

Pasadena Angels Entrepreneur Application

1. DEI: please disclose DEI information for their team to help better track funding flows. We ask for Gender Identity, First generation college students, Veteran status, and Racial/Ethnic Identities.

We are currently still quite small with an 8 person team. We recognize that we have work to do in improving our diversity, especially in racial and gender given that of those 8 only 1 is a person of color and only 1 identifies as female. In other areas, we are doing quite well - namely in the fact that only 1 member of our team is a native born US citizen, with the remainder of the team having been born in Eastern Europe and Africa. We are also proud that one of our team is the first in their family to have gone to college. As we grow we are including DEI considerations into our hiring and are looking forward to continuing to improve the diversity of our team as it grows.

2. Location

Berkley, California

3. One liner

HyWatts offers a high-growth investment opportunity by delivering innovative, zero-emission energy solutions through its "power-plant-in-a-box™," targeting a \$500B market with \$57M in secured LOIs and a potential \$3B pipeline, led by a seasoned team with a strong track record.

4. What Problem We are Solving

HyWatts is addressing the lack of infrastructure to meet the significant growth in energy demand driven by AI, EVs, and other power-intensive industries. By 2030, EVs and Data Centers alone will consume as much energy as 50 million homes, nearly 1/3 of all US homes today. The current grid cannot support this additional demand, and upgrading it would cost \$2 trillion. HyWatts offers a better solution with its zero-emission Power-Plant-In-A-Box™, which provides reliable, low-cost on-site energy without relying on the grid.

5. About Us

HyWatts offers a compelling investment opportunity due to its innovative solutions, strong market potential, and experienced team. Our flagship product, the power-plant-in-a-box™, addresses the critical energy needs of high-growth industries like EV charging stations, data centers, and manufacturing by providing reliable, low-cost, zero-emission energy through on-site solar production and hydrogen-based storage technology. This solution targets a \$500B market and has already secured 5 LOIs worth \$57M, with potential contracts valued at \$3B. Our business model initially focuses on equipment sales for pilot projects, leveraging subsidies and incentives, and will transition to an energy-as-a-service model with long-term contracts. This approach ensures steady revenue streams and scalability. The strength of our team is a significant asset. Our CEO, Alex Ivanenko, is a seasoned entrepreneur with a PhD in Electrochemistry and a successful track record, including the sale of his previous company, HyPoint, for \$100M. Our co-founders, Dietmar Trees and Sam Ruben, bring decades of experience in engineering, project management, and sustainability. Together, we are committed to pushing the boundaries of hydrogen technology to create a sustainable future.

6. Venture Highlights: What have you accomplished so far? Brag here!

In the little over a year since we incorporated we have made significant progress towards our HTPeM Reversible Fuel Cell. We established our technology breakthrough last fall and applied for 2 patents to protect that critical IP. Since then we are well on our way to our first MVP product at both the stack and system level with our MVP Power-Plant-in-a-Box on track for deployment by end of the year and the next generation of our HTPeM Fuel Cell & Electrolyzer technology (critical steps to the HTPeM RFC) on track to be completed next year (likely in the first half). This accelerated development timeline is made possible by our team's deep experience in bringing new technology to market having been honed during their time with Owens Corning, ASML, and specifically in HTPeM technology with HyPoint.

Along with this significant progress in technology development, we have made significant commercial traction with 7 LOIs worth \$55M that represent an additional \$3B in potential contract value upon success. We have already converted 2 of these LOIs into initial commercial feasibility studies worth ~\$175k. We have good traction with grants as well, having completed a Phase I SBIR grant for the Marine Corps and have been awarded a \$200k SBIR Phase I grant from the DOE to support our HTPeM Electrolyzer research.

Furthermore we are proud to have completed the TechStars LA Accelerator Program and the Plug and Play Technology Center Energy Innovation Program in early June.

Critical to all this is partnerships with collaborators in both business and R&D - including with BASF, Sunbo Unitech, University of California Irvine and others in addition to our involvement in industry groups such as the ARCHES H2 Hub and the LDES Consortium - both funded by the DOE.

7. Business Model

HyWatts generates revenue through a combination of B2B equipment sales and an Energy-as-a-Service (EaaS) model. Initially, the company focuses on pilot projects -- HyWatts sells equipment, allowing customers to capture most of the capital expenditure. As the company moves towards full commercialization, it plans to deploy systems under long-term Power Purchase Agreements (PPAs), providing low-cost energy with no upfront cost to consumers. This approach enables HyWatts to capture available incentives and rebates while ensuring minimal cost to the customer. The company aims to transition to the EaaS model by 2026, targeting various sectors such as EV charging stations, data centers, warehouses, and community microgrids. By 2030, HyWatts aims to capture \$1B in revenue.

Key revenue drivers include:

1. Converting LOIs into paid feasibility studies.
2. B2B equipment sales for pilot projects.
3. Long-term PPAs under the EaaS model.
4. Capturing incentives and rebates.
5. Expanding into multiple sectors like EV charging, data centers, and microgrids.

8. Competitive Advantage

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.

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.

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.

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.

9. Revenue to date

\$15k

10. MMR

11. Revenue YTD

12. Burn rate

~\$50,000

13. User base

14. Metrics

15. Go to market: How are you getting your product to market? What have you seen to be successful?

Our go-to-market strategy involves a phased approach:

1. **Phase 1:** Target ZEV charging stations in rural areas, focusing on existing truck stops and new stations.
2. **Phase 2:** Expand to data centers, warehouses, and community microgrids by 2028.
3. **Phase 3:** Expand into utility-scale storage by 2030 and beyond.

We plan to implement an Energy-as-a-Service (EaaS) business model, offering customers a 25-year power purchase agreement (PPA) with no upfront costs, leveraging available incentives and rebates to minimize expenses for customers.

HyWatts has achieved significant milestones, including securing 7 LOIs worth \$55M, with 2 converted into initial commercial feasibility studies worth ~\$175k. We completed a Phase DOD I SBIR grant in May, additionally, we received a \$200k award from the DOE for HTPEM Fuel Cell research. We have established R&D relationships with BASF, Sunbo Unitech, and several universities and completed the TechStars Los Angeles Accelerator Program and the Plug-In Play Energy Innovation Program.

16. Competitive Analysis

- Form Energy – they are similarly seeking to provide low-cost multi-day storage solutions. They claim that they can achieve \$20/kWh, which if true is impressive, though industry insiders indicate that they are currently over \$100/kWh and it is not clear if that will change in the near to medium term. Additionally, their system has a physical footprint and water usage that are orders of magnitude larger for the same storage capacity when compared to the HyWatts system. Both will be critical limitations to their use cases, and the water is problematic as water scarcity becomes an increasingly serious problem.
- Energy Dome – they use compressed CO₂ to store energy (as liquid CO₂ which is then expanded back into gaseous CO₂ to drive a turbine) in soft domes. They claim that a 200MWh battery requires ~12 acres (about twice the area of the Lincoln Memorial Reflecting Pool) of land, again orders of magnitude larger than an equivalent HyWatts system. There are also significant safety concerns if there were to be a failure of their dome as CO₂ is heavier than air and could create a deadly layer at ground level over a significant area.
- It is important to note that a critical differentiator of HyWatts technology is the ability to provide both energy storage and green hydrogen, something that is not possible with other technologies.

17. Networking

We are open to meeting up to grab a coffee, or just to chat. We would really enjoy your feedback and insight into our venture and would be happy to discuss anything that you are currently working on to see if we can be of service!

18. Please Upload a copy of your financial projections. Items to possibly include: Revenue assumptions, including customer pipeline and letters of intent, Monthly expense budgets and staffing plan, Sources and uses of cash, i.e., Burn down-schedule, Current balance sheet, Schedule of unusual payables or outstanding indebtedness, use of proceeds schedule.

[LINK](#)

19. Briefly describe which developmental milestones will be achieved with the proposed round of funding.

The proposed round of funding will primarily focus on achieving key technical milestones and expanding commercial traction. Specifically, the funds will be used to finalize the development of the first 5kW stack prototype (January 2025) and system MVP, with completion targeted by end of 2024. Additionally, the funding will support the recruitment and onboarding of specialized engineers and researchers for fuel cell development and provide general working capital. The allocation of funds is planned as follows: 45% for prototype development, 35% for team development, and 20% for general working capital. This round of funding is crucial for accelerating the commercialization of the prototype across multiple customers and achieving technical milestones.

20. Estimate of capital required to take a company through exit?

The capital required to take HyWatts through exit is estimated to be around \$50 million.

21. What are some recent comparable exits?

HyWatts' co-founder and CEO, Alex Ivanenko, previously sold a hydrogen fuel cell company, HyPoint, to ZeroAvia for \$100 million in September 2022. This could be considered a relevant exit in the context of hydrogen fuel cell technology.

22. Any additional deal details we should know about?

We have just closed our \$1M pre-seed round which was supported by reputable investors: [Aloniq](#), [Climate Capital](#), [BuildTechVC](#), a follow-on investment from [TechStars](#), and others. Now we are considering extending the current pre-seed round. And will be happy to chat with you about this opportunity!

23. Company Phone Number

+1(650)4604488

24. If you were referred by a member, please indicate below

25. Sad

Two notable examples are EnergyVault and GenCell, both of which recently went public and have garnered significant attention.

1. **EnergyVault:** EnergyVault completed its IPO in 2023, successfully raising capital to further develop its innovative gravitational energy storage technology. The company focuses on long-duration storage solutions that utilize earth materials to store energy, positioning itself as a key player in the transition to renewable energy. The market's positive reception to its IPO underscores investor confidence in scalable, sustainable energy solutions.
2. **GenCell:** GenCell also went public in 2023, bringing to market its hydrogen-based energy solutions. Their technology aims to provide reliable backup power and long-

duration energy storage using fuel cells. GenCell's IPO was well-received, highlighting a growing interest in hydrogen as a critical component of the clean energy ecosystem.

Both of these exits illustrate the increasing investor interest in innovative energy storage technologies and the potential for substantial growth in the sector. As the demand for renewable energy and energy storage solutions continues to rise, we can expect to see more strategic exits in this space.