

## General Information

Nominee Name: HyWatts Inc

Number of Employees: 8

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I. About the Nominee a. Provide details on the technology that your startup provides. How does it

tie into climate resiliency, adaptation, or mitigation?

HyWatts' initial product, the Power-Plant-in-a-Box™, integrates on-site solar energy production with proprietary hydrogen-based energy storage using a high-temperature proton-exchange membrane (HTPEM) Reversible Fuel Cell. This system efficiently converts solar energy into hydrogen and back into electricity, resulting in a reliable, renewable, and cost-effective power solution that stabilizes supply and reduces environmental impact, making it ideal for applications such as EV charging stations. This technology contributes to climate resiliency by providing zero-emission energy and reducing reliance on fossil fuels, thus aiding in climate adaptation and mitigation efforts.

b. What major obstacles, beyond funding needs, have you encountered in the process of getting your idea up and running?

Beyond funding needs, HyWatts's major obstacles include engineering risks related to technology development and resource availability. Additionally, HyWatts has had to navigate the complexities of commercial traction and customer discovery to validate market hypotheses and expand into new markets. However, the team's prior experience in similar projects provides confidence in overcoming these challenges. Additionally, HyWatts' strong strategic partnerships

and commercial traction are critical to mitigating these risks and accelerating market entry.

c. Is the company based in Orange County? If so, why? If not, explain why the company has chosen OC as a market.

HyWatts is based in San Diego, Sorrento Valley. However, the company has a partnership with the University of California, Irvine, which is located in Orange County. This partnership focuses on collaborative research in electrolysis, fuel cells, and hydrogen storage systems, aiming to develop advanced components for hydrogen fuel cells. This collaboration demonstrates our strategic interest in the region due to its research capabilities and potential market opportunities.

d. Who is the founder(s)? Please provide a staff roster. Biographical information does not count towards the word count.

Alex Ivanenko is an innovator, serial entrepreneur and thought leader in fuel cell technology, with a PhD in Electrochemistry. He is a former Founder & CEO of the Silicon Valley based manufacturer of H<sub>2</sub> fuel cells for aviation, HyPoint, and has been recognized for accomplishments in driving sales and developing business strategies at 3M and Owens Corning.

Sam Ruben is a driven and accomplished innovator, entrepreneur, and co-founder of Mighty Buildings/BuildTech VC. With a BA from Vassar College and an MBA/MPA from Presidio Graduate School, Sam has taken on the climate crisis as a core member of the G20 Sustainability Taskforce in the World Economic Forum. Using his expertise and cross-sector partnerships, he works towards innovative solutions for a more sustainable future for people, planet, and prosperity.

Beyond our qualifications and accomplishments, we are passionate about creating a positive impact on the world through our work. We believe that hydrogen technology has the potential to create a cleaner and more sustainable future for generations to come. We feel a personal duty to use our skills and knowledge to drive change and make a meaningful impact on the world.

We believe that our combination of expertise, experience, and passion make us the right founders to bring affordable hydrogen technologies to the market. We are committed to

pushing the boundaries of what is possible with hydrogen technology and making a real difference in the world.

## II. Looking Forward (500 Words Max)

- a. How will this technology make a positive difference? Consider predicting the impact on GHG accounting, cost savings, or community resiliency.

HyWatts' technology offers significant positive impacts in several key areas:

1. **GHG Accounting:** By accelerating the decarbonization of the economy, particularly in areas lacking current technological advantages, HyWatts' system can significantly reduce greenhouse gas emissions. This is achieved through the deployment of renewable energy solutions like rooftop solar and small-scale wind in urban settings, and the production of green hydrogen as a by-product. So even though the technology itself isn't related directly to GHG Accounting, it is a critical tool for organizations to reduce their impacts.
2. **Cost Savings:** HyWatts' system is designed to be highly cost-competitive. It offers lower CAPEX and electricity costs compared to other technologies, even without subsidies. For example, the system can produce green hydrogen at a cost of \$3.70 to \$4.00 per kilogram, which drops to \$0.70 to \$1.00 with available incentives. Another example is the price per kWh is \$0.10 which is lower compared to other solutions like batteries or even utility companies.
3. **Community Resiliency:** The technology supports the development of community microgrids, providing reliable and low-cost on-site energy without relying on the grid. This enhances community resiliency, especially in densely populated urban areas and regions with underdeveloped infrastructure. It also allows for grid independent operation of customer locations, creating additional resilience in times of power outages and natural disasters.

- b. What does your traction look like? Have you secured any customers or Revenue?

HyWatts has made significant commercial traction since its inception. The company has secured 7 Letters of Intent (LOIs) worth \$55 million, representing an additional \$3 billion in potential contract value upon success. Two of these LOIs have been converted into initial commercial feasibility studies worth approximately \$175,000. Additionally, HyWatts has completed a Phase I SBIR grant for the Marine Corps and has been awarded a \$200,000 SBIR Phase I grant from the Department of Energy to support its HTPEM Reversible Fuel Cell research and development. The company is also involved in pilot projects with a total value of \$20-40 million, with upfront hardware costs covered by customers, reducing overall costs and risks for HyWatts. The

company plans to transition to an Energy-as-a-Service model by 2026, targeting various sectors such as EV charging stations, data centers, warehouses, and community microgrids, aiming to capture \$1 billion in revenue by 2030.

c. How can Sustain Southern California help? Do you have any interest in our Startup Scalerator?

Sustain Southern California can help by providing support and resources for our initiatives, particularly in the EV charging and microgrid sectors. We have a strong interest in your Startup Scalerator program as it aligns with our goals of accelerating the deployment of sustainable energy solutions. We have previously participated in similar programs like the Techstars Los Angeles Accelerator and the Plug and Play Energy Innovation program, which have been instrumental in our growth.

### III. Further Considerations (400 Words Max)

a. What are other benefits or unique aspects of your tech product or service that do not fit into the above sections?

HyWatts offers several unique aspects and benefits that distinguish it from other technologies. One of the key innovations is the development of a Reversible Fuel Cell (RFC) that combines both water electrolysis and hydrogen utilization in a single system, significantly reducing CAPEX costs and facilitating the green energy transition. Additionally, HyWatts' power-plant-in-a-box™ provides reliable, low-cost zero-emission energy, addressing the \$500B market opportunity for power-intensive industries like EV charging stations and data centers. The technology is protected by two patent applications, ensuring a competitive edge in the market. Furthermore, HyWatts' system is environment agnostic, capable of operating in various weather conditions, and offers a lower cost per kilowatt-hour compared to traditional systems.

c. How will your startup make a positive environmental difference? Highlight cases where you expect to go beyond average environmental standards.

Our innovations not only help stabilize the grid, but also reduce environmental impact, making it ideal for applications such as EV charging stations, Data Centers, community microgrids, and warehouses, as well as providing utility scale storage. HyWatts' approach offers a zero-emission energy solution that addresses the limitations of the current power grid and supports the growing demand for clean energy in power-intensive industries. Additionally, HyWatts' system provides 100% clean power, offering a sustainable alternative to diesel generators and grid power,

especially in areas where the grid cannot sustain additional demand. This positions HyWatts as a leader in providing both renewable and cost power and green hydrogen.