



Overview

GenH is a next-generation clean energy technology development company that has created a first in class, rapidly deployable, and modular hydropower system termed Adaptive Hydro™. Adaptive Hydro™ is designed to electrify non-powered dams and canal heads without construction or investment in fixed infrastructure. Currently, only 3% of US dams are electrified presenting an untapped market opportunity. GenH founders are noted experts in fluid dynamics and thermodynamics and also have decades of market strategy and business experience in the field of renewable energy.

Adaptive Hydro™

Adaptive Hydro™ is simply a better system design for current resource and market conditions, both in terms of energy performance, resources necessary per MW, and economics. Adaptive Hydro™ undercuts Natural Gas, the most competitive and dominant energy source (50+% market share), with **cost of generation below \$0.03/kWh. Adaptive Hydro™ changes the renewable paradigm by:**

- **Eliminating construction in deploying the equipment** and significantly changing the economic positioning of new Hydro.
- **Eliminating up-front carried debt** allowing the amount of MW deployed to be a choice, rather than a necessity, thereby eliminating economic risk from resource variability.
- **Under-deploying the amount of MW and amortizing the debt while stabilizing output:** the standard 25% margin for traditional hydro becomes a 50+% margin for Adaptive Hydro™ on the same river.
- **Producing stable cheap clean power without the need for any storage.**
- **Introducing modularity and mobility as performance insurance** against resource and climate volatility.
- **Is a patented technology** able to adapt to a changing climate and the accompanying resource mobility.

Adaptive Hydro™ can be as easily deployed as **pumped-storage hydropower** making it a hydropower technology truly adaptable to all scenarios.

Technologies and Opportunities

In addition to Adaptive Hydro™, GenH has developed other technologies which are cheap, modular, mobile, stable, and adaptable. **Adaptive Hydro^{ENV}**, a variant of the Adaptive Hydro™, can be used to **virtually remove dams** through:

- **Sedimentation Removal from reservoirs to recover the 25% of active capacity lost since 1970.** The sediment can be transported downstream to replenish critical nutrients or collected and processed for offsite economic use, such as high quality ceramics or composites.
- **Fish Passage for safe migration of fish within a dammed waterway**, enabling endangered fish species easier access to their spawning grounds and less hostile return to sea/lakes as they migrate back down river.
- **Downstream oxygen and nutrient replenishment and temperature adjustment for better riverine environment health.**

Kinetic Hydro™ is a duct based fluid accelerator system, based on a decade of groundbreaking fluid dynamics research by GenH founders, which can be deployed in any river or stream to produce higher levels of power without the presence of a dam or risk of damage.

Nomad^{ev}, endorsed by Massachusetts State Senator Bruce Tarr and former State Senator Richard Ross, is a system to combine electrification of non-powered dams and transport range charging without transmission. Non-powered dams are highly colocated with roads and highways across the US.

Key Partnerships

GenH has a partnering agreement with Hatch Engineering's Waterpower division to distribute and deploy Adaptive Hydro™ in the U.S. and beyond. GenH is also founding member of the ANPEG consortium at MIT CANES. ANPEG is a consortium consisting of multi-national corporations, academic institutions, and research organizations, including the U.S. National Laboratories, intended to leverage emerging technologies and market opportunities. The group is focused on systems that do not require subsidization, can be developed as Minimum Viable Systems/Products, and can adapt to unforeseen increases in market and atmospheric volatility.

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