Overview of Trina Solar's Experience in Floating Solar

5th June, Manila

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01 Commercial Aspects of Floating Solar

02 Technical Aspects of Floating Solar

03 Trina Solar Project References

Key Characteristics of Floating Solar

Commercial Benefits:

- Converts unused water surface areas to productive and profitable use
- Surface rights typically lower cost than that of land
- Higher electricity production due to cooling effect of water
- Quick installation, no steel pile driving necessary

Environmental Benefits:

- Reduction of water evaporation to conserve water resource (e.g., for irrigation)
- No impact on water quality
- Slower algae growth thanks to the shielding from the sun

Commercial Aspects of Floating Solar

Field	Floating Project Description
Electricity yield	Approximately 10% increase in yield vs. ground mount, due to: (1) water ~5° C lower than land, creating 2% yield increase; also better ventilation & heat dissipation (2) less soiling loss; no immediate local dust + areas of water tend to also have more rain Additionally, bifacial panels can add another 15-25% yield (water 5x more reflective than land)
System cost	Floating solar: RMB 5.8/W ($0.92/W), vs. traditional ground-mount: RMB 5/W ($0.80/W)
Surface right cost	Cost of water surface rights far cheaper than cost of land surface rights (>50% lower in China)
System Payback	Given greater yields & low surface lease cost, system payback ~7-9 yrs, similar to ground mount solar
Construction time	Floating solar installation time equal or faster than ground mount, after 2-3 project experiences
Maintenance	Easy to clean modules, water is easily accessible. Generally lower soiling issues
Project Area	Floating solar less power dense than ground mount: 1.5-2.5 Ha/MW vs. 0.9-1.2 Ha/MW
Site selection	Water requirements: neutral on pH scale (6-8); up to 1m wave height; up to 1/m/second speed; up to 30/m/second wind speed; shallower preferred but not necessary

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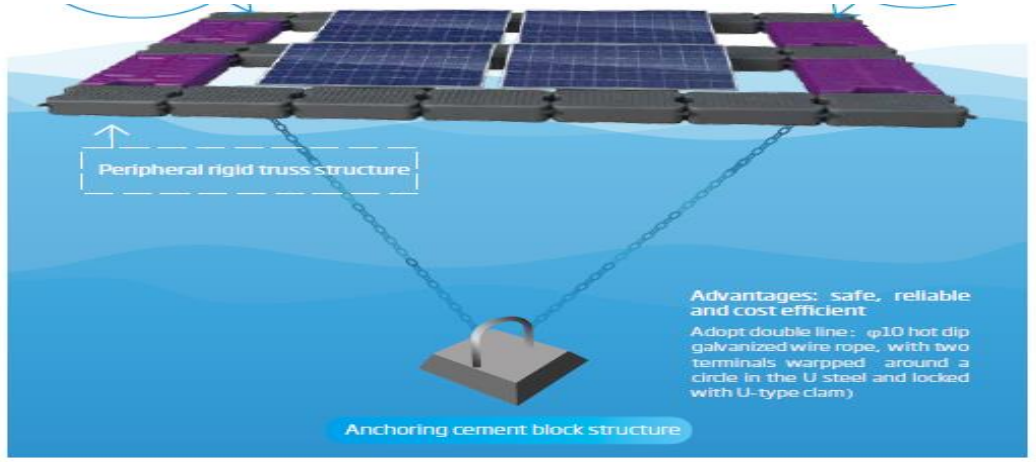
Technical Aspects of Floating Solar

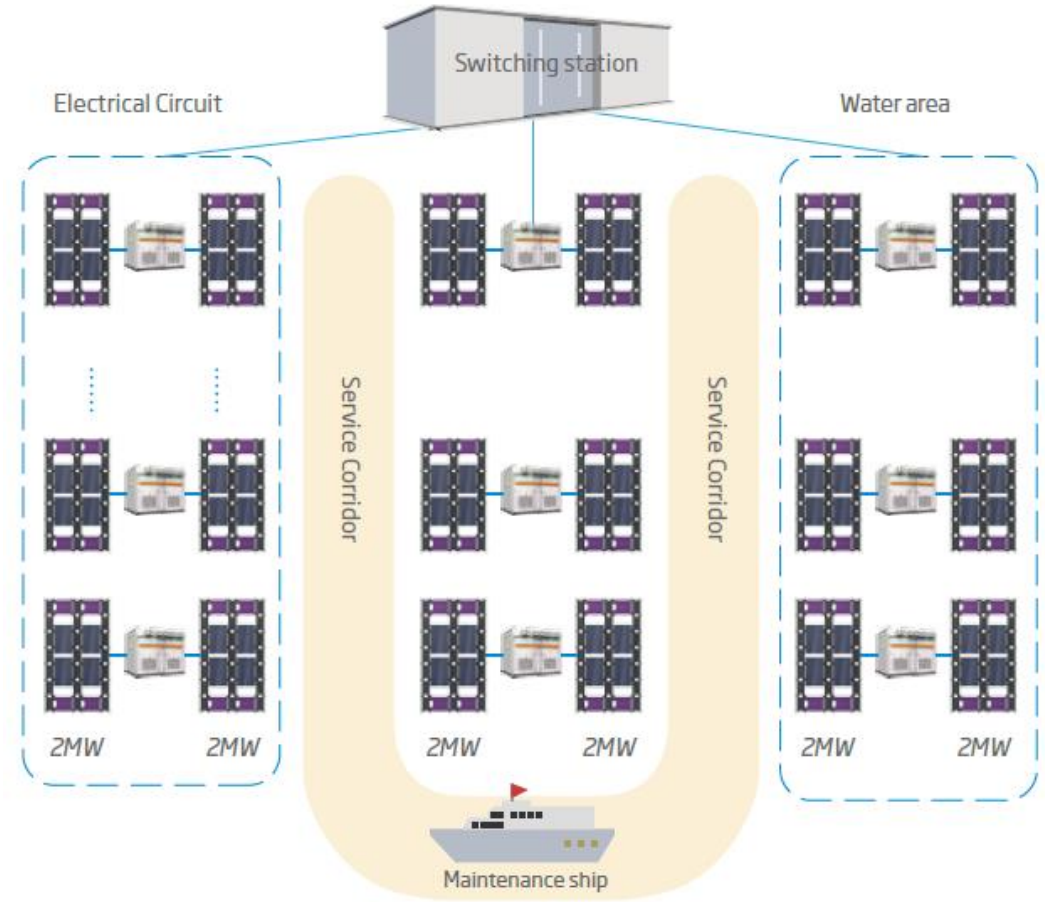


Key design issues:

1. Design & type of buoys & racking structure: Trina prefers HDPE (high density polyethylene) tightly-packed pontoons & HDPE mount
2. Low-tilt (12°-15°) & compact design to maximize wind load capacity & increased power density
3. Floating stations for central inverters & switchgear
4. Anchoring cement blocks for each pontoon cluster
5. Maintenance channels are designed between each pontoon cluster for O&M access

Trina Solar's Floating Solar Solution: TrinaPro Floating

TrinaPro Floating System Layout



Trina project learning's informed our solution:

- Simple modular design for fast assembly
- Floatation platforms assembled onshore
- Minimized use of steel; more reliance on HDPE
- Ample walking & boat cruising space, easy O&M
- Low tilt; high wind load & system durability
- Bifacial panel: greater yield, dual glass PID free, no negative impacts from moisture

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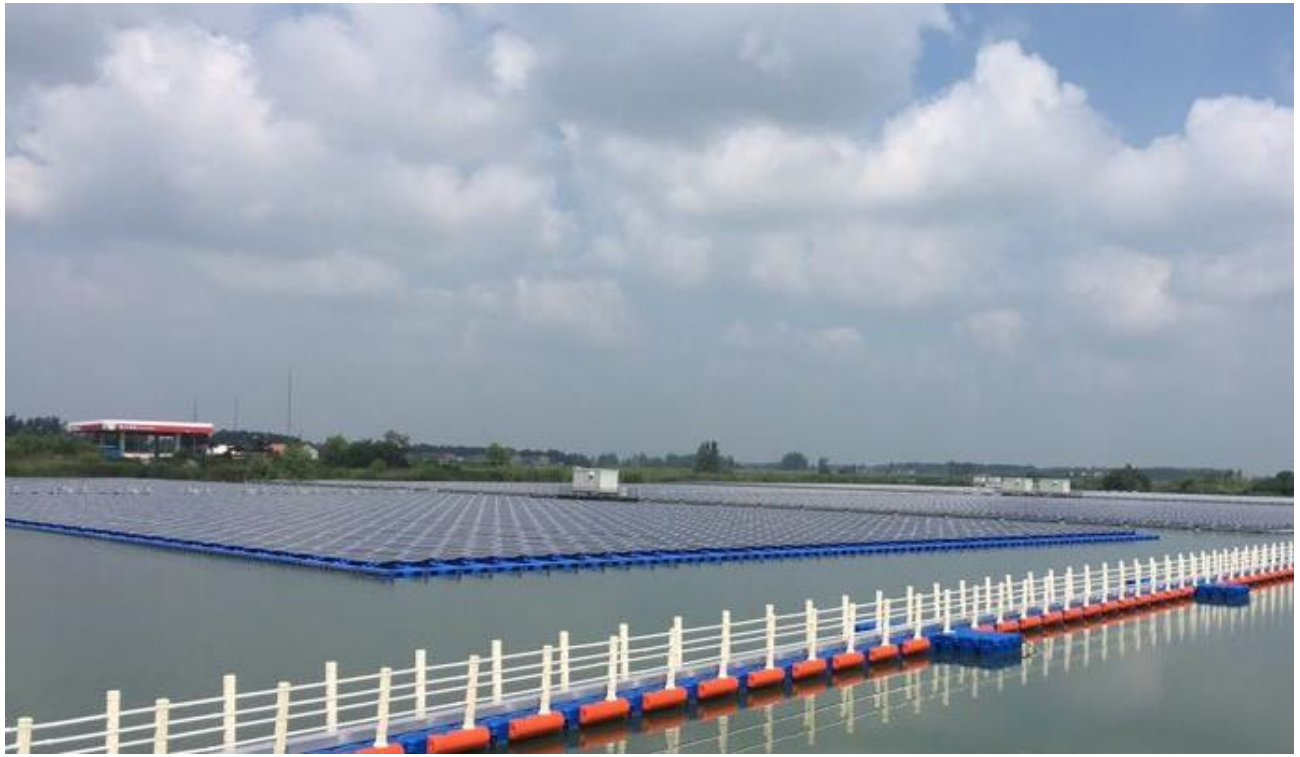
Trina Solar Project Reference: Suixi 40MW



Trina Solar Suixi 40MW Floating Project
COD Sept, 2017

Suixi, Anhui Province, China

Location	Former surface coal mine
Project Background	First “China Top Runner” floating project in Anhui Province. Fixed FIT with State Grid
Total Investment	US$51.2 million ($1.28/Wp)
Performance Ratio	4% greater yield
Project Area	100 Ha (2.5 Ha/MW)

Trina Solar Project Reference: Yingshang 130MW

Trina Solar Yingshang 130MW Floating Project
World's Largest Floating Project, COD 2019

Yingshang, Anhui Province, China

Location	Coal mining region; Heavily polluted water quality
Total Investment	US$137.8 million ($1.06/Wp) 17% cost decrease vs. Suixi
Performance ratio	4% greater yield
Project Coverage	307 Ha (2.36 Ha/MW)
Surface lease	Water area belongs to village committee, lease payments paid to local resident committee

Trina Solar Project Reference: Other Projects at a Glance

Trina Solar Huaibei Anhui China
40MW Floating Project

Trina Solar Hyôgo-ken Japan
2.9MW Floating Project

Trina Solar Okegawa Japan
1.2MW Floating Project

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