漁民權益暨環境永續中心
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Pathways for a sustainable co-existence of offshore energy, fisheries and marine conservation
9th World Fisheries Congress
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Fishers' Perceptions Toward the Potential Community Impact of Offshore Wind Farms in Taiwan

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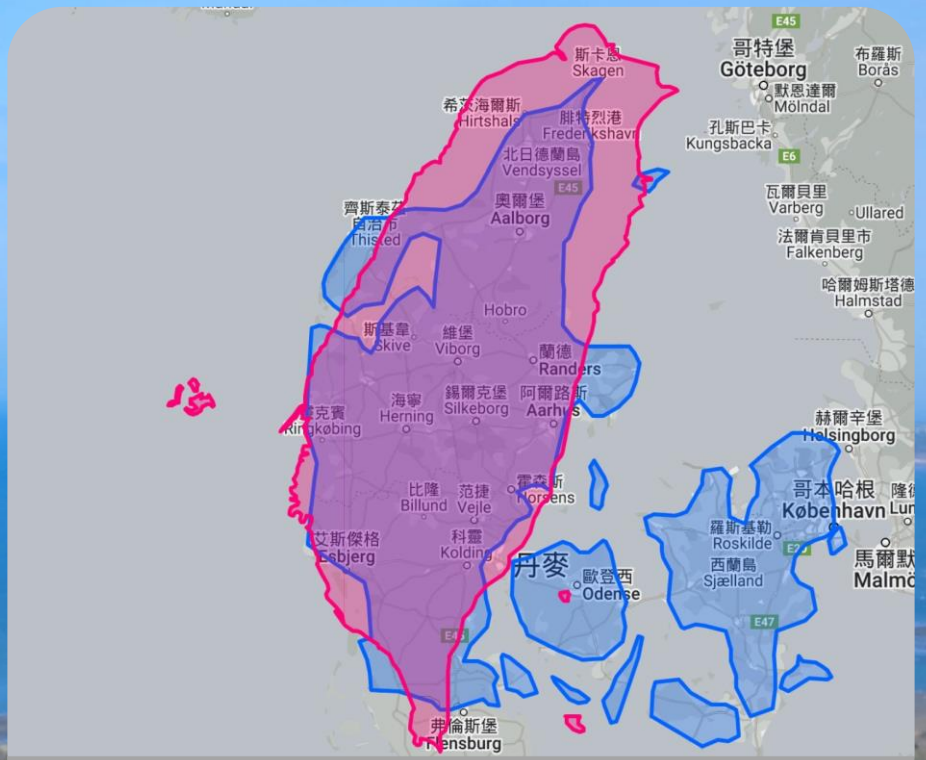

	Taiwan	Denmark
Geography		
• Area(km^2)	36,197	43,094
• Population	23,894,394	5,928,691
• Highest point	Yushan, 3,952m	Møllehøj, 170.86m
Offshore wind		
• First OWF	Formosa 1, 2019	Vindeby, 1991
• Total capacity	2.25GW	2.3GW
• Goal	15.6GW by 2031	12.9GW by 2030

Background

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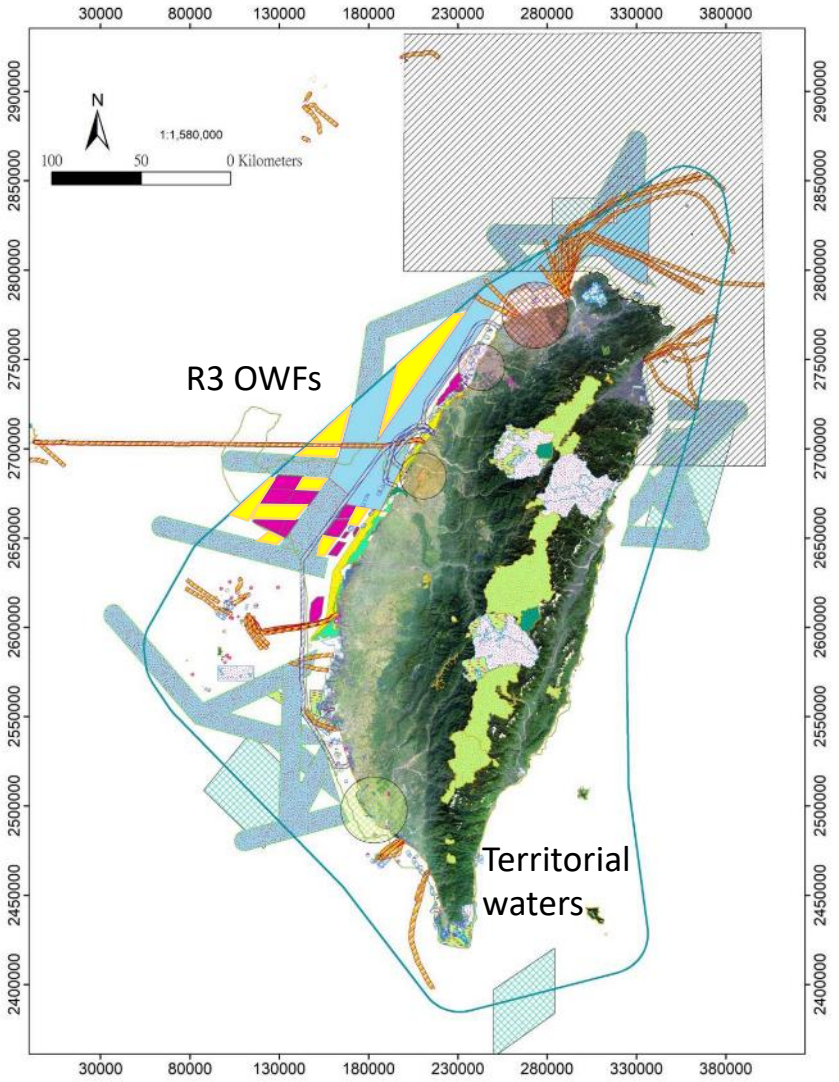
Three rounds of offshore wind development

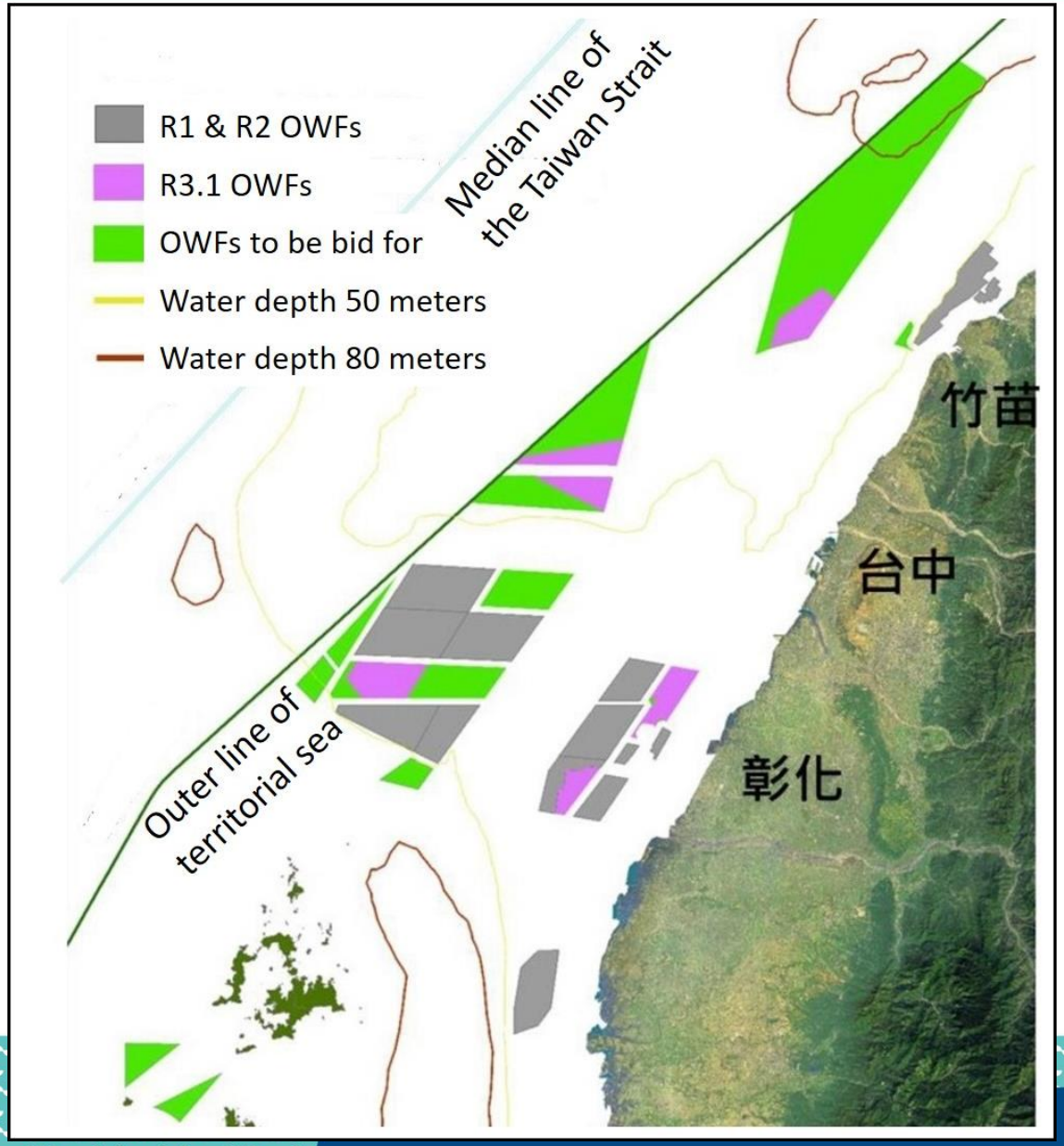
- Round 1: Demo Incentive Program, 2013, 237MW from 2015 to 2020
- Round 2: Zones of Potential, 2017, 5.5GW from 2020 to 2025
- Round 3: Zonal Development, 2021, 9GW from 2026 to 2031
  - R3.1: 3GW (665MW waived)
  - R3.2: 3.665GW (estimate)

Features of Taiwan offshore wind

- Politically driven
- NO marine spatial planning (MSP) or site selection: Developers choose their locations → EIA → Bidding
- Very limited sea area: Concentrated on the west side of territorial waters



Background


R1 & R2 OWFs
R3.1 OWFs
OWFs to be bid for
Water depth 50 meters
Water depth 80 meters
Median line of the Taiwan Strait
Outer line of territorial sea
竹苗
台中
彰化

Background

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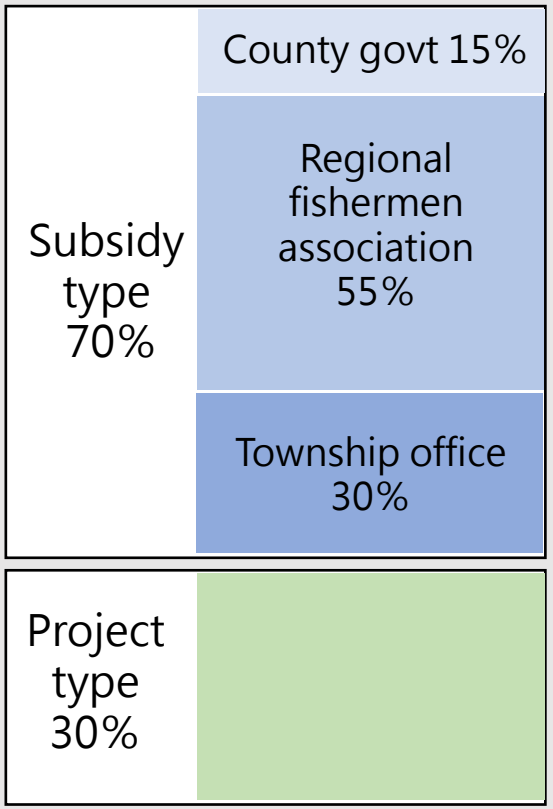
Interaction between offshore wind fisheries

- Money in exchange for consent
  - 2017: Compensation for fishers, one-time before construction
  - 2022: Electricity assistance funds (EAFs) to local authorities, annually during operation, rate: NTD$ 0.0018/kWh (USD$ 57.5/GWh).
- Regional fishermen associations (RFAs)have too much power
  - semi-official organizations
  - monopolized by a few
- Lack of transparent and inclusive engagement
- The lenient EIA
- Fishing or no-fishing

EAFs allocation and annual estimation
Ex: 4,359MW (9 OWFs)in Changhua County, Capacity factor 40%,



Method

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Study aims:

1. Map out fishers' attitudes and perceptions toward offshore wind policy.
2. Identify potential community impacts of OWFs.

Research gap:

1. Researches mainly focused on the design of compensation formulas and the legal system of MSP.
2. Researches on fishers were limited to fishing ports adjacent to demo OWFs.

Changes between Round 2 and Round 3

1. The location of the proposed OWFs are moved northward and are generally more than 20 KM away from the coast.
2. The expected impact will shift from gillnet fishers to trawlers.

Rafts in different sizes(Only the left is used by gillnet fishers)

Trawling fishing boats in Changhua

Method

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Periods:

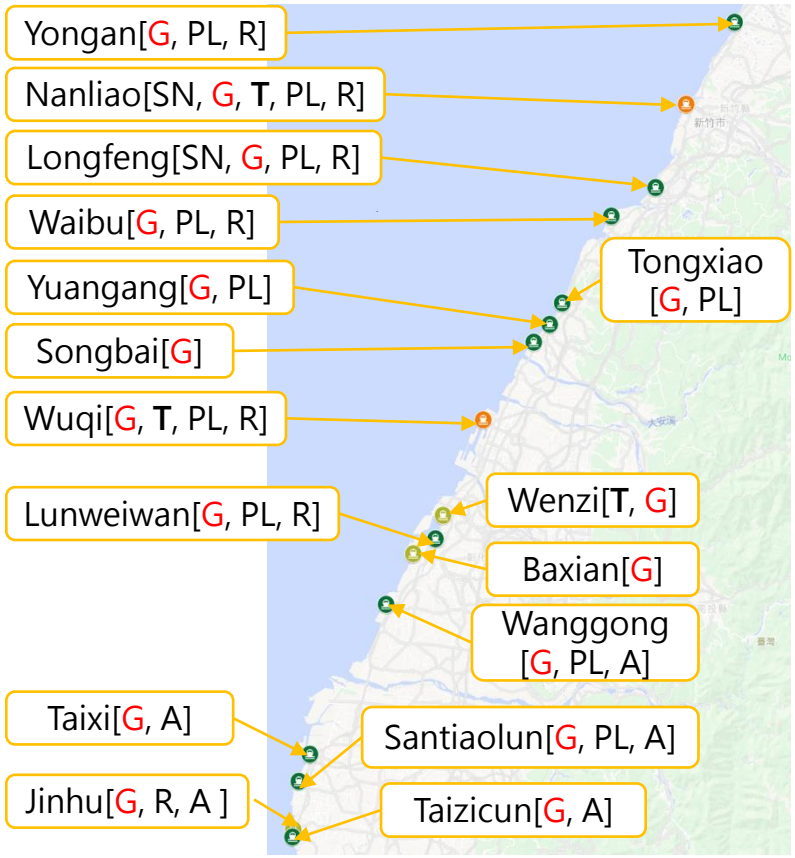
- 1st survey: July to December 2019 (R2 OWFs selected in 2018)
- 2nd survey: April to August 2023 (R3.1 OWFs selected in 2022)

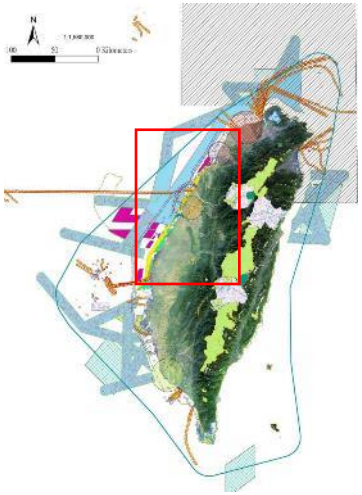
Sampling:

convenience sampling and snowball sampling

Questionnaire:

Face-to-face, semi-structured surveys





Fishing ports[Fishery type]
A: aquaculture; SN: set net; G: gillnets;
T: trawl; PL: pole & line; R: recreational fishing

Results

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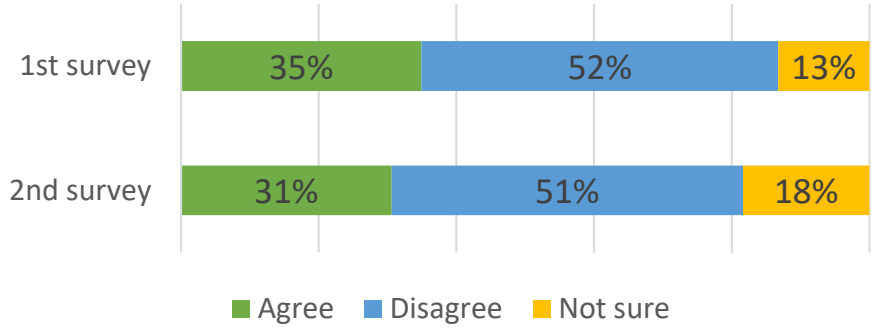
Number of respondents/active fishing vessels % :

- 1st survey: 83(10.92%)
- 2nd survey: 98(13.07%)

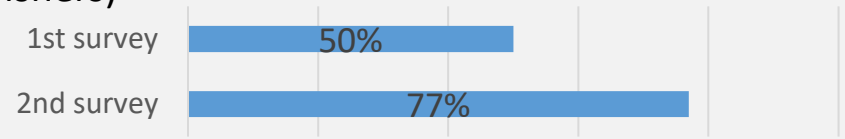
The composition of respondents to 2nd survey

- Over 41 years old: 86%
- Fishing methods
  - Gillnet (small-scale fishery): 60%
  - Trawl: 11%
- Income: 69% are Full-time(90% of annual income comes from fishing)

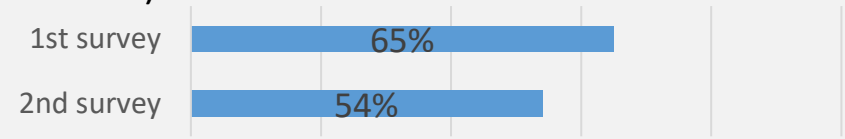
Q1: Do you agree with the government's policy of actively promoting offshore wind?



Commercial fishers (including trawlers and set-net fishers)



Gillnet fishers(some also use other fishing methods)



Results

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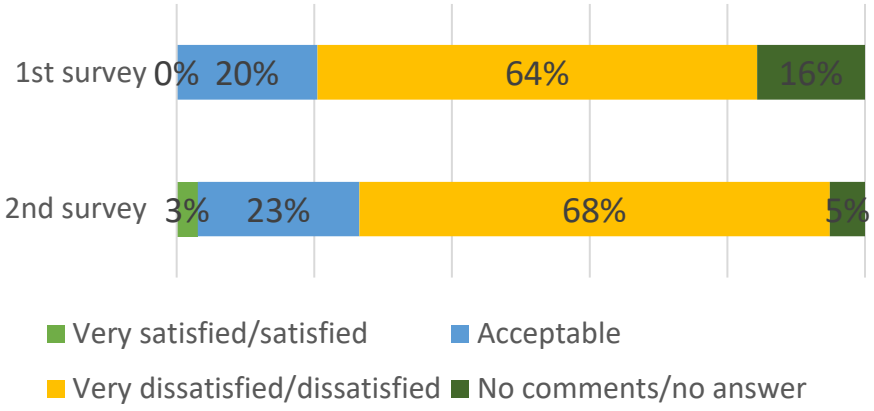
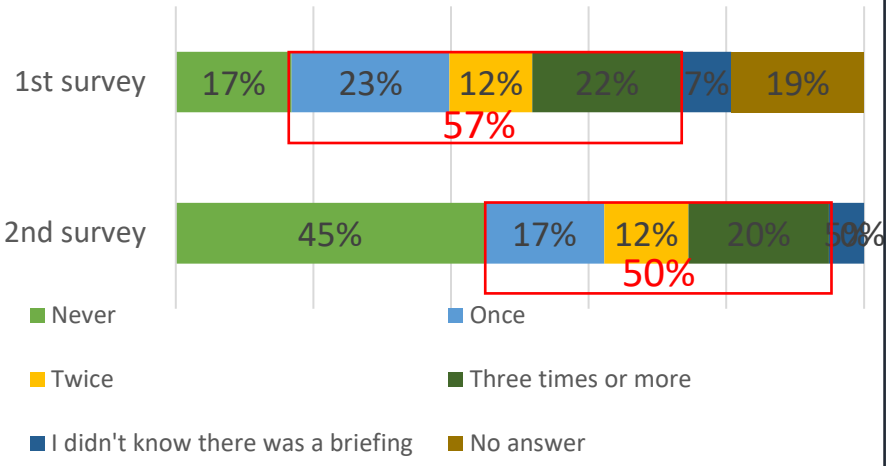
Procedural: information disclosure

Q2: Are you satisfied with the transparency of information during the development of OWFs?



Problems: RFAs do not proactively provide information.

Q3: Have you ever attended briefings held by offshore wind developers?



Problems: The vicious cycle of scant information.

Results

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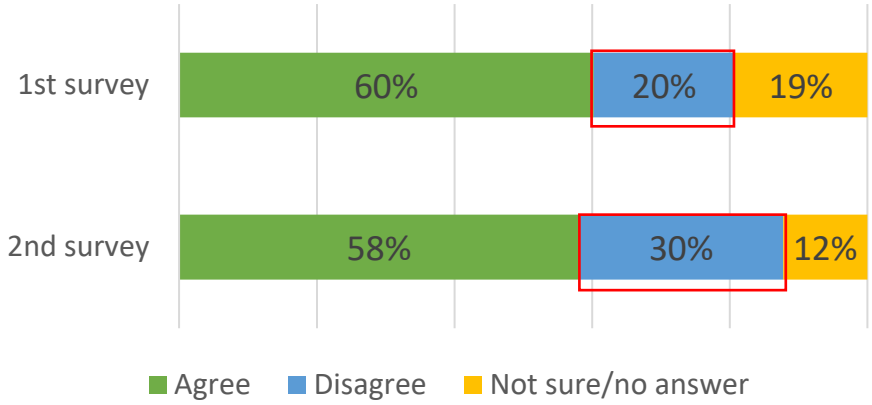
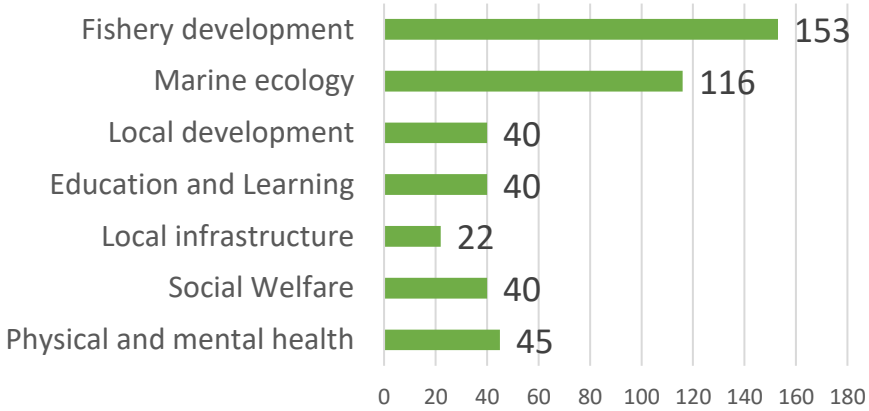
Distributional: benefit sharing

Q4: Do you agree with the government's mandatory requirement for OWF operators to give back to local communities?



Problems: The negative impression of RFAs.

Q5:In your opinion, for which of the following purposes should EAFs be used first? (Multiple choice)



Problems: Personal subsidies/ Dredging and upgrading of fishing port facilities / fishing moratorium subsidies.

Results

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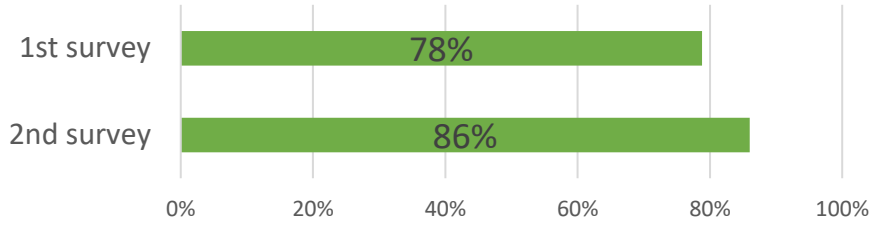
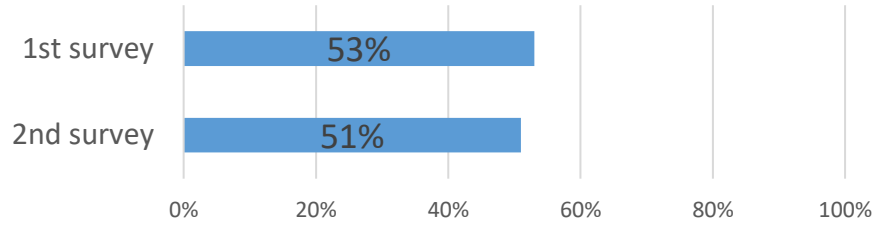
Recognitional: identity and livelihood

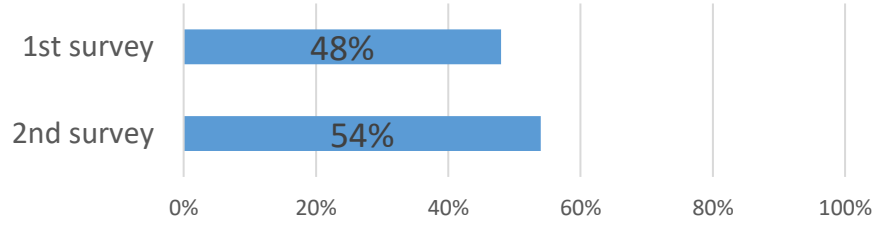
Q6: I would like to stay in fishing in the next five years and maintain my current operation.



Q7: Even developers/operators offer free new skills training to encourage career changes, I would NOT consider it.



Q8: Even developers/operators offer fishing gear and fishing boat acquisition subsidies to end my fishing, I would NOT consider it.



Discussion

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Energy justice is an emerging research agenda that is beginning to be applied to discussions of the interaction between offshore wind and fisheries.

Principles	Fisheries	Injustice in Taiwan
Procedural justice	Engagement with fisheries through the project life cycle.	1. Duo to OWFs overlapping, briefings are “go through the motions.” 2. Satisfaction with information transparency has not improved. 3. Awareness of recent developments is low.
Distributional justice	Balance of benefits and impact for fisheries.	1. There are problems with the design logic of EAFs. 2. Whether practical application of EAFs will help fishers remains to be seen.
Recognitional justice	Recognition of diversity of fisheries.	1. Most fishers hope to maintain their fishing but express their cooperation with government. 2. Govt wants fishers to stop fishing, while developers promote “ocean destroyers” rhetoric.

Conclusion

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To achieve net-zero emissions in 2050, the total offshore wind installed capacity will be 40GW+. The challenge for offshore wind and fisheries under the Net-Zero Goal:

- Fishing activities are more prosperous in the undeveloped Penghu and northern waters.
- In the narrow Taiwan Strait, there are not only fisheries, but also international shipping and national defense issues.
- Floating wind creates virtual no-fishing zone.

Coexistence: from the slogan into practices

- Govt: Cooperate with NGOs to promote Fisheries Liaison
  - ✓ The primary goal and main focus should be to allow fisheries to continue as much as possible rather than to provide financial compensation.
  - ✓ Fisheries Liaison and Co-Existence Plan
- Academic: Exploring a just transition for offshore wind and fisheries
  - ✓ The faces of various fishers and the socio-economic impacts.
  - ✓ Trade off between food security and renewable energy.

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