

Future Technologies of Floating Solar

- Beyond Energy -



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Future Technologies of Floating Solar

- Clean air and water & floating islands for all

-



SINCE 1989

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Important Factors of FPV



1. **Safety!**
2. **Safety!**
3. **Safety!**
4. **Efficiency!**
5. **Design**

1. Safety – Mechanical stress caused by constant movement



FPV plant in Japan folded and damaged by typhoon

Important Factors of FPV

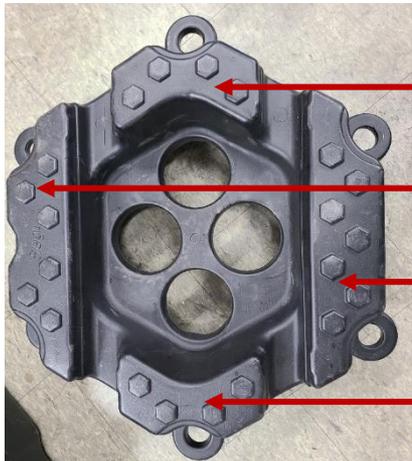
1. Solution – Water spring & pile & air pocket



Pile

Big water spring

Small water spring



Air pockets

Important Factors of FPV

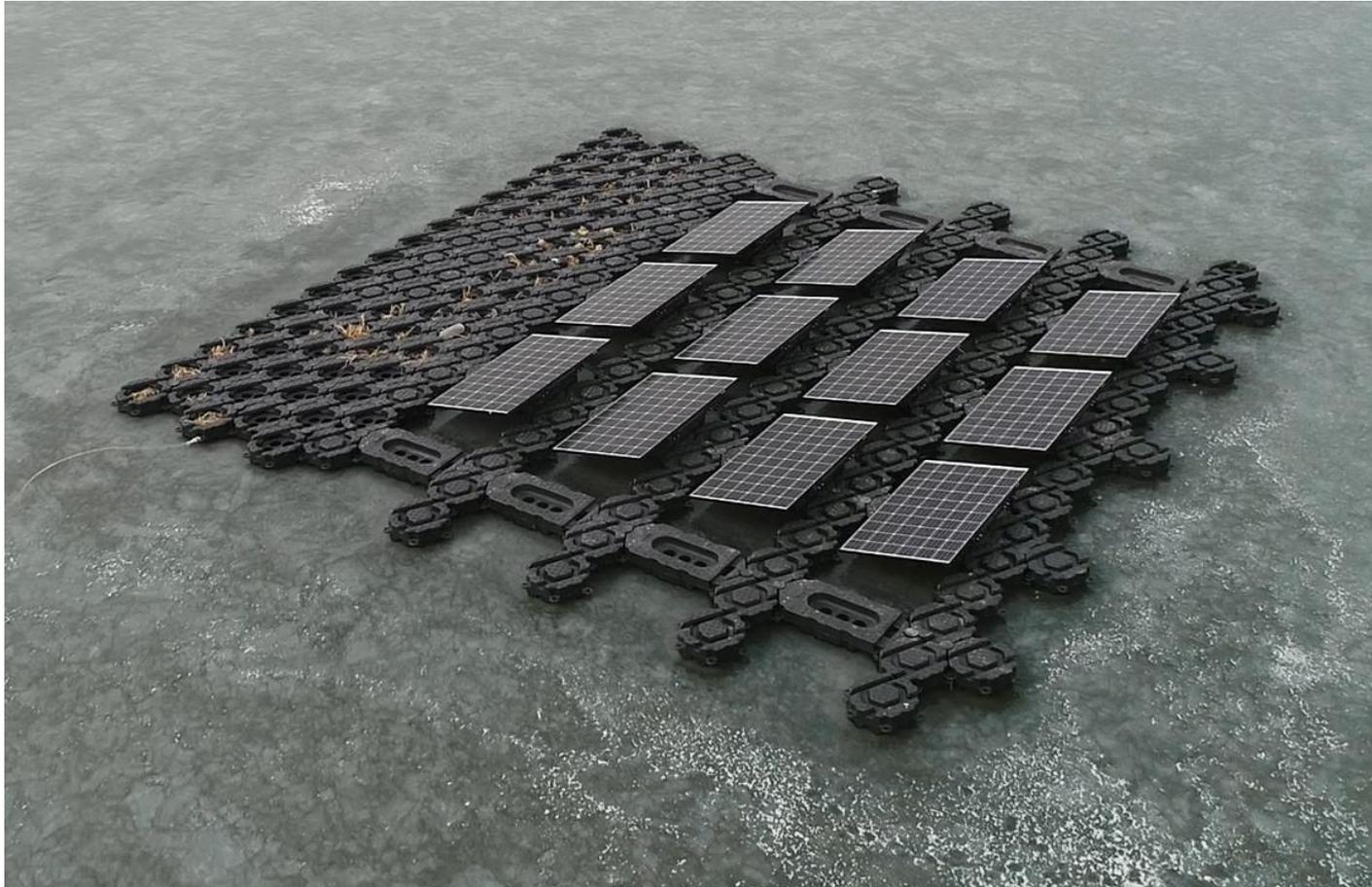
1. Safety – Mechanical stress caused by ice



Ochang Reservoir Solar module damaged caused by ice pressure

Important Factors of FPV

1. Solution – Water spring & pile



Hexagonal structures and piles prevent module breakage due to ice pressure

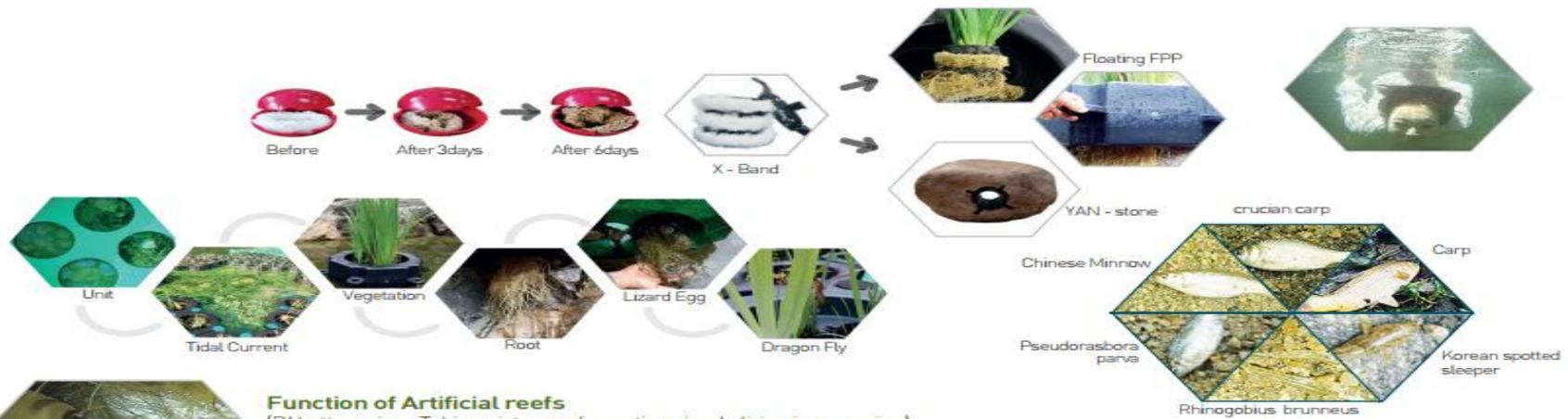
2. Safety – Algae proliferation



The FPV lake plant installed in Japan in 2015 was recently discovered to be completely covered with algae.

Solution - Water Purification by microorganisms

Proliferation and Creation of YANM Microorganism

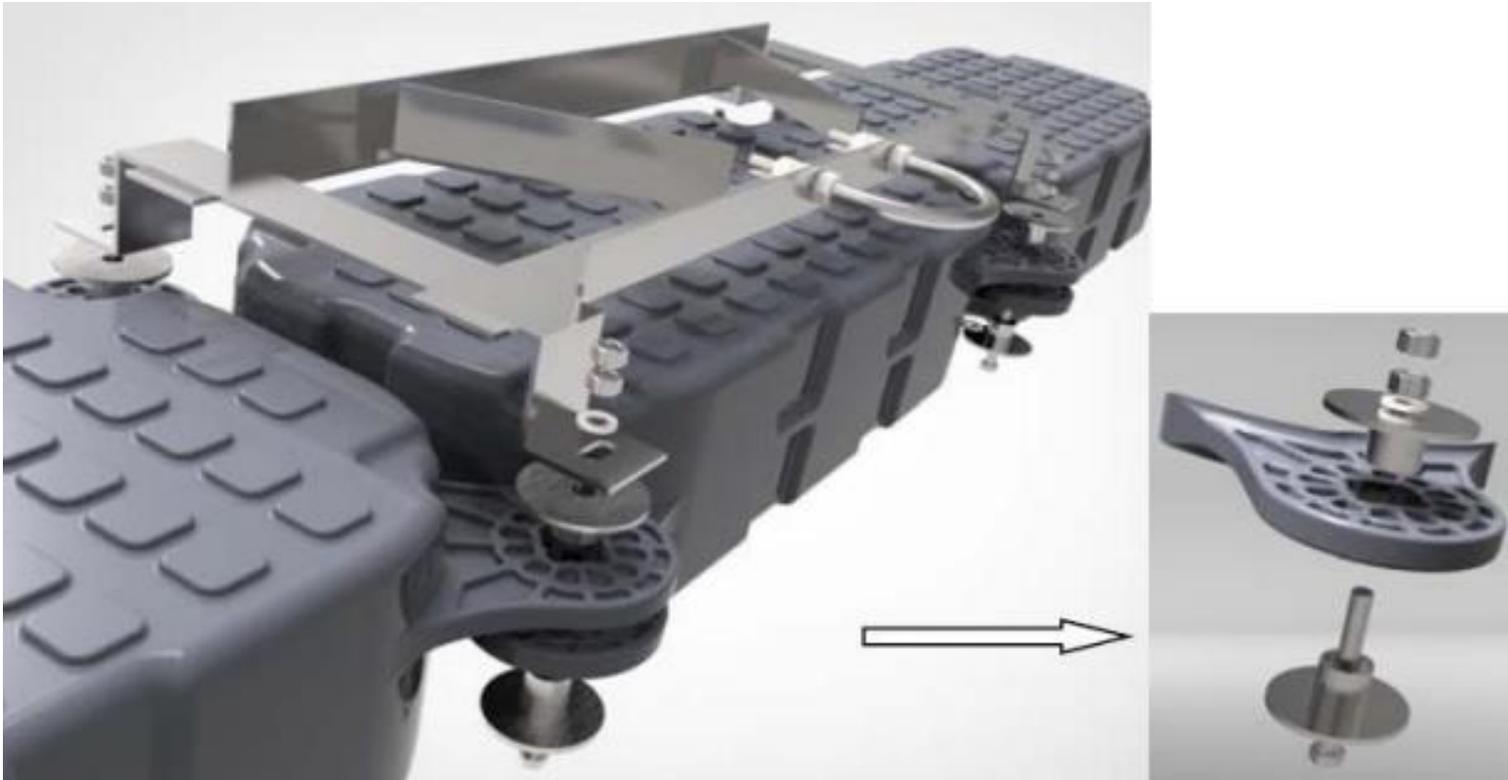


Function of Artificial reefs
[DI bottom view, Taking pictures of aquatic animals living in spawning]



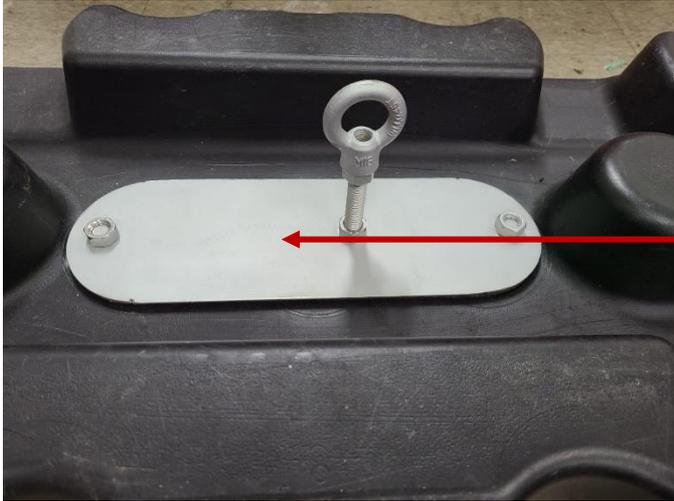
57 kinds of microorganisms grafted

3. Safety : Excessive tension on mooring cables

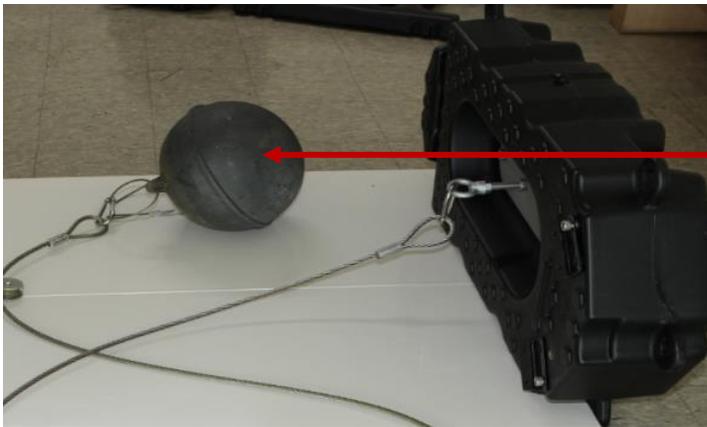


Tension on floating structures is divided over four corners resulting in easy destruction

3. Solution : Hexagonal floating structures and tension ball



Laser cutting makes it cheaper and faster



Tension ball

Future mooring system

4. Efficiency – Water absorbs solar energy

Contrary to expectations water absorbs solar energy rather reflecting, rendering energy production with bifacial modules inefficient



4. Efficiency – Reflection zones on floating structures



Future floating structures have reflection zones

Important Factors of FPV

5. Design – beautiful landscapes and harmonious environments



The background of the slide is a photograph of a hand holding a glass globe of the Earth. The globe is partially filled with water, and there is a large splash of water above it. The water splash is shaped like the map of South America. The background is a soft, out-of-focus blue and white.

THANK YOU

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For more information please visit :

<https://www.youtube.com/watch?v=vFyBnnpfeFXM>