



Global Energy Alliance
for people and planet

From clean energy to clean seas

In Indonesia, the Sun to Sea investment platform harnesses solar power and cold chain solutions to improve coastal livelihoods, strengthen community resilience and accelerate marine conservation.



Communities in Maluku, Indonesia, have sustainably governed their reefs for generations through Sasi Laut a customary system of closures that lets stocks recover.

Our challenge

For communities in Indonesia, the world's largest archipelago with 55,000km of coastline, a thriving ocean ecosystem is the foundation of life. The country's \$6 billion seafood industry supports 6.4 million people. Yet the mangroves, seagrass and coral that sustain fish stocks are degrading due to climate change, fishing pressure and pollution.

Lack of clean energy, cold storage and processing equipment compounds these challenges: fishers are

forced to rely on diesel generators and plastic wrapped ice, while post-harvest losses can reach between 30–50 percent in some areas and existing cold storage infrastructure is estimated to meet only a small fraction of national demand, meaning their catch is either spoiled or sold quickly and cheaply to middlemen. This forces communities to catch more fish to make a living, creating a vicious cycle: unsustainable fishing, falling incomes, increased pollution and an ecosystem under growing pressure.



Our approach

These interconnected challenges demand interconnected solutions.

Sun to Sea is a place-based coalition and investment program built by Global Energy Alliance for People and Planet in partnership with the German international development agency GIZ, Konservasi Indonesia and The International Pole and Line Foundation (IPNLF). It brings together communities, government and businesses to deploy renewable energy that powers cold storage and other local needs. Initial grants provide assets, such as solar panels and ice makers, that become self-sustaining by unlocking economic potential, reducing reliance on polluting fuels, supporting sustainable fisheries and driving ecosystem restoration.

Sun to Sea is designed to scale. Village by village, it assembles and aligns coalitions of local fishers, residents and leaders, government agencies, conservation organizations, energy providers and the private sector around the community's own energy and economic goals. Together, these coalitions deliver four mutually reinforcing outcomes:

1 Clean energy that pays for itself

Solar energy powers ice plants, clinics, schools and households. For fisheries, post-harvest losses drop while better preserved, export-grade fish commands up to three times domestic prices.

2 A healthier ocean

Community-led mangrove, seagrass and reef restoration supports the fish stocks coastal communities depend on. Verified blue carbon credits provide communities with significant additional revenue potential.

3 Diversified livelihoods

Seaweed, shellfish and mariculture activities are developed alongside fishing, building resilience into the village economy.

4 Community-led solutions

Improved incomes enable revitalization of traditional sustainable fishing practices, such as periodic harvest closures that allow stocks to recover.

Women are Indonesia's primary processors of fish and producers of seaweed and shellfish. Sun to Sea builds solutions that fit their lives, including financial literacy and leadership training, solar drying that increases the market price of seaweed, and solar-powered schools and clinics.





Why Indonesia, why now?

Sun to Sea is aligned with Indonesia’s vision to protect 30 percent of its marine area by 2045. It supports two government initiatives: the Red and White Fishing Villages program, which aims to modernize 5,000 coastal communities, and a 100GW solar power program focused on villages.

“We plan to modernize Indonesia’s fishing villages, allocating funds for 5,000 villages with the goal of reaching 10 million fishers and benefiting at least 40 million Indonesians.”

— Prabowo Subianto, President of Indonesia

The Sun to Sea pathway

To date, Global Energy Alliance, in partnership with Konservasi Indonesia and Universitas Pattimura, has screened 500 coastal villages in Maluku for energy access, fisheries and other livelihoods activities, and local governance. Detailed field assessments – including energy audits, fisher and trader focus groups, cold chain and ecosystem surveys – have been completed at 10 sites. At the first two of these, tuna companies are already co-investing in cold chain infrastructure.

Phase	Scope	Capital	Proof point
Validate 2026-28	20 blueprint sites in Eastern Indonesia, the first 10 in Maluku	~\$30M in catalytic philanthropic capital and private sector co-investment	Model costs and revenue assumptions proven at site level
Replicate 2028-30	500 sites, including beyond Eastern Indonesia	Multilateral development bank/development finance lending, blue carbon advance purchases, framework purchase agreements	Per-site costs fall as the model standardizes
National scale 2030+	5,000 sites under Indonesia’s Red and White Fishing Villages program	A national financing facility deploying government co-investment	Indonesia government assumes ownership and leadership

The investment opportunity

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Different kinds of capital do different work: **catalytic grants** prepare communities and finance ecosystem restoration; **blue carbon advance purchases** bridge early revenue gaps; and **co-investment** in cold chain and processing infrastructure sits alongside government’s village-level spending.

Designed and created in Indonesia, the Sun to Sea model has potential for deployment in coastal communities facing the same challenges and opportunities across Southeast and South Asia.