

## Newsletter 07/2021 – Solar Powered E-Longtail Boat

**Two years, after the official project start in spring 2019, we are happy to announce the Solar Powered E-Longtail Boat is built and set to water east of Bangkok on the Nakhon Nueang Khet Canal successfully at the end of June 2021 for the first test runs.**

This project aims for the construction and proof of concept of a fully functioning prototype of an electric longtail boat powered by solar energy. The E-Longtail Boat will offer an alternative solution to locals while eliminating the damaging emissions (exhaust gases, oil, lubricant and noise) associated with the existing longtail boats. Important for the project was to maintain the “look and feel” of the traditional longtail boats to enhance the chance of broad acceptance of the general public.

In 2019 we were mainly focused to overcome the bureaucratic barriers to run a boat in Thailand. Several meetings with different government departments haven taken place, mainly with the Pollution Control Department (PCD) and the Marine Department of the Ministry of Transport. Thanks to the great support of the PCD, all the challenges could be solved. One important outcome was the fact, that it was easier to get an approval to run the boat on the rivers of Bangkok then the open sea.



During the construction phase we were looking for a local boat builder and all the mechanical parts needed. The complete assembly has been done by the local partner Aero Solar & Automation Co. Ltd east of Bangkok.

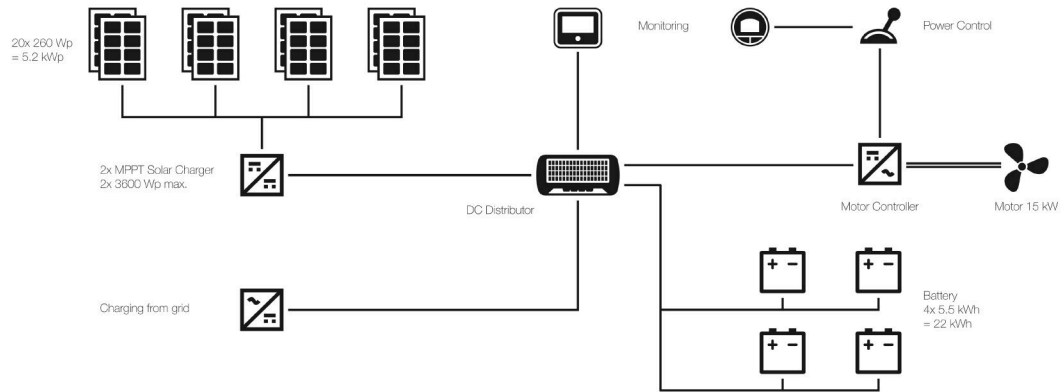
## Solar Powered E-Longtail Boat



For the mechanical parts it was important for us, to minimize the risk of a failure related to software and communication. Therefore, we decided to use sea proven hardware from Mastervolt and Bellmarine for the batteries, solar charger, monitoring devices as well as the motor controller and motor itself. We used a 15kW AC-motor directly connected to the shaft and propeller. The roof consists of 20 flexible solar panels with a total power of 5.2 kWp, which are charging the 4 batteries with a total capacity of 22 kWh. Beside the charging from the roof, there is the possibility to charge from a 2<sup>nd</sup> source or backup. The boat is 12m long and 2.5m wide and weighs 2'400 kg including all components and offers space for maximum 28 passengers.



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Solar Powered E-Longtail Boat

Around two weeks ago the Solar Powered E-Longtail Boat was ready for the first tests in the water.





Solar Powered E-Longtail Boat







Over the next weeks all the parts will extensively be tested to improve and optimize the operation of the Solar Powered E-Longtail Boat. The testing will be done on the Nakhon Nueang Khet Canal. The boat will be “parked” and monitored while not in use from a close by temple and its monks.

Location:

- <https://goo.gl/maps/5NfyYEpjzHfwu5t5A>

Link to video:

- <https://vimeo.com/zenna/e-longtail-boat>

Thank you to all project partners, which contributed to enable the execution of this project.



For any marketing activities, please contact/confirm with:

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