

# MARINAS & THE ENVIRONMENT: A HOLISTIC APPROACH TO BEING GREENER

Prepared for

**PORT & SHIPPING TECH – 3RD EDITION  
INTERNATIONAL FORUM ON TECHNOLOGICAL INNOVATION FOR A  
COMPETITIVE AND SUSTAINABLE DEVELOPMENT OF A PORT SYSTEM  
AND SHIPPING**

**Conference Centre – Porto Antico**

**Genoa, Italy**

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Presented by:

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# FIRST IMPRESSIONS



***Clean, neat and inviting  
are musts today***

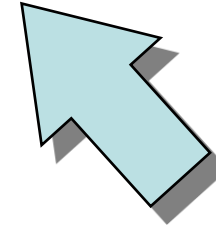
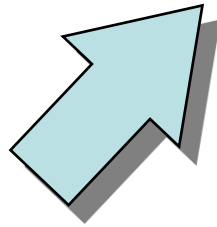
**Do not forget the  
View from the water**



# INCREASES IN REAL ESTATE VALUES:

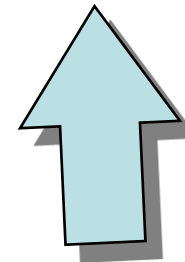
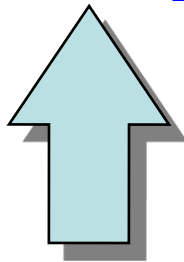


**ADD 25% to 75% to 200%  
MORE  
WITH BOATING ACCESS**



**5 to 20 TIMES that of  
Non-Waterfront properties**

**SEVERAL HUNDRED  
TIMES**



**Waterfront Residential  
Development**

**Inner City Waterfront  
Development**

# ECONOMIC BENEFITS TO IMMEDIATE & SURROUNDING COMMUNITIES:

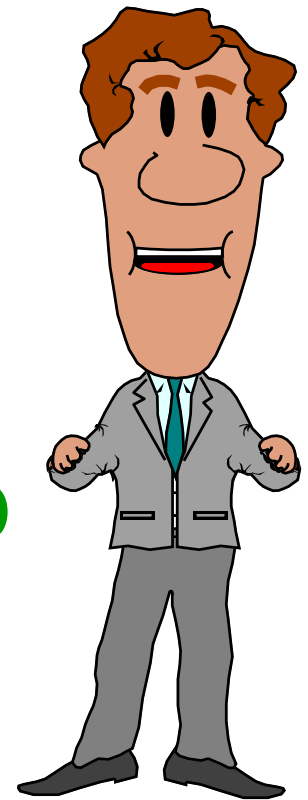
Estimated **MULTIPLIER VALUES:**

**Non-tourist** oriented recreational marinas

➤ typically range between **2** and **10**

**Tourist facilities** in resort destinations

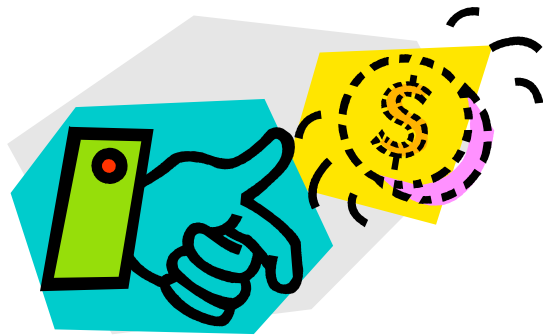
➤ estimated at values as high as **10** to **20**





**Waterfront Development in just Major Cities  
Over the last five years  
Announced, started, completed or in process =  
Over in the tens of trillions of US Dollars**

**US\$10,000,000,000,000+++**



**Perspective:  
US GNP = 10.6 Trillion US\$  
Global GNP = 30 Trillion US\$**



GREEN

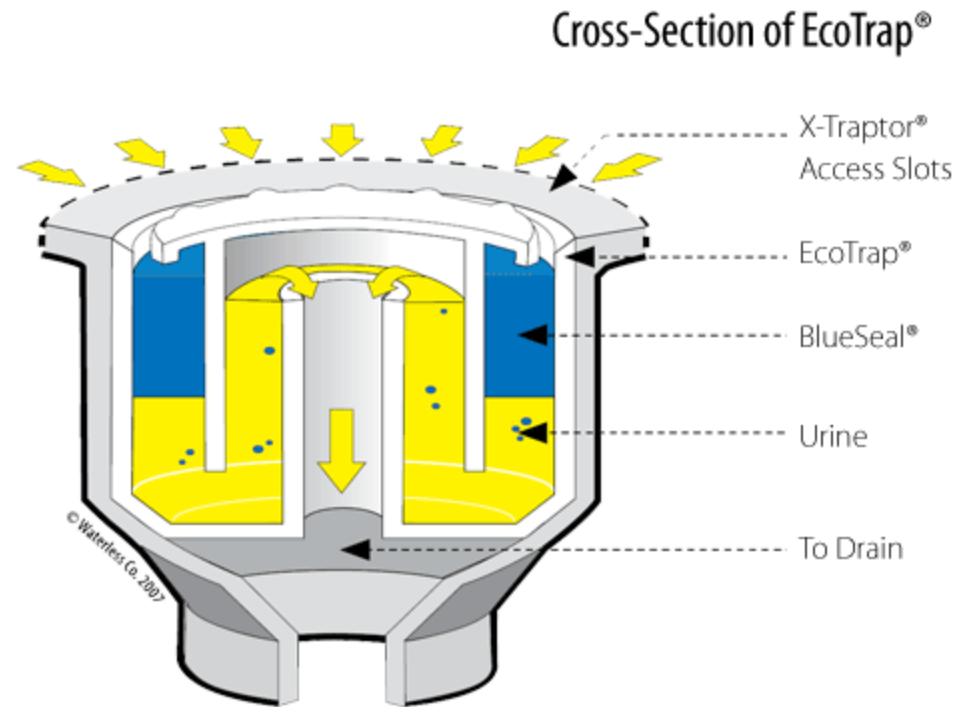
# ***PUMPOUT FACILITIES - A MUST FOR MOST FACILITIES***







# Waterless Urinals



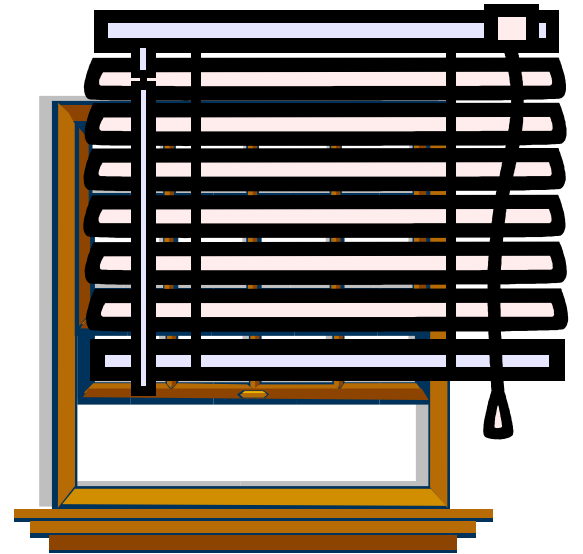
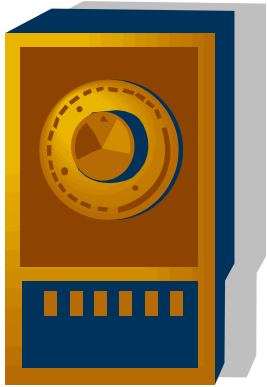


## Flow Reduction Valves



## Motion Detector Light Switches





# Cottonwood Cove Resort & Marina - Nevada US's First LEED-Certified Floating Green Building



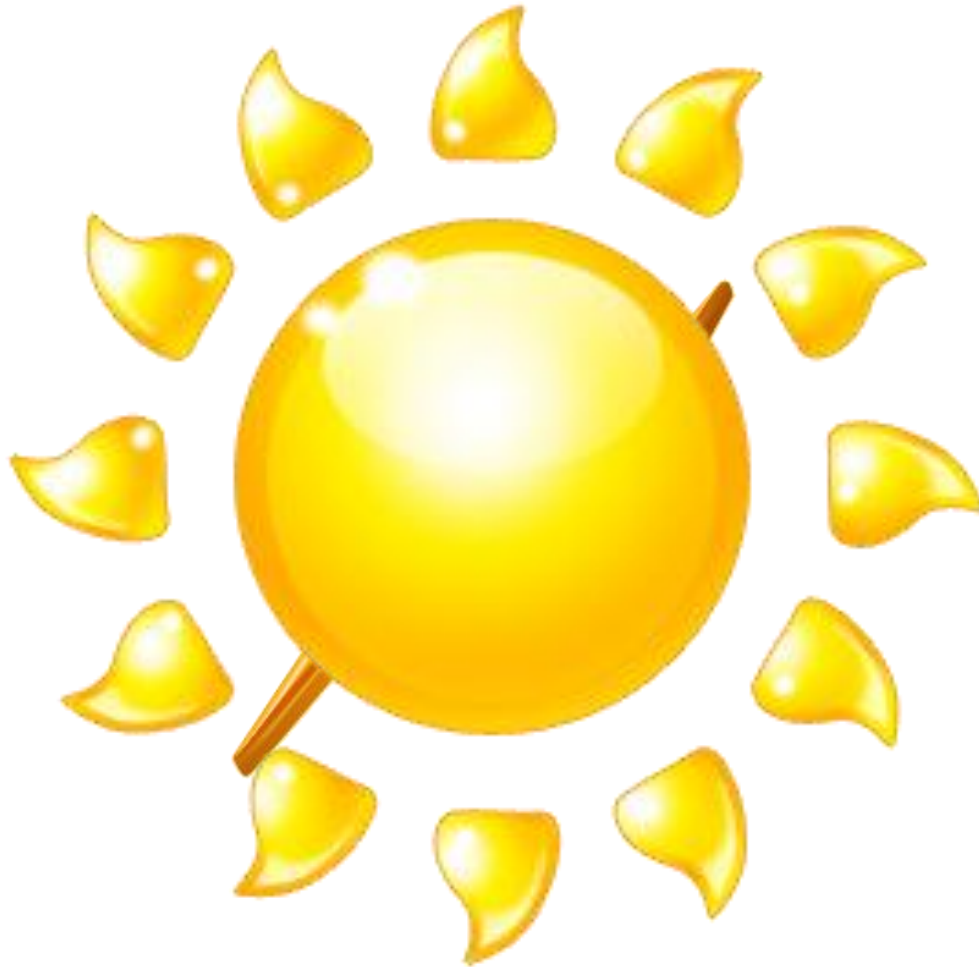


# Gold Coast City Marina, Queensland's Gold Coast, Australia Rainwater Harvesting System



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It's Electric



**SOLAR**

# SOLAR ROOF PANELS



**Torresen Marine, Michigan, USA**

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# Anglers Avenue Marine Center, Dania Beach, Florida



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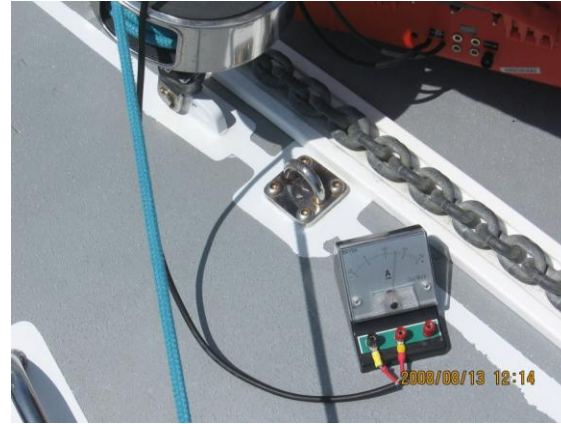
## Marina Chiavari - Italy

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# 2041- Solar Sails and Panels



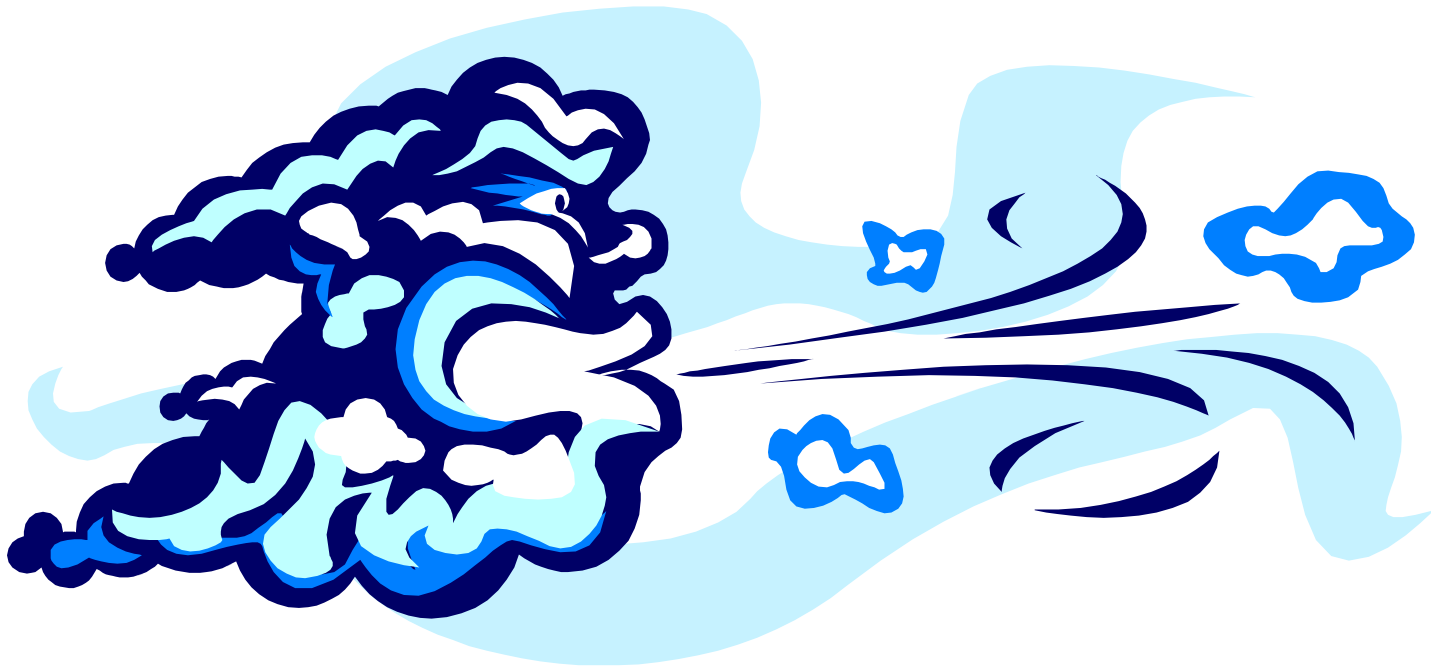
# Dual Approach



2008/08/13 11:49

# The LOON – Commercially Produced Solar Boat by Tamarack Lake Electric Boat Company





***WIND***

# Windmills



**BIG**



**Floating**





**small**



# A Newer Type of Windmill



Windspire Energy



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## WINDSPIRE TURBINE POWERING BOARDWALK LIGHTS IN LONG BRANCH, NEW JERSEY



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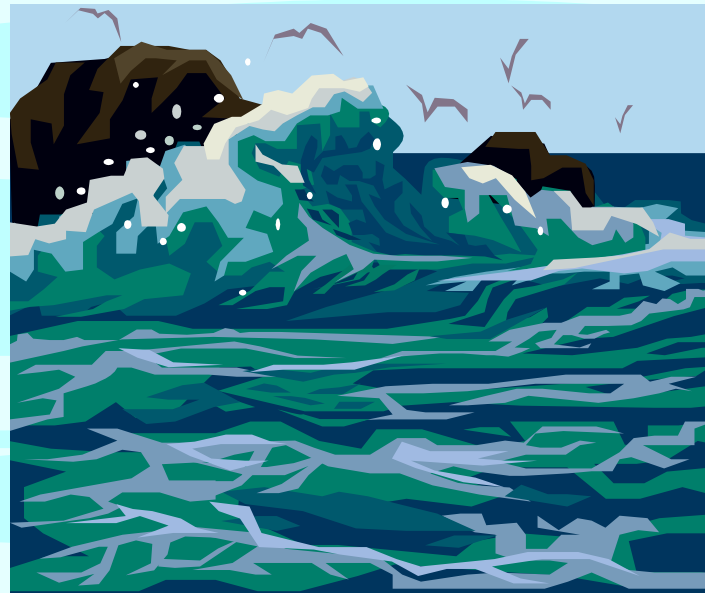
## Still Another New Windmill Aviation Enterprises



The QR5 turbine was conceived by XCO2, a London based consulting firm, and designed to address a number of issues currently preventing more widespread use of wind turbines in an urban environment .

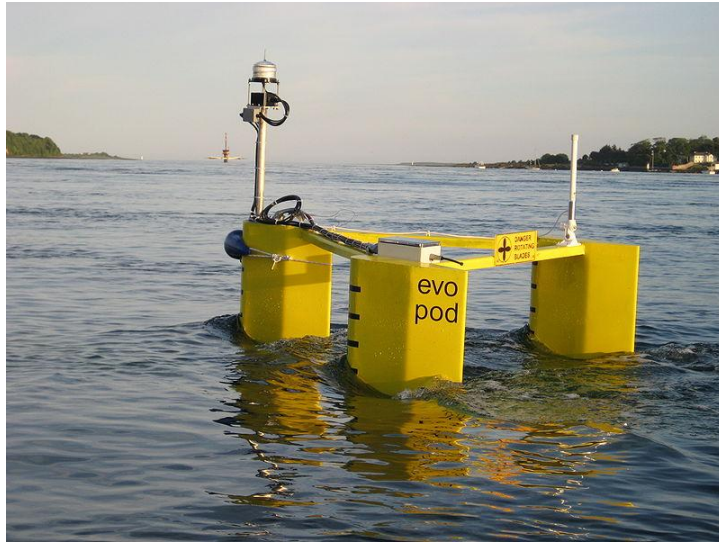
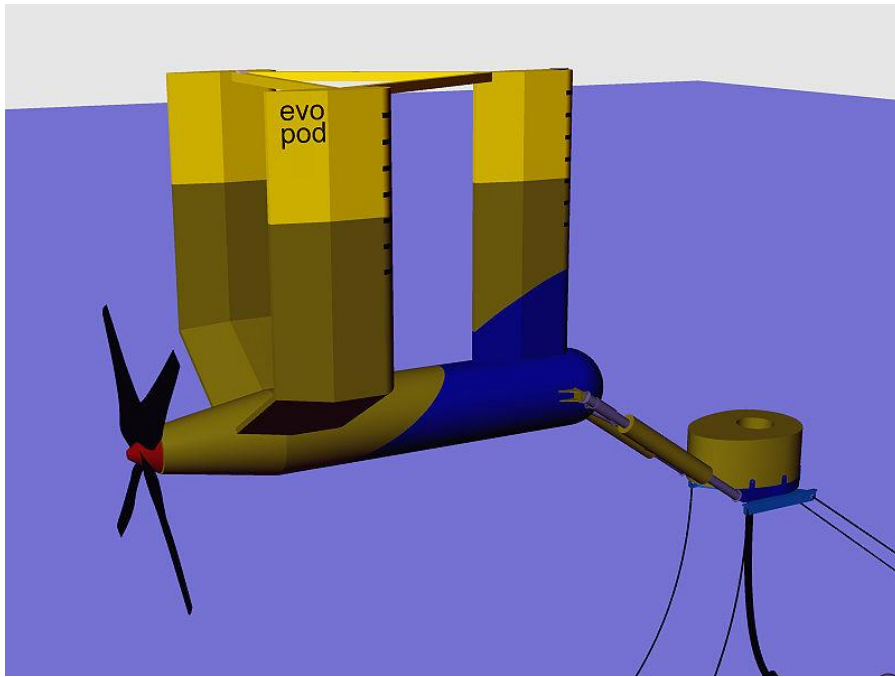
- **Noise:** The QR5 is much quieter than propeller turbine of the same power.
- **Gusty Winds:** Makes better use of the gusty winds typical of urban areas as it does not have to constantly turn to face it

The turbine rotor is 5m high and 3m in diameter, and has a peak power output of 6kW.



**WATER**

# 1/10th scale Evopod installed in Strangford Lough during 2008



# Verdant Power's Roosevelt Island Tidal Energy (RITE) Project is being operated in New York City's East River

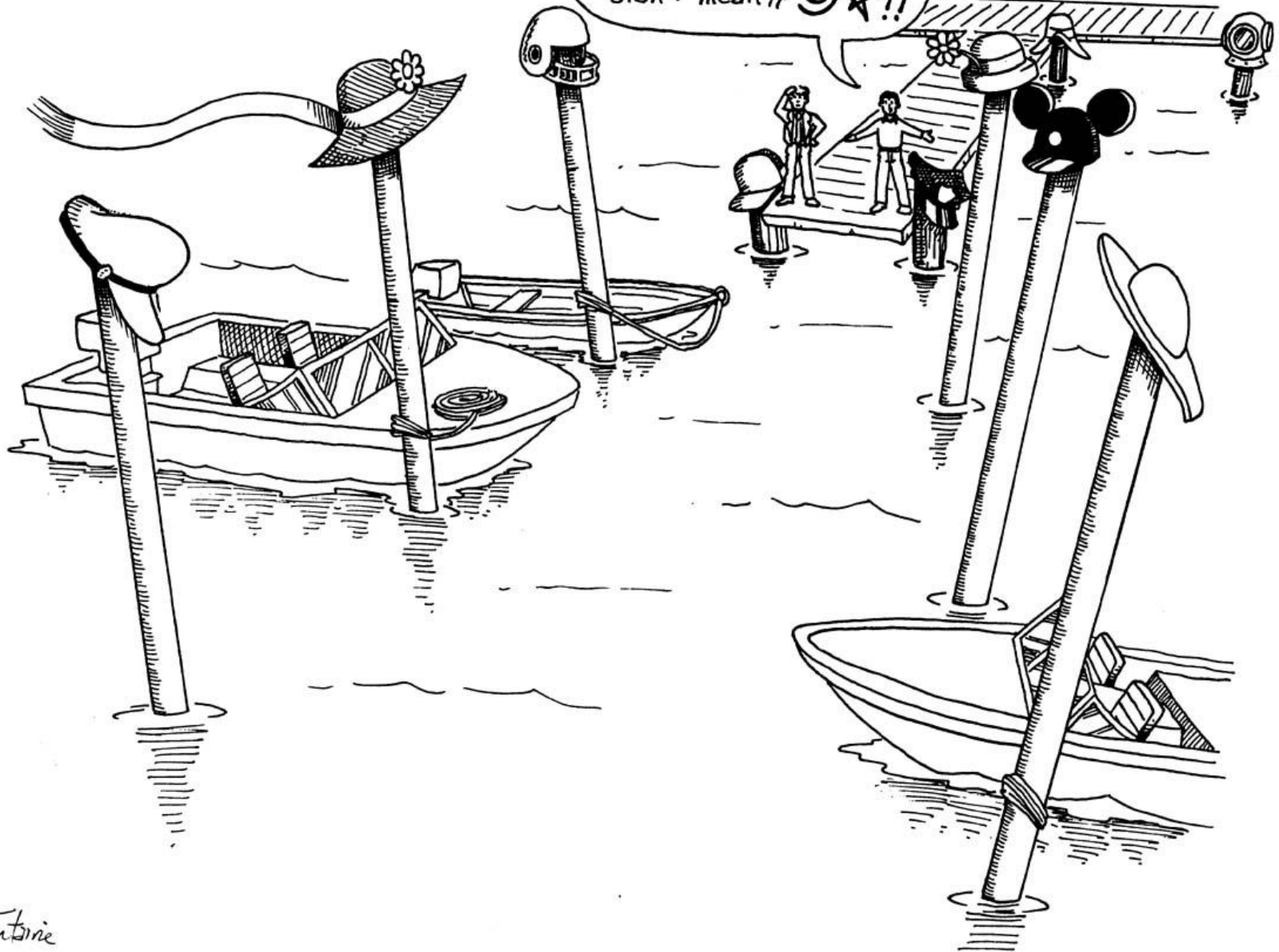


Initiated in 2002, the RITE Project demonstrates and delivers commercial electricity from Verdant Power's *Free Flow Kinetic Tidal Hydropower System*. Based on the success of the initial 6 turbines, work is currently progressing to add an additional 30, raising output to 1 megawatt.



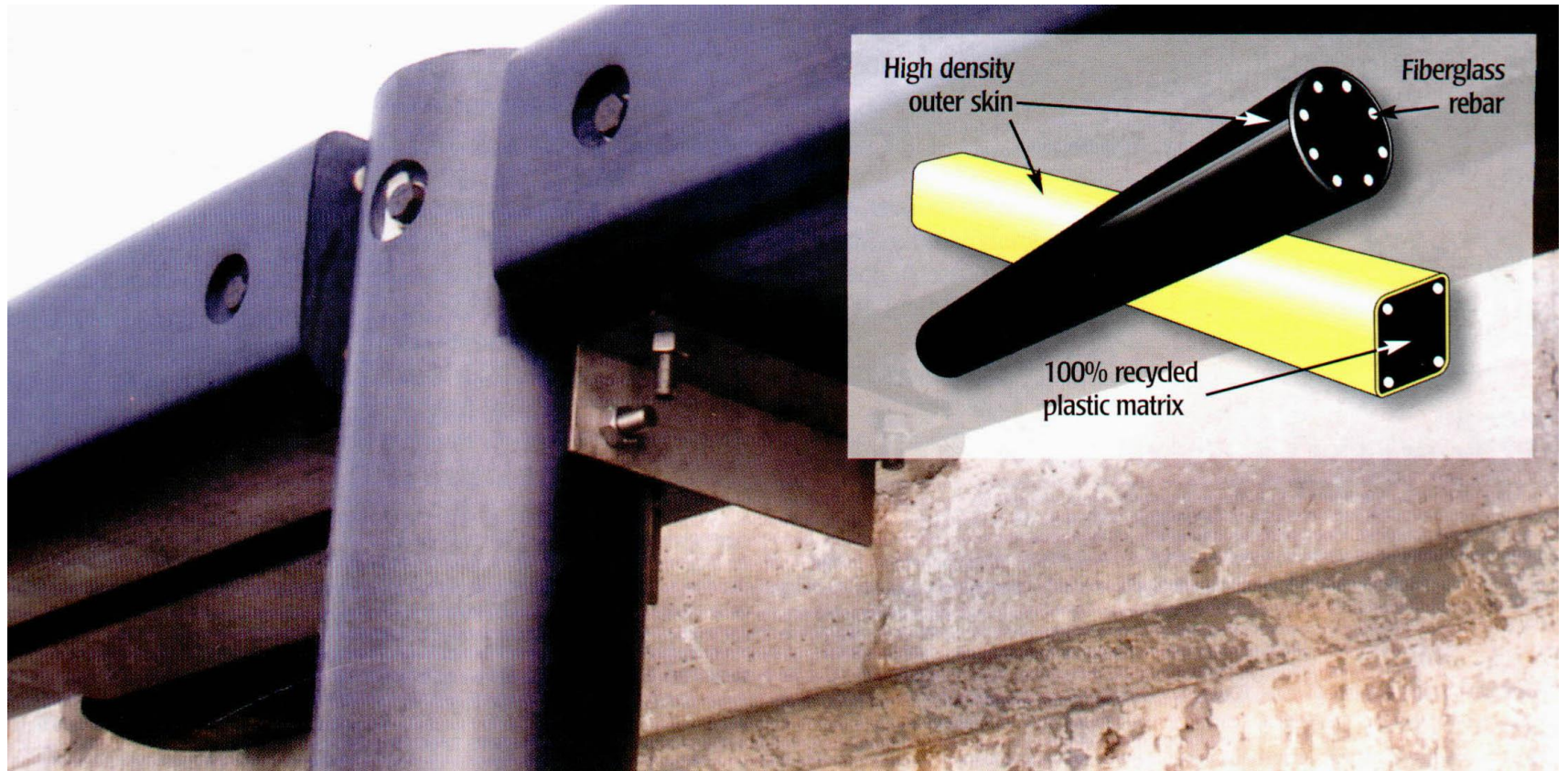
Verdant Power systems employ underwater turbines to generate clean energy from the currents of tides, rivers and manmade channels.

When I said we need  
to cap these piles I  
didn't mean # @ \* !!





# Composite Walers and Piles



## Composite Piles – the Yin and the Yang



# Applying the Shrink-Tite Piling Sleeves



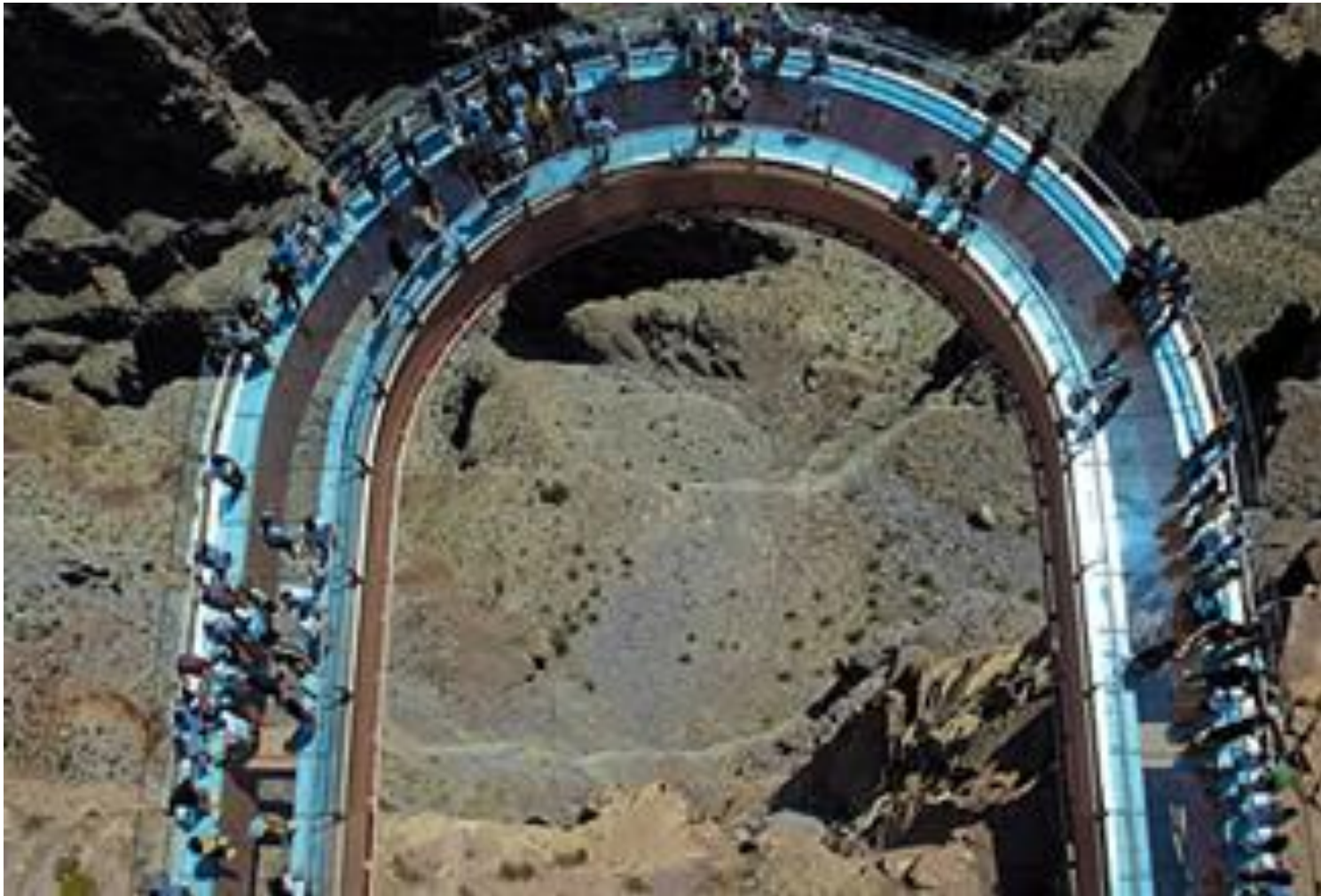
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## **GLASS WALKWAY**

### **Basilica of Aquileia, Italy**



# Sky Walk – Grand Canyon - Hualapai Indian Tribe



# Porous Paving



# New Zealand Marinas - Parking Under Racks Is Commonplace



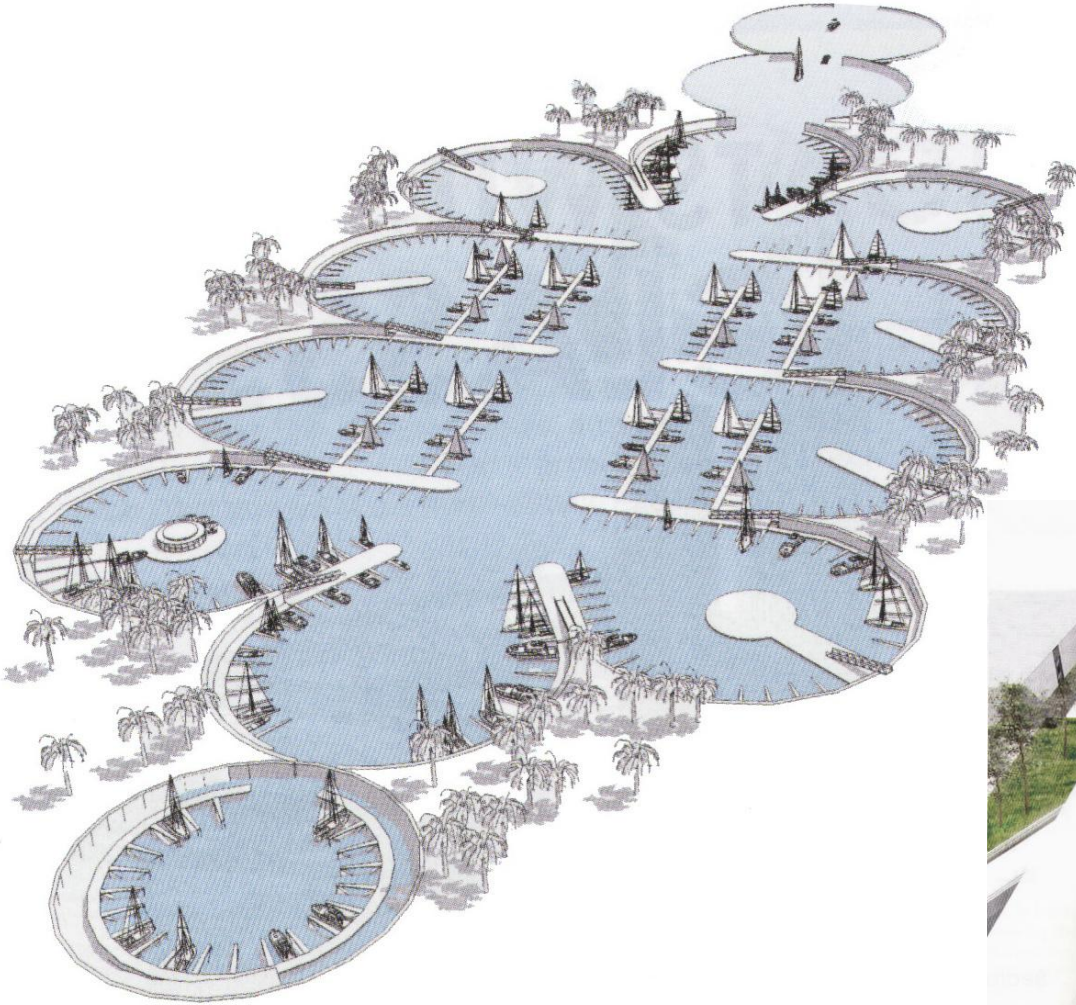
# Port Marina, FL



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# BLUERING



# It's Our Future - Let's Make it More Meaningful and Green

