



## Marine Energy Development Cycle Guidance



**Telesto is a knowledge hub containing guidance and information about the marine energy deployment lifecycle.**

Telesto contains information and guidance about the development life cycle of marine energy projects, including planning, design and build, testing, deploying, and decommissioning. This information can help project and technology developers access information to help them attain their goals.



**60+**  
TOTAL  
STANDARDS



**10+**  
LESSONS  
LEARNED THEMES



**10+**  
IEC TC-114  
STANDARDS



**30+**  
PERFORMANCE  
METRICS



## Lessons Learned

The Portal and Repository for Information on Marine Renewable Energy (PRIMRE) team conducted interviews with subject matter experts to collect lessons learned from past and present marine energy research, development, and deployment projects in the United States. Telesto organizes and presents these lessons learned across a variety of themes and features links to associated PRIMRE resources.

## Marine Energy Standards

Standards encourage best practices and facilitate communication between developers within a field, and ease negotiations for regulation, certification, and marine insurance. Telesto hosts the United States website of Technical Committee 114, which oversees the creation of marine energy standards for the International Electrotechnical Commission (IEC). Descriptions of IEC standards and links to their web store are provided. Other standards pertinent to marine engineering, from organizations like the American National Standards Institute (ANSI), the American Petroleum Institute (API), and the International Organization for Standardization (ISO), are listed.

## Economics

An accurate estimate of the Levelized Cost Of Electricity (LCOE) generated by a device is critical for negotiating with funding bodies. Telesto hosts information regarding LCOE estimation, and guidance from the United States Department of Energy Water Power Technology Office regarding LCOE calculation. Specific resources include:

- An LCOE cost breakdown that highlights the different items of Capital Expenditure (CapEx) and Operating Expenses (OpEx) which are needed to calculate LCOE,
- Reference resources (wave period by wave height) that can be used to calculate Annual Energy Production (AEP) from a device of interest, and is needed for LCOE calculation,
- An example LCOE calculation that is broken down and documented to guide new users through critical concepts, and
- Additional linked resources to guide users in further reading on LCOE calculation.

## PRIMRE

Telesto is one of seven knowledge hubs in the **Portal and Repository for Information on Marine Renewable Energy (PRIMRE)**, which hosts additional marine energy data, information, and resources. Subscribe to the **PRIMRE Blast** newsletter to stay up-to-date with the marine energy community!

## For More Information

Visit: <https://openei.org/wiki/PRIMRE/Telesto>  
Contact: [primrehelp@groups.nrel.gov](mailto:primrehelp@groups.nrel.gov)



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