

DOCKETED	
Docket Number:	24-SB-605
Project Title:	SB 605 Wave and Tidal Energy - Phase 2
TN #:	272972
Document Title:	Presentation - Wave Energy at AltaSea at the Port of Los Angeles
Description:	September 30 Workshop Presentation 4 - William Doyle
Filer:	Danielle Mullany
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	9/29/2026 12:40:17 PM
Docketed Date:	9/29/2026



Wave Energy at the Port of Los Angeles

William Doyle
Business Hub Manager, AltaSea

CEC SB 605 Staff Workshop
09.30.2026

About Us

Founded in 2014, AltaSea is a non-profit ocean-focused science, business, and education center. Located at the Port of Los Angeles— AltaSea is uniquely positioned to place Southern California at the global center of the Blue Economy.

OUR MISSION

AltaSea at the Port of Los Angeles is dedicated to accelerating scientific collaboration, advancing an emerging blue economy through business innovation and job creation, and inspiring the next generation, all for a more sustainable, just, and equitable world.

OUR VISION

We will turn to the ocean to develop and scale up rapid solutions for some of the planet's most pressing challenges, such as climate change, energy supply, and global food security—and prepare today's generation of students for future careers in science, technology, engineering, business and ocean-related industry professions.



What we do

ALTASEA IS A UNIQUE MODEL FOR OCEAN-RELATED SOLUTIONS

Through a bold plan conceived in concert with the community, AltaSea is making a lasting mark on the future of Los Angeles and the planet. The emphasis on creating public-private collaborations sets the organization apart. It is from these intersections that innovation is born, and from innovation comes groundbreaking impact.

Science

AltaSea convenes and supports the world's finest marine scientists as they conduct breakthrough research and discover solutions addressing energy supply, climate change and global food security.

Business

AltaSea nurtures new and existing businesses that commercialize scientific breakthroughs and emerging technologies to create ocean-related products, services and jobs.

Education

AltaSea ignites passion and learning with pioneering programs that teach children and adults the critical role that the ocean has for our planet.





SB605 & EcoWave Pilot

EcoWave at the Port of LA: 1st Glance

- Located at Berth 70, Port of Los Angeles
- Construction began in July 2024, installation completed in August 2025
- Design rating, 100Kw
- 7 floaters connected to a land-based conversion unit
 - Build **entirely** on existing port infrastructure
 - No seabed connections or offshore construction required
- Goal: validate technical, environmental, regulatory, and commercial readiness in a real U.S. port environment
- Pilot completed March 2026
 - Total pilot cost <\$1 Million
 - Continues as a demonstration and education site



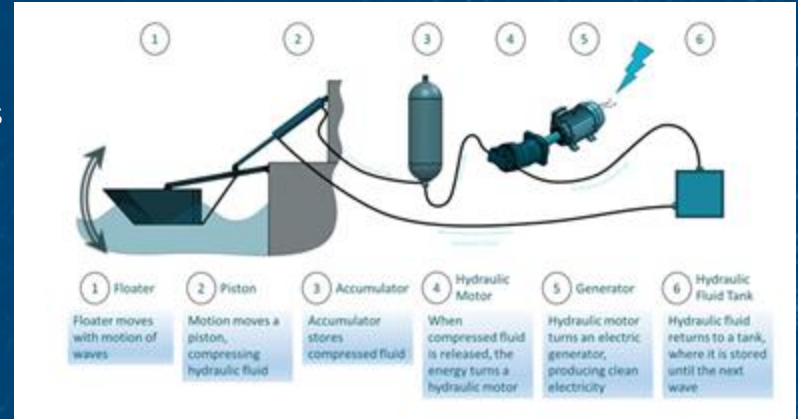
How the pilot works

Technology

- Floaters rise and fall with the water and drive hydraulic pistons
- Floaters fabricated in California by All-Ways Metal

Environmental Impact

- Floaters rise and fall with the water and drive hydraulic pistons
- The EcoWave Project runs without:
 - Seabed or pier drilling
 - Underwater cables
 - New structures on the ocean floor
 - Non-biodegradable hydraulic fluid
 - Permanent installation
 - Significant impact on the surrounding ecosystem
 - Noise pollution
 - Visual impact (floaters are lower than actual pier)



Regulatory Pathway Established

Technology

- USACE Approval
- Port of Los Angeles permit
- NEPA Environmental review
- CEQA Environmental review



Impact

- According to the U.S. Energy Information Administration, wave energy has the potential to supply up to 66% of all U.S. Energy demand, but has historically faced key barriers, including high offshore installation costs, complex maintenance, environmental concerns, storm exposure, and lengthy permitting
- A regulatory blueprint now exists for future U.S. deployments, enabling wave energy projects on existing coastal infrastructure without offshore permitting or seabed leasing requirements
- SB605 matches perfectly the timing of both Congresswoman Nanette Barragán's Marine Energy Technologies Acceleration Act, which proposed a \$1 billion investment to advance wave, tidal, and other marine energy technologies across the United States, as well as the EcoWave Pilot to prove the precedent necessary for California to further explore, promote, and invest in these solutions

Pilot Results

Cost

- Under \$1M for the full pilot station
- Floaters: \$297,400
- Installation (transport, crane, on-site work): \$128,500
- Installed with a land-based mobile crane and conventional construction equipment

Insurability

- Three policies secured: general liability, excess liability umbrella, and workers' compensation for the O&M provider
- About \$15,000 per year combined

Reliability

- Six-month operating trial (concluded March 2026, per the CEC draft)
- Floaters cycled through a tidal range of about ± 2.7 ft around mean sea level
- No damage, abnormal wear or structural degradation observed on the floaters or attachments



From Pilot to Commercial Scale

What was proven

- US installation
- Cost reduction
- Regulatory pathway
- Insurability
- Environmental compatibility

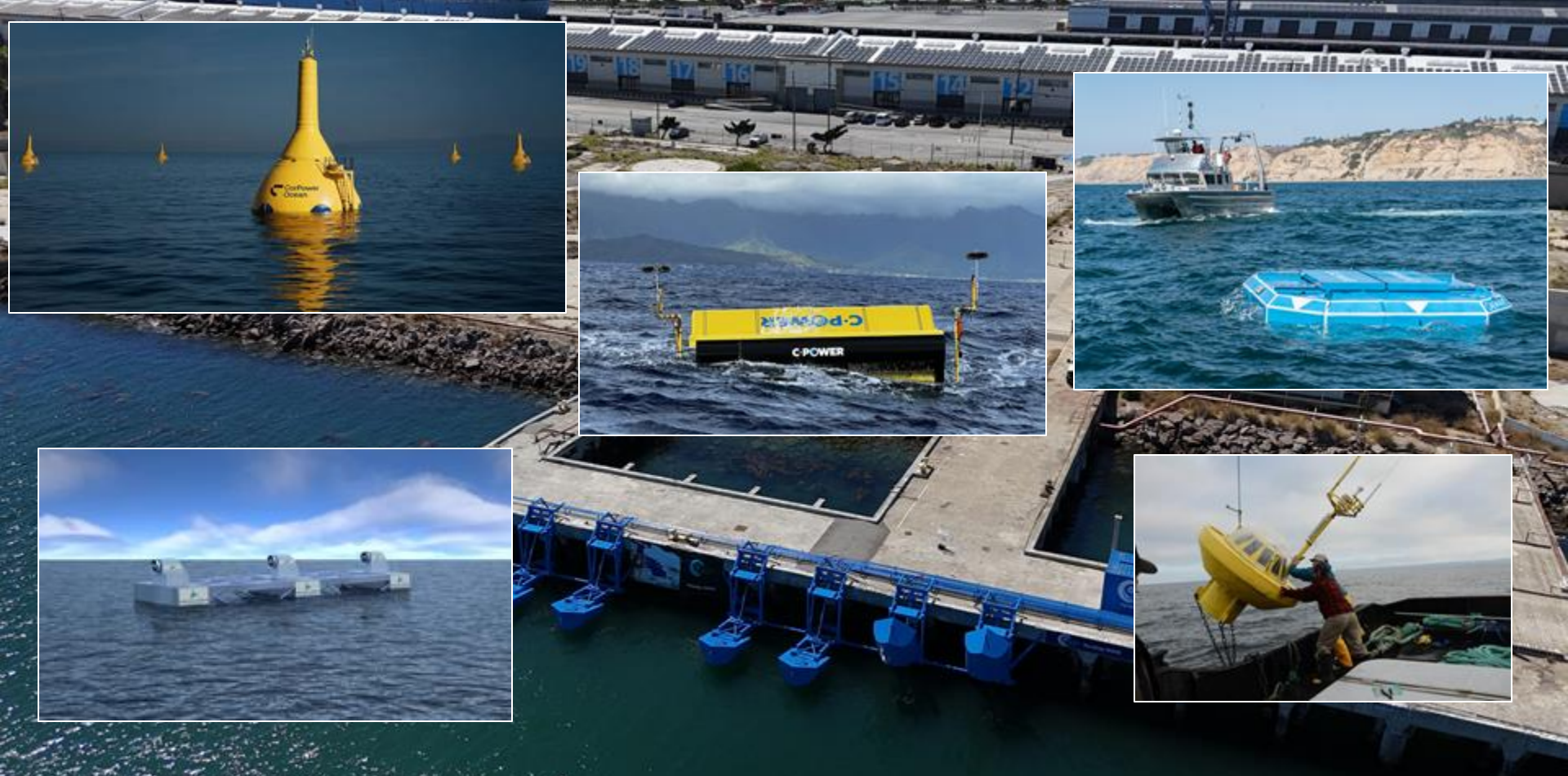
Impact

- Port operations
- Coastal infrastructure
- Local clean energy
- Grid-connected power



In a recent report published by NREL, highlighted Eco Wave Power's technology as an example of Coastal Structure-Integrated Wave Energy Converters, emphasizing the advantages of utilizing existing coastal infrastructure for wave energy deployment. The report noted that structure-integrated solutions can reduce deployment barriers, lower costs, simplify installation and maintenance, and accelerate the commercialization pathway for marine energy technologies.

Small pilot → Commercial wave farm on outer breakwater



Recommendations - know California is ready