DESIGNING AND BUILDING NEW SOLAR POWERED BOATS TO FIGHT WATER AND AIR POLLUTION IN INDIA

Since 2016 in India a relevant work is being done to build innovative solar powered boats. Using electric motors and storage batteries charged by solar panels, solar powered boats can significantly reduce or eliminate the use of fossil fuels, reducing water and air pollution.

On May 2016 the first 11 solar powered boats for transporting people and tourists on the Ganga river have been inaugurated by the India Prime Minister in Varanasi (Benares) in the Uttar Pradesh State of India.

These solar boats (called e-boats) have been constructed modifying conventional boats, removing the diesel engines, installing eco-friendly chargeable batteries and placing the solar panels on the roof. The new e-boat service ensures pollution free water transports and a cleaner river. It also represents a mean to improve the work of boatmen, either for the cost savings of diesel and for their professional retraining.

Another relevant project is the design and construction of the first solar powered Ferry for the Kerala State of India, realized in collaboration with the Kerala State Water Transport Department. The Solar Ferry was designed and built by the Company NavAlt Solar and Electric Boats a joint venture between Navgathi Marine Design and Constructions (India), Alternative Energies (France) and EVE Systems (France).

Aditya, India's first solar-powered Ferry operating between Vaikkom and Thavanakkadavu in the Kerala State was inaugurated on 12 January 2017 by the Kerala Chief Minister and Central Cabinet Minister for Power, Renewable Energy.

The 75-seats solar Ferry, 20 meters long by 7 meters wide, is made of fiber glass and can cruise at a maximum speed of 7.5 knots. The boat has 78 roof-top solar panels and an alternative power system for emergencies. The boat cruises without any noise and minimal vibration compared to the normal diesel ferries.

The functioning of the Solar Ferry, thanks to its highly efficient design, has shown that even on rainy/cloudy days with some support from grid charging during breaks, the service was not affected.

Moreover, the features particularly appreciated by the population and by the workers are that the boat is silent, it doesn't smell of diesel and the operational costs are very slow compared to other options.

The crew have been specifically trained to handle the boat, as the operating system is different from that of conventional diesel-powered ones. This aspect is of great interest for staff and for national and local authorities because it promises the creation of new qualified jobs.

The successes achieved by Aditya have convinced the competent national and local authorities about the opportunity to plan the construction of other solar powered ferries and the progressive replacement of the entire fleet of passenger ships over the years. For example, the Kerala State Water Transport Department (SWTD) decided that more than half of the fleet of 53 ships will be replaced by these faster and more modern vessels.

The Navgathy Company is also working in the Gujarat State of India, converting the kerosene powered fishing boats used in local communities in solar power ones. They converted the boats by installing solar panels on the rooftop which is made of stainless steel and equipping the boat with batteries suitable for storing solar energy. Battery charging units are also installed on the coast, allowing fishermen to load the boat while returning from the sea. These solar powered boats provide drastic reduction in kerosene costs, water and air pollution.

Meanwhile, many other experts, businesses and universities in India are designing prototypes and experimenting the use of solar powered boats for tourism, marine services and other activities.

With its new green innovation, the solar cleaning boat that is working in the Dakor Gomti Lake, the Indian scientist Shreelal Jha won a national award in 2017.

To know more

Navgaty website

NavAlt Solar and Electric Boats

Navalt Solar Boats in Facebook

Aditya Solar Ferry in Facebook

Aditya Virtual Tour in Facebook

Aditya in sandith.in website

Indiaclimatedialogue.net website

Solar powered ferry in Indiaclimatedialogue.net

Article in renewindians.com

Article in newindianexpress.com

Article in leagueofindia.com

Article in scroll.in

Article in deepseafishersindia.org

Article in financialexpress.com

Solar boats in mossolar.com

Article in energynext.in

Article in thehindu.com

Article in decchanchronicle.com

Solar powered boats in Wikipedia