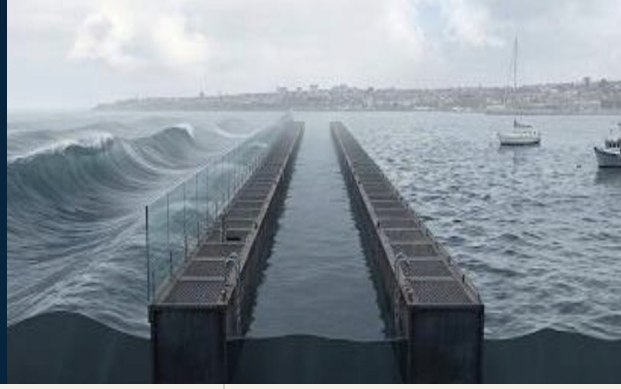
FIRM COASTAL CLEAN POWER FOR AI HYPERSCALE DATA CENTERS

TURNWATER

TAMING THE WAVES · POWERING AI

A **coastal wave-energy platform** designed to power AI and hyperscale data centers with **firm clean electricity at the shoreline** - where power availability, seawater cooling and grid-light siting converge.



1 GW	<$100	~2030	100%
FIRM CAPACITY PATHWAY	**TARGET LCOE / MWH**	**FIRST PARK TARGET**	**U.S. VALUE CHAIN**
modular wave + storage, offtake-gated	toward ~$70/MWh at prime sites as volume scales	subject to pilot validation and contracted offtake	domestic manufacturing, marine construction and O&M; pathway

THE POWER PROBLEM FACING AI

Data centers are becoming a core infrastructure challenge. The IEA projects global data-center electricity use could more than double to **~945 TWh by 2030**, with AI as a major driver; EPRI estimates U.S. data centers could reach **up to ~9% of U.S. electricity demand by 2030**.

Hyperscalers need large blocks of reliable clean power faster than conventional transmission expansion or thermal generation can often deliver. Turnwater is designed to serve that load with **coastal, modular, firm clean capacity**.

POWER IS ONLY HALF THE STORY

Cooling: Coastal siting enables natural seawater cooling - Google's Hamina data center proves the model, wasting **less than 10%** of energy on overhead versus the industry average of **57%**.

DC architecture: Turnwater generates, transmits, and stores in **DC**, eliminating transformer dependency and delivering a simpler, more direct power pathway **from ocean to rack**.

WHAT TURNWATER DELIVERS TO AI DATA CENTERS

- **Firm clean power** - wave generation paired with battery and hydrogen storage can be shaped toward 24/7 carbon-free energy requirements.
- **Coastal generation near load** - near-shore parks reduce dependence on new long-distance high-voltage transmission.
- **Power + cooling siting logic** - the same coastline can support renewable generation, seawater cooling and data-center connectivity.
- **Modular, offtake-gated build-out** - each tranche is added only when contracted revenue supports the next deployment step.
- **100% American value-chain pathway** - hulls, moorings, turbines, generators, power electronics, storage integration, marine works and O&M; can be sourced in the U.S.
- **Coastal-protection co-benefit** - floating-breakwater function can help protect ports, fleets and shoreline infrastructure, improving local acceptance.

DE-RISKING ROADMAP · STAGE-GATED

COMPLETED	NEXT TESTS	PILOT FARM	1 GW PARK
numerical + CFD tests up to 95% attenuation	tank testing, turbines mooring validation	4 x 60 m · 24 MW grid-connected	~180 modules ~10-15 km line

WHAT WE'RE LOOKING FOR

A U.S. hyperscaler, data-center developer, utility, power developer or infrastructure partner to co-develop a first coastal wave-power park serving AI / hyperscale load. The ideal partner brings **siting, offtake, interconnection, permitting and project-finance capability**; Arena brings the Turnwater technology, engineering consortium and staged validation plan.

WHY COASTAL WAVE

Source	24/7 firm	Near load	Build
Turnwater	**Yes***	**Yes**	**Fast**
Offshore wind	No	Far	Slow
Solar + battery	Costly	Land	Fast
Nuclear	Yes	Sited	10+ yr

*With storage. Wave is more predictable than wind/solar and can be sited close to coastal infrastructure.

PRIME U.S. COASTAL SITES

Oregon - N. California shelf	**35-40 kW/m**
Washington & British Columbia	**35-40 kW/m**
Gulf of Alaska & Aleutians	**high**
U.S. addressable market	**~$4bn**

Above ~20 kW/m is commercially attractive for utility-scale WECs; site-specific wave, bathymetry, grid and permitting studies required.

COMMERCIAL MODEL

- Long-term PPA / fixed-price firm clean energy to the AI offtaker
- Behind-the-meter, utility-owned, JV, co-development or SPV structure
- Hyperscaler-backed offtake to support project finance
- Storage, cooling and interconnection scope optimized site by site
- First-mover position in wave-powered AI energy

100% AMERICAN VALUE CHAIN

Manufacturing: concrete/steel hulls, ducts, mooring systems and modular marine components.

Powertrain: turbines, generators, converters, transformers, grid equipment and storage integration.

Deployment: U.S. ports, shipyards, marine contractors, coastal engineers and long-term O&M; crews.

ELECTRICAL ARCHITECTURE ADVANTAGE

THE TURNWATER EDGE FOR AI DATA-CENTER POWER

Power AI load
Offer differentiated firm clean power for hyperscale campuses.

Cool at the coast
Seawater adjacency supports next-generation cooling design.

Simplify power path
DC generation, transmission and storage reduce transformer complexity.

Build in America
Domestic industrial pathway for manufacturing, deployment and O&M.;

Improve acceptance
Coastal-protection value supports stakeholder alignment.

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