

# Solar, wind powered ferries to sail on S.F. Bay

## 'Like switching from a gas guzzling SUV to a hybrid car,' activist says



This illustration shows a 600-passenger ferry powered in part by solar panels and the wind. Designed by a company called Solar Sailor, the trimaran concept has been eyed by a California company that will sail two wind and solar powered ferries in San Francisco Bay.

Solar Sailor

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Two tourist ferries powered in part by the wind and the sun will carry visitors to San Francisco's Alcatraz island under a contract between the National Park Service and a private company.

"Riding one of these ferries will be like switching from a gas-guzzling SUV to a hybrid car," said Teri Shore, director for clean vessels at the environmental group Bluewater Network, which supports the project. "The ferries will get far better mileage and pollute half as much because they will run on electricity or sail much of the time."

Ferry operator Hornblower Cruises and Events won the contract with its bid to incorporate wind and solar power into a diesel ferry that also has electric motors. Alcatraz, the former prison that is now a tourist attraction, is managed by the National Park Service.

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"The public is going to be excited to get on a vessel like that," says Hornblower President Terry MacRae.

### **Australian advice**

Hornblower has been working with Solar Sailor, an Australian company that operates a similar ferry in Sydney. Hornblower expects its first vessel will be built within two years and the second within five. The ferries could be each large enough to accommodate 600 passengers.

The costs for each are uncertain, MacRae said, but could be around \$5 million each - a premium of about 50 percent over a diesel-only ferry.

A solar-wind ship has never been used in the United States, he added, "so there's definitely a learning curve."

But the advantages, he says, include saving on fuel and avoiding the awful smell of diesel at dockside.

The design isn't nailed down, but one Solar Sailor concept includes a large, rigid wing covered in solar panels that captures solar and wind power while also allowing sail navigation when conditions are right. In bad weather, the sail folds down flat above the deck like a roof.

### **Diesel-electric hybrid**

Bluewater likened the overall concept to a gasoline-electric hybrid car, only in this case it would be diesel-electric. "Large batteries on board the vessels will store electricity generated by the diesel generators and collected by solar panels," Bluewater said in a statement. "The electricity then powers the electric motors."



Solar Sailor

Solar Sailor operates a smaller ferry within Sydney harbor.

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The batteries allow the diesel engines to be turned off at port, which means no smells or emissions at the boarding ramp. The vessels can also be plugged into an onshore power outlet to recharge the batteries.

The diesel generators themselves will burn low-sulfur fuel and will have pollution controls that cut emissions by 70 to 90 percent compared to conventional marine diesels.

"In the event of an earthquake or other disaster," Bluewater added, "the boats can operate at low speeds for emergency purposes on wind and electricity without any fuel, and could potentially help to shuttle commuters across the bay if necessary."

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