Future Technologies of Floating Solar

- Beyond Energy -

Dr. Ki-hae Yang
segimail@hanmail.net
Future Technologies of Floating Solar

- Clean air and water & floating islands for all -

Segi solar Environment Co., Ltd
www.yansegi.co.kr
Important Factors of FPV

1. Safety!
2. Safety!
3. Safety!
4. Efficiency!
5. Design
Important Factors of FPV

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

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
Important Factors of FPV

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
Contrary to expectations, water absorbs solar energy rather than 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
THANK YOU

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For more information please visit:

https://www.youtube.com/watch?v=vFy8npfeFXM