



HyWatts










Our mission is to create reliable and zero-emission energy anywhere with our Power-Plant-in-a-box™.

View our Demo Day pitch here!

techstars Los Angeles Accelerator



Resources:

-  [Website](#)
-  [One-Pager](#)
-  [Pitch Deck](#)
-  [Technical WhitePaper](#)  
-  [HyWatts MVP Project Status](#)
-  [Email – Alex/Sam](#)
-  [Meet the Team](#)

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The Problem

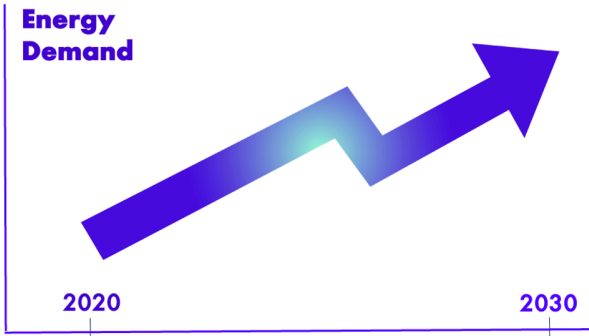
Lack of infrastructure to meet significant growth in energy demand

We're seeing rapid increases in energy demand driven by the use of AI, EVs, and other power-intensive industries. By 2030, EVs & Data Centers alone will use as much energy as 50 million homes. Or said in another way, the energy consumed will equal nearly 1/3 of ALL 150M US homes today. The problem is that we simply don't have the grid to support all this additional demand and it will cost \$2T to do so.

We know there has to be a better way.

The Problem:

Lack of infrastructure to meet significant growth in energy demand



By 2030, EVs & Data Centers will use as much energy as **50M** homes.
1/3 of all homes in the US





Meeting this will require an investment of \$2T or ~8% of US GDP

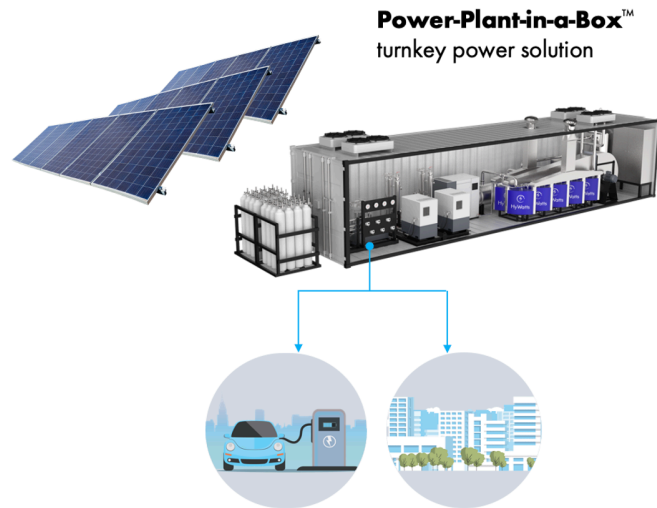
The Solution

HyWatts' Power-Plant-in-a-Box™

Our zero-emission Power-Plant-In-A-Box™ addresses this exponential growth in energy demand with reliable, low-cost on-site energy where it is needed, without having to rely on the grid. It works by combining solar generation and our breakthrough hydrogen-based energy storage technology into a single system, which provides continuous renewable power on-site.

The Solution: HyWatts' Power-Plant-in-a-Box™

| | |
|---|---|
|  | Energy, Anywhere Without need for the grid |
|  | On-Site Solar Generation Proprietary Storage Tech |
|  | Faster Deployment |
|  | Lower CAPEX |
|  | Low Cost per kWh |

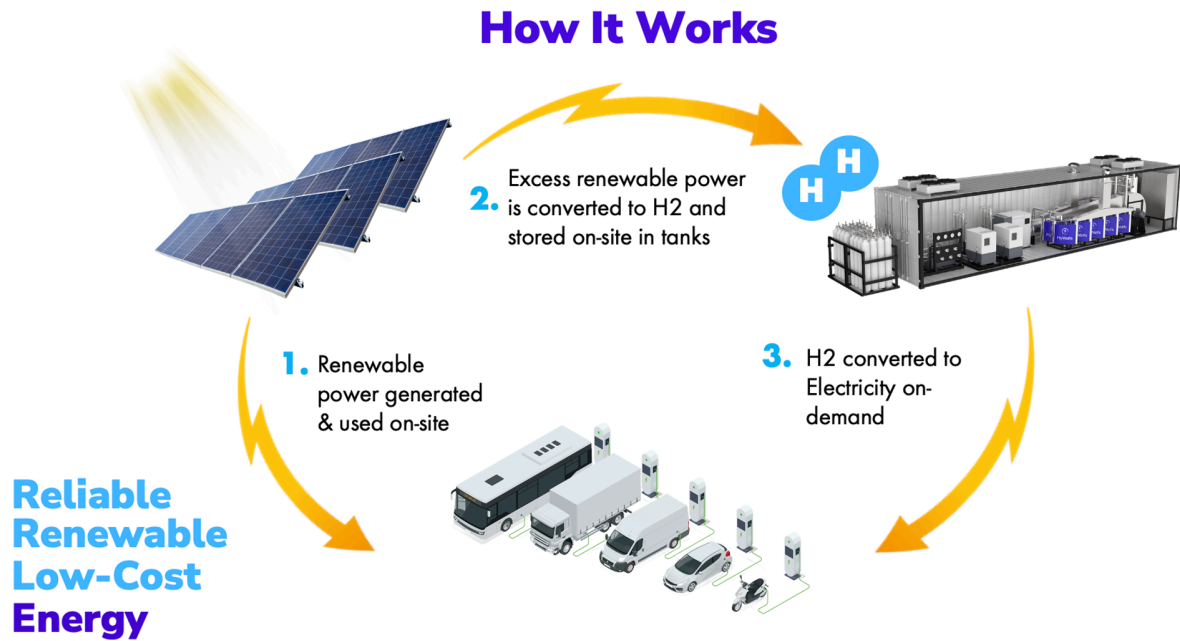


How It Works

Let us explain how it works based on an EV charging station example

- During the day, the solar panels produce power and directly supply it to the charging station.
- Unused excess power is converted into hydrogen, which is stored in tanks and used as an energy storage medium because Hydrogen can store a lot of energy for a long time.
- And when solar power is not available – such as during the night or on rainy days – the hydrogen is converted back to electricity to supply the chargers for multiple days, unlike battery-based systems.

As a result, we can deliver reliable, renewable, and low-cost energy wherever it is needed.



What makes us different?

HyWatts' revolutionary Reversible HTPEM Fuel Cell reduces costs

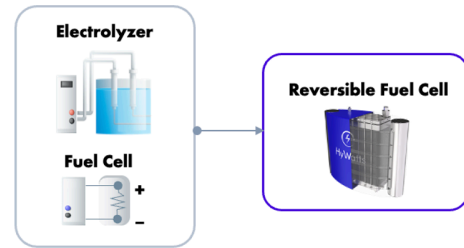
We have made a critical breakthrough to unlock the potential of hydrogen as an energy storage medium in a much more efficient way compared to existing hydrogen technology. Current Tech needs an Electrolyzer and a Fuel Cell to turn electricity into hydrogen and then back into electricity. HyWatts combines both into a Single Component using our HTPEM Reversible Fuel Cell, which was unlocked by a novel conducting polymer HyWatts has developed.

In comparison with current battery technology, HyWatts provides significant savings due to the use of simple, low-cost, mass-produced storage tanks rather than the costly and complex battery technology/materials.

HyWatts' reversible fuel cell technology reduces CAPEX by 2x+ vs current hydrogen technology and by 5x+ vs current Li-ion Battery technology.

We are on track to have the Power-Play-In-A-Box System MVP deployed in November 2024 and our first 5 kW Stack Prototype Test in December 2024.

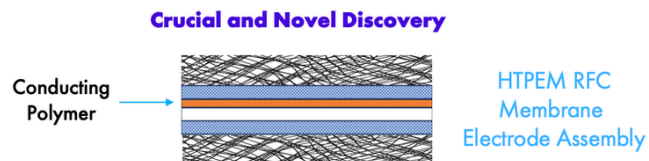
Current Tech needs an Electrolyzer and a Fuel Cell.
HyWatts combines both into a Single Component



Two Patent Applications Filed

This technology is protected by two patent applications for the design of the High-Temperature Proton-Exchange Membrane (HTPEM) Reversible Fuel Cell System as well as the HTPEM Membrane Electrode Assembly (MEA). As the technology continues to develop it is anticipated that additional IP will be created to further protect HyWatts' technology and market position.

Two Provisional Patents on Breakthrough Tech



Advantages vs Other Technology

We differentiate ourselves significantly from competing technologies. We're better on capex than batteries, traditional hydrogen systems, and even utility companies! Our system works competitively on the generation side, too, in terms of electricity cost. Critically, we can provide significant savings for power-intensive businesses alongside reliable & zero-emission energy.

Competition & Differentiation

| | Grid-Connected | Grid-Independent | | | HyWatts |
|--------------------------------------|----------------------------|--|--------------|----------------|---------|
| | Utility – Limited Capacity | Li-ion Battery | Flow Battery | Traditional H2 | |
| CAPEX (storage), \$/kWh | - | 300 | 200 | 180 | 99 |
| Generation, \$/kWh | 0.18 | 0.55 | 0.47 | 0.25 | 0.11 |
| 220MWh system, \$M with Solar Panels | 47.0 | 99.9 | 81.1 | 65.3 | 31 |
| Business Model | Energy-as-a-Service | Equipment Sales or Energy-as-a-Service | | | |

HyWatts offers lower CAPEX and Electricity Cost

HyWatts is the only solution on the market that checks all the boxes in terms of Safety, Cost, GW Scalability, Redeployability, Temperature Resilience, and Suitability for different applications while also producing H2 as high-value by-product.



GTM Strategy

After completing customer discovery, our initial market is zero-emission vehicle charging stations in rural areas, the last frontier in a national charging network, focusing on existing truck stops as well as new stations. In Phase 2 we will expand into Data Centers, Warehouses, and Community Microgrids – likely by 2028. Post-2030 we will expand into Utility Scale Storage.

Phase 1

EV Charging Stations



Phase 2

Community Microgrids,
Data Centers, Warehouses



Phase 3

Utility Scale Storage



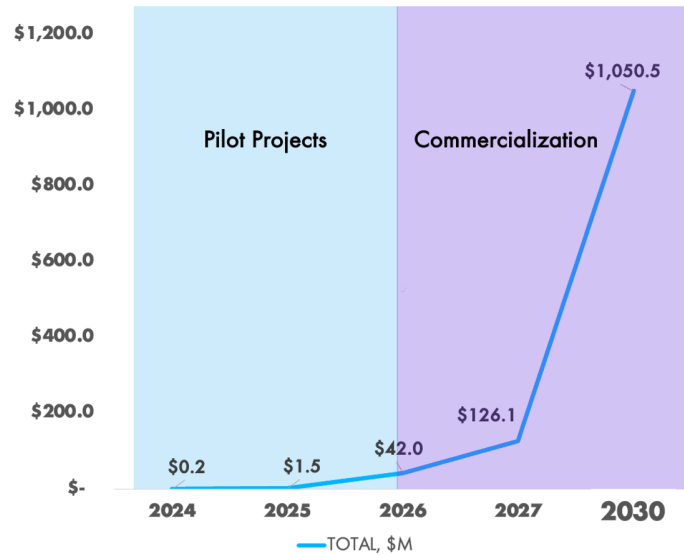
How We Make Money

We will focus on delivering Energy-as-a-Service to customers via a power purchase agreement (PPA), working with financing partners, to deliver low-cost energy with no upfront cost to the consumers. This allows HyWatts to capture the available incentives & rebates while ensuring minimal cost to the customer.

We will start by deploying smaller pilot systems in late 2024/early 2025 before moving into full-scale commercialized systems in 2026. As noted above, this will initially be focused on ZEV Charging Stations before expanding into Data Centers, Warehouses, & Community Microgrids around 2028, putting HyWatts on track to capture \$1B in revenue by 2030.

Energy-as-a-Service

- 25-year fixed price contract
- No Upfront Cost to Customer



We Have Traction

We already have 6 LOIs worth over \$57M that represent an additional \$3B in potential contract value upon success. We have already converted 2 of these LOIs into initial commercial feasibility studies. We also have completed a Phase I SBIR grant for the Marine Corps and are anticipating a Phase II grant valued at \$1M towards the end of summer. We were also awarded a Phase I DOE SBIR grant valued at ~\$200k to support development of our HTPEM Electrolyzer.

\$57M → **\$3BN**
 LOIs Potential Contract Value





Strategic Partnerships

We are partnering along the value chain

HyWatts isn't on this journey alone with key partnerships along the supply chain. This includes critical R&D and distribution partnerships with key Industry (BASF, Sunbo Unitech) & Academic Leaders (University of South Carolina, UC Irvine, UC Riverside, Cal State LA), as well as active participation in Government efforts to drive innovation (ARCHES H2 Hub, LDES Consortium), and others.



Team

Previous exits in hydrogen, energy and clean tech



Alex Ivanenko, PhD
CEO



Sam Ruben, MBA/MPA
CBDO

