



# Case Study: International Rescue Group

## OutBack Marine Solar Power System Installation



### Overview

International Rescue Group is a non-profit organization based in California that provides first-line support and humanitarian aid to disaster-hit coastal communities in developing nations. After a tsunami, hurricane or other catastrophic event, International Rescue Group's volunteers enter the area on boats to deliver life-saving and sustaining medical help, supplies, fresh water and food.

As part of its mission, this **all-volunteer organization is dedicated to keeping its environmental footprint as small and green as possible.** International Rescue Group boats run on donated diesel-electric hybrid drive engines, which reduce fuel consumption. The *Thunderbird 2* – a large, re-purposed steel trawler – also has a sailing rig so if necessary, it can travel into disaster areas without burning fuel. As part of this low-fuel-impact approach, International Rescue Group wanted the option to harness solar energy to power both *Thunderbird 2* and its onboard water-making system, which desalinate ocean water and makes it potable through reverse osmosis.



*We have a dual mission: aid survivors of coastal disasters and protect the surrounding environment as we go about our work. Solar power is the most effective way to reach both goals, and OutBack Power's FLEXmax 80 is perfect for what we hope to achieve."*

**Ray Thackeray**

Executive Director, International Rescue Group

### System Specifications

**Location:** Alameda, California

**System Power:** 1.5kW

**System Components:** FLEXmax 80 Charge Controllers





## Objectives

- Reduce the boat's environmental impact by switching the power source to solar energy
- Use donated solar panels to channel solar-generated power into the ship's batteries
- Cut costs by eliminating the onboard generator's 30-gallon-per-day diesel fuel requirement
- Monitor system efficiency to evaluate its performance relative to the organization's goals

## Solution

International Rescue Group installed two OutBack Power FLEXmax 80 charge controllers onboard *Thunderbird 2*. In combination with BenQ solar panels and 1.5kW of batteries, OutBack's charge controllers make International Rescue Group's flagship boat a model for the rest of the fleet. *Thunderbird 2* uses solar power to run its electronic communications systems, as well as power a water system that produces up to 250 gallons of fresh water per day – enough to sustain a small coastal community of 1,000 survivors in the aftermath of a disaster. The organization plans to extend its solar power success to the fleet's other three boats and to the 15 to 20 additional boats it plans to acquire over the next year.

## Benefits

- Reduces annual fuel costs by \$40,000
- Provides cleaner, greener and quieter sailing for the boat's crew, the survivors it serves, and the regions through which it travels
- On-screen display of amp/hours generated per day measures overall system efficiency
- Demonstrates green, lean practices and operations for fundraising purposes