Formosa II Offshore Wind Farm Environmental Monitoring Report of the Operation Phase (October to December 2025)

Summary Table of Environmental Monitoring Results and Improvement Measures

Monitoring Item		Monitoring Site	Monitoring Result Summary	Measures & Effects
Bird Ecology	Offshore Birds	Wind Farm and its Periphery	1. Species Composition: 5 orders, 9 families, and 19 species. 2. Protected Species: A total of one protected bird species was recorded, including the Greater Painted-Snipe (III). 3. Flying Altitude: Below 30 meters accounted for 88.80%, and above 30 meters accounted for 11.20%.	—
	Coastal Birds	1. Xihu National Wetland 2. Periphery Coast	1. Species Composition: A total of 9 orders, 17 families, 44 species, and 6,353 individuals were recorded. 2. Protected Species: A total of 8 protected bird species were recorded, including Greater painted-snipe (II), Chinese egret (II), Eurasian Spoonbill (II), Black-winged kite (II), Crested serpent eagle (II), Common Kestrel (II), Brown shrike (III), and Chestnut munia (III).	—
	Analysis of Tern Migration Routes	Weather Radar Observation Data Analysis	In August, the highest number of birds passing through the wind farm area was recorded on August 21, with the primary flight direction being north-northwest. In September, the highest numbers were recorded on September 22 and 28. During this month, the number of locally breeding terns in Taiwan continued to decline, while the number of migratory terns increased	—

Monitoring Item		Monitoring Site	Monitoring Result Summary	Measures & Effects
			markedly.	
	Long-term Bird Monitoring System	Wind Farm Area	The long-term bird monitoring system involves year-round surveys, with analysis results to be presented in the monitoring report in the first quarter of the following year.	
Cetacean Sighting		Wind Farm and its Periphery	During this season (October–December 2025), a total of 4 offshore surveys were conducted, and no cetaceans were sighted.	—
Fishery Resource		3 Survey Lines in Wind Farm Area	1. Fish: 13 families, 20 species, and 101 individuals, with Sphyrna lewini being the majority. No protected species were recorded during the survey. 2. Fish Egg: 9 families, 11 genera, and 957 eggs, with Pomadasys argenteus being the dominant species. No protected species were recorded during the survey. 3. Fish Larva: 10 families, 10 genera, and 85 individuals, identified as the Gerres limbatus. No protected species were recorded during the survey.	—
Underwater Noise (including Cetacean Acoustic Survey)		5 stations within the wind farm area	1. Whistles: Cetacean activity was detected only at monitoring station HM-5. 2. Clicks: No cetacean clicking sounds were detected at stations HM-1 through HM-5.	—
Marine and Intertidal Ecology		10 stations within the wind farm area	1. Marine Ecology: (1) Phytoplankton: A total of 106 species from 52 genera and 4 phyla were recorded this season. The Shannon–Wiener diversity index ranged from 1.52 to 2.21, and the evenness index ranged from 0.51 to 0.70. The dominant species was Chaetoceros pseudocurvisetus with the highest	—

		relative abundance (26.77%), followed by Lauderia annulata (22.19%) and Thalassiosira sp. (9.60%). Chlorophyll-a concentrations ranged from 0.51 to 2.62 μg/L, and primary productivity ranged from 30.29 to 233.11 μg C/L/day. (2) Zooplankton: A total of 30 taxa from 11 phyla were recorded this season. The Shannon–Wiener diversity index ranged from 0.62 to 1.19, and the evenness index ranged from 0.21 to 0.42. The dominant species was Calanoida with the highest relative abundance (81.17%), followed by Cyclops larvae (4.71%) and decapod larvae (3.95%). (3) Benthic Organisms**:** A total of 23 species from 17 families and 15 orders were recorded this season. The Shannon–Wiener diversity index ranged from 0.95 to 2.02, and the evenness index ranged from 0.59 to 0.98. The dominant species was Hawaiarca uwaensis with the highest relative abundance (23.48%), followed by Tellinoidea (18.18%) and Spionida larvae (17.42%). 2. Intertidal Ecology: A total of 7 orders, 10 families, and 11 species were recorded this season. The Shannon–Wiener diversity index ranged from 1.52 to 1.99, and the evenness index ranged from 0.85 to 0.91. The dominant species was Scopimera bitympana with the highest	

Monitoring Item	Monitoring Site	Monitoring Result Summary	Measures & Effects
		relative abundance (38.14%), followed by Ocypode ceratophthalma (18.22%) and Amphibalanus amphitrite (13.14%).	
Underwater Photography	Same two wind turbine locations (D01 & D07) as in the pre-construction survey	A total of 10 species from 10 families and 1 order were recorded this season. At station D01 and D07, 7 species from 7 families and 1 order were recorded.	—
Fishery Economy	Miaoli County	In the 2024 Fisheries Economic Survey, the total catch was approximately 803 metric tons, with a total value of about NT$135,861,000. The fishing population numbered 9,468, which is also the total number of fisheries workers. There were approximately 180 powered fishing vessels (including inflatable rafts and small wooden boats). The major fishing activities included gillnetting, set nets, handline fishing, lift nets, trawling (drag nets), stone weirs, and longline fishing.	—
Terrestrial Ecology	Planned important wetland in Zhunan	1. Plantation: A total of 305 species from 243 genera and 84 families were recorded. Among them, 1 species is Podocarpus costalis (CR), 1 species is Garcinia subelliptica (EN), and 4 species are Calocedrus formosana (VU), Crossostephium chinense (VU), Diospyros blancoi (VU), and Barringtonia racemosa (VU), all of which were artificially planted. 2. Mammal: 3 species from 2 families and 7 individuals were recorded. All bats (2 families, 3 species, 7 individuals). No protected species were recorded. 3. Amphibian: A total of 2 species from 2 families and 4 individuals were recorded, with no protected species were recorded. 4. Reptiles: A total of 3 species from 3 families and 22 individuals were	—

Monitoring Item	Monitoring Site	Monitoring Result Summary	Measures & Effects
		recorded, with no protected species were recorded. 5. Butterfly: A total of 13 species from 8 subfamilies and 5 families were recorded, totaling 43 individuals, with no protected species were recorded. 6. Bird: A total of 22 species from 19 families and 394 individuals were recorded, including 4 protected species: Greater painted-snipe (II), Osprey (II), Black-winged Kite (II), and Brown Shrike (III).	
Aquatic Ecology	Planned important wetland in Zhunan	1. Plantation: A total of 19 species from 15 genera and 11 families were recorded, with no rare plants observed. 2. Fish: A total of 13 species from 8 families and 346 individuals were recorded, with no protected species observed. 3. Crabs and Shrimps: A total of 8 species from 5 families and 77 individuals were recorded, with no protected species observed. 4. Conch: A total of 5 species from 5 families and 177 individuals were recorded, with no protected species observed. 5. Aquatic Insects: A total of 2 species from 2 families and 1 order were recorded, totaling 9 individuals. 6. Odonata: A total of 14 species from 10 subfamilies and 4 families were recorded, totaling 184 individuals, with no protected species observed.	—
Groundwater Quality	1. Substation 2. Planned Important Wetland in Zhunan	1. Substation: The water quality parameters were as follows: pH 7.0, BOD 1.3 mg/L, COD 3.7 mg/L, SS 2.6 g/L, ammonia nitrogen 0.04	BOD values measured during the EIA phase, the environmental

Monitoring Item	Monitoring Site	Monitoring Result Summary	Measures & Effects
		mg/L, true color N.D., oil and grease 2.3 mg/L, water temperature 30.9 °C, nitrate nitrogen 0.63 mg/L, total phosphorus 0.102 mg/L, and dissolved oxygen 4.8 mg/L. 2. Planned Important Wetland in Zhunan: The water quality parameters were as follows: pH 8.3, BOD 38.4 mg/L, COD 150 mg/L, SS 99 g/L, ammonia nitrogen 0.05 mg/L, true color 35, oil and grease 9.0 mg/L, water temperature 27.2 °C, nitrate nitrogen 0.07 mg/L, total phosphorus 0.26 mg/L, and dissolved oxygen 7.8 mg/L. Except for BOD, which exceeded the Class IV water quality standard, all other parameters met the Class IV water quality standard.	variation (DA) phase, and the construction phase also exceeded the Class IV water quality standard (referring to the Protection Project of National Important Wetlands: https://wetland-tw.tcd.gov.tw/). This is attributed to the accumulation of organic pollutants in the wetland caused by intensive agricultural use of chemical fertilizers, as well as discharges from industrial, aquaculture, and domestic wastewater. These elevated BOD values reflect the wetland's environmental background conditions and are not caused by the Project's construction activities. Monitoring will continue to track any changes.
Electromagnetic Field	1. Substation 2. Residential Area near Kaiyuan Road	1. Substation: (1) Magnetic Field: 13.59 mG (2) Electric Field: 9.00 V/m 2. Residential Area near Kaiyuan Road: (1) Magnetic Field: 5.47 mG	—

Monitoring Item	Monitoring Site	Monitoring Result Summary	Measures & Effects
		(1) Electric Field: 6.00 V/m	