TOTORA FPV

The Totora FPV product was created to advance floating solar by providing the most efficient, quality, and turnkey floating solar products and solutions available. Totora offers a modular floating solar product that includes a stable, efficient, all in one turnkey product ready for installation.

Totora combines high quality components - from the Panels, Floats, & Anchors - from premiere manufacturing partners such as Kyoraku and Hazelett Marine.

For daily insights follow us on @totoraFPV

For more information, go to:
https://www.totorafpv.com/

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THE FUTURE IS FLOATING

Totora FPV

MOST PROMISING MARINE TECH SOLUTION PROVIDERS 2020

Awarded by CIOReview

The annual listing of 20 companies that are at the forefront of providing Marine Tech Solutions and transforming businesses

WHY FLOATING SOLAR?

Floating solar is a relatively new industry that has been around since 2006 and has experienced accelerated growth since 2015. The many benefits of putting photovoltaic panels on man-made bodies of water are creating increasing demand for floating solar installations, including: Land preservation, Water volume retention, Water quality preservation, Solar cell efficiency, and Land-based solar farm cost mitigation.

Kyoraku and Hazelett Marine have partnered together to bring the highest quality, all inclusive floating solar product to the market.

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Hazelett MARINE

KYORAKU

LOW MAINTENANCE

Uniform floats that are easy to work with. Elastic moorings with few metal-to-metal connection points.

ENERGY ABSORPTION

Elasticity of moorings absorbs wave & wind energy, reducing wear on the float system and increasing stability

POINT LOAD REDUCTION

Ease of walking on the system. Power cables stay put and are not jostled around in adverse weather.

SOLAR ARRAY STABILITY

Ease of walking on the system. Power cables stay put and are not jostled around in adverse weather.

ENERGY PRODUCTION

Stable, tensioned arrays produce more energy than systems that are constantly moving around.

ECO-FRIENDLY

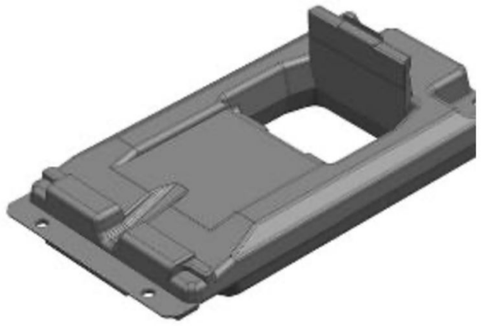
Hazelett elastics connected to Helix screw anchors float above the seabed with a minimal environmental impact.

Totora FPV System Overview

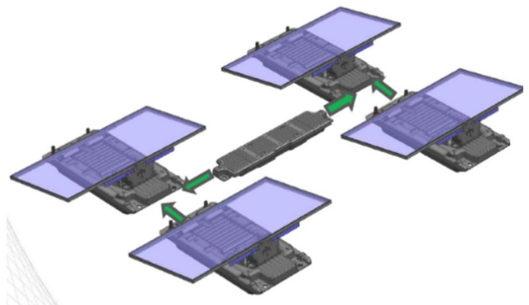
Product	Services	
~ 2,800 Floats	Customized Schematics	
~2,000 Panels	Installation	
Moorings & Anchors (# varies per project)	Permitting	
~ 2-3 acre coverage per 1 MW block	Shipping	
485 W panels	O&M Planning	

Floating System

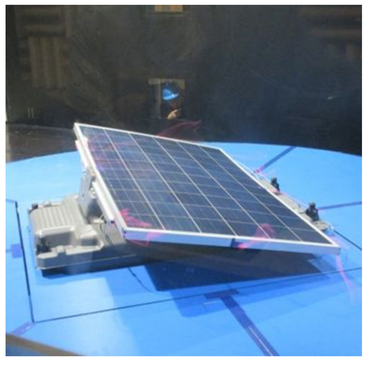
- High Stability
- Easy installation
- Wind tested to 60 M/S
- Long lasting durability



The Totora FPV float is a simple, durable, modular design that is responsible for holding the racking of the solar panels and is where the solar array attaches to the mooring line.



Totora FPV utilizes multiple types of floats from Kyoraku's product line. Floats are set to hold solar panels at optimal positions for performance, and panels are held stable with a four retainer design.

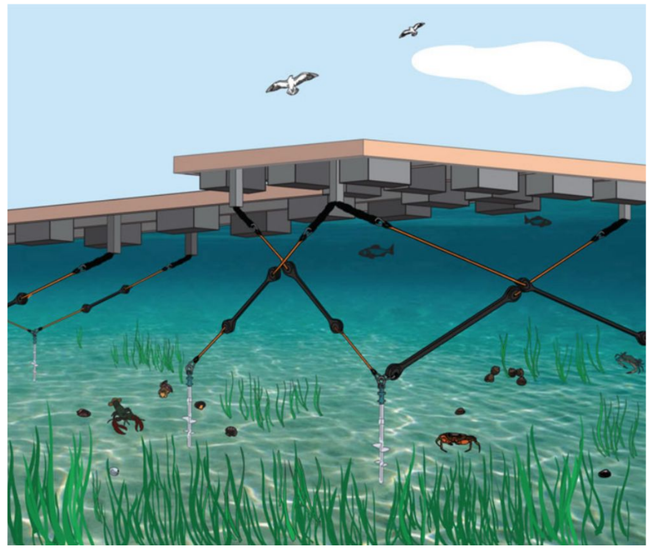


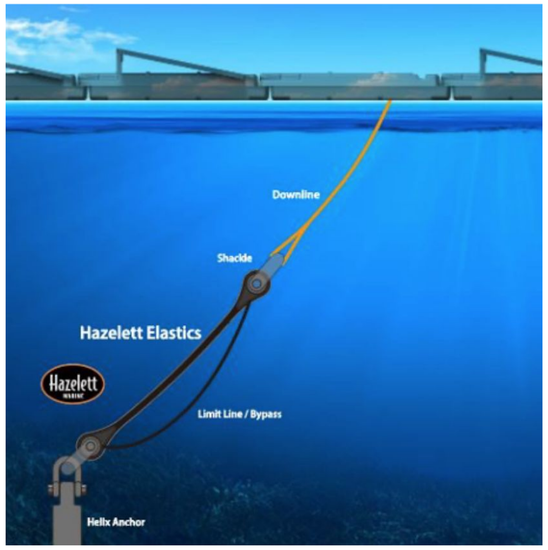
Passage floats allow access to the arrays without walking on the module floats and are used to run large cables from inverters to array blocks. Secondary floats are used to buffer the array.

Mooring & Anchoring System

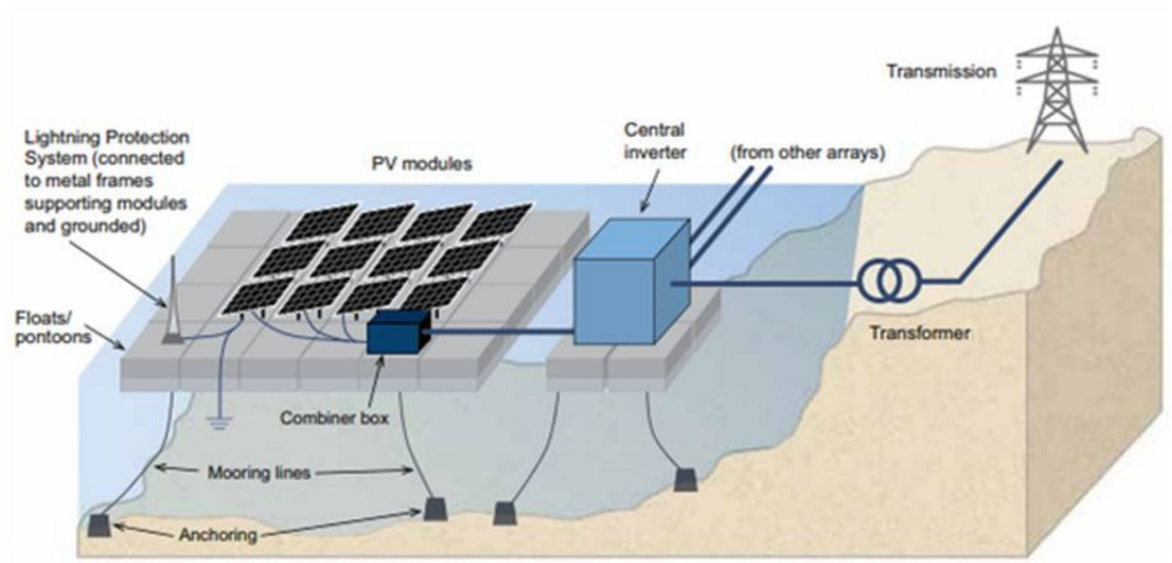
Totora offers a customizable anchoring system using Hazelett Elastics, allowing for depth variation and longterm stability.

- Energy Absorption
- Point Load Reductions
- Wind Load Reductions
- Water Variation
- Increased Balance





Parts	Design Process
Elastics	Assess operating site conditions
Downlines	Analyze Load Calculations
Anchors	Mooring layout design
Anchor Truss's	validate maximum system stress



Elastics absorb dynamic energy from wind, waves, and currents to reduce point loads and provides the stretch to make up for depth variation.

The downline connects to the elastic and is sized based upon the water depth at its lowest point when the water is at its calmest.

Helix or screw anchors provide the least impactful and most precise manner to anchor an array.

Global Network

Totora's global partnerships offer an extensive network of global manufacturing partners, suppliers, and contractors.

Global Projects

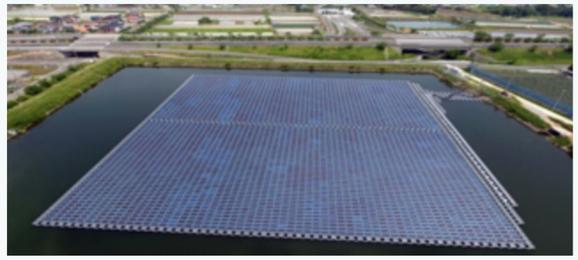
Totora's partners have experience with utility scale FPV projects globally.

1.1 MW

990 kW

520 kW

1.1 MW



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