

2022

ANNUAL REPORT

Renewable Hydrogen Alliance



**To see more of our achievements, learn more about
renewable hydrogen or about joining RHA, please
visit our website:
www.renewableh2.org**

**RHA is a non-profit 501(c)(6) organization based in
Portland, Oregon, established to advocate using
renewable energy to produce hydrogen and climate-
neutral derivatives to reduce dependence on fossil
fuels.**

**RHA engages in education and outreach to utilities,
the renewable energy and environmental
communities, regulators, legislators, and others,
promoting climate neutral fuels from renewable
electricity as critical to reaching climate change
goals, and serving as a renewable hydrogen
information clearinghouse.**

**Renewable Hydrogen Alliance
www.renewableh2.org
(503) 386-2010**

*To save trees, this annual report is available in electronic
form only.*

Letter from the Executive Director

Welcome to RHA's Annual Report where we highlight and summarize the what, how and why of our work over the past year.

The What

All of the accomplishments RHA has achieved, the exciting events we've participated in and hosted and how RHA has grown in size, influence and impact over the past year.

The How

How all of our work has helped to move the needle on growing the renewable hydrogen economy in the Northwest region - our home and our primary focus.

The Why

It's a long list but starts with reversing climate change, economic development, job creation and equitable transition, and environmental justice.

And none of this would be possible without the **amazing support of our members - *thank you!!***



Michelle Detwiler
RHA Executive Director

Our Mission

Promoting the use of renewable energy to produce hydrogen and climate neutral fuels to reduce dependence on fossil fuels across multiple sectors.

2022

Our Year in Numbers

75

MEMBERS

17%

MEMBERSHIP GROWTH

34

ELECTED OFFICIAL
ENGAGEMENTS

20+

MEMBER COMMITTEE
MEETINGS

4

BILLS PASSED

\$29M+

STATE FUNDING FOR
H2/ALTERNATIVE FUELS

2022 Leadership



Michelle Detweiler
Executive Director
Renewable Hydrogen Alliance



Martina Steinkusz
Director of Market Development
Renewable Hydrogen Alliance



Don Ruff
Board President
Ruff Consulting



Jason Busch
Board Secretary/Treasurer
Pacific Ocean Energy Trust



Ken Dragoon
Board Member
Obsidian Renewables



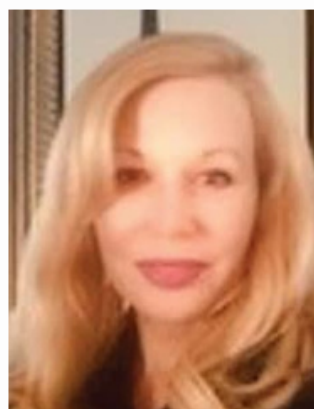
Neil Hartman
Board Member
Washington State Association of UA Plumbers,
Pipefitters and HVAC/R Service Technicians



Evan Ramsey
Board Member
Bonneville Environmental Foundation



La Stanja Baker
Board Member



Lisa Rennie
Board Member
Tacoma Power

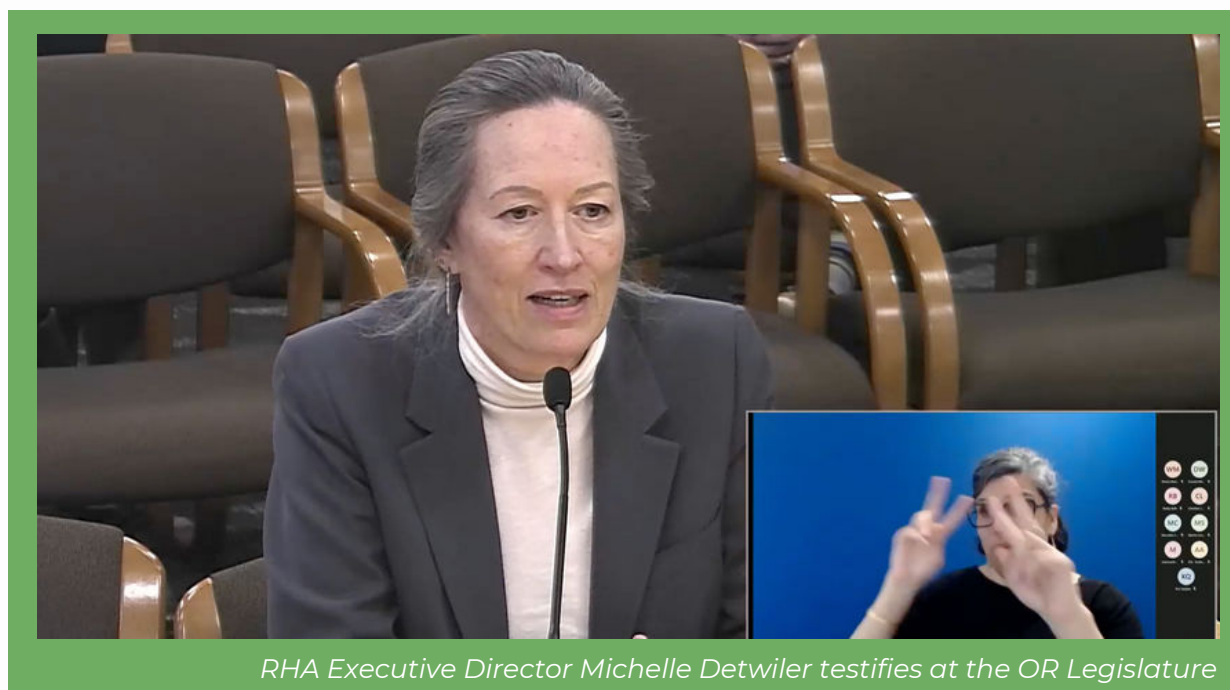
Accomplishments

Advocacy

With every year that RHA engages with policymakers, regulators and key decisionmakers in the renewable hydrogen, energy, transportation, and climate policy areas, the effectiveness of our work, our message, member input and education efforts becomes more evident. Our advocacy becomes more focused and more impactful in building support for renewable hydrogen's role in economy-wide decarbonization.

2022 was a short legislative session in both Oregon and Washington, but RHA still managed to successfully advocate for and support several renewable hydrogen bills all the way to passage, including state funding and tax incentives for projects.

The momentum in support for hydrogen also continued to accelerate at the federal level which helped to underpin our efforts at the state level.



RHA Executive Director Michelle Detwiler testifies at the OR Legislature

Federal Hydrogen Policy and Initiatives

With the passage of the Infrastructure Investment and Jobs Act in late 2021, and the Inflation Reduction Act (IRA) in August 2022, federal activities around hydrogen advanced rapidly. While RHA does not lobby at the federal level, as a service to our members we closely track, weigh in on policy through comment opportunities and keep our members informed on hydrogen policy developments at the federal level.

Highlights of RHA's involvement in federal hydrogen policy and initiatives include:

- Compiled input from members to respond to the US Department of Energy's Request for Information on Regional Clean Hydrogen Hubs
- Provided comment on the draft National Hydrogen Strategy and Roadmap as member of an invite only national coalition of hydrogen industry trade groups
- Provided comment on the federal clean hydrogen standard
- Being appointed to the Pacific Northwest Hydrogen Hub Association Advisory Board and then promoted to Board of Directors
- Provided comments on Section 45V, Tax Credit for Production of Clean Hydrogen in the IRA
- Co-hosted an online workshop for members with K&L Gates to walk through the specifics of, and answer questions about Section 45V
- At the invitation of the US Department of the Treasury, RHA participated in and provided input to a roundtable on decarbonizing heavy industry and the IRA, representing the role of hydrogen, with USDOE Directors and White House staff also in attendance
- Signed onto a letter to US House of Representatives Appropriations Committee leadership requesting the inclusion of an amendment that would add zero-emission vehicles (ZEVs) to the existing 82,000-pound heavy duty vehicle federal weight exemption





State Hydrogen Policy and Initiatives

Washington

Without a doubt, one of the most significant RHA victories was passage of Senator Carlyle's renewable hydrogen state strategy bill, SB 5910. This bill put in place measures to accelerate the development of the renewable hydrogen economy in Washington and required development of a statewide strategy to most effectively target sectors for renewable hydrogen end use.

RHA also supported the inclusion in several bills that passed of a definition of "green electrolytic hydrogen" (GEH). GEH is defined as "hydrogen produced through electrolysis, and does not include hydrogen manufactured using steam reforming or any other conversion technology that produces hydrogen from a fossil fuel feedstock".

The Washington legislature also provided millions of dollars in funding for alternative fuel vehicles, alternative fuel infrastructure, grants for public transit to transition to alternative fuel vehicles and for the demonstration of zero emission vehicles involved in port operations. Hydrogen is considered an eligible alternative fuel for all of this funding.



State Hydrogen Policy and Initiatives

Oregon

In short legislative sessions in Oregon, the Legislature is limited to only 35 days to get its work done, therefore, RHA did not propose any bills for consideration. However, the primary budget reconciliation bill that passed included a requirement that the Oregon Department of Environmental Quality (ODEQ) and the Oregon Department of Transportation (ODOT) analyze existing incentives for transitioning to zero emission medium and heavy duty transportation fleets.

The agencies were also directed to research incentives offered in other states for alternative fuel vehicles, and electric charging or other fuel infrastructure (including hydrogen), and provide recommendations on creating or expanding incentives to support transitioning to zero emission medium and heavy-duty vehicles.

State Hydrogen Policy and Initiatives

State Regulatory Activity

RHA was honored to be invited to serve on the Oregon Department of Environmental Quality (ODEQ) Clean Fuels Program Expansion Rules Advisory Committee. This committee deliberated and provided guidance to ODEQ staff on several aspects of the Clean Fuels Program which has been in existence since 2018. As part of the expansion of the program, hydrogen was added as a clean fuel to generate credits under the program for producers.

After the passage of SB 333 in Oregon in 2021 that authorized the Oregon Department of Energy (ODOE) to conduct a study on the potential of a renewable hydrogen economy in Oregon, RHA responded to questions and information requests from the agency, participated in stakeholder workshops and provided comments on draft outlines of the study. The final study was released in late 2022.



Photo courtesy of Toyota Motor North America



Photo courtesy of Nikola Motors

With the help of RHA member Toyota, RHA persuaded ODOT to nominate the I-84 highway as a hydrogen pending corridor to the Federal Highway Administration. FHWA accepted the nomination and now Oregon has two hydrogen pending corridors - I-84 and I-5.

RHA also actively supported and provided comment on Oregon and Washington's adoption of California's Advanced Clean Cars and Advanced Clean Trucks Rules. RHA comments emphasized to both states' transportation agencies that the deployment and increased sales of clean cars and trucks as mandated by the rules include and require equal state support for fuel cell drive-trains, not battery electric exclusively.

Accomplishments

Organizational and Financial Strength

RHA strengthened the governance of our organization in 2022 by increasing the number of Directors on our Board. RHA recruited three new Board members at the start of the year - La Stanja Baker with Toyota, Lisa Rennie with Tacoma Power and Evan Ramsey of the Bonneville Power Administration. In mid-2022, Neil Hartman of the Washington State UA of Plumbers and Pipefitters replaced Nicole Hughes who stepped down from the Board.

RHA also dramatically increased our financial capacity through the award of a grant from Breakthrough Energy (see below) and a grant from the Portland Clean Energy Fund.

The PCEF grant enabled us to hire an intern to do an analysis assessing environmental justice challenges and opportunities for the growing renewable hydrogen industry.



RHA Awarded Breakthrough Energy Grant

In the Fall of 2022, RHA was honored to receive a Breakthrough Energy Grant of over \$200,000 to expand our outreach to more clean energy stakeholder groups and to educate policymakers, government agency staff, community groups and others on the importance of establishing a Pacific Northwest Hydrogen Hub.

Among other things, this funding enabled RHA to host an Oregon Renewable Hydrogen Policy and NW Hubs Summit in October 2022 to educate legislators, regulators, environmental justice advocates, organized labor groups and others on the benefits of renewable hydrogen as a decarbonization and GHG emissions reduction tool.

Outreach and Education

RHA organized and participated in several significant hydrogen related events during 2022, including our own annual conference, and RHA's Executive Director served as chair of the Hydrogen Hubs conference held in Washington, DC.

With further easing of COVID restrictions, RHA once again held our annual conference - the Renewable Power to Clean Fuels Symposium - as a hybrid event. We also launched a new tradition of holding our Symposium in a different location around the Northwest each year. We do this in order to demonstrate our Northwest regional hydrogen advocacy focus and bring information, networking opportunities and renewable hydrogen project updates to as many people around the region as possible. So, in 2022, we held our symposium for the first time in Missoula, Montana.

RHA was thrilled and grateful to have representatives speak from the newly established Office of Clean Energy Demonstration in USDOE, videotaped messages from Washington Congressman Dan Newhouse and Montana Senator Jon Tester, and hydrogen project updates from several of our members.



Executive Director Michelle Detwiler with (left to right) Matt Garrett, Climate, Energy and Transportation Policy Advisor to Oregon Governor Kate Brown, OR Representatives Ken Helm and Travis Nelson



RHA's Renewable Power to Clean Fuels Symposium, June 2022, Missoula, MT

Significant Projects

Policy and Hydrogen Hubs

During 2022, RHA was keenly focused on how to position the Northwest as a region that the US Department of Energy would seriously consider for a federal hydrogen hub grant. We engaged in extensive outreach to members, industry players and key elected officials in Oregon and Washington. Part of this effort included building interest and enthusiasm at the highest levels of Oregon's political leadership. As a result, Oregon Governor Kate Brown's office asked RHA for information on hydrogen policy developments at the state and federal levels and the status of projects in the Northwest. The result was a white paper provided to the Governor's office - *Market and Policy Overview of Renewable Hydrogen*

in Oregon and Washington.

The paper provided: i) a survey of the current policy and market environment for renewable hydrogen in Oregon and Washington; ii) information on joint state hydrogen hub efforts related to the US Department of Energy funding opportunity announcement for regional hydrogen hubs; and iii) encouraged greater awareness and knowledge of renewable hydrogen related activities and goals in each state.

RHA's engagement was key in ensuring that Oregon had a seat at the table for subsequent hydrogen hub planning.

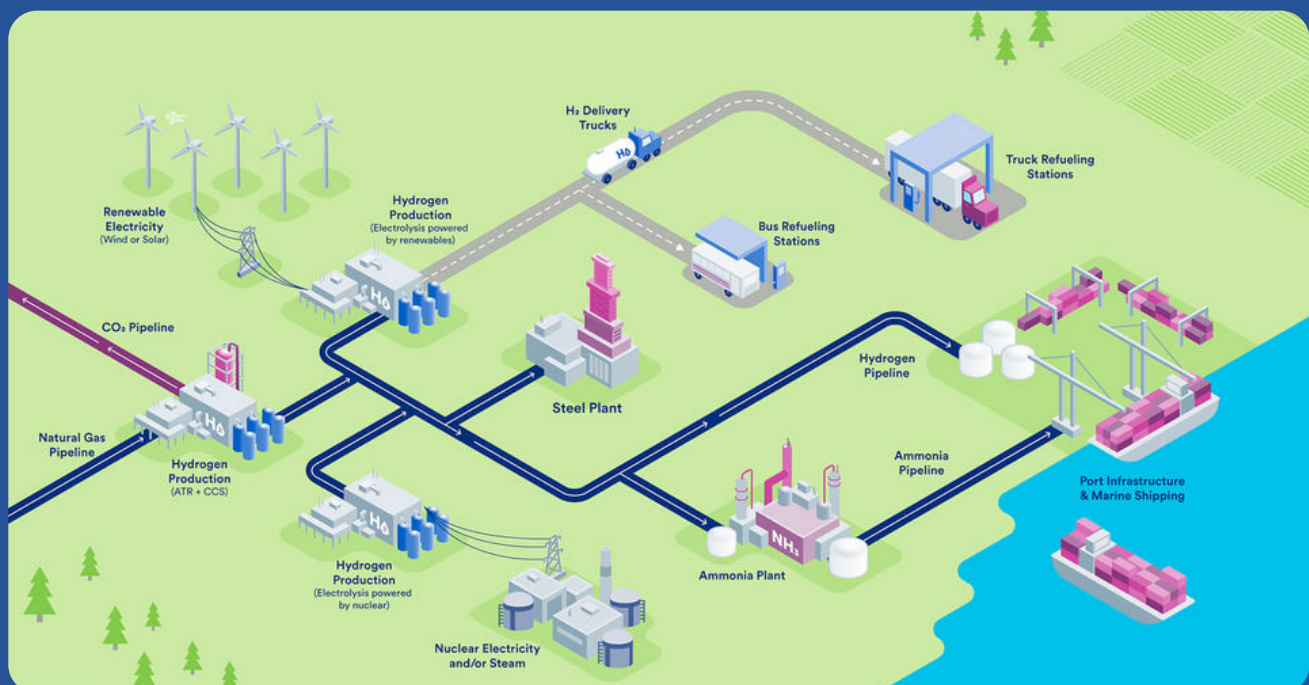


Image courtesy of Clean Air Task Force

Significant Projects

Environmental Justice

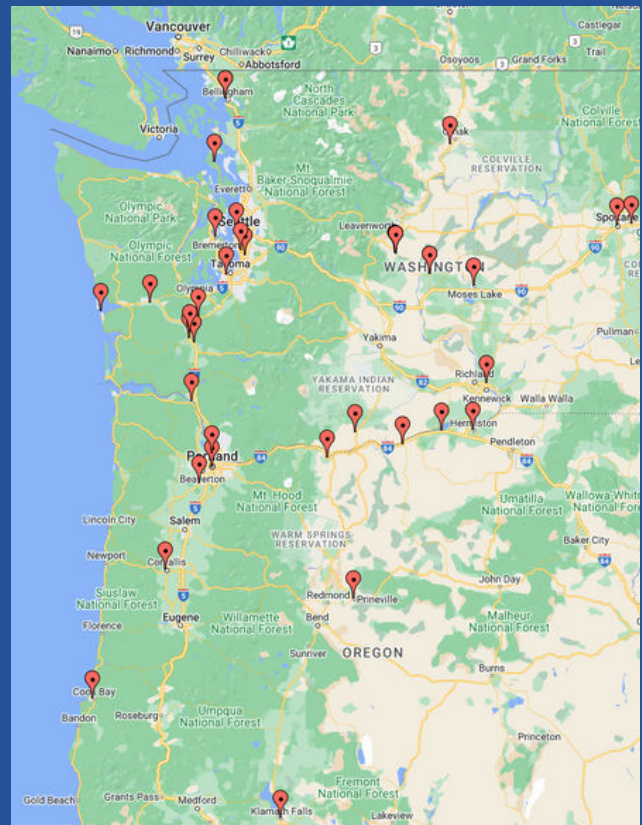
Through a generous grant from the Portland Clean Energy Fund, RHA hired an intern to help write a report that analyzes renewable hydrogen development in the Northwest from an environmental justice (EJ) point of view. This document was presented to members and now serves as a reference document to inform stakeholders who are working within this space.

Tracking & Mapping Hydrogen and Fuel Cell Developments

RHA tracks and maps publicly announced fuel cell and renewable hydrogen project development in the Northwest. The map serves as an information tool for decision and policymakers. It shows that various stakeholders across the region have embraced this technology to ensure that the Northwest is on track to meet its clean energy goals. The map identifies opportunities for collaboration and investment, and promotes the development of a sustainable, resilient and just energy future.

Tribal Engagement

Upon request from our tribal members for more education about potential renewable hydrogen development on tribal land, RHA has made efforts to connect with various relevant tribal organizations serving the Northwest. RHA attended tribal energy and climate-related events to listen and learn, and connect with tribal representatives one-on-one who have expressed interest in renewable hydrogen or fuel cell projects.



Join Us!

Our members are the strength of our organization. We invite you to join us in creating viable and sustainable multi-sector decarbonization solutions to protect our planet for future generations.

Learn about membership here: www.renewableh2.org/membership

Thank you to our 2022 members!



3P Transportation Services



CABLE HUSTON, LLP

