring transportation assistance for remote areas. EIS summaries for the public: Provide easy-to-read summaries of key sections of the EIS Livestream public briefings: For those unable to attend in person, provide live streams and recorded	Frequency: 3 public briefing meetings over a 45-day window.

Stage	Current activities	Proposed updates	Time considerations
		sessions for later viewing.	
EIA Preliminary Review Stage I	The EIS must meet checklist requirements for developers to enter the auction round for power generation capacity. The checklist needs further clarity on public engagement requirements, and no CSOs are involved in the review process.	Public checklist review period: Introduce a 30-day public comment period for stakeholders to review and suggest changes to the environmental compliance checklist. Review workshops: Host workshops in local regions to explain the checklist and gather input on community-specific concerns. Online portal for checklist comments: Establish a dedicated webpage for easy submission of feedback.	Frequency: 1 public meeting per checklist review.
EIA Preliminary Review Stage II	Limited public involvement in EIA review. Short speaking times at EIA review (up to 3 minutes for CSOs).	Extended engagement at EIA review meetings: Increase individual speaking times to 7-10 minutes, allowing for more detailed input. Issue-based review meeting sessions: Organise sessions around specific concerns (e.g., noise, marine impacts), allowing for focused discussions. Direct responses: Ensure developers and EIA committee members respond directly to concerns raised in the review meetings.	Frequency: 1 review meeting (general meeting with issue-specific discussions).
Prior Construction (Public Briefing Session)	Pre-construction briefings held post-development	Pre-construction briefings: Hold sessions earlier in the project timeline (before	Frequency: Regular and real-time

Stage	Current activities	Proposed updates	Time considerations
	approval, limiting community input on construction impacts.	construction starts), allowing communities to give feedback on final mitigation measures. Continuous updates: Offer periodic construction updates both onshore and at sea to local/fishing communities, particularly around traffic, noise, and safety, to ensure the safety of personnel and assets. Public construction timeline: Publish a detailed, accessible construction schedule to set expectations. Live Q&A sessions: Provide ongoing opportunities for stakeholders to raise concerns and receive real-time responses from developers.	construction updates.

This report emphasises the need for an enhanced public engagement framework to address challenges, including strengthening stakeholder inclusion, improving transparency, expanding early-stage engagement, and fostering further coordination

These barriers hinder the alignment of OSW development with Taiwan’s energy transition objectives, risking conflicts with local communities and environmental interests. The proposed framework calls for fostering inclusivity through diverse representation and improved accessibility, enhancing transparency by establishing clear communication channels and systematic documentation, initiating early stakeholder involvement to build trust and mitigate conflicts, and overcoming fragmented coordination by designating a central lead to oversee the process. By adopting these measures, Taiwan can ensure OSW projects are implemented in a socially equitable and environmentally responsible manner, harmonising national development goals with the needs of local communities and minimising environmental impacts.

Table 3 Summary of key challenges and recommendations for the stakeholder engagement process in Taiwan

Key challenges	Recommendations
Fragmented stakeholder coordination	1. Establish a multi-stakeholder governance committee involving government bodies (both central and local), fishing communities, NGOs, and OSW developers. This also helps to ensure diverse input and buy-in from a range of key stakeholders. 2. Appoint a dedicated lead for stakeholder engagement to guide the overall engagement process, ensure streamlined communication, and manage feedback loops. The lead will act as a central point of contact to maintain a unified approach, fostering trust and increasing transparency for stakeholders. The lead should ideally possess proven stakeholder engagement experience, technical expertise in OSW development and marine ecosystems, neutrality and credibility to facilitate trust, a community-centric approach that prioritises local voices, and a deep understanding of relevant regulations.
Limited transparency	3. Ensuring transparency throughout the stakeholder engagement process through systematic accounting of engagement activities and feedback and regular communication. ○ Maintain systematic records of public engagement activities and feedback and provide transparent reporting on outcomes. ○ Set clear action plans with defined timelines to demonstrate accountability. ○ Regularly update stakeholders on progress and decisions to foster trust and build long-term credibility.
Limited engagement prior to project approval	4. Ensure holistic engagement by initiating early-stage participation from the stage of selecting potential development zones and identifying potential project sites, particularly from local stakeholders like small-scale fishers, rather than limiting engagement to the EIA stage. Engagement during project siting remains crucial for future capacity. Foster collaboration and promote participation by integrating data such as fishers' catch records into decision-making.
Limited opportunity for input and difficulty in identifying stakeholders	5. An initial role of the multi-stakeholder committee could be to develop official stakeholder lists, or standard guidance on examples to be included on specific projects. 6. Develop a multi-channel engagement platform that incorporates diverse communication methods, including in-person meetings, social media, online portals, and workshops, to maximise accessibility and engagement. These methods should be designed to ensure transparency, inclusivity, and clarity.

1. Introduction

Taiwan has made significant progress with OSW development, with 3.04 GW of installed capacity

Offshore wind provides Taiwan with an incredible opportunity for clean power, economic development, and energy security. Taiwan plays a key role in the development of OSW in Asia as it strives to achieve a net zero society by 2050. With ambitious targets of 5.7 gigawatts (GW) by 2025, 20.7 GW by 2035, and 40-55 GW commissioned by 2050, Taiwan is creating opportunities for local supply chains and green jobs and facilitating economic growth and a transition to renewable energy.^{1,2,3} Building on the successes and lessons from the first two phases of offshore wind development, Taiwan's Ministry of Economic Affairs has announced Phase 3 - Zonal Development in 2021. This phase will unlock the potential for 15 GW of capacity between 2026 and 2035, with three rounds of bidding and a release capacity of 9 GW in the first stage (Round 3.1 awarded in December 2022, Round 3.2 awarded in August 2024) and an additional 3 GW in the second stage.⁴ As of November 2024, there is 3.04 GW of installed capacity of OSW in Taiwan (Figure 1)⁵.

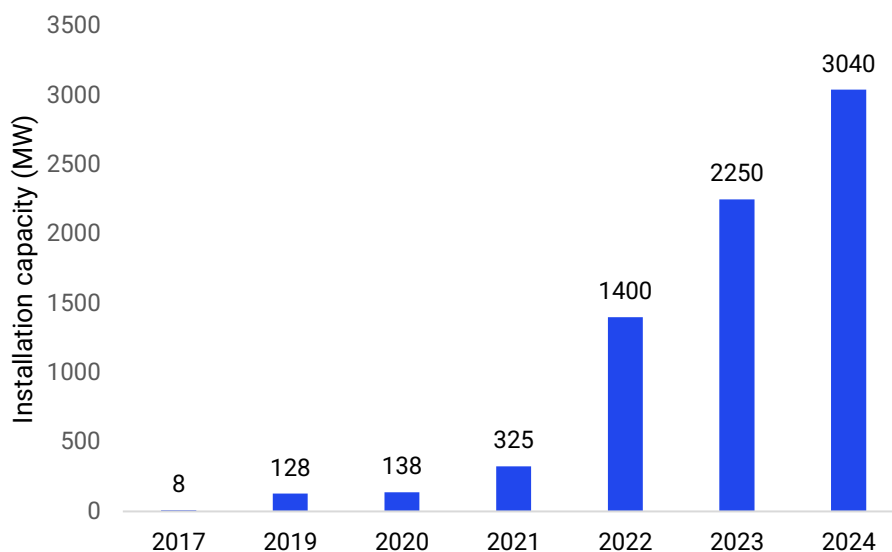


Figure 1 Installed capacity of OSW projects in Taiwan (MW)

¹ Infrastructure Investor. 2024. Taiwan's offshore wind turbines navigate geopolitical turbulence. [Link](#)

² Executive Yuan. 2019. Four-year Wind Power Promotion Plan. [Link](#).

³ Taiwan News, 2022. Taiwan renewable energy businesses form 'offshore wind energy national team'. [Link](#)

⁴ Maritime Executive, 2024. Taiwan Drops Local-content rules, smoothing the path for offshore wind. [Link](#)

⁵ European Chamber of Commerce Taiwan. Prospects for wind energy in 2025. [Link](#)

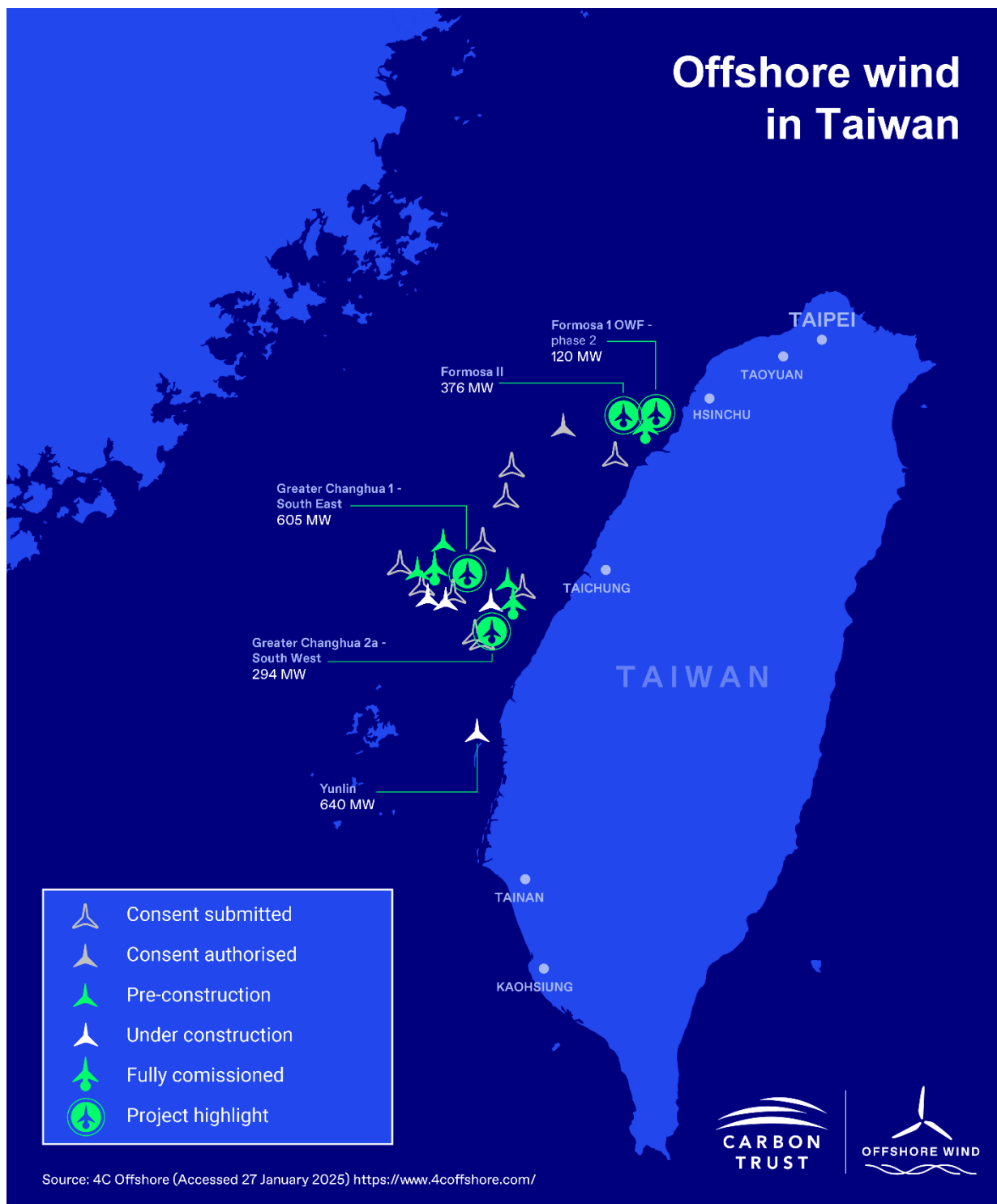


Figure 2 Map displaying the current OSW projects in Taiwan⁶

The Taiwanese authorities have also planned a floating OSW demonstration programme to address challenges related to technological developments, policy and regulatory issues, and infrastructure for ports and the grid.⁷ As Taiwan moves forward in developing offshore wind, various barriers need to be addressed across technical, infrastructure, policy, and socio-economic aspects. Customised market-

⁶ 4COffshore, Database. [Link](#) [Accessed 12/11/24]

⁷ offshoreWIND.biz, 2024. BlueFloat Pinpoints Location, Layout of Taiwan's First Floating Wind Farm. [Link](#)

specific solutions are necessary to build a successful offshore wind market that benefits the local supply chain, communities and the environment.

Public engagement in Taiwan plays a crucial role in shaping the future of OSW development

Effective public engagement is essential for the sustainable development of the OSW sector. Developers will need local acceptance for projects to proceed, while policymakers can use engagement processes to gather evidence for informed decision-making about OSW siting and development. For affected communities such as fisheries, public engagement provides the opportunity to be informed about upcoming projects and voice concerns on proposed locations and potential impacts on their livelihoods.

Without an effective public engagement framework, the offshore wind industry risks avoidable community and environmental impacts, missed opportunities for mutual benefits, and a limited understanding of broader impacts and advantages. These gaps can fuel opposition, trigger legal challenges, and undermine the sector's sustainable development. Community opposition can take place in various forms. In South Korea, local fishermen opposed the 8 GW OSW farm near Sinan. Little recognition of fishermen in the engagement of design can be a case of recognition injustice.⁸⁹ Addressing these challenges requires a balanced approach, transparent communication, and a thorough understanding of both positive and negative impacts. Public engagement should strive for inclusivity and consider all stakeholders to ensure sustainable offshore wind development.

OSW development can impact a range of communities—including residents and industries dependent on the sea. In Taiwan, the fishing industry is the primary group affected by OSW projects, raising concerns over fishery rights, compensation, and potential environmental impacts. However, their participation in the planning processes for OSW development remains limited. A key barrier is the limited capacity of local fishery associations to represent the diverse interests of the fishing community. These associations are criticised for advocating only for small, specific groups within the sector, not fully engaging with broader community concerns. A limited representation undermines trust and inclusiveness in OSW development.

OSW development in Taiwan has increased the likelihood of conflict between developers and fishers, as traditional fishing rights intersect with OSW development areas. Taiwan's Fisheries Act outlines fishing rights as a "right in rem", which is a legal right attached to a property, enabling ensuing compensation for loss of earnings. However, the interpretation and application of these rights have sparked disputes. The issue is further complicated by historical and cultural nuances, such as the inherited "fishing rights" from the Japanese colonial era, which recognise fish catches as fishers' property and are reflected in both formal regulations and informal customs, like the unwritten "first-occupancy right."

⁸ France24, 2021. Blowing in the wind: Fishermen threaten South Korea carbon plans. [Link](#)

⁹ Park, S., Yun, S.J. and Cho, K., 2024. Energy justice: Lessons from offshore wind farm siting conflicts in South Korea. *Energy Policy*, 185, p.113972. [Link](#)

This legal and cultural foundation has come under strain with the Taiwan's promotion of OSW development. Two critical regulatory provisions highlight the intersection of OSW development and fishing rights:

- **Electricity Registration Regulations:** Article 3, Item 1, Subitem 6, Item 4 mandates developers to obtain "proof of consent from the fisheries authority," which includes compensation for various types of fishing rights, such as fixed, zoned, and exclusive rights.¹⁰
- **Environmental Impact Assessment Act:** Article 5, Item 1, Subitem 5 specifies that environmental impact assessment approval requires a thorough assessment of potential adverse impacts to the fisheries.¹¹

Conflicts between OSW developers and the fishing industry highlight the pressing need for improved stakeholder engagement to address concerns of the fishing industry including compensation and potential environmental impacts.

In 2020, approximately 20 fishing vessels blocked construction vessels on the Yunlin offshore wind farm over concerns about the potential impact of the project on clam beds. The previous year, the developer had met with regional fishermen association to discuss environmental impacts and offer compensation, though the fishers' representative disputed the figure provided.¹²

These events underscore the importance of robust and inclusive engagement processes. Given these dynamics, this report emphasises fishing industry engagement as a critical element of public engagement to ensure the long-term success of Taiwan's OSW sector.

The objectives of public engagement for OSW can be:

1. **Transparency:** Informing affected communities of plans to develop OSW farms, the location and scale of projects, and operations during project development.
2. **Addressing concerns:** Understanding the critical concerns of affected communities so that these can be addressed, where feasible, in OSW development.
3. **Understanding impacts:** Learning from stakeholders about key spatial areas and temporal effects for their sector or concern, to make informed decisions about OSW development.
4. **Outlining benefits:** OSW development can provide significant local benefits, and an effective engagement strategy can increase awareness of these benefits where they may not be well understood.

Objectives of this report

This study aims to identify and enhance Taiwan's energy transition through offshore wind, focusing on maximising social, economic and environmental benefits for local communities, whilst not hindering the

¹⁰ Law and Regulations Database of The Republic of China (Taiwan). Electricity Registration Rules. [Link](#)

¹¹ Law and Regulations Database of The Republic of China (Taiwan). Environmental Impact Assessment Act. [Link](#)

¹² 4COffshore, 2020. Fishermen block progress on Yunlin offshore wind. [Link](#)

progress of the OSW sector and reinforcing the Taiwan's position as a leader in OSW development in Asia. Our specific objectives are to:

- **Identify key issues:** Examine challenges and barriers within Taiwan's existing public engagement process.
- **Highlight learnings:** Draw insights from international best practices in established offshore wind markets to identify opportunities for enhancing Taiwan's public engagement processes.
- **Develop a framework:** Propose a clear, robust, and transparent public engagement framework as a strategic initiative for the OSW sector in Taiwan.

2. Existing offshore wind public engagement process in Taiwan

2.1. Our approach

We assessed Taiwan's public engagement framework for OSW development using a two-phased approach, combining a detailed desk-based review with targeted stakeholder engagement. In the initial phase, we examined literature, including policies, regulations, and journal articles, to map the existing engagement landscape for OSW in Taiwan. This analysis covered both formal policies and the practical aspects of local implementation, focusing on how the unique concerns of Taiwanese communities are addressed. We reviewed key elements such as the identification of the main stakeholders involved in the engagement process, coordination methods, and the outcomes and challenges of previous engagements. We also completed a stakeholder mapping exercise to identify key actors across government, academia, industry (OSW developers) and civil society, which then guided the engagement phase.

At the time of preparing this report, 15 interviews were completed with the following stakeholder groups: government, academia, industry and civil society. These engagements captured perspectives on the current engagement processes, highlighting key challenges faced by local communities, perceptions of the engagement framework, and anticipated future issues. Stakeholders provided insights on the effectiveness of existing practices, including stakeholder involvement, consultation coordination, and the impacts and outcomes of the process. The interviews also explored the potential of suitable organisations to take ownership of public engagement efforts, identifying key areas for update.

This analysis sets the context for Taiwan's OSW public engagement process, providing insights that will inform the remaining study focused on recommendations for enhancing stakeholder engagement and the overall consultation effectiveness.

2.2. Summary of literature review and stakeholder interviews

A comprehensive review of nine reports was conducted (see full list in Appendix 1). In addition to a desktop literature review, stakeholder interviews have been conducted with stakeholders who are often involved in facilitating public review meetings as part of the EIA process. The stakeholders noted that they generally find the public engagement process effective, with existing platforms allowing for participation from the public and stakeholders. The engagement process is rated as low to moderately successful as issues remain regarding stakeholders' concerns being addressed.

Stakeholders affected by OSW in Taiwan

The stakeholder interviews and literature review revealed the following key stakeholders as being affected by OSW in Taiwan:

- Fishers (specific fishing sub-sectors were mentioned as being impacted such as gillnetters and trawlers)
- Local communities and residents along the west coast of Taiwan where OSW is most likely to be expanded due to favourable conditions

- Environmental CSOs advocating on behalf of impacted stakeholders

The central stakeholder concerns about OSW development in Taiwan

Key priorities of local communities concerning OSW development differ across markets, and thus understanding the market-specific concerns is fundamental to developing an effective engagement strategy. There are several specific key concerns around OSW development in Taiwan:

- The potential for OSW infrastructure and operations to disrupt fishing operations through economic displacement.
- Restriction of access to marine space.
- Potential effects on the marine environment that are not well understood.

An effective engagement strategy will focus on these primary concerns. More detail on the concerns is found in Table 4.

The growth of OSW in Taiwan presents significant coexistence challenges, as OSW activities can disrupt fishing operations, lead to environmental changes, and create tensions over access to marine spaces. These conflicts emphasise the importance of robust public engagement to mitigate disputes and foster collaboration between developers and local communities.

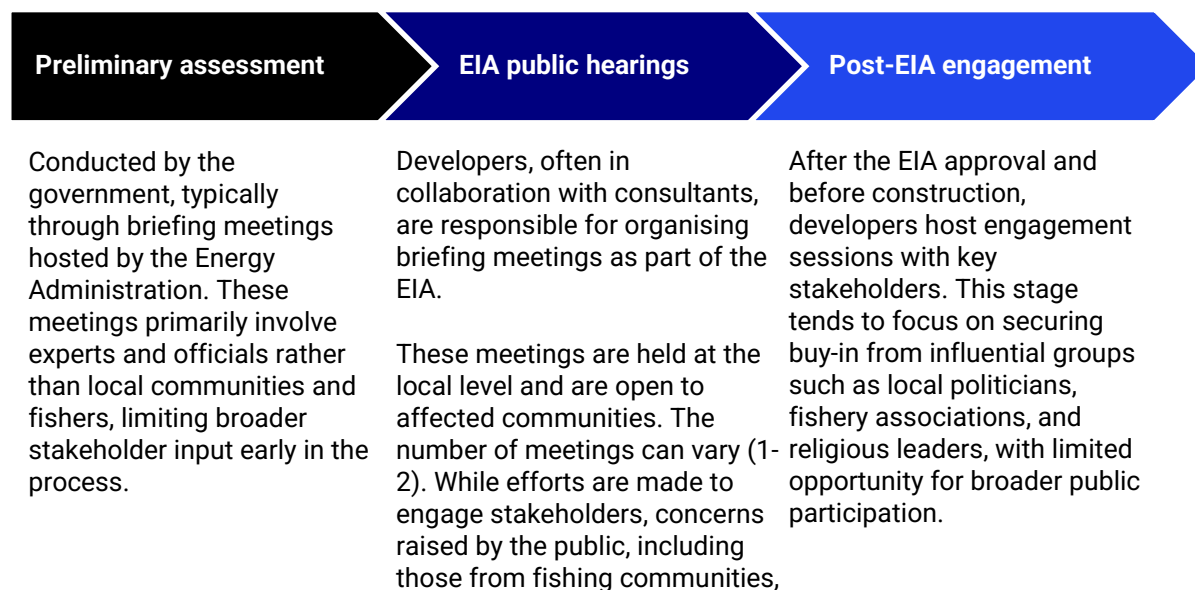
Table 4 Public engagement challenges in the Taiwanese OSW sector

Key themes	Description
Impact on fishing activities	• Whilst there is limited information evidence about specific impact of OSW developments in Taiwan on the fishing sector, there is concern about the potential effects of OSW activities on fishing. There are noted concerns about the potential impacts of noise during construction, habitat changes, electromagnetic fields, and safety zones that restrict access and may increase operational costs for fisheries. • Fishing rights in Taiwan are treated as “rights in rem”, granting property-like legal status, whereas international norms generally view maritime zones as areas under state jurisdiction. This legal framework leads to complex negotiations and compensation mechanisms that can hinder OSW project development and further complicate interactions between developers and fishing communities, especially concerning environmental impacts and compensation. Fishers’ perception of exclusive rights over traditional fishing areas leads to frequent disputes and delays in project implementation. • Stakeholder interviews found that OSW construction in Taiwan has impacted fishers’ livelihoods and strained social relationships within fishing communities. Conflicts have arisen between different fishing methods (e.g., gillnetting vs. trawling), leading to increased competition for limited fishing grounds. • Damaged nets, prolonged construction periods, and development of OSW in traditional fishing areas have strained relationships within the community and with developers. • Compensation criteria set by the Fisheries Agency are often criticised as inadequate and do not fully address fisher’s needs or sustainable fishery

Key themes	Description
	management. During the stakeholder interviews, representatives of the fishing industry voiced frustration with the compensation mechanisms, particularly the process of negotiating fees through fishery associations, and limited transparency and accountability in distributing funds from the "Electricity Prosperity Fund." This has led stakeholders to call for improved transparency, skill transfer programmes, and access to alternative livelihood opportunities.
Impact on communities	• Social and economic disruptions have emerged, with increased pressure on local infrastructure as developers establish themselves in communities, while changes in fishing operations due to OSW development are challenging traditional practices.
Jurisdictional uncertainties	• Offshore wind development is complicated by jurisdictional uncertainties between central and local authorities and conflicting regulations between various acts like the Territorial Sea (TS) Act, Spatial Planning Act and the Coastal Zone Management Act, which use different baselines for defining offshore areas. These inconsistencies pose legal and operational challenges for developers.
Policy framework	• Taiwan needs a comprehensive Marine Spatial Planning (MSP) framework which is critical for managing conflicting uses of ocean space, such as fishing and OSW development. The current fragmented regulations from multiple agencies create a complex and often conflicting regulatory environment, making it challenging for developers to navigate site selection and comply with overlapping restrictions. To address these issues, it is essential to coordinate the use of sea areas and promote competition among stakeholders, while implementing integrated marine management that responds to the needs of multi-purpose marine use.

How the engagement process proceeds

The current public engagement process for OSW development in Taiwan involves three main stages:



Concerns raised with the existing engagement process

Stakeholder interviews highlighted that the current engagement process does not provide enough engagement and representation of key stakeholders, particularly fishing communities, marine mammal protection groups, and onshore communities near subsea cable landing points. To engage key stakeholders, communications on the timelines and platforms being used needs to be increased.

The table below summarises the various challenges that arise from existing public engagement processes, focusing on conflicts with fisheries, regulatory complexities and poor stakeholder coordination.

Table 5 Challenges with the public engagement process in Taiwan

Key themes	Description
Conflicts with fisheries	There is no dedicated coordination body for fisheries and OSW, complicating the interaction between stakeholders and leading to ongoing conflicts and distrust from fishers over the compensation and space usage. The fisheries compensation process at present is not effective at fostering support. Fishers claim that the distribution of funds fails to address their specific needs or support sustainable fishery management, leading many to refuse the compensation altogether.¹³

¹³ Tsai, H.H., Tseng, H.S., Huang, C.K. and Yu, S.C., 2022. Review on the conflicts between offshore wind power and fishery rights: Marine spatial planning in Taiwan. *Energies*, 15 (22), p.8768. [Link](#)

Key themes	Description
	The current public engagement process often conflicts with fishing activities, and this can limit the ability of fishers to attend. Without the presence of sufficient fishers, the sessions often skew discussions towards topics driven by developers, thereby benefiting them more than impacted groups like fishers. Public review meetings are required as part of the EIA process, hosted by developers or consultants at the local level. However, these review meetings often serve as the primary platform for engagement but frequently provide limited transparency and information and are not fully tailored to specific fishing concerns according to stakeholder interviews. Their timing often conflicts with fishing schedules, resulting in greater benefits for developers than for fishers.
Regulatory and policy landscape	A more inclusive EIA process could help to ensure appropriate representation of affected local communities in OSW development. Engagements typically begin with preliminary assessments led by the government, primarily engaging experts rather than local communities. The hearings are held by the Ministry of Environment in Taipei, and at inconvenient times for fisheries, which often leads to very limited local representation. Consequently, the needs of affected communities may be overlooked, resulting in less comprehensive and less representative public engagements. The engagement process was described as fragmented, with different stages managed by separate entities—fisheries associations managing fishing communities and developers managing the process for EIAs—resulting in limited management across the process. CSOs and affected groups are allowed to participate during the secondary stages of EIA reviews, which can reduce transparency and limit early involvement and therefore their ability to influence project outcomes. In the initial stage of the EIA, there is a focus on compliance and focus on essential requirements such as monitoring and mitigation measures, which are based on prior EIA results. While this approach aims to streamline administrative processes and reduce review time, it may lead to a perception among CSOs that their input is less valued, as they have limited opportunity to voice concerns during the critical early stages of project planning. It will therefore be important to clarify which aspects of the engagement process are fixed and which remain open to discussion, ensuring that stakeholders understand where their input can still be influential in shaping project outcomes. While Taiwan's one-stop shop system was designed to facilitate offshore wind development, stakeholders raised that there is presently inadequate coordination among government bodies, communication barriers, and local authority conflicts, significantly hindering its effectiveness. The Coastal Zone Management Act emphasises sustainable development but is inadequate to address OSW, resulting in disputes between central and local authorities. Offshore wind licensing mechanisms, including EIAs and coastal zone management plans, are required but face implementation challenges, including regulatory overlaps and limited specific OSW guidance.

Key themes	Description
	Taiwan's regulatory landscape for OSW is complex, with the involvement of multiple agencies creating challenges due to overlapping restrictions on marine space use. This leads to delays, confusion, and increased costs for developers. Specific areas are designated as highly sensitive or restricted by different authorities, complicating site selection and project approval processes.
Stakeholder coordination	Stakeholder engagement in Taiwan is limited and often occurs after project approval. This can lead to resistance as affected communities and stakeholder groups are not given an opportunity to provide input during the planning phase, leading to misunderstandings and opposition later in the process. A "silent majority" often exists, where outspoken participants do not necessarily represent the views of the wider community. Additionally, stakeholders can often feel their concerns are not fully addressed, as public opinions are neither formally recorded nor addressed in the EIA process, with developers under no obligation to respond which has resulted in social polarisation. Additional engagements are held post-EIA, during the pre-construction phase, led by developers with local stakeholders such as fishery communities, residents, marine mammal protection groups, and onshore workers. Despite these efforts, the process is still hindered by timing conflicts, especially for fishers. Two main platforms for public engagement exist, the required EIA public review meetings and supplementary review meetings before OSW construction. However, these platforms often do not provide timely or sufficient opportunities for key stakeholders to participate. As a specific example, it was noted that there have been examples where CSOs are given just three minutes each to present views and opinions on proposed developments, which is a barrier to significant engagement. The definitions of stakeholders within EIAs are often vague, leaving it up to developers to identify the relevant groups. This can result in key stakeholders being overlooked or inadequately consulted, as developers may not have a full understanding of the local context. There are no established standards or clear processes for stakeholder engagement beyond the EIA. The absence of established frameworks suggests that there is limited guidance on involving stakeholders. Additionally, the government has been cautious in introducing mandatory requirements to address these gaps. There is a perception that engagement is not meaningful, the concerns are that this approach limits public involvement by having decisions made internally by officials and experts, announcing these decisions without substantial public input, defending the decisions against opposition, and not addressing community concerns fully. For example, the Yuanli Anti-Wind Turbine Movement, which began in September 2012, highlights limited government engagement in the planning of offshore wind development projects. Residents protested a project by the German company InfraVest to install 14 wind turbines rather close to homes, with distances as

Key themes	Description
	short as 60 metres, far below the recommended safe distance. Despite community concerns, the government and InfraVest moved forward without fully addressing local feedback, resulting in significant opposition and unrest.¹⁴ Online options for participation in engagements are also limited, and there is a dominance of private meetings between developers and select stakeholders. This leads to broader community disengagement and perceptions of limited transparency and is often criticised for unidirectional communication and feedback mechanisms.

¹⁴ Business & Human Rights Resource Centre, 2013. Company responses/non-responses re impacts of planned InfraVest wind turbines in Yuanli, Taiwan. [Link](#)

2.3. Key takeaways

Key perceived challenges from OSW development

Perceived challenges from OSW development refer to the direct obstacles and conflicts arising from the physical, regulatory and environmental impacts of OSW projects on local communities, the government, and developers. The top challenges include:



Disruption to fishing activities: Fishers are concerned that OSW projects will interfere with traditional fishing operations due to construction noise, habitat changes and restricted access to fishing areas. These factors may increase operational costs and affect local fisher livelihoods.



Jurisdictional uncertainties: As OSW development expands, conflicting regulations such as the Territorial Sea Act and the Coastal Zone Management Act may not be equipped to support the required timelines or effectively mitigate disputes. These legal and operational roadblocks will need to be resolved for OSW projects to progress as planned in Taiwan.



Conflict management: An accelerated pace of OSW growth may highlight the inadequacies in the current regulatory framework, where the limitation of the current MSP leads to inefficient conflict management between OSW developers and other marine users, particularly fisheries.

Key challenges from stakeholders on the current engagement process

This section highlights the key challenges with how the effects of OSW are communicated to and addressed with affected groups, specifically within the current engagement processes in the OSW sector.



Fragmented stakeholder coordination: Different entities manage different parts of the engagement process, from fishery associations to developers, leading to disjointed communication, limited feedback loops, and limited comprehensive management across the OSW development timeline.



Limited transparency: Information shared during the engagement process often requires more specificity, especially regarding issues important to fishers such as environmental impacts and compensation terms. This tends to affect trust between the community and developers.



Limited engagement prior to project approval: Public engagement is usually limited to post project approval stages, leaving the affected communities without a voice during the critical early decision-making process. This approach can result in opposition and social conflict.



Limited opportunity for input and difficulty in identifying stakeholders: Fishing communities, especially smaller-scale and more vulnerable groups often feel excluded from meaningful participation in public hearings due to scheduling during peak fishing periods. Limited representation restricts the effectiveness of the engagement process as it prevents fishers to provide their inputs. It is also challenging to identify a comprehensive list of stakeholders to be included in engagement, which can lead to challenging design.

To address these issues, several recommendations have emerged. Establishing a comprehensive MSP framework has been noted to be vital in managing ocean space and reducing conflicts between OSW and fisheries. Adopting best practices from international models while tailoring to align with local context for stakeholder engagement and enhancing existing compensation frameworks are also recommended. Furthermore, initiating engagements earlier in the planning process, increasing the frequency and inclusiveness of public engagement, and ensuring that feedback systems are effective will contribute to more balanced and effective public engagement. These reforms aim to improve stakeholder trust, streamline regulatory processes, and support the sustainable development of OSW projects in Taiwan.

3. International practices in public engagement

3.1. Our approach

The review of public engagement international best practices for OSW development was conducted through a comprehensive desk-based analysis. This involved examining several jurisdictions including the United Kingdom, the United States, Australia, France and Ireland and drawing lessons learnt for addressing Taiwan-specific challenges and concerns.

This analysis aims to provide insights that will inform the subsequent recommendations for improving stakeholder engagement and enhancing the overall effectiveness of public engagements in Taiwan's OSW development context.

3.2. Relevance of international best practices to Taiwan

Several key challenges have been identified in Taiwan's public engagement processes for OSW development, including fragmented stakeholder coordination, limited transparency, limited engagement before project approval, and difficulty identifying and including suitable stakeholders. Drawing on international best practices from the United Kingdom, United States, Australia, France and Ireland, below is an analysis of some of the lessons learnt from international examples that may be adapted for Taiwan's local context to address its challenges.

Table 6 A summary of the key challenges in Taiwan and relevant international case studies

Identified challenge	Examples of international practices	Relevance for Taiwan
Fragmented coordination among stakeholders	In the UK, the Fishing Liaison with Offshore Wind and Renewables Group (FLOWW) collaborative platform was established to ensure effective engagement between the OSW and fishing industries, through regular meetings and development of best practice approaches, such as guidance that emphasised the importance of early dialogue with affected fisheries. The Office of the Australian Energy Infrastructure Commissioner underscores the importance of coordinating and streamlining engagement efforts to prevent stakeholder fatigue and confusion. Proponents are encouraged to collaborate with regulators, developers, and authorities to consolidate outreach efforts and avoid duplicative engagement activities.	Taiwan could consolidate engagement platforms to prevent overlapping engagement practices. Increasing early engagement with key stakeholders, to elevate the number of fisher stakeholders having smaller community-based engagement whilst being mindful of the fishing seasons could boost attendance.
Further need for transparency and	Ireland and Australia's OSW guidelines emphasise transparency, recommending that proponents provide clear, accessible project information from the outset, using	The adoption of a novel communication strategy to provide accurate information on the

Identified challenge	Examples of international practices	Relevance for Taiwan
accessible information	visualisations and providing a formal process for managing community inquiries and concerns throughout the project.	potential OSW projects and potential environmental impacts and economic benefits at an early stage.
Current engagement is late in the overall process	In the US, the Bureau of Ocean Energy Management (BOEM) offers numerous engagement opportunities for the public, including the early planning phase of OSW development.	Establish a formalised engagement platform to involve local communities across the key stages and maintain a channel of communication.
More opportunity for input from key stakeholders	FLOWW held quarterly meetings to discuss, agree upon, and disseminate best practices and standardised approaches. The collaborative nature ensures that all parties are heard. In 2015, FLOWW published best practice guidance for fisheries disruption settlements and community funds. The guidance emphasises the importance of early dialogue between developers' company fishing liaison officer and affected fisheries to mutually agree on outcomes.	Appointing fisheries liaison officers with experience in the fishing sector and aligning meeting times with fishers' availability could enhance participation. It will be important to ensure that the voice of small-scale fishers is well-represented in such dialogue through fisheries associations, or through direct engagement with small-scale fishers.
Taiwan's Marine Spatial Plan (MSP) needs to be expanded to facilitate further OSW growth	Many established OSW markets have a comprehensive MSP, including Ireland, UK, Scotland, Netherlands and Germany.	Taiwan could designate a relevant body within the authority to develop an MSP to inform developers of mandated stakeholder engagement.
Transparent design for fisheries compensation schemes	The New York State Energy Research and Development Authority (NYSERDA) commenced development of a standardised process to managing a regional compensation fund for fisheries through a request for proposal process.	Establish a monitoring system for the use of the "Electricity Prosperity Fund". Clear guidelines and transparent reporting that facilitate stakeholder input, allowing concerns about the fund's use to be raised and addressed throughout the project lifecycle.
Potential environmental impacts and knock-on	ORJIP for Offshore Wind conducts research into the impacts of OSW farms on the marine environment to enable more informed decision-making around OSW development.	Including stakeholders in research can be a valuable mechanism to ensure concerns are heard and

Identified challenge	Examples of international practices	Relevance for Taiwan
effects on the fishing industry		addressed. Conducting such research may help to overcome misinformation and increase the knowledge base of stakeholders.

Coordination and streamlining of stakeholder engagement

In Taiwan, multiple entities manage different parts of the OSW process. This can result in fragmented coordination among stakeholders, potentially leading to inefficiencies in communication and engagement efforts.

Lessons from international examples:

- UK FLOWW:** Acting as a collaborative forum where government representatives, developers, and the fishing industry meet to discuss key issues related to offshore renewable energy and fisheries, FLOWW (Fisheries Liaison with Offshore Wind and Wet Renewables Group) provides a platform for stakeholders to highlight potential impacts, co-existence opportunities and displacement considerations, and guide appropriate mitigation strategies. The platform also facilitates communication such as disseminating information regarding OSW development activities to the fishing industry promptly and allows the fishing industry to provide accurate data and information to the developer.
- US BOEM:** When a state or one or more companies seek to develop an OSW farm in federal waters, BOEM convenes the Intergovernmental Renewable Energy Task Forces to coordinate OSW development efforts among multiple stakeholders. The Task Force brings together members of state, local, and tribal governments and federal agencies to discuss issues, exchange data and information, and identify potential conflicts early in and during the planning and leasing process. These meetings are open to the public, ensuring that all interested stakeholders can be included from the beginning of the process.
- Australia:** The Office of the Australian Energy Infrastructure Commissioner has emphasised the importance of coordinating and streamlining engagement efforts to avoid engagement fatigue and ensure stakeholders do not face overlapping or duplicative engagement activities. Proponents are advised to collaborate with regulators, other developers, and authorities to consolidate their outreach efforts and avoid confusion among community members. Additionally, the Australian government advises against community engagement before an offshore zone is formally declared, as premature engagement can create misunderstanding about the process stage and risk undermining public trust in both industry and government.

Recommendations for Taiwan: To improve coordination, Taiwan may consider consolidating its engagement platforms and ensuring that different stakeholders work together. Taiwan could establish a centralised platform to facilitate dialogue between the government, developers, and fishing industries, ensuring timely discussions on impacts, mitigation strategies, and co-existence opportunities. By consolidating communication efforts, Taiwan can prevent overlapping engagements, reduce confusion, and ensure timely dissemination of accurate project information, particularly to the fishing industry.

The need for transparency and accessibility of information

A key challenge in Taiwan's public engagement process for OSW development is the limited transparency, especially around critical issues such as environmental impacts and compensation terms for affected communities, particularly fishers. Representatives of the fishing industry have highlighted a need for more clarity in the distribution of funds from the "Electricity Prosperity Fund". Regular communication from developers and government on projects and the implantation of feedback can reduce potential misconceptions and misinformation whilst continuing to build trust.

Lessons from international examples:

- **Ireland:** Ireland's OSW stakeholder engagement guidelines emphasise transparency as one of the core principles.¹⁵ Developers are urged to ensure that information about the project is accessible, with an emphasis on a clear community engagement plan known to all at early stages. One key recommendation is the use of visualisations to accurately represent the project's scale and potential effects, helping to prevent misrepresentation by opposing parties. The guidelines also highlight the importance of discussing with the local community on mitigation measures, compensation schemes, and community benefits in a transparent manner.
- **Australia:** The Australian OSW community engagement guidelines, prepared by the Office of the Australian Energy Infrastructure Commissioner, provide essential considerations for effective stakeholder engagement by OSW industry proponents.¹⁶ One of the key principles emphasised in the guidelines is transparency, ensuring that information about the project—its potential impacts and opportunities—is made easily accessible to local communities. This principle underscores the importance of providing factual, clear, and relevant information to facilitate informed participation and build trust with affected communities. To further support transparency, the guidelines recommend that proponents establish a formal complaint and enquiry process from the initial stages of development, continuing throughout the life of the project. This process must include a system to record and manage complaints, as well as a register of complaints and enquiries.

Recommendations for Taiwan: To improve transparency, developers should be required to clearly communicate critical project details, particularly those related to environmental impacts and compensation frameworks through a comprehensive community engagement plan. This should include user-friendly information and the use of visual tools to help the community understand the project's scale and potential effects from the outset. This communication would need to be a formal requirement for this to be effective and more likely to be delivered.

Early and continuous public engagements can result in a more meaningful impact

In Taiwan, public engagement in OSW development often occurs late in the process, after major decisions have already been made. As a result, local communities have a reduced ability to shape the

¹⁵ Keegan, G. M. 2021. Offshore Wind Farm Project: Stakeholder Engagement & Community Benefits – A Practical Guide.

¹⁶ Australian Energy Infrastructure Commissioner. 2023. Considerations for Offshore Wind Industry on Community Engagement. [Link](#).

project leading to potential conflicts later. To be effective, engagement must be ongoing but carefully managed, ensuring that communities are involved without being overwhelmed.

Lessons from international examples:

- **US BOEM:** In the US, BOEM offers numerous engagement opportunities for the public to engage throughout the development process, including public meetings and Calls for Information and Nominations in the early planning phase, which seeks information from the public on site conditions, resources, and multiple uses near, or within, the areas where OSW could be developed. Public comments submitted during this period will become part of official public records. In addition, BOEM has an open-door policy that allows continuous feedback and contributions from the public. By creating multiple touchpoints for engagement, BOEM ensures that stakeholders have ongoing opportunities to contribute their knowledge and voice concerns at key stages of project planning and implementation. In previous instances, BOEM has excluded certain portions of the Call Area from consideration due to established fishing activities, such as those in Massachusetts (Nantucket Lightship), Rhode Island/Massachusetts (Cox Ledge), and New York (Cholera Bank). By having various opportunities to provide formal public comment at the early phase of OSW development, BOEM allows local communities and stakeholders to provide input before key decisions are finalised.
- **Australia:** In Australia, when areas suitable for OSW development are identified, a notice of proposal is issued, initiating a public engagement period. This early engagement invites the public to provide feedback, which is essential for assessing the area's suitability for OSW development. Additionally, the government organises information sessions in the proposed areas to engage local communities, commercial industries, environmental groups, and other relevant stakeholders. This proactive approach helps to address concerns early on, ensuring that diverse perspectives are considered from the outset rather than as an afterthought.
- **Neart na Gaoithe (NnG) OSW farm:** The UK project had high levels of local support (70% supported the scheme), and there was a total of 34 stakeholder engagement events with a reach of 3000 attendees.¹⁷ The stakeholder engagement took place prior to the application process and through more effective engagement platforms the project proceeded with minimal objections from the local community. Following a Scoping Opinion with ministers and stakeholder engagements there were changes to the application values following the scoping phase such as a reduction in the number of turbines (54 down from 56) and a 22-metre reduction in the maximum rotor tip height.¹⁸

Recommendations for Taiwan: Taiwan may consider restructuring its engagement process to involve stakeholders from the earliest phases of OSW development. Drawing on the approaches used in the US and Australia, Taiwan could establish formalised engagement platforms that offer local communities multiple opportunities to provide input during the early stages and throughout the project lifecycle. Maintaining continuous dialogue rather than restricting stakeholder involvement to the EIA stage, will allow for more meaningful contributions and foster a collaborative approach that reduces potential conflicts as the project progresses.

¹⁷ Facilitating Change, Case Study 1- Stakeholder Engagement Offshore Wind. [Link](#)

¹⁸ NnG Offshore Wind, 2018. Chapter 5 – Scoping and Consultation. [Link](#)

Ensuring stakeholder representation and participation in the engagement process

One of the foremost challenges Taiwan faces in its OSW development is the difficulty in engaging with stakeholders that are harder to include, particularly small-scale and vulnerable fishing communities. Fishing communities often feel excluded from meaningful participation in the engagement process due to scheduling during peak fishing periods. These representation limits affect the effectiveness of the engagement process.

Lessons from international examples:

- **UK FLOWW:** FLOWW (Fisheries Liaison with Offshore Wind and Wet Renewables Group) was established in the UK to facilitate good relationships between the fishing industry and the offshore renewable energy sector.¹⁹ FLOWW held quarterly meetings to discuss, agree upon, and disseminate best practices and standardised approaches. The collaborative nature ensures that all parties are heard. Key discussion areas within the group include developing best practices and standardised approaches for addressing offshore renewable energy and fisheries-related issues. FLOWW published the first "Fishing Liaison Best Practice Guidance for Offshore Renewables Developers" in May 2008, at a time when the offshore renewable energy industry was still in its early stages, to ensure effective communication between developers and the commercial fishing community throughout all stages of offshore renewable energy installations (OREI) development and operation.²⁰ In 2015, FLOWW published best practice guidance for fisheries disruption settlements and community funds. The guidance emphasises the importance of early dialogue between developers' company fishing liaison officer and affected fisheries to mutually agree on outcomes.²¹

Recommendations for Taiwan: Taiwan can draw lessons from UK FLOWW by ensuring the representation of key stakeholders as a cornerstone of its OSW development strategy. A Taiwanese CSO, Taiwan Ocean and Environmental Sustainability Law Center, has recognised this need and compiled the "Recommendations for Guidance on Taiwan Offshore Wind and Fisheries Liaison" in 2024 June²². This initiative highlights the importance of establishing platforms for dialogue between developers and fishing communities, which can effectively address critical concerns and reduce the likelihood of conflicts.

Structured, recurring engagement opportunities tailored to the schedules and needs of fishing communities can ensure that they are meaningfully represented in decision-making processes and their concerns are effectively addressed. Appointing fisheries liaison officers with experience in the fishing sector and aligning meeting times with fishers' availability could enhance participation. It will be important to ensure that the voice of small-scale fishers is well-represented in such dialogue through fisheries associations, or through direct engagement with small-scale fishers via community-based approaches. This might involve local facilitators who can visit fishing villages, hold informal meetings, and help small-scale fishers express their concerns. To accommodate stakeholders' schedules, having

¹⁹ The Crown Estate. FLOWW. [Link](#).

²⁰ Ocean best practices. 2014. FLOWW Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Liaison. [Link](#).

²¹ FLOWW, 2015. FLOWW Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Disruption Settlements and Community Funds. [Link](#)

²² Taiwan Ocean and Environmental Sustainability Law Center. 2024. Recommendations for Guidance on Taiwan Offshore Wind and Fisheries Liaison. [Link](#).

smaller community-based engagement events whilst considering the fishery season and hours could increase attendance. Additionally, hybrid events could boost attendance especially if locations are not within the local community.

Taiwan has a need for a comprehensive Marine Spatial Planning (MSP) framework

The establishment of a marine spatial plan is crucial to coordinate marine activities and through the clear delineation of activities it can reduce conflicts.

International examples of MSP:

- **France:** In 2022, The French government adopted four distinct MSPs for the four different sea basins. For each basin, a planning document and a strategic document for the coast are published, the latter outlining strategy and various socio-economic and environmental perspectives. The competent authority for MSP is the State Secretariat for the Sea, responsible for the development and implementation of relevant policies.²³
- **Ireland:** Ireland adopted its first MSP in 2021, and in 2024 the South Coast Designated Maritime Area Plan was published focussing on renewable energy. The competent authority for MSP in Ireland is the Department of Environment, Climate and Communications.²⁴

Recommendation for Taiwan: Designating a relevant body to have authority over the development of an MSP and the creation of a designated framework would inform developers of the required stakeholder engagement, the delineation of activities and the various relevant stakeholders/ marine users in the potential sites.

If fisheries compensation schemes are to be encouraged, then a transparent design process and agreed approach could be optimal

Implementing compensation schemes for fisheries is a difficult process, as it is complex to calculate economic impacts from individual OSW developments on the fishing sector, and therefore negotiations can be challenging. In Taiwan, transparent information about compensation terms for fishers has been identified as of high importance. Notably, ensuring that the “Electricity Prosperity Fund” – which supports vessel upgrades, skill transfer programmes, safety training, and alternative income opportunities for affected fishers – is used effectively has been raised as high priority.

Collaboration is required to design an effective and transparent compensation method an example of a transparent mechanism in progress is the New York State Fisheries Technical Working Group. In 2024, the New York State Energy Research and Development Authority (NYSERDA) commenced development of a standardised process to managing a regional compensation fund for fisheries through a request for proposal process.²⁵

Recommendation for Taiwan: If fisheries compensation schemes are to be encouraged within OSW public engagement, then a collaborative and transparent approach to designing an agreed approach would be expected to reduce conflicts and increase trust. A first step could be to establish a monitoring

²³ European MSP Platform, France. [Link](#)

²⁴ European MSP Platform, Ireland. [Link](#)

²⁵ New York State Fisheries Technical Working Group, Resources. [Link](#)

system for the use of the “Electricity Prosperity Fund”. Clear guidelines and transparent reporting on the allocation and impact of the fund will help build trust and ensure fair and well-monitored compensation measures. This system should also facilitate stakeholder input, allowing concerns about the fund’s use to be raised and addressed throughout the project lifecycle.

In addition to project-level engagement, collaborative research on key stakeholder concerns can make stakeholders feel included

Concerns have been raised by Taiwanese stakeholders about potential environmental impacts from OSW development and the potential knock-on effects on the fishing industry. Internationally, there are a large number of research activities ongoing to provide a greater empirical evidence base about the environmental impacts of offshore wind.

International example of collaborative research on stakeholder concerns:

- **Offshore Renewables Joint Industry Programme (ORJIP):** ORJIP for Offshore Wind conducts research into the impacts of OSW farms on the marine environment to enable more informed decision-making around OSW development.²⁶ ORJIP act collaboratively, including fisheries stakeholders in relevant research, to deliver evidence-based research.
- **Maine Offshore Wind Research Consortium:** The main aims of the consortium were to further understand the regional and more local impacts of floating offshore wind in the Gulf of Maine. The consortium has collaborated with a wide range of stakeholders such as the National Offshore Wind research and development consortium, Regional Wildlife Science Collaborative, to implement research on of stakeholders’ interest related to floating offshore wind.

Recommendation for Taiwan: In the establishment of a central coordinating body for OSW public engagement, a potential activity to be undertaken could be collaborative research, including conducting research into concerns raised by fisheries stakeholders, such as the impacts of OSW on the marine environment. Including stakeholders in research can be a valuable mechanism to ensure concerns are heard and addressed. Conducting such research may help to overcome misinformation, if present, and increase the knowledge base of stakeholders.

²⁶ Offshore Renewables Joint Industry Programme (ORJIP) for Offshore Wind. [Link](#)

3.3. Timing of public engagement

OSW projects are complex and typically span multiple decades with distinct lifecycle stages. Each stage presents unique public engagement opportunities. This section outlines where public engagement typically occurs across each major stage of the OSW project lifecycle, drawing examples from the US, Australia, and the UK.

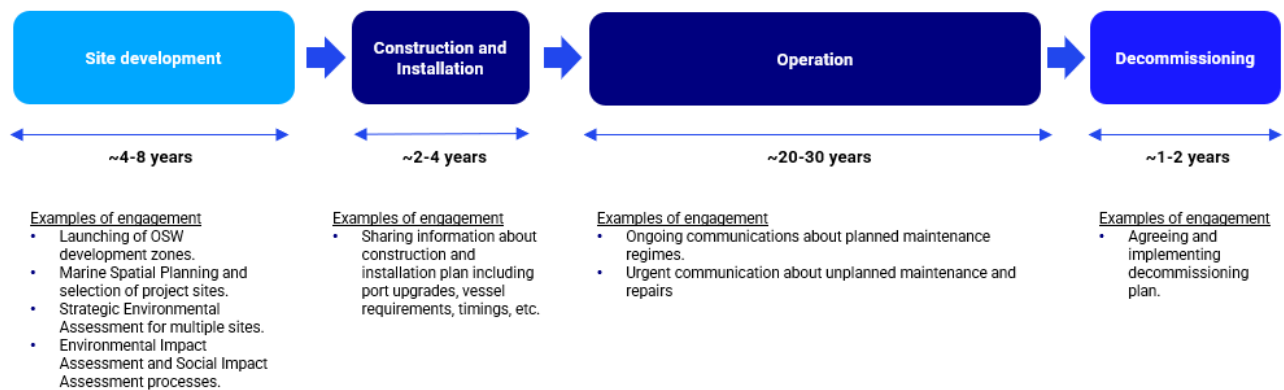


Figure 3 Examples of engagement throughout the OSW project life cycle.

The planning stage involves selecting potential development zones and identifying potential project sites

The planning stage is critical for engagement, as early engagement provides the best opportunity for concerns to be addressed, where possible, in project siting and design. International experience shows that early engagement from selecting potential development zones and identifying potential project sites is critical to ensure that local communities are informed and can voice concerns about potential economic, environmental and social impacts.

In the US., through the issuance of a Request for Information or a Call for Information and Nominations, BOEM invites the public to provide feedback on potential OSW development areas (“Call Area”), including the site conditions, resources, and their multiple uses in the areas. Formal comment periods are between 30 and 60 days, and comments filed during formal comment periods will become part of the official public record. As part of the Wind Energy Areas (WEAs) identification process, where WEAs are the sections of the Call Area deemed most suitable for commercial wind energy activities, public meetings are organised to allow the public a platform to discuss the issues, share information, and to further understand the ongoing community engagement process. BOEM holds public meetings as a part of the National Environmental Policy Act (“NEPA”) process, but the number will vary depending on the geography and the amount and complexity of other ocean uses in the area. After incorporating public feedback, BOEM designates the WEA.

In Australia, when the Minister proposes areas suitable for OSW development, a notice of proposal is issued, followed by a minimum 60-day public engagement period. During this time, the public is invited to provide feedback, which helps the Minister assess the area’s suitability for OSW development. The government also holds information sessions in the region within the proposed areas, engaging local communities, commercial industries, environmental groups, and other stakeholders.

The environmental impact assessment process can allow for engagement at OSW project portfolio level, development zone level, and project level

International approaches towards engagement in the environmental impact assessment process vary in their structure, but typically aim to provide an opportunity for engagement around environmental and social impacts at individual project levels, but also cumulatively across multiple projects or leasing rounds.

3.3.1.1. The US approach to engagement for Wind Energy Areas has led to a consistent turbine layout in one example

In the US, after the WEA is identified, BOEM publishes a Notice of Intent (NOI) to signal the start of preparing an Environmental Assessment (EA) for the proposed OSW development area. The EA assesses potential environmental impacts to determine if they could significantly affect marine life and ecosystems. Any significant impacts identified in an EA must be analysed in an Environmental Impact Statement (EIS). An EA also documents the potential environmental impacts of proposals that do not require an EIS and aims to identify mitigation measures as early as possible, which BOEM may implement to avoid or minimise adverse effects of a proposal. After preparing the draft EA, BOEM publishes a Notice of Availability (NOA) of the draft EA. Both the NOI and NOA are open for public feedback with formal public comment periods (30-60 days). There have been cases where a 30-day comment period was extended following community feedback, and an additional virtual public meeting was organised to solicit further public input.²⁷ BOEM then publishes the final EA, reflecting any updates based on the public input and further analysis.

In an additional round of engagement, BOEM publishes a Proposed Sale Notice, inviting the public to submit formal comments (30-60 days) before releasing the Final Sale Notice. In one case in New England, after receiving written and oral feedback from the region's fisheries industry and other maritime stakeholders, five leaseholders reached a joint agreement to adopt a consistent turbine layout across their adjacent New England lease areas. This uniform layout ensures safe transit across the New England WEA, minimising potential obstacles for vessels. When a wind farm developer submits a Construction & Operations Plan (COP), federal law mandates that BOEM conduct a comprehensive, site-specific Environmental Impact Statement (EIS). Public participation is essential, with BOEM holding at least one public meeting in communities that may be affected.

3.3.1.2. In the UK, Strategic Environmental Assessment and a Habitats Regulations Assessment consider impacts across multiple projects, whilst projects conduct an individual environmental impact assessment

In the UK, it is the responsibility of government to conduct a Strategic Environmental Assessment (SEA) to consider environmental characteristics of offshore areas affected by development plans. The process originally covered oil & gas development, with seven SEAs completed between 2000 and 2008, and offshore wind has been included in four SEAs between 2009 to present. The SEA process includes

²⁷ Bureau of Ocean Energy Management. 2024. Comment Period Extended on Draft Environmental Assessment on Oregon Offshore Wind Leasing Activities. [Link](#).

public consultation to feed into potential impacts of development plans.²⁸ In addition to this, The Crown Estate conducts a Habitats Regulations Assessment (HRA) to protect specific habitats and areas for individual offshore wind leasing rounds.²⁹

The above assessments encourage engagement across multiple offshore wind projects, whilst it is the responsibility of individual OSW developers in the UK to conduct EIAs for individual projects.

Construction and operation of an OSW project involves the installation and maintenance of turbines, foundations, and transmission cables

The construction and operation stage of an OSW project involves the installation of turbines, foundations, and transmission cables, as well as ongoing maintenance to ensure optimal operation. Effective public engagement during this stage is essential to address community concerns, minimise disruption, and build trust with local stakeholders. Engagement during these stages can focus on providing clear information about upcoming operations that may affect other marine stakeholders, so that they can plan accordingly.

However, approaches should be nimble and flexible to deal with practicalities of operating an OSW farm. Unplanned maintenance such as repair in the event of failures and outages may require urgent operations, which cannot wait for extensive engagement periods. To minimise disruption, maintaining open channels of communication can allow operators to undertake urgent works and provide as much communication as possible.

In the UK, the Rampion OSW Farm actively engaged local communities such as commercial fishers and charter boat owners through dedicated Fishing and Offshore Fishing Liaison Officers. The Liaison Officers are able to provide the agile and flexible engagement required for changing circumstances during operations. There is ongoing communication to address concerns about increased marine traffic and noise during the construction period. For instance, public exhibitions along cable routes, letters to residents and businesses, and the establishment of a Local Liaison Group keep local communities informed about project progress. A freephone helpline also provides a direct channel for inquiries and feedback. Employing Fishing Liaison Officers is commonplace for UK projects, and can be most effective if the Liaison Officer employed has a strong and trusted reputation with the fishing industry. Furthermore, Rampion established a £3.1 million community benefit fund to support local initiatives and infrastructure, emphasising equitable sharing of project benefits.³⁰ Community benefits involve initiatives by offshore wind developers to create social and economic value for local communities, such as education and training, alternative livelihoods, and shared ownership. Community benefit programs should target those most impacted by offshore wind projects, as they are often least likely to experience the broader socio-economic gains that the project aims to achieve.³¹

²⁸ UK Department for Energy Security and Net Zero, Offshore Strategic Environmental Assessment (SEA). [Link](#).

²⁹ The Crown Estate, A Guide to Habitats Regulations Assessment (HRA) for Offshore Wind Leasing Round 4. [Link](#).

³⁰ Rampion Offshore Wind. 2017. Rampion Community Benefit Launch. [Link](#).

³¹ ESMAP. 2024. The Strategic Value of Community Benefits in Offshore Wind Development. [Link](#)

Decommissioning marks the end-of-life process for an OSW project

Decommissioning involves safely removing turbines, foundations, and cables, restoring the seabed, and managing the site's environmental impact. Public engagement is critical during decommissioning to ensure transparent decision-making and consider community input on issues such as marine habitat restoration, waste disposal, and the reusability of materials.

Decommissioning plans must be prepared well in advance and include input from local communities, environmental organisations, and regulatory agencies to address potential environmental, economic, and social concerns. While less common than engagement in earlier OSW stages, decommissioning engagement is gaining importance as early OSW projects worldwide reach end-of-life stages.

An example is the Beatrice Wind Farm off Scotland's coast, which has issued a scoping report providing an overview of the proposed decommissioning activities and an overview of the impacts to be assessed in the EIA.³² A stakeholder engagement workshop was held including attendees from the Department of Business, Energy and Industrial Strategy (BEIS, now known as the Department of Energy Security and Net Zero), Marine Scotland Science, Joint Nature Conservation Committee (JNCC) and Scottish Fishermen's Federation (SFF). SFF raised concerns regarding the decommissioning of the grout-filled bag mattresses in situ. In response, a technology appraisal was undertaken and have identified a methodology to break up the grout-filled mattresses, with recovery as the base case decommissioning option for the mattresses and larger grout bags found at the conductor guide frame. This example demonstrates how effective engagement can identify concerns from stakeholders (in this case SFF) and identify solutions to overcome such concerns.

³² Repsol Sinopec. 2018. Beatrice Decommissioning Programme. [Link](#).

4. Recommendations

4.1. Recommendations for public engagement framework

The following recommendations for enhancing the public engagement process in Taiwan's OSW sector have emerged following the literature review, stakeholder engagement and examination of the international best practice.

Conceptual design and objectives of the proposed public engagement platform

An improved public engagement platform in Taiwan should be designed to ensure inclusive, transparent, and early-stage participation, particularly from local stakeholders such as fishing communities. Key features of the platform should include:

- **Diverse and inclusive communication channels:** Use a combination of in-person meetings, Town Hall-style gatherings, social media platforms, online portals, and physical workshops to ensure accessibility and inclusivity across distinct groups, including marginalised stakeholders such as small-scale fishers.
- **Systematic documentation for transparency and action progression:** Maintain detailed records of discussions, decisions, and feedback collected during engagements in dedicated data base or platform to ensure transparency. Clear documentation will also help track the progress of actions and ensure accountability in addressing stakeholder concerns.
- **Participatory and proactive engagement model:** Engagement would commence during the planning phase of OSW development, from the stage of selecting potential development zones and identifying potential project, rather than being confined to the EIA phase. This ensures stakeholders have meaningful input from the outset.

Stakeholders have emphasised the need for increased frequency, scale and legally binding requirements for public engagement. Public engagement efforts should also be closely aligned with broader energy transition narratives to help foster understanding and acceptance of OSW developments among the public. Early and transparent government communication about OSW development policies is critical to building trust and improving engagement.

International best practices such as the UK's FLOWW can serve as models to foster relationships between developers and local fishing communities through early and transparent trust-building processes. While these practices offer valuable guidance, it is important to recognise that these models are not perfect and may not fully address Taiwan's unique context and challenges. As such, Taiwan should use these international practices as guidance to create a customised approach that accounts for its specific regulatory and socio-cultural landscape.

The primary objectives of this platform are as follows:

- **Provide inclusive stakeholder engagement:** Establish robust mechanisms to ensure the meaningful representation and participation of all key stakeholders, including small-scale fishing communities.

- **Create transparency throughout the engagement process:** Ensure clear, timely communication on key project elements (e.g., environmental impact, compensation frameworks, and mitigation strategies) while systematically documenting public feedback to integrate stakeholder input into decision-making and foster trust.
- **Encourage holistic participation including early-stage engagement:** Implement early-stage public engagements and dialogue, enabling the public to voice concerns and influence project design before final decisions are made, thereby ensuring local interests are integrated from the outset.
- **Coordinate engagement with diverse stakeholder groups:** Consider appointment of a dedicated lead to oversee the engagement process to ensure seamless communication and collaborative decision-making across all key stakeholder groups.

Key stakeholders and beneficiaries

At times, the stakeholder definitions can be vague, and developers are required to identify the relevant groups, which can lead to the local context not being fully understood as key stakeholders may be overlooked. Therefore, it is key to define the stakeholders as part of the public engagement framework. The framework will consider a wide range of stakeholders, including:

- **Fishing communities:** Particularly small-scale fishers, who may face disproportionate impacts from OSW development. Public engagement efforts should involve both fishery associations, which can represent broader industry perspectives, and the Fisheries Agency, which can advocate for individual fishers' interests. This could ensure a comprehensive representation of the fishing community's diverse needs. Hiring fisheries liaison officers who have worked in the sector and understand the context would be useful to ensure the engagement sessions are designed optimally.
- **Residents:** A key benefit of OSW development is the limited onshore impact compared to onshore power generation. Nonetheless, individuals living near OSW installations and onshore cable landing points are affected by OSW developments. Engagement efforts must address concerns on impact on livelihood, visual impacts, and noise.
- **OSW developers:** Developers stand to benefit from streamlined regulatory approvals and reduced conflicts by actively engaging with stakeholders. A well-structured engagement process can help anticipate and mitigate challenges, fostering smoother project implementation and enhanced community relations.
- **Government agencies:** Various government bodies, including those responsible for environmental protection, energy policy, and marine spatial planning, will benefit from a more effective engagement framework. This will enable them to align their policies and regulatory decisions with public concerns, improving the overall governance and management of OSW projects.
- **Environmental protection groups:** These groups, particularly those concerned with marine ecosystems and marine organisms are crucial stakeholders in the engagement process to ensure potential environmental impacts are monitored and mitigated. This ensures that environmental sustainability is prioritised alongside OSW development.

- **CSOs:** These organisations play a vital role in advocating for community interests and ensure that marginalised or underrepresented groups are included in the engagement process.

Governance of the engagement framework

(i) Governance Committee

Taiwan's framework should be tailored to local conditions, including specific fishing methods, diverse ecosystems, and regional contexts, to make the process more relevant and effective. The governance structure should reflect this local specificity by having local representatives or close collaborations with local governments. The governance of the engagement platform should involve a multi-stakeholder governance committee, which includes:

- **Government bodies:** Taiwan's Ocean Affairs Council (OAC) could play a central role in overseeing coordination between central and local authorities, ensuring policy coherence and streamlined communication.
- **Fishing communities:** These groups provide essential grassroots input, addressing the concerns of those most directly affected by OSW development. Incorporating data such as fishers' catch records into decision-making can help build consensus among the government, industry, and local communities.
- **Non-governmental organisations (NGOs) and CSOs:** Specialising in environmental protection and social justice, these groups can represent broader community and ecological interests.
- **OSW developers:** Their inclusion ensures technical feasibility is considered during the engagement process, balancing feasibility with community needs.

While it is critical to establish a multi-stakeholder governance committee to ensure diverse input and buy-in, it is equally important to have a dedicated lead to guide and manage the engagement process.

(ii) A lead to guide the overall engagement process

Appointing a dedicated lead for stakeholder engagement is essential to guide the overall engagement process, ensure streamlined communication, and manage feedback loops. The lead will act as a central point of contact to maintain a unified approach, fostering trust and reducing confusion among stakeholders.

To guide the selection of the lead for managing the overall engagement process, it is important to first define the key characteristics the lead should possess. These attributes serve as criteria for identifying organisations best suited for the role, ensuring the engagement process is both effective and inclusive. The lead should ideally demonstrate the following qualities:

- **Proven stakeholder engagement experience:** History of fostering trust and dialogue among diverse groups, including communities, industries, and government agencies.
- **Technical and sectoral expertise:** Knowledge of OSW development, marine ecosystems, and fishing rights is critical for navigating complex sector-specific challenges.
- **Neutrality and credibility:** Impartial facilitator to build trust among stakeholders, especially in cases of conflict or mistrust.

- **Community-centric approach:** Demonstrated commitment to incorporating local voices, particularly small-scale fishing communities, into decision-making processes.
- **Regulatory familiarity:** Deep understanding of relevant laws and policies, such as Taiwan's Fisheries Act and OSW regulations, to ensure compliance and inform fair solutions.

The lead to manage the overall engagement process could be drawn from organisations with strong experience in public and stakeholder engagement, and sector experience. Potential candidates for the lead include:

- **Taiwan OAC:** Given their role in marine spatial planning and regulatory oversight, the OAC would be a key body in coordinating the engagement process.
- **Environmental NGOs:** Organisations focused on ecological preservation and community advocacy could help lead engagements from an environmental perspective, ensuring that ecological concerns and community interests are addressed.
- **Industry associations:** Associations representing key sectors, such as the fishing industry and OSW developers, could lead the technical and sector-specific aspects of engagement. This approach ensures that both the challenges faced by the fishing community and the priorities of OSW developers are integrated into the dialogue.
- **Independent consultants:** Specialised firms with expertise in stakeholder engagement, conflict resolution, and participatory planning could function as neutral facilitators to ensure a transparent and unbiased process.

Selecting the right candidate to lead the engagement process, it can facilitate a more inclusive, balanced stakeholder engagement aligned with Taiwan's unique OSW development needs.

Financial and operational considerations of the engagement framework

(i) Financial considerations

The financing of the public engagement framework could involve:

- **Government funds:** These could be allocated through Taiwan's broader energy transition policies.
- **Contributions from OSW developers:** Developers may contribute through mechanisms like the "Electricity Prosperity Fund."
- **International development grants:** These could be sought to support sustainable energy transitions, particularly in emerging markets.

(ii) Operational considerations

The stakeholder engagement should be holistic by initiating the engagement phase from the early planning stages of the OSW projects and continuing through the construction phase to ensure ongoing engagement, rather than limiting engagement to the EIA stage. It would ideally last between 12 to 24 months, with regular reviews at critical project milestones. This ensures that stakeholder engagement is both proactive and responsive, fostering trust and collaboration across the OSW project lifecycle. Early engagement could be achieved through a comprehensive dissemination campaign, including traditional

news outlets, informational webinars, dedicated websites and in-person engagement at ports and other sites to have a larger outreach. A risk of earlier engagement is stakeholder fatigue in the event of repeating requests for feedback and providing enough information. This can be prevented by having a range of different engagement activities and informing the stakeholders of the purpose and outcomes of their engagement from the beginning of the process.

Ensuring transparency is key to encouraging meaningful participation, fostering trust and cooperation in the engagement process. Transparency should be maintained throughout the stakeholder engagement process through systematic accounting of engagement activities and feedback and regular communication. This can include maintaining systematic records of public engagement activities and feedback, such as developing a public tracking system for feedback, showing how each concern is addressed. Other ways to improve transparency can be providing transparent reporting on outcomes, such as environmental impacts and economic benefits, and setting clear action plans with defined timelines for compensating fishing communities. Stakeholders should also regularly update stakeholders on progress and decisions. Transparent reporting, including clear plans, can help mitigate opposition driven by misinformation and foster trust among stakeholders.

Scope of engagement

A coordinated public engagement platform should aim to address overarching issues that span OSW projects, ensuring a standardised approach to challenges such as marine spatial planning, regulatory alignment, and standardised compensation mechanisms. These platform-level issues differ from project-specific concerns, which require tailored engagement at the individual project level. For example, a coordinated public engagement platform could support development of a standardised approach to fisheries compensation.

Table 7 Differences between platform-level and project-specific issues

Scope of engagement	Description	Examples
Platform-level issues	Broad, systemic issues impacting multiple OSW projects, to be addressed by the engagement platform.	• MSP conflicts e.g., allocation of fishing and OSW zones. • Standardised compensation mechanisms for impacted stakeholders. • Environmental and socio-economic impacts across multiple regions. • Regulatory alignment between different authorities e.g. national and local authorities.
Project-specific issues	Localised concerns unique to individual OSW projects, to be handled via project-level engagement mechanisms.	• Environmental impacts specific to a particular site e.g., local marine biodiversity disruption. • Compensation agreements tailored to specific affected communities near a project.

Scope of engagement	Description	Examples
		Adjustments to project timelines based on local events or conditions.

Communication with key stakeholders

To effectively communicate with key stakeholders, it is important to utilise a multi-channel approach that maximises accessibility and engagement. These methods should be designed to ensure transparency, inclusivity, and clarity.

Before the engagement process commences it is important to set clear expectations for engagement as not all actions will be feasible due to cost or time implications, therefore there needs to be expectation management for the key stakeholders about when decisions can be taken and the overall process.

Table 8 Modes of communication

Method	Description	Purpose	Target audience	Considerations
Formal reports	Comprehensive reports summarising recommendations, including actionable steps for policy and regulatory updates.	To formally communicate findings and provide detailed insights for policymakers and stakeholders.	Government agencies, regulatory bodies, developers, and local community leaders.	Create executive summaries and translated versions (e.g., Mandarin) to ensure broader accessibility.
Workshops and public meetings	In-person and online workshops to explain the engagement process, facilitate discussions, and address stakeholder concerns.	To ensure clarity, address concerns, and foster a dialogue between stakeholders to enhance understanding.	Local communities, fishing groups, environmental NGOs, developers, and other impacted stakeholders.	Provide visual aids to enhance understanding and promote inclusive participation.
Digital Platforms	A dedicated website or portal for stakeholders to access documents, track engagement progress, and provide feedback.	To provide a continuous, easy-to-access platform for information sharing, feedback, and project updates.	All stakeholders, especially those unable to attend in-person events, including remote communities and digital users.	Ensure the website is mobile-friendly and can host multilingual content, including audio/visual materials for greater engagement.

Enablers and supportive policy and regulatory levers

Based on stakeholder interviews conducted as part of this report, several key policy and regulatory measures have been identified as critical enablers to support the public engagement process. These enablers create the foundational conditions necessary to facilitate effective multistakeholder dialogue within Taiwan's OSW sector by addressing structural challenges. Strengthening the public engagement framework by incorporating legally binding requirements will ensure a more robust and accountable process.

(i) Marine Spatial Planning (MSP)

- **Strategic management of sea use:** Develop a comprehensive MSP framework to balance the needs of marine users, including OSW projects and fisheries, to reduce conflicts and promote sustainable use of marine resources.
- **Dedicated coordinating body:** Establish a central authority, such as Taiwan's Ocean Affairs Council, to streamline regulatory processes and foster cross-sectoral coordination among government agencies, OSW developers, and local stakeholders.

(ii) Legal framework and compensation mechanisms

- **Standardised compensation mechanisms:** Revise frameworks to provide transparent, fair, and adequately funded compensation mechanisms. Stakeholder engagement suggested mechanisms could include:
 - Support for vessel upgrades and safety training (Note: While support for these upgrades is included in the "Electricity Prosperity Fund," there is limited transparency and monitoring mechanisms to ensure proper use of the fund.)
 - Development of alternative income opportunities for fishers affected by OSW activities, especially in areas facing increased OSW expansion, such as Penghu and northern islands.
 - Clear protocols for distributing compensation funds, with transparent monitoring to ensure their effective use. Collaboration between the government, fishery associations, and developers could help to create a clearer, fairer compensation mechanism that ensures adequate support for fishers impacted by OSW activities.

(iii) Regulatory and policy guidance

- **Regulatory harmonisation:** Address jurisdictional overlaps by harmonising regulations across agencies, ensuring streamlined and efficient project approvals.
- **Public engagement standards:** Develop enforceable guidelines for public engagement under the Coastal Zone Management Act, ensuring transparency and protecting community interests while supporting sustainable OSW development.

4.2. Proposed updates to the public engagement process across OSW development stages

This section outlines a series of proposed updates for each stage of OSW development in the stakeholder engagement process. Offshore Wind Block Development Policy Assessment and Strategic Environmental Assessment have been excluded as these will only affect Round 2 developments.

The proposed updates range from having multiple platforms (e.g., online portals, local kiosks) for submitting feedback to increasing the public feedback window. These efforts aim to ensure that all relevant stakeholders—especially local communities—are actively involved. By introducing regular feedback loops, improving accessibility, and expanding outreach methods, the goal is to create a more collaborative process that does not only address the concerns of local communities but also integrates their input into the planning and execution of OSW projects.

Table 9 below presents these updates to the stakeholder engagement process, detailing the format, frequency and purpose of meetings, mechanism to address concerns, success measurement, and a timeline for engagement. Through the proposed updates, the aim is to have more inclusive, transparent, and interactive consultations with stakeholders.

Figure 4 provides an overview of OSW project lifecycle stages, indicating where key public engagements should happen for each stage under the recommended framework for Taiwan. It also maps where public engagement occurs across the lifecycle for Australia, Taiwan (current practices), the US and UK. Early-stage engagements during project siting are included for reference, as they remain crucial for future capacity.

Table 9 Updating the existing stakeholder engagement process for OSW development in Taiwan

Stage	Current Activities	Proposed updates	Objectives for engagement	Format, frequency & purpose of meetings	Mechanism to address concerns	Success measurement	Timeline
<i>Preparing Environmental Impact Assessment (EIA)</i>	Developers share project details online, allowing 20 days for public feedback. However, this digital-only approach may exclude rural residents and limit diverse participation. In-person meetings and proactive outreach could enhance engagement.	Multi-channel feedback: Use multiple platforms (e.g., online portals, local kiosks, SMS) for submitting feedback, ensuring inclusivity for rural areas with limited internet access. Pre-EIA workshops: Offer educational sessions on how the EIA process works and how stakeholders can contribute. Open house events: Organise informal events in local community centres to provide opportunities for face-to-face engagement. Partnership with local media: Publish information in local newspapers and radio stations to boost awareness.	Gather public opinions on project design, and potential ecological and community impacts.	Format: Hybrid (in-person and virtual town halls), open house sessions, and online forums. Frequency: Every 2 months for 6-12 months. Purpose: Ensure public understanding of the EIA process and gather local concerns on environmental impacts.	Developers must produce a report after each engagement, summarising key concerns and how they are being addressed in the EIA. Offer follow-up meetings to clarify unresolved issues.	Higher response rates from rural and marginalised communities. Increased stakeholder awareness of the EIA process. Percentage of concerns addressed in the final EIA.	6 - 12 months

<i>Preparing an Environmental Impact Statement (EIS)</i>	Before preparing the EIS, developers must publish its content online and allow 20 days for public feedback, alongside a community meeting. However, the short feedback window and low meeting attendance hinder participation.	Extended public feedback period: Increase the public feedback window from 20 to 45 days to give more time for stakeholders to provide comments. More accessible briefings: Hold meetings in community centres in rural and coastal regions, ensuring transportation assistance for remote areas. EIS summaries for the public: Provide easy-to-read summaries of key sections of the EIS Livestream public briefings: For those unable to attend in person, provide live streams and recorded sessions for later viewing.	Ensure public input into the final EIS, with detailed feedback on mitigation measures and project impacts.	Format: In-person public briefings in affected regions, virtual live stream options. Frequency: 3 public briefing meetings over a 45-day window. Purpose: Collect detailed feedback on project impacts and mitigation strategies.	Developers to document all feedback received during briefing meetings and provide formal responses in the final EIS. Host a post-EIS submission meeting to outline changes made based on public input.	Greater attendance and engagement at briefing meetings. The number of EIS revisions directly influenced by public concerns. Stakeholder satisfaction with how feedback was incorporated.	45 days
<i>EIA Preliminary Review Stage I</i>	The EIS must meet checklist requirements for developers to enter the auction round for power generation	Public checklist review period: Introduce a 30-day public comment period for stakeholders to review and suggest changes to the environmental compliance checklist.	Ensure the EIA checklist reflects stakeholder input on environmental standards and	Format: Online and in-person public review sessions. Frequency: 1 public meeting per checklist review.	Mechanism: Formal responses from developers and MoENV on how checklist suggestions are incorporated.	Stakeholder participation in checklist review. Degree of alignment between the final checklist and	2 months

	capacity. The checklist needs to set out clear public engagement requirements, and no CSOs are involved in the review process.	Review workshops: Host workshops in local regions to explain the checklist and gather input on community-specific concerns. Online portal for checklist comments: Establish a dedicated webpage for easy submission of feedback.	community needs.	Purpose: Involve stakeholders in the review of environmental standards and compliance.	Publish final checklist with explanations for changes made or not made.	community concerns. Public satisfaction with the process.	
<i>EIA Preliminary Review Stage II</i>	Limited public involvement in EIA review. Short speaking times at EIA review (up to 3 minutes for CSOs).	Extended engagement at EIA review meetings: Increase individual speaking times to 7 to 10 minutes, allowing for more detailed input. Issue-based review meeting sessions: Organise sessions around specific concerns (e.g., noise, marine impacts), allowing for focused discussions. Direct responses: Ensure developers and MoENV representatives respond directly to each concern raised in review meeting.	Ensure public voices are heard and that stakeholder concerns influence the EIA approval process.	Format: Themed public review meeting, focusing on key issues such as biodiversity, community impacts, and marine concerns. Frequency: 1 review meeting (general meeting, with issue-specific discussions). Purpose: Detailed feedback on critical issues in EIA approval.	Document how each concern raised in review meetings is addressed in the final EIA submission. Hold follow-up meetings if substantial concerns remain unresolved.	Increased speaking times utilised. Increased public confidence in the EIA approval process. Percentage of issues raised that are resolved.	2 months

<i>Prior Construction (Public Briefing Session)</i>	Public briefings held post-development approval, limiting community input on construction impacts.	Pre-construction briefings: Hold sessions earlier in the project timeline (before construction starts), allowing communities to give feedback on final mitigation measures. Continuous updates: Offer periodic construction updates to local communities, particularly around traffic, noise, and safety. Public construction timeline: Publish a detailed, accessible construction schedule to set expectations. Live Q&A sessions: Provide ongoing opportunities for stakeholders to raise concerns and receive real-time responses from developers.	Inform and address community concerns on construction activities, including noise, traffic, and local job opportunities.	Format: Public briefing sessions and virtual Q&A meetings. Frequency: Monthly briefings and construction updates. Purpose: Keep stakeholders informed and address concerns on an ongoing basis.	Publish a monthly progress report highlighting construction updates, community concerns, and developer responses.	Community satisfaction with the construction process. Reduced complaints during construction. Improved transparency of developer communications.	Ongoing
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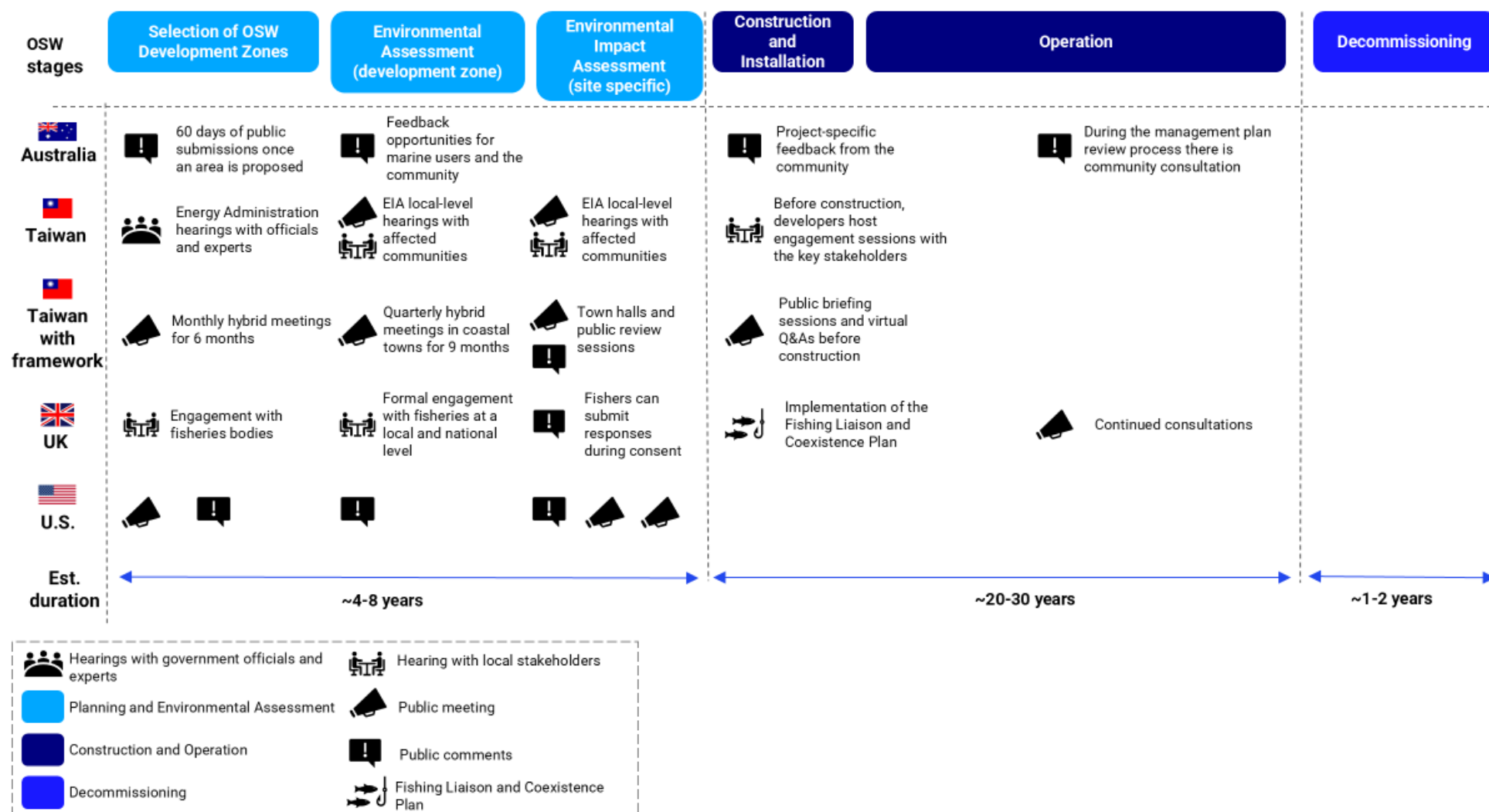


Figure 4 Opportunities for public engagement across OSW project life cycle

5. Conclusion and next steps

This report highlights the need for an improved public engagement framework in Taiwan to effectively address the challenges of fragmented stakeholder coordination, limited transparency, limited early-stage engagement, and difficulty identifying and including suitable stakeholders. Overcoming these barriers is essential to aligning stakeholder engagement with Taiwan's broader energy transition objectives, ensuring that OSW projects are implemented in a socially equitable and environmentally responsible manner, balancing development with local community needs and minimising environmental impacts.

The proposed framework calls for fostering inclusivity through diverse stakeholder representation and increasing accessibility, enhancing transparency with systematic documentation and communication, promoting holistic engagement by initiating early stakeholder engagement, and streamlining the engagement process by designating an overall lead to oversee coordination. The table below summarises recommendations that align with and address the key challenges identified, offering a pathway for an improved public engagement framework.

Table 10 Public engagement framework recommendations

Key challenges	Recommendations
Fragmented stakeholder coordination	1. Establish a multi-stakeholder governance committee involving government bodies, fishing communities, NGOs, and OSW developers. This also helps to ensure diverse input and buy-in from a range of key stakeholders. 2. Appointing a dedicated lead for stakeholder engagement to guide the overall engagement process, ensure streamlined communication, and manage feedback loops. The lead will act as a central point of contact to maintain a unified approach, fostering trust and reducing confusion among stakeholders. The lead should ideally possess proven stakeholder engagement experience, technical expertise in OSW development and marine ecosystems, neutrality and credibility to facilitate trust, a community-centric approach that prioritises local voices, and a deep understanding of relevant regulations.
Limited transparency	3. Ensuring transparency throughout the stakeholder engagement process through systematic accounting of engagement activities and feedback and regular communication. - Maintain systematic records of public engagement activities and feedback and provide transparent reporting on outcomes. - Set clear action plans with defined timelines to demonstrate accountability. - Regularly update stakeholders on progress and decisions to foster trust and build long-term credibility.
Limited engagement	4. Ensure holistic engagement through initiating early-stage participation from the stage of selecting potential development zones and identifying potential project sites, particularly from local stakeholders

Key challenges	Recommendations
before project approval	like small-scale fishers, rather than limiting engagement to the EIA stage. Engagement during project siting remains crucial for future capacity. Foster collaboration and promote participation by integrating data such as fishers' catch records into decision-making.
Limited opportunity for input and difficulty in identifying stakeholders	5. An initial role of the multi-stakeholder committee could be to develop official stakeholder lists, or standard guidance on examples to be included on specific projects. 6. Develop a multi-channel engagement platform that incorporates diverse communication methods, including in-person meetings, social media, online portals, and workshops, to maximise accessibility and engagement. These methods should be designed to ensure transparency, inclusivity, and clarity.

APPENDIX

Appendix 1: List of literature reviewed under Section 2

Table 11 Literature review of existing offshore wind public engagement process in Taiwan

Name	Authors	Year	Journal	Link
Conflicts Between Offshore Wind Power and Fishery Rights in Taiwan	Hsin-Hua Tsai, Huan-Sheng Tseng, Chun-Kai Huang, and Su-Chun Yu	2022	Energies	https://www.mdpi.com/1996-1073/15/22/8768
Conflicts between Fisheries and Offshore Wind Power in Taiwan: Legal and Administrative Prospects	Huan-Sheng Tseng, Shih-Ming Kao	2022	J. Mar. Sci. Eng.	https://www.mdpi.com/2077-1312/10/11/1745
Review on the Conflicts between Offshore Wind Power and Fishery Rights: Marine Spatial Planning in Taiwan	Hsin-Hua Tsai, Huan-Sheng Tseng, Chun-Kai Huang, and Su-Chun Yu	2022	Energies	https://www.mdpi.com/1996-1073/15/22/8768
Offshore wind farm in marine spatial planning and the stakeholders engagement: Opportunities and challenges for Taiwan	Ying Zhang, Chao Zhang, Yen-Chiang Chang, Wen-Hong Liu, Yong Zhang	2017	Ocean & Coastal Management	https://www.sciencedirect.com/science/article/abs/pii/S0964569117302648
Marine spatial planning identifies solutions for offshore wind farms at fishery and environment in Taiwan territorial waters	Victor Te Cheng Liao	2023	Energy & Environment	https://journals.sagepub.com/doi/abs/10.1177/0958305X231194A720
Offshore wind energy and fisheries: Sustainable development goals, enterprise practices, and fishers' perspectives	Chih-Cheng Lin, Hsiao-Chien Lee, Tai-Wen Hsu, and Wen-Hong Liu	2024	Research paper	https://onlinelibrary.wiley.com/doi/abs/10.1002/sd.2970
2024 Energy Position Paper	American Chamber of Commerce	2024	Position paper	https://amcham.com.tw/2024/06/2024-energy-position-paper/

Name	Authors	Year	Journal	Link
Taiwan Renewable Energy Industry Challenges: Best Practice Report for Stakeholder Engagement and Permitting	European Chamber of Commerce	2024	Report	https://www.ecct.com.tw/file/pdf/wind/0529%20Best%20Practice%20Report%20for%20Stakeholder%20Engagement%20and%20Permitting.pdf
Injustices in phasing out nuclear power?: Exploring limited public participation and transparency in Taiwan's transition away from nuclear energy	Gillan Chi-Lun Huang and Rung-Yi Chen	2020	Energy Research & Social Science	https://www.sciencedirect.com/science/article/abs/pii/S214629620303832
Rethinking the Conflict between Offshore Wind Farm and Nearshore Fishery from a Temporal Perspective (從時間面向重思離岸風電與沿岸漁業的衝突)	Hsin-yi Lu	2022	Journal of Archaeology and Anthropology	https://www.airitilibrary.com/Article/Detail/00775843-N202307250002-00004

Appendix 2: List of literature reviewed under Section 3

Table 12 Literature review of best practice public engagement

Name	Authors	Year	Source
An Introduction to Public Participation in US Offshore Wind Development	American Clean Power Association, and University of Delaware's Special Initiative on Offshore Wind	2020	https://supportoffshorewind.org/wp-content/uploads/sites/6/2020/03/Final_ACP-Engagement-Process-1.pdf
Considerations for Offshore Wind Industry on Community Engagement	Australian Energy Infrastructure Commissioner (Australian Government)	2023	https://www.aeic.gov.au/sites/default/files/documents/2023-10/aeic-considerations-offshore-wind-industry-community-engagement.pdf
Beatrice Decommissioning Programmes	Repsol Sinopec	2018	https://assets.publishing.service.gov.uk/media/5c4750bcd915d388683c149/Beatrice

Name	Authors	Year	Source
			_Decommissioning_Programmes.pdf
Offshore Wind Farm Project: Stakeholder Engagement & Community Benefits – A Practical Guide	Dr. Garry M. Keegan	2021	https://iea-wind.org/wp-content/uploads/2021/11/Offshore-Wind-Stakeholder-Engagement-KEEGAN-May-31st-2021.pdf?trk=public_post_comment-text
Fishing Liaison with Offshore Wind and Wet Renewables (FLOWW) Terms of Reference	FLOWW	2017	https://www.datocms-assets.com/136653/1720791280-floww-terms-of-reference.pdf
FLOWW	FLOWW, The Crown Estate	n.d.	https://www.thecrownestate.co.uk/our-business/marine/the-fishing-liaison-with-offshore-wind-and-wet-renewables-group
FLOWW Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Liaison.	FLOWW	2014	https://repository.oceanbestpractices.org/handle/11329/1454
The CNDP, an independent entity	National Commission for Public Debate (CNDP), France	n.d.	https://www.debatpublic.fr/en/cndp-independent-entity-1285#:~:text=The%20National%20Commission%20for%20Public%20Debate%20is%20the,Article%20of%20the%20Charter%20for%20the%20Environment.
The Strategic Value of Community Benefits in Offshore Wind Development	ESMAP	2024	https://www.esmap.org/ESMAP-Offshore-Wind-Community-Benefits

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